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**DETERMINANTS OF TAX COMPLIANCE BEHAVIOUR
AMONG MALAYSIAN E-COMMERCE ENTREPRENEURS**



ADIEBAH BINTI AHMAD

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
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**DETERMINANTS OF TAX COMPLIANCE BEHAVIOUR AMONG
MALAYSIAN E-COMMERCE ENTREPRENEURS**



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Universiti Utara Malaysia

**Thesis Submitted to
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in Fulfilment of the Requirement for the Degree of Doctor of Philosophy**



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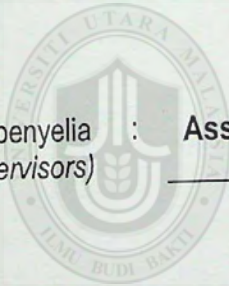
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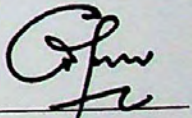
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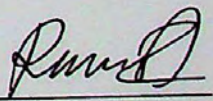
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ABSTRACT

The rapid growth of electronic commerce (e-commerce) in Malaysia has created significant challenges for tax compliance, due to the misalignment between the expansion of e-commerce and tax collection rates. Consequently, this study examines the determinants of tax compliance behaviour among Malaysian e-commerce entrepreneurs, incorporating variables from the Slippery Slope Framework (SSF), Fischer's Model (FM), and the principle of permanent establishment (PE). SSF differentiates between enforced and voluntary tax compliance behaviour (ETCB and VTCB), considering economic factors (such as tax audit rate, audit probability, and tax penalty), psychological factors (tax service), mediating role of power dynamics (coercive and legitimate power), and trust. FM incorporates demographic factors (the entrepreneur's age, business size, business duration, and income source) alongside tax complexity. The PE principle is emphasized for its importance in defining the sources of income in e-commerce. A total of 146 usable questionnaires were collected through an electronic survey and analysed using Statistical Package for the Social Sciences for direct relationships, and the PROCESS Macro for mediation effects. The findings reveal that tax audit rate and audit probability have a significant relationship with ETCB, while tax penalty, demographic factors, and PE show no significant relationship. For VTCB, both tax audit rate and tax service demonstrate significant relationships, but no significant relationships were found for audit probability, tax penalty, tax complexity, demographic factors, and PE. Mediation analysis indicates that coercive power mediates the relationship between tax audit rate, audit probability, tax penalty, and ETCB. Legitimate power and trust mediate the relationship among these factors, including tax complexity and VTCB. However, the mediating role was not found in the relationship between tax service and VTCB. This study offers valuable insights into the determinants of tax compliance behaviour among Malaysian e-commerce entrepreneurs, contributing to the academic discourse on tax compliance and providing practical implications for policymakers.

Keywords: Electronic commerce (e-commerce), Slippery Slope Framework (SSF), Enforced tax compliance behaviour (ETCB), Voluntary tax compliance behaviour (VTCB)

ABSTRAK

Pertumbuhan pesat perdagangan elektronik (e-dagang) di Malaysia telah mewujudkan cabaran yang ketara untuk pematuhan cukai, terutamanya disebabkan oleh jurang antara pengembangan e-dagang dan kadar kutipan cukai. Akibatnya, kajian ini mengkaji penentu tingkah laku pematuhan cukai dalam kalangan usahawan e-dagang Malaysia. Kajian ini menggunakan pembolehubah daripada Kerangka Slippery Slope (SSF), Model Fischer (FM), dan prinsip penubuhan tetap (PE). SSF membezakan antara tingkah laku pematuhan cukai secara kuatkuasa dan sukarela (ETCB dan VTCB), mengambil kira faktor ekonomi (kadar audit cukai, kebarangkalian audit, penalti cukai), faktor psikologi (perkhidmatan cukai), peranan pengantara dinamik kuasa (kuasa paksaan dan sah) dan kepercayaan. FM menggabungkan faktor demografi (umur usahawan, saiz perniagaan, tempoh perniagaan dan sumber pendapatan) di samping kompleksiti cukai. Prinsip PE diketengahkan kerana kepentingannya dalam menentukan sumber pendapatan dalam e-dagang. Sebanyak 146 soal selidik yang boleh digunakan telah dikumpulkan melalui tinjauan elektronik dan dianalisis menggunakan Pakej statistik untuk sains sosial (SPSS) untuk hubungan langsung, serta PROSES Makro untuk kesan perantaraan. Hasil kajian menunjukkan bahawa kadar audit cukai dan kebarangkalian audit mempunyai hubungan yang signifikan dengan ETCB, manakala penalti cukai, faktor demografi, dan PE tidak menunjukkan hubungan yang signifikan. Bagi VTCB, kedua-dua kadar audit cukai dan perkhidmatan cukai menunjukkan hubungan yang signifikan, tetapi tiada hubungan signifikan didedahkan bagi kebarangkalian audit, penalti cukai, kompleksiti cukai, faktor demografi dan PE. Analisis perantaraan menunjukkan bahawa kuasa paksaan mengantara hubungan antara kadar audit cukai, kebarangkalian audit, penalti cukai dan ETCB. Kuasa sah dan kepercayaan mengantara hubungan antara semua faktor ini termasuk kerumitan cukai dan VTCB. Namun, peranan perantaraan tidak ditemui dalam hubungan antara perkhidmatan cukai dan VTCB. Kajian ini memberikan pandangan berharga tentang penentu tingkah laku pematuhan cukai dalam kalangan usahawan e-dagang Malaysia, menyumbang kepada wacana akademik tentang pematuhan cukai, serta menawarkan implikasi praktikal untuk pembuat dasar.

Kata Kunci: Perdagangan elektronik (e-dagang), Kerangka *Slippery Slope* (SSF), Tingkah laku pematuhan cukai secara kuatkuasa (ETCB), Tingkah laku pematuhan cukai secara sukarela (VTCB)

DECLARATION

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and any editorial work, paid or unpaid, carried out by a third party is acknowledged.



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Sincerely,

Adiebah Binti Ahmad

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LIST OF ABBREVIATIONS

ATO	Australian Tax Office
B2B	Business to Business
B2C	Business to Consumer
B2G	Business to Government
C2B	Consumer to Business
C2C	Consumer to Consumer
C2G	Consumer to Government
CCM	Companies Commissions of Malaysia
CIS	CompuServe Information Services
DSL	Digital Subscriber Line
e-commerce	Electronic commerce
e-CT	Electronic commerce transactions
EDI	Electronic Data Interchange
ERP	Event-related potential
FB	Facebook
FTP	File Transfer Protocol
GDP	Gross Domestic Product
Google+	Google Plus
Google Ads	Google AdSense
ICTs	Information and communication technologies
IG	Instagram
IOS	Inter-organisational System
IRBM	Inland Revenue Board of Malaysia
IRS	Internal Revenue Service
NESR	National E-commerce Strategic Roadmap Plan
MDEC	Malaysia Digital Economy Corporation
MITI	Ministry of International Trade and Industry
MOL	Money Online
MSMEs	Micro, Small and Medium Enterprises
OECD	Organization for Economic Cooperation and Development
PE	Permanent Establishment
RMCD	Royal Malaysian Customs Department
SAS	Self-Assessment System
SEM	Structural Equation Modelling
SMEs	Small and Medium Enterprises
SNNPRS	Southern Nation Nationalities and Peoples' Regional State
SSF	Slippery Slope Framework
TPB	Theory of Planned Behaviour
UNIVAC I	Universal Automatic Computer I
URL	Uniform Resources Locator
WWW	World Wide Web

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Electronic commerce (e-commerce) is vital in the digital economy. It has become a new business paradigm for the digital exchange of tangible and intangible goods and services (Nellen, 2015), leading to a growing number of e-commerce entrepreneurs. The businesses under e-commerce are based on digital technologies such as electronic tools, systems, devices, and resources that generate, store, or process data, as well as cloud computing and cryptocurrencies (Peng, 2016). E-commerce is also known as online selling and purchasing of goods and services (Miva, 2011). The Inland Revenue Board of Malaysia (IRBM) defines e-commerce as using the Internet for advertising and marketing and ordering and delivering products and services, while payment and delivery are done offline (IRBM, 2019a). Thus, the buying and selling of products and services over the Internet, along with the transfer of payment and transaction data, constitutes e-commerce.

Since Malaysia is part of Asia Pacific region therefore, the tremendous growth in e-commerce is also reflected the growth in Malaysia. The Asia Pacific's market share was predicted to increase from 28 percent in 2013 to 37 percent in 2018 (OECD & WTO, 2017). As indicated by Table 1.1, e-commerce revenue increased by 12 percent, from RM398.2 billion in 2015 to RM447.8 billion in 2017. After then, the 2017 amount climbed by over 50 percent to over RM675.4 billion in 2019. With a growth rate of almost 53.5 percent, the increase from 2019 to 2021 was even more noteworthy.

Malaysia's e-commerce revenue in 2022 increased by 6 percent to RM1,099.7 billion from 2021 (DOSM, 2022). In the meantime, from 2022 to the first quarter of 2023, e-commerce sales grew modestly by 1.6 percent, into RM1,406.9 billion (DOSM, 2023b).

Table 1.1
E-Commerce Performance in Malaysia

Year	E-Commerce Revenue (RM)
2015	398.2 billion
2017	447.8 billion
2019	675.4 billion
2021	1,037.2 billion
2022	1,099.7 billion
2023 (1 st quarter)	1,406.9 billion

Sources: Digital News Asia (2023) and DOSM (2023b)

The Malaysian income from e-commerce does not align with the tax collection. From year 2014 to 2015, tax collections declined by RM12.464 billion from RM133.7 billion to RM121.236 billion. From 2015 to 2016 another declined of RM7.21 billion from RM121.236 billion to RM113.945 billion. These declined in tax collections reflect in 15 percent decreased in total as shown in Table 1.2. Furthermore, the Inland Revenue Board of Malaysia (IRBM) also reported a deficit of more than RM13 billion in tax collection of the total federal income from 2014 to 2015 and RM7 billion from 2015-2016 (IRBM, 2017a). This tax collections include corporate tax, individual, petroleum, corporative companies, stamp duty, withholding tax, real property gain tax (RPGT), International Offshore Financial Centre (IOFC) and others.

Therefore, the declined in the tax collections also portray a tax collection from e-commerce entrepreneurs as they are also part of the corporate and taxpayers. E-

commerce entrepreneurs have been reported to engage in tax evasion, resulting in reduced tax collections from e-commerce activities. Tax evasion has adversely affected tax revenue. Ideally, as e-commerce businesses grow, their income should increase, which in turn should positively impact tax collections (Alwi, 2022; Yeo et al., 2019).

Table 1.2
Direct Tax Revenue in Malaysia

Year	Tax Collection (RM)	Change (%)
2014	133.7 billion	Increase by 3.57%
2015	121.236 billion	Decrease by 9.32%
2016	113.945 billion	Decrease by 6.4%
2017	123.312 billion	Increase by 8.22%
2018	137.035 billion	Increase by 11.13%
2019	145.07 billion	Increase by 5.54%
2020	123.093 billion	Decrease by 17.9%
2021	144.08 billion	Increase by 14.6%
2022	175.4 billion	Increase by 17.9%

Sources: IRBM (2013), IRBM (2014), IRBM (2015a), IRBM (2016), IRBM (2017a), IRBM (2018a), IRBM (2021), Rahim (2018), Singh (2017b) and Statista (2022)

Empirical studies have also reported that business or corporate taxpayers are highly involved in tax evasion (Akinboade, 2015; HMRC, 2017; Mansor et al., 2004; Morse, Karlinsky, & Bankman, 2009), particularly sole proprietors, as these businesses are not subjected to third-party reporting and withholding of tax (Vazquez & Rider, 2003). The decline could be due to uncollected tax revenues or tax evasion activities, which contributed to a tax gap of 20 percent in 2015 and 2016, as reported in BERNAMA (2017). This is also possible to happen in a fully online business or e-commerce environment. Tax evasion among e-commerce entrepreneurs has been detected in Hong Kong (Davis & Chan, 2000), Indonesia (Syakura et al., 2016), China (Nan et al.,

2018) and Europe (Argilés-bosch et al., 2020). Yeo et al. (2019) and Hamid et al. (2019) pointed out that Malaysian e-commerce entrepreneurs also engaged in tax non-compliance or tax evasion activities. Palil et al. (2020) also agreed that tax evasion occurs in the Malaysian e-commerce industry.

Researchers highlighted that the expansion of e-commerce presents tax authorities with new challenges, such as tracking substantial business transactions, creating documentation and bookkeeping, tracking permanent establishment due to lack of a physical business location for specific e-commerce, identifying revenue streams, conducting a tax audit, and prosecuting tax violations or tax evasion (Cheng, 2011; Hanefah, 2007; Hayati & Sidik, 2018; Mat Udin & Adebayo, 2015; Othman & Hanefah, 2006; Syakura et al., 2016). Palil et al. (2020) conducted empirical research that identified challenges faced by tax implementation in e-commerce in Malaysia, including taxpayer identification, incomplete information, product identification, audit tracking, system control, and payment method.

E-commerce entrepreneurs can be anyone and different ages, including young entrepreneurs who are retailers, drop shippers, YouTubers, and those from other e-commerce platforms. For example, it was reported in mass media in 2018 that a 14-year-old girl sold 500 to 1,000 scarves monthly through her social networks. In another example, Alieff Irfan, a 22-year-old YouTuber, earned an estimated RM300,000 per month (Ammar, 2019), and Syahmi Production, owned by a 22-year-old Syahmi Sazli from Kelantan, earned about RM432,000 per month from his YouTube channel (SocialBlade, 2019). This situation highlights the challenge of tax educating and raising awareness among young e-commerce entrepreneurs on tax compliance. Some

of them less than 18 years old and their incomes has been handled by their parents. The challenges for young e-commerce entrepreneurs in terms of lack of awareness and knowledge in tax regulations have contributed to tax losses, the possibility of double taxation, challenging the current tax legislation, and the provision of new technology for tax auditing (Hanefah, 2007; Hamid et al., (2019); Hamid et al., (2020), MIA, 2017)

In addressing the challenges, the IRBM has tried to raise awareness among e-commerce entrepreneurs and register businesses established from 2012 to now. Initially, 30,000 e-commerce entrepreneurs were registered in 2012. Later, the number increased to 58,824 by February 2018. At the end of 2018, the Ministry of International Trade and Industry (MITI) recorded 120,000 registrations of online businesses or e-commerce with Companies Commissions of Malaysia (CCM) reported in BERNAMA in 2018. As of 31 October 2020, 373,213 companies registered their businesses or companies in the online category with the CCM. E-commerce activities increased by 28.9 percent within one month after 18 March, 2020, the beginning of the Movement Control Order (MCO) was implemented.

However, it is believed that numerous online businesses or e-commerce are not registered but are gaining e-commerce income. This situation happens in Indonesia, where only 50 percent of the 1,500 e-commerce traders who have Taxpayer Identification Numbers (NPWP) reported their tax returns (SPT) in 2014 (Mukarromah 2014). While in Malaysia, an e-commerce business is responsible for declaring tax either on income or losses. Business and website owners must complete and submit Form e-B (business) or e-P (partnership) through e-filing.

Additionally, e-commerce entrepreneurs are required to display business particulars, such as the name of the business, registration number, and other particulars on their websites according to Companies Act 1965, Section 12(1)(b) and Consumer Protection Regulation [e-commerce transaction] 2012 (IRBM, 2018a). In Malaysia, more than 120,000 e-commerce were registered with CCM at the end of 2018 (BERNAMA, 2018).

As in Malaysia, the IRBM (2013a) released several guidelines for e-commerce taxpayers, as follows: (i) e-commerce income will be taxed on the income derived from within or outside Malaysia, (ii) there are no specific tax provisions on taxation on e-commerce transactions and the tax authority will adopt the neutrality principle, where e-commerce and conventional business are subjected to similar tax treatment under Income Tax Act 1967, and (iii) income tax on e-commerce should refer to the Income Tax Act 1967 to determine income earned from Malaysia or outside Malaysia.

Generally, various programmes have been put in place by the IRBM to improve tax compliance and protect tax revenues from fraudulent activities or omissions of all the taxpayers, such as improving leadership and performance, providing new opportunities to the work culture, changing work processes and business models, and strengthening organisational structure (IRBM, 2018a). In addition, CCM's Chief Executive Officer (CEO) has requested that e-commerce entrepreneurs register their businesses or companies with the CCM and file a tax return after six months of operating their online businesses (The Star Online, 2017). Dewa (2020) also claimed that the failure to register as taxpayers by e-commerce entrepreneurs is also an act of

tax evasion, and it is estimated that the country will lose RM25 to RM30 billion due to unreported e-commerce activities.

Furthermore, the implementation of various enforcement operations, tax awareness, and tax education programmes has also affected tax compliance in Malaysia for all the taxpayers (IRBM, 2018a), and the CEO of IRBM revealed that persistent audits and penalties in 2017 have resulted in the tax revenue increase of about RM9 billion in 2017 (Rahim, 2018). Meanwhile, the former Minister of Finance highlighted that the enforcement activities are the key strategies in collecting the 2018 revenues besides the tax education programmes. These include enforcing travel restrictions on errant taxpayers and using provisions under the Anti-Money Laundering, Anti-Terrorism Financing and Proceeds of Unlawful Activities Act 2001 (AMLATFPUAA) (Palansamy, 2019).

From the explanation, it is evident that e-commerce has grown tremendously worldwide and appears to be more active on social media, with online marketplaces becoming the centre of business-to-business (B2B) activities. The disclosure of tax collection revenue statistics and e-commerce performance is not in line. E-commerce has posed tax challenges, which affect tax revenue collection. The evidence demonstrates the necessity for a research into the tax compliance behaviour of taxpayers, including among Malaysian e-commerce entrepreneurs.

Due to the 20 percent tax gap in 2015 and 2016, the IRBM increased enforcement actions such as audits and penalties to encourage voluntary tax compliance behaviour. These enforcement actions resulted in an increment in tax revenue collection in 2017

to 2019. As mentioned earlier, beginning from 2020, the number of e-commerce entrepreneurs increased tremendously, however due to various exemptions given by the Government the tax collection has decreased. Therefore, it shows the need to investigate the issue related to tax compliance behaviour among Malaysian e-commerce entrepreneurs and its determinants.

1.2 Problem Statement

There was inconsistency between tax collection and e-commerce revenue from 2015 to 2023 of which tax collected did not align the growth in e-commerce sector. This is evidence when tax revenue fell from RM133.7 billion in 2014 to RM113.945 billion in 2015 whereas e-commerce revenue was recorded at RM398.2 billion in 2015 and kept increasing. Statistic shows that from 2017 to 2019, the tax revenue increased marginally however, in 2020 tax revenue fell to RM22.017 billion, then Malaysian Minister of Finance (MoF), also commented that while e-commerce has grown, Government revenue, or Gross Domestic Product (GDP) has steadily decreased, falling from 21.4 percent in 2012 to 16.3 percent in 2017 (MoF, 2019). The decline in Malaysian tax revenue was believed to be as a result of tax evasion, tax fraud, and other contributing factors (Bagdad et al., 2017; BERNAMA, 2017a). Various researchers believed that in the digitalization era even though e-commerce grows tremendously but tax revenue will not commensurate with the expansion of e-commerce (Mat Udin & Adebayo, 2015; Etim et al., 2022).

Meanwhile, the IRBM has discovered that a significant number of online enterprises may have evaded from paying tax. As reported in MalayMail, in year 2021 the Director of the Kelantan IRBM branch stated that e-commerce entrepreneurs lacked awareness

on their obligations to record their e-commerce earnings. Previously, Yeo et al. (2019) also found that e-commerce entrepreneurs who involved in consumer-to-consumer (C2C) transactions regularly neglect to declare their taxes. Furthermore, it has been observed that e-commerce entrepreneurs from small and medium enterprises (SMEs)¹ also lacked of awareness regarding their tax returns (Hamid et al., 2019), perceived as not easy to detect, insignificant income and e-commerce as side income not primary income (Yeo et al., 2019).

The Director of the IRBM E-Commerce Department acknowledged that tracking cross-border e-commerce becomes increasingly challenging due to certain corporations shifting their earnings to jurisdictions with lower tax rates (Singh, 2017b). Realising this problem, the former Malaysian Prime Minister has suggested that ASEAN nations to implement tariffs, primarily targeting internet enterprises, due to the challenges of directly engaging with customers. Consequently, Governments have the potential to augment their tax collection (FMT News, 2019). These indicate the issue of tax non-compliance behaviour among e-commerce entrepreneurs in Malaysia.

As a results, the IRBM has carried out enforcement operations, for example, by conducting aggressive tax audits and imposing high penalties on companies and individuals, including those involved in the e-commerce business, such as through an audit orientation named *Ops Patuh* in 2017 (BERNAMA, 2017b). Furthermore, the IRBM also carried out random audits on “instant millionaires” who run multi-level marketing (MLM) schemes and online businesses. In addition, the IRBM and Royal

¹ Small and Medium Enterprises (SMEs) currently known as Micro, Small and Medium Enterprises (MSMEs) in 2021 (DOSM, 2021)

Malaysia Customs Department (RMCD) have inked a Joint Audit Programme Standard Operating Procedure (SOP) as part of their efforts to tackle non-compliance cases more effectively (Shamsuddin, 2017). Besides collaborations with the Royal Malaysian Customs Department (RMCD), constant monitoring of e-commerce transactions through social media, marketplaces, and other platforms was also carried out for tax audit purposes (Singh, 2017b).

Apart from the above efforts, *Ops Dakwa* has been launched to track down tax evaders and improve tax debt collections. On top of this, the IRBM has launched its largest operation, *Ops Mega*, to reach a higher tax collection of RM134.7 billion in 2018, increased from its 2017 targeted collection of RM127 billion. The operations were undertaken by performing tax awareness campaigns, tax collection payment methods, civil lawsuits, convictions, and tax audits as well as tax investigations. The IRBM also carried out further investigation on e-commerce entrepreneurs based on their exposure on social media platforms, getting information on unreported assets, and reviewing their bank statements, as reported by The Star Online (2019).

Despite various efforts by Malaysian tax authorities to enhance compliance, the tax compliance rate is still unsatisfactory, especially with the advancement of e-commerce transactions, such as unregistered entrepreneurs, not declaring their permanent establishments, not documenting their digital transactions, and not filing their tax returns. A study conducted by Syakura et al. (2016) suggests that entrepreneurs engaged in electronic commerce possess the capacity to evade tax obligations. Similarly, Hamid et al. (2019) also discovered that tax compliance posed a challenge for e-commerce entrepreneurs in Malaysia.

In Malaysia, the tax authority is still emphasizing on tax audits and penalties to enhance voluntary tax compliance under Self-Assessment System (SAS). This is contrary to the notion of Slippery Slope Framework (SSF) which focus on voluntary effort to achieve the objective of SAS. In the context of e-commerce nature mentioned earlier, it is believed that enforcement alone will not ensure total compliance among e-commerce entrepreneurs due to the nature of virtual business. Thus, the transactions possibility of employing SSF in e-commerce context may encourage the compliance. SSF in e-commerce context may encourage the compliance integrates economic and psychological determinants to explain taxpayer compliance behaviour which is divides tax compliance behaviour into enforced and voluntary aspects (Kirchler, 2007; Kirchler et al., 2008; Muehlbacher & Kirchler, 2010).

The unresolved issue of tax compliance has triggered the thought that the use of economic or enforcement approaches has not fully succeeded in promoting total compliance among taxpayers. This scenario aligns with the findings of Devos (2014), who believed that the likelihood of detection, penalties, and sanctions has yet to bring about full compliance. At the same time, enforcement has been found to become uneconomical and resulted in a societal loss. Previously, Kirchler (2007) found that compliance effort through audits and penalties failed to increase tax compliance. On the contrary, Feld et al. (2006) pointed out that some countries achieved considerable tax compliance even with low deterrence activities. Thus, researchers of the deterrent model believed that has not able to explain the behaviour of tax compliance (Devos, 2014; Feld et al, 2006; Kirchler, 2007).

In considering the psychological approaches to explain e-commerce entrepreneurs' tax compliance behaviour, the existing model should be expanded to incorporate socio-psychological determinants. Fischer et al. (1992) put forward the idea that tax compliance behaviour can be explained by demographic factors (age, gender, education, and others) and non-compliance opportunities (income level, income source, and occupation), along with attitude and perception and tax system structure while SSF considers economic and psychological determinants like audit probability, fines, tax rates, tax knowledge, tax attitudes, norms, and perceived fairness.

The nature of e-commerce transactions posts challenges to the currently established principles and operated beyond the legal boundaries of tax system. Virtual platforms can optimise core processes and access resources, while capital mobility may push local businesses to low-tax areas and operate without a permanent physical site. E-commerce advancements and the ability to move funds easily may compel local enterprises to relocate to regions with lower tax rates by establishing offshore organizations to operate (Cox et al., 2013). Vaca (2016) asserted that e-commerce businesses can operate without a fixed physical location. Cox et al. (2013) argued that e-commerce activities diverge from the current tax system, creating difficulties for established principles and sometimes operating outside legal boundaries, resulting in untaxed transactions beyond regulatory oversight. Businesses that use virtual business platforms online can develop new ways to improve fundamental business operations and access resources more efficiently (Lau & Halkyard, 2003). In Malaysia, the guidelines on taxation of electronic commerce transactions (2019) and the brochure 'Tax Brochure 2019: Digital Economy' provide information on tax regulations for e-

commerce. The brochure's tax rules for e-commerce are regularly updated to reflect the current year's tax policies.

This research uses three theories or models such as SSF, Fischer's model, and the principle of Permanent Establishment to identify the determinants of tax compliance behaviour among e-commerce entrepreneurs in Malaysia. SSF distinguishes between enforced and voluntary tax compliance behaviour, while Fischer's model examines tax compliance behaviour as one construct. The determinants, like tax audit rate, audit probability, and tax penalty, are connected to enforced tax compliance behaviour. Regarding Fischer's model, the following determinants are employed such as tax system and structure (tax complexity), demographic factors (owner's age and business length), and non-compliance opportunity factors (such as income source).

Previous studies by Alabede (2012), Alshira'h (2018), Chau and Leung (2009), Hanefah (1996), and Lawan and Salisu (2017) have examined determinants affecting tax compliance by broadening Fischer's model. Meanwhile, as e-commerce does not require the actual existence of a business location (Vaca, 2016), it is critical to identify the permanent establishment (PE) of e-commerce entrepreneurs, whether they are based in Malaysia, outside of Malaysia, or both. According to Palil (2004), the derivation and remittance foundation for charging taxes is no longer acceptable in e-commerce.

In addition, studies focusing on e-commerce entrepreneurs' tax compliance behaviour are limited (Khamis & Mastor, 2021). In the local context, Hamid et al. (2019) found two problems regarding tax compliance that were plaguing Malaysian e-commerce

entrepreneurs: a lack of tax knowledge and the system's complexity. However, Hamid et al. (2019) study interviewed only six SME owners involved in e-commerce and, thus, does not provide a holistic viewpoint of e-commerce entrepreneurs in Malaysia. Following that, Hamid et al. (2022) also investigated the factors of tax awareness, tax education, and tax complexity on online business owners' tax compliance behaviour. Using quadrant analysis, they found that the IRBM should be more concerned with tax computation and tax filing to increase tax compliance among online business owners in Malaysia. Furthermore, Shahrani et al. (2022) have also investigated the impact of tax complexity on tax compliance behaviour among e-commerce entrepreneurs in Malaysia and including tax knowledge and tax morale.

This study extends the SSF to investigate enforced and voluntary tax compliance behaviour determinants, for instance, tax audit rate, audit probability, and tax penalty, including tax service. In addition, this study uses the determinants used in Fischer's Model, such as demographic factors, tax complexity, income sources, and the principle of permanent establishment. As such, this study employs the SSF with both dimensions of tax authority power recommended by Mardhiah et al. (2018) which are coercive and legitimate power. Mardhiah et al. (2018) asserted that power is not significantly associated with tax compliance behaviour. Thus, they suggested that coercive and legitimate power dimensions should be investigated further.

Meanwhile, Inasius (2019) used the SSF to determine tax compliance behaviour among self-employed persons in Indonesia, i.e., power, trust, and the interaction of both power and trust. The SSF does not split the power into two dimensions, i.e., coercive and legitimate power. This study focuses on the relationship of the

determinants mentioned above with legitimate power, coercive power, and trust to examine tax compliance behaviour among e-commerce entrepreneurs in Malaysia.

From the discussion on problems associated with approaches to handling tax compliance behaviour, it can be concluded that it is important to develop a comprehensive study on e-commerce entrepreneurs' tax compliance behaviour in Malaysia. Thus, this research will focus on tax compliance behaviour's determinants, i.e., enforced or voluntary tax compliance behaviour among e-commerce entrepreneurs in Malaysia. This research will answer the following research questions.

1.3 Research Questions

The research questions below are written based on the problem statement discussed above.

RQ1: Do tax audit rate, audit probability, tax penalty, owner's age, business length, business size, income source, and permanent establishment (PE) influence e-commerce entrepreneurs' enforced tax compliance behaviour?

RQ2 : Do tax audit rate, audit probability, tax penalty, owner's age, business length, tax service, tax complexity, business size, income source, and permanent establishment (PE) influence e-commerce entrepreneurs' voluntary tax compliance behaviour?

RQ3 : Does coercive power of the tax authority mediate the relationship between tax audit rate, audit probability, and tax penalty with e-commerce entrepreneurs' enforced tax compliance behaviour?

RQ4: Does legitimate power of the tax authority mediate the relationship between tax audit rate, audit probability, tax penalty, tax service and tax complexity with e-commerce entrepreneurs' voluntary tax compliance behaviour?

RQ5: Does trust in the tax authority mediate the relationship between tax audit rate, audit probability, tax penalty, and tax service and tax complexity with e-commerce entrepreneurs' voluntary tax compliance behaviour?

1.4 Research Objectives

The study aims to investigate the determinants of tax compliance behaviour (enforced and voluntary) among e-commerce entrepreneurs. Thus, the research objectives are as follows:

RO1: To investigate the influence of tax audit rate, audit probability, tax penalty, owner's age, business length, business size, income source, and permanent establishment (PE) on e-commerce entrepreneurs' enforced tax compliance behaviour.

RO2: To investigate the influence of tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent establishment (PE) on e-commerce entrepreneurs' voluntary tax compliance behaviour.

RO3: To investigate the mediation effect of the coercive power of the tax authority on the relationship between the tax audit rate, audit probability, and tax penalty on the e-commerce entrepreneurs' enforced tax compliance behaviour.

RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between the tax audit rate, audit probability, tax penalty, tax

service, and tax complexity on the e-commerce entrepreneurs' voluntary tax compliance behaviour.

RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the tax audit rate, audit probability, tax penalty, tax service, and tax complexity on e-commerce entrepreneurs' voluntary tax compliance behaviour.

1.5 Scope of the Study

This study examines the determinants of tax compliance behaviour among e-commerce entrepreneurs in Malaysia. Reports from IRBM (2013a) and IRBM (2019) describe e-commerce entrepreneurs as those involved in or generating their income through the Internet, whether from websites, social media, blogs, product reviews, online tutorials, YouTube channels, or other businesses using Internet channels. They can be micro-enterprises, small and medium-sized enterprises, and big companies. Economic and psychological parts influence tax compliance behaviour and socio-psychological factors, for instance, tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent establishment.

The determinants of e-commerce entrepreneurs' tax compliance behaviour are derived from the SSF proposed by Kirchler (2007) together with Fischer's model by Fischer et al. (1992) and permanent establishment principles proposed by the OECD in 2003 (Hoffart, 2007). Meanwhile, the mediators in the SSF (i.e., coercive power, legitimate power, and trust) are evaluated concerning the tax compliance behaviour of the e-commerce entrepreneurs in this paper. Data gathered from electronic questionnaire

was analysed using SPSS (Version 22) and SPSS PROCESS Macro (Version 4.0) as data analysis tools.

1.6 Significance of the Study

By integrating the SSF with Fischer's model and PE principles, this research examines the factors influencing tax compliance behaviour among Malaysian e-commerce entrepreneurs. The significance of this study is discussed from both theoretical and practical perspectives in the following subsections.

1.6.1 Theoretical Significance

This study provides valuable insights into tax compliance behaviour among Malaysian e-commerce entrepreneurs by integrating the SSF, Fischer's model, and the PE principle. It explores a wide range of determinants, including economic, psychological, and socio-psychological factors, and investigates the roles of coercive and legitimate power, as well as trust in tax authority.

Key elements explored include tax audit rates, audit probability, tax penalty, tax service, tax complexity, demographic factors (such as the owner's age, business length, business size, and income source), and the concept of permanent establishment (PE).

The study utilises SSF, which integrates both economic and psychological factors to provide a comprehensive view of tax compliance. The SSF is distinctive in its dual focus on enforced and voluntary compliance behaviours. The SSF distinguishes between two types of power: coercive power, which involves punitive measures to ensure compliance, and legitimate power, rooted in the legal authority of the tax

system. This framework also emphasises the role of trust in fostering voluntary compliance. High levels of trust in the tax authority, coupled with positive perceptions of tax laws and the belief that tax authorities act in the public interest, contribute to increased voluntary compliance.

The SSF contrasts with the current approach of Malaysian tax authorities, which predominantly relies on audits and penalties to enforce compliance. Faizal et al. (2019) highlight that the SSF introduces concepts such as coercive power, legitimate power, and trust, which are crucial in understanding how different forms of power affect tax compliance. Kirchler (2007) identifies two tax climates: antagonistic, which views taxpayers as potential evaders and relies on enforcement, and synergistic, which promotes voluntary compliance through trust and positive interactions between taxpayers and tax authorities. The SSF advocates for a shift from viewing taxpayers as 'robbers' and tax authorities as 'police' to seeing them as 'customers' and 'trusted service providers'.

In applying the SSF to e-commerce entrepreneurs, the study demonstrates its relevance across diverse taxation contexts. The SSF provides a complete picture of tax compliance by examining both enforced and voluntary compliance behaviours. It does this by combining economic and psychological factors, power and trust, and how different tax climates affect how taxpayers act.

Additionally, Fischer's model analyses how tax complexity and demographic factors (such as the owner's age, business length, business size, and income source) influence tax compliance behaviour among Malaysian e-commerce entrepreneurs. The principle

of permanent establishment is particularly significant in the context of e-commerce taxation, as it adapts traditional tax frameworks to address the unique challenges posed by digital business operations. By updating tax principles and considering factors like server locations and demographic diversity, the PE principle aims to develop a fair and effective tax system for the digital economy.

1.6.2 Practical Significance

This study alerts policymakers in developing countries, particularly Malaysia, to tax issues related to e-commerce entrepreneurs. Given the limited empirical research on this topic, the findings provide new insights into the tax compliance behaviour of Malaysian e-commerce entrepreneurs, an area that prior researchers have not extensively explored.

The results of this study will assist policymakers in formulating strategies to improve tax compliance among Malaysian e-commerce entrepreneurs. As e-commerce rapidly expands, this study's relevance and significance grow, with the findings expected to aid in enhancing tax revenue collections and narrowing the tax gap. Despite the equal application of tax regulations among all taxpayers, including e-commerce entrepreneurs, challenges remain due to the large number of e-commerce practitioners. Furthermore, this study elaborates on the dimensions of the tax authority's power (coercive and legitimate) and trust, identifying relevant determinants. It provides information on tax compliance, raises awareness, and improves understanding of e-commerce taxpayers' behaviour. The findings will enable the IRBM to address issues related to tax non-compliance and evasion, particularly among e-commerce entrepreneurs. E-commerce businesses, operating online, differ significantly from

traditional businesses, which operate physically. Therefore, compliance behaviour may also differ, with e-commerce businesses being more challenging to trace unless registered (Othman & Hanefah, 2006; Nellen, 2012).

By incorporating relevant determinants into the research model, this study assists policymakers in developing more effective procedures applicable to the Fifth Industrial Revolution (IR5.0)² in developing countries, especially Malaysia. Additionally, the use of an online questionnaire for data collection enhances effectiveness by reaching a larger number of respondents, resulting in more reliable and efficient data for e-commerce entrepreneurs. Future researchers intending to study tax compliance behaviour in Malaysia or similar environments can use the survey instrument and data as a reference.

1.7 Definition of Key Terms

This section explains some of the key terms used in this research. In Chapter 3, operational definitions of some of the variables are provided. Table 1.3 shows the definitions of key terms for this study.

Table 1.3
Definition of Key Terms

No.	Key Terms	Definition of Key Terms
1.	Electronic Commerce (e-commerce)	Miva (2011) defined e-commerce as selling and purchasing products and services over the internet. IRBM (2013a) defined it as any online transaction that includes giving information, promotion and advertising, marketing, supply, order, or delivery of goods and services without the online

² Industrial Revolution 5.0 integrates concepts such as "sustainability," "human-centeredness," and "concern for the environment." The human and machine collaborated then the human should be upskilled especially in computerized.

Table 1.3 (Continued)

No.	Key Terms	Definition of Key Terms
		<p>payment and delivery of goods.</p> <p>Nellen (2015) described it as the new business model for transacting tangible and intangible goods and services over the Internet and web-based activity.</p> <p>This study refers to IRBM (2019a, p.5). It explains e-commerce transaction (e-CT) as “any sale or purchase of goods or services, conducted over any networks by methods, specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. Also, an e-CT can be between enterprises, households, individuals, governments, and other public or private organisations”.</p>
2.	E-Commerce Business Model	Palme (2017) listed six e-commerce categories, namely, Business to Business (B2B), Business to Consumer (B2C), Consumer to Consumer (C2C), Consumer to Business (C2B), Business to Government (B2G), and Consumer to Government (C2G). Currently, Malaysia has the highest e-commerce business model, such as B2B, B2C and B2G.
3.	E-commerce Entrepreneurs	Individuals or companies involved in e-commerce, such as micro-enterprises, small or medium businesses, and big companies, as defined by SME Corp. (2016).
4.	E-Commerce Entrepreneurs’ Enforced Tax Compliance Behaviour	The enforcement controls used by tax authorities to improve tax compliance behaviour of the e-commerce entrepreneurs through aggressive audits, high frequency of audits, fines and penalizing tax evaders, sanctions, and severe penalties.
5.	E-Commerce Entrepreneurs’ Voluntary Tax Compliance Behaviour	The willingness of the e-commerce entrepreneur to report the correct account (voluntary reporting), prepare and file the tax income accurately (voluntary filing compliance), and make payment of the tax liability within the prescribed period (voluntary payment compliance) as required by tax law.
6.	Tax Audit Rate	The frequency of the inspections conducted by the tax authority to confirm the accuracy of tax returns and to discover non-compliance behaviours and activities (Alm et al., 2010; IRBM, 2013c; IRBM 2015b; Saidu Badara, 2012).
7.	Audit Probability	The fair chances of taxpayers to be audited (Stefura, 2014).
8.	Tax Penalty	The tax penalty is used as a control and enforcement strategy to increase tax compliance behaviour. It can be in the form of fines,

Table 1.3 (Continued)

No.	Key Terms	Definition of Key Terms
		imprisonment, punishment, torture, restriction of movements and occupation, and other actions. (Becker, 1974; IRBM, 2017b; Mahzan 2017).
9.	Tax Service	Perceptions towards excellent services of tax authorities, including the primary reference to legal regulations, professional services, perceived fairness, and customer services (IRBM, 2017).
10.	Tax Complexity	The tax system's complexity is explained as difficulties in comprehending tax laws, computation of tax liability, and other tax procedures (Millron, 1985). Tax complexity is the difficulty of comprehending and complying with tax laws (Saad, 2010).
11.	Coercive Power	Coercive power is the use of severe control and punishment to guide taxpayers' behaviour toward tax compliance (Kirchler, 2007).
12.	Legitimate Power	Perception of tax authorities' power that is dominant towards legitimacy, expertise, information, and identification (Gangl et al., 2015a; Gangl et al., 2019).
13.	Trust	Taxpayers' confidence in tax authority (Kastlunger et al., 2013; Cornia, 2014), support and competency (Syakura et al., 2016), and understanding of the procedures and information in tax services (Hofmann et al., 2017a).
14.	Business Length	The duration of business operations (Mohamad Alayuddin, 2008; Khamis et al., 2018).
15.	Income source	Income from e-commerce sources and the income can be primary (e-commerce as the main income), secondary (e-commerce as a part-time income), or primary and secondary income (main income from a key e-commerce business and secondary income from other e-commerce activities).
16.	Business Size	Business size refers to annual sales and the total number of employees based on business sectors, either manufacturing, services, or other services. It can be micro-enterprises, small and medium businesses, and big companies involved in e-commerce.
17.	Permanent Establishment	PE is related to the existence of business, residential status, place of establishment, physical presence, etc., which forms the basis for assessing tax liability, as smaller businesses or individuals also have the opportunity to conduct global transactions (Choudhary, 2011).
		PE refers to server locations for e-commerce that conduct business without a fixed business location (IRBM, 2013b; Othman & Hanefah, 2006). The server can be located in Malaysia, outside Malaysia, or both.

1.8 Organisation of the Thesis

This thesis is organised into six chapters, each reflecting different stages of the research process. Chapter 1 begins by introducing the study, detailing its background, problem statement, research questions, objectives, scope, significance, and definitions of key terms. It concludes with an overview of the thesis structure.

Then, in chapter 2, a literature review focused on e-commerce and relevant theories, including the SSF (Kirchler, 2007), Fischer's model (Fischer et al., 1992), and the Permanent Establishment (PE) principle (OECD, 2003). This chapter also examines tax compliance behaviour, the relationship between the tax system and demographic factors, and control variables affecting the tax compliance behaviour of e-commerce entrepreneurs.

After that, chapter 3 details the methodology, including the conceptual framework, hypothesis development, research design, operational definitions, variable measurement, population and sampling methods, data collection procedures, and data analysis techniques.

Then in Chapter 4, it describes the response rate, data screening and cleaning processes, respondent profiles, and descriptive statistics related to determinants, mediators, and dependent variables. It also addresses the reliability of research instruments and presents correlation and multiple regression analyses, focussing on sample size, normality, linearity, homoscedasticity, and multicollinearity.

Meanwhile, chapter 5 presents the results and discussion, detailing the hypotheses tested based on the research objectives and addressing the research questions. It includes an analysis of determinants and mediating effects, as well as discussion of the results from both direct and indirect models for each variable.

At the end, Chapter 6 concludes the thesis by summarising the study's contributions, implications, limitations, and suggestions for future research. Each chapter ends with a summary.



CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter offers a comprehensive overview of the literature relevant to this research. It begins by explaining electronic commerce (e-commerce) and the specific tax regulations applicable in Malaysia. The study explores the fundamental concepts and investigates the tax compliance behaviour of e-commerce entrepreneurs, focusing on both enforced and voluntary compliance. Additionally, the chapter outlines the various factors influencing e-commerce entrepreneurs' tax compliance behaviour, including mediators and control variables. It concludes with a summary of the key findings.

2.2 Electronic Commerce (E-Commerce)

Electronic commerce (e-commerce) is an innovative business that undergoes rapid changes in tandem with technological advancement, particularly in information and communication technologies (ICTs). Since 1985, when Tim Berners-Lee invented the web, or World Wide Web (www) until recently, e-commerce has provided a new perspective on business worldwide, including Malaysia. As such, entrepreneurs have been changing their businesses by implementing electronic channels to market and sell their products to consumers. In another study, AltusHost (2016) found that 90 percent of companies used social media for their business operations. According to a survey in 2017, about 24 million Malaysians depended on the Internet to shop (Hua et. al., 2017).

Moreover, business owners with physical business premises, such as food and beverage businesses, transportation businesses, and others, also use the Internet or electronic medium to meet the business needs of their digital customers. Although the transaction costs are high in the early phase of applying ICTs in businesses, the application allows more goods and services to be quickly delivered to more places.

However, e-commerce has its weaknesses. Based on the OECD and WTO (2017), the weaknesses of e-commerce include (i) a changeable and expensive power supply; (ii) limited awareness and skills on how to implement and use e-commerce; (iii) poor or inconsistent laws and regulations; (iv) restricted or lacking in transportation and logistics infrastructure; (v) lack of online or alternative payment facilities; (vi) limited purchasing power; (vii) cultural priorities for uncompromising interaction; and (viii) dependence on cash. Nevertheless, despite its weaknesses, e-commerce has improved dramatically compared to its inception in the 1970s.

2.2.1 Concept of E-Commerce

E-commerce, a crucial element of the digital economy alongside cloud computing and cryptocurrencies (Nellen, 2015; Peng, 2016), is broadly defined and utilised in various ways. The United States Department of Treasury defines e-commerce as the ability to perform transactions involving the exchange of goods or services between two or more parties using electronic tools and techniques (Office Tax Policy, USA Department of Treasury, p. 8). This encompasses a range of applications such as File Transfer Protocol (FTP), Electronic Data Interchange (EDI), electronic mail (e-mail), online catalogues, shopping carts, and web services (Rouse, 2016).

Miva (2011) defines e-commerce specifically as the process of buying and selling products and services online, while Nellen (2015) expands this to a comprehensive business model for conducting transactions involving both tangible and intangible goods and services through web-based activities, including economic transactions, advertising, marketing, and information sharing.

From a taxation perspective, e-commerce is initially defined by the Inland Revenue Board of Malaysia (IRBM, 2013a) as any online transaction that includes activities such as information provision, sales promotion, advertising, marketing, supply, ordering, or delivery of goods and services, regardless of whether payment or delivery occurs online. However, the Inland Revenue Board of Malaysia (IRBM, 2019a) refined this definition in 2019 to include a broader scope: they now recognise e-commerce transactions as any sales or purchases of goods and services conducted over networks using methods specifically designed for placing orders, where payment and delivery can occur offline and involve various entities such as enterprises, households, individuals, governments, and public or private organisations (IRBM, 2019a, p. 5).

Overall, e-commerce encompasses a range of online and web-based activities aimed at facilitating the exchange of goods and services, with evolving definitions and applications that reflect its growing importance in the global economy and its complex regulatory and tax frameworks. Table 2.1 summarize the definition of e-commerce.

Table 2.1

Definition of E-Commerce

References	Definition
U.S. Department of Treasury (p.8)	The ability to perform transactions involving the exchange of goods or services between two or more parties using electronic tools and techniques.
Miva (2011)	Selling and purchasing products and services online.
Nellen (2015)	A new business model for conducting tangible and intangible goods and services online and through web-based activities, including economic transactions, advertising, marketing, and information sharing.
Peng (2016)	E-commerce is a vital part of the digital economy, along with cloud computing and cryptocurrencies.
IRBM (2013a)	E-commerce includes any online transaction involving information, sales promotion, advertising, marketing, supply, ordering, or delivery of goods and services, without the need for online payment or delivery.
IRBM (2019a)	Revised interpretation: E-commerce transactions involve any sales or purchases of goods or services conducted over networks for the purpose of receiving or placing orders. Payment and delivery do not need to be online, and transactions can involve enterprises, households, individuals, governments, and other organizations.

2.2.2 E-Commerce Evolution

In the early 1970s, Internet usage began to develop, and at that time, it was only used for financial transactions through Electronic Funds Transfer (EFT). In the late 1970s, Internet usage changed to Electronic Data Interchange (EDI), a system that uses the Inter-organisational System (IOS) to exchange information between groups of companies. CompuServe, founded in 1969, was the first to offer Internet services. Later, Michael Aldrich founded the Business to Business (B2B) and Business to Consumer (B2C) online shopping systems in 1979. Then, in 1980, he developed Teleputer, a combination of personal computer (PC), television, and telecommunications network technologies. In 1981, he developed an interactive broadband cable for telecommunications users in the mass market.

However, the development of e-commerce did not begin until the 1990s. Previously, it was commercialised with the introduction of the World Wide Web (www) in 1985. The growth began in 1992 when CompuServe introduced Information Service, or CIS, which allowed users to buy from their computers. The establishment of the first online bookstore during that time saw rapid growth in e-commerce. Next, the first web service provider, Yahoo!, was founded in 1994, followed by Netscape, e-Bay, and Amazon.com in 1995. They became multinational e-commerce companies before China's e-commerce company, Alibaba, joined in 2001. Since then, e-commerce has transformed tremendously from B2B to B2C and B2E (Business to Employee) in 2004.

In 2004, with the expansion of social network services, such as Facebook, Google Plus (Google+), and Twitter, e-commerce was enhanced through mobile devices, known as 'social commerce.' Yahoo, in 2005, was the first company to introduce social commerce. Yahoo uses social networks for e-commerce, such as selling goods and services, purchasing between businesses, and marketing through websites, blogs, and social media. Nowadays, around 90 percent of companies actively use social media for their businesses, and many platforms have now been created to enable features for e-commerce (AltusHost, 2016).

According to Rouse (2016), in 2015, users spent much money on Facebook, Pinterest, and Twitter. From 2017 until recently, the ninth (9th) edition of e-commerce has been launched, focusing on smart e-commerce, social commerce, social collaboration, and the sharing economy as innovation and mobility (Birudaruja & Rao, 2018; Turban et al., 2018). Since then, e-commerce mobility has been improved by pushing commerce into a new outlook.

In summary, the revolution of e-commerce from the 1970s until 2018 occurred in three phases: (i) the evolution of electronic transactions, (ii) the e-commerce growth, and (iii) e-commerce through social media. The phases of the e-commerce revolution, which began with electronic financial transactions, e-commerce, and social commerce, are summarised in Table 2.2.

Table 2.2
E-Commerce Revolutions (1951 to current)

Year	Evolution in the Electronic Transactions
1951	A commercial computer (Universal Automatic Computer (UNIVAC) I) was created by John Eckert and John W. Mauchly (ICT-tools).
1969	Advanced Research Projects Agency Network (ARPANET), the internet was born with the introduction of the first hosting based on packet switching technology. An online information service that provides access to the Internet, email, instant messaging, and an integrated contact list was introduced. Founded in 1969 as a timeshare service, CompuServe is one of the oldest online services. In 1979, email services were offered, followed by an online chat a year later.
The early 1970s	Electronic Funds Transfer (EFT) is a computer-based system for electronic financial transactions and a limited application usage system for financial institutions, large corporations, and some bold corporations.
The late 1970s	The Electronic Data Interchange System (EDI) in the late 1970s was an improvement on EFT. The EDI system is aimed at groups of companies comprising manufacturers, retailers, service providers, and other businesses. This system is known as the Inter-organisational System (IOS). The IOS enables the automatic flow of information between companies to achieve the preferred supply chain management system and support the growth of competitive companies.
1976	Atalla Technovation and Bunker Ramo Corporation designed products for secured online transaction processing for financial institutions.
1979	Accredited Standards Committee X12, or ASC X12, handled business transactions (Business to Business or B2B) and shared information through the EDI system.
Pre-Electronic Commerce	
1979	The first online shopping system, i.e., Business to Business (B2B) and Business-to-Consumer (B2C), was founded by Micheal Aldrich.

Table 2.2 (Continued)

Year	Evolution in the Electronic Transactions
1980	Micheal Aldrich developed the teleputer, a multi-purpose <i>home infotainment centre</i> that combines personal computers, televisions, and telecommunication networking technologies. The Boston Computer Exchange was the first e-commerce company in the world and dominated the United States' electronic trade in used computers in the 1980s. In addition, the first e-commerce platform was created by Boston Computer Exchange in the 1980s.
1981	Michael Aldrich created an interactive broadband cable concept for mass-market telecommunications users.
1981	Thompson Holidays UK introduced the B2B online shopping system.
1982	The first online ordering was introduced by Minitel (nationwide in France).
Growth of E-Commerce	
1984	Gateshead SIS, or Tesco, is the first B2C online shopping system. Mrs Snowball, 72, was the first online home shopper. In April 1984, CompuServe opened the Electronic Mall in the United States and Canada. It was the first comprehensive electronic commerce service.
1989	Sequoia Data Corp. presented Compumarket, the first internet-based system for e-commerce. Sellers and buyers can put items up for sale, and buyers can search the database and make purchases using credit card.
1990	Tim Berners-Lee founded the Web or World Wide Web (www), the information service using URL (Uniform Resources Locator) to search documents or web resources online.
1990	In the early 1990s, electronic commerce was created when the internet became commercial, and most internet users used world wide web (www). Then, from the 1990s onwards, e-commerce was included in enterprise resource planning (ERP) systems, data mining and warehousing.
1991	The primary online information market was founded, including online consulting, such as the American Information Exchange. This is another pre-internet online system introduced in 1991.
1992	The CompuServe Information Service (CIS) is an online service provider offering customers online products or merchandise. This service allowed users the opportunity to purchase something through their computer. The first online bookstore's name was Book Stacks Unlimited.
1994	The e-commerce possibility was introduced from the Telephone Exchange Office. The earliest e-commerce of physical goods was the Boston Computer Exchange, a market for used computers, in 1982. David Filo and Jerry Yang founded the web service provider, Yahoo!, in January 1994 and incorporated it in March 1995.

Table 2.2 (Continued)

Year	Evolution in the Electronic Transactions
1995	Netscape started, offering users a convenient browser to surf the Internet and secure online transaction technology called Safe Sockets Layer. The first online transaction happened when the first pizza with hot peppers, mushrooms, and added cheese was sold online. Two multinational e-commerce companies, Amazon.com and eBay.com, were launched in the United States. The first commercial-free 24-hour, internet-only radio stations, Radio HK and NetRadio, started broadcasting.
1996	The use of Excalibur BBS with replicated "storefronts," is an early implementation of electronic commerce. It began by a group of SysOps in Australia and replicated to global partner sites.
1998	Electronic postal stamps could be bought and downloaded for printing from the Web.
1999	The Digital Subscriber Line (DSL) provided fast Internet services to all the customers in California. This channel encourages users to spend more money and time online. John Malloy founded PayPal, the first online payment service. PayPal also receives money and manages merchandise accounts. Alibaba Group started in China. Business.com was sold for US\$7.5 million to e-Companies, purchased in 1997 for US\$149,000. The peer-to-peer file-sharing software Napster started. ATG Stores was set up to sell decorative items online.
2000	Retail spending through the Internet reached USD20 billion, and e-commerce shifted from B2C to B2B (Business.com). Walmart.com uniquely introduced redeemable gift cards that online users can use to buy more products.
2001	Multinational e-commerce from China, Alibaba, was founded by Jack Ma.
2003	The U.S. government extended its internet tax for up to 2005.
2004	E-commerce shifted from B2B to B2E, e-government, e-learning, and m-commerce.
E-Commerce via Social Media	
2004	Facebook, a social networking service, was launched by its founders, Mark Zuckerberg and Eduardo Saverin, on February 4, 2004.
2005	Social networks started to grow along with immersive commerce (I-Commerce), which gave new experiences to users by using advanced digital technology and wireless applications. YouTube, a video-sharing website, was launched in February 2005. It was founded by Chad Hurley, Steve Chen, and Jawed Karim.
2006	Facebook became social commerce when Procter & Gamble (P&G) promoted tooth-whitening products through FB. Since then, more companies

Table 2.2 (Continued)

Year	Evolution in the Electronic Transactions
	started using social networks for marketing and advertising.
2009	Bitcoin became the first cryptocurrency or decentralised virtual currency.
2010	The UK went to buyers online by offering high-quality British products and half of their PayPal transactions via mobile; then, Smartphone card readers were launched.
2010	Instagram founders Kevin Systrom and Mike Krieger launched a photo-sharing platform. Instagram is a combination of "instant cameras" and "telegram." Now, Instagram has become the most popular social media in online business.
2012	E-commerce sales led to about \$1 trillion for the first time in history.
2013	The Telegram application was introduced by Nikolai and Pavel Durov in August 2013. Telegram is a cloud-based instant messaging service that lets users to send multimedia messages and make voice and video calls. Most e-commerce uses Telegram to channel their business information. In 2021, the number of new users was 1.5 million per day.
2014	The rapid development of social networking services, especially Facebook, Google+, and Twitter, improved e-commerce through mobile devices known as Social Commerce, global developments (e.g., Alibaba), improvements in smart apps and commerce, and large data. Overstock.com processed more than USD1 million in Bitcoin sales. The emerging e-commerce business model changed many industries, including travel, banking, fashion, and transportation.
2015	China has the most prominent e-commerce economy, Alibaba, founded by Jack Ma. Amazon.com showed aggressive growth in e-commerce developments when its sales reached up to 500 million stock-keeping units in the U.S.
2016	Alibaba entered e-commerce in India with a 25 percent stake in Paytm. Grab (formerly known as MyTeksi or GrabTaxi), a transportation, delivery, and finance service, was founded in Malaysia in 2012 and later changed its business base to Singapore in 2014.
2017-2018	The ninth edition of e-commerce, additions to smart e-commerce, social commerce, social collaboration, economic sharing, innovation, and mobility, was introduced.
2018 – current	Social Commerce: Facebook, Twitter, Instagram, LinkedIn, and Snapchat are some of the most well-liked social media platforms. LinkedIn has shown to be a successful tool for hiring business personnel.

Sources: AltusHost (2016), Steward (2021), Birudaruja & Rao (2018), Boston Computer Exchange (2019), Bruner (2016), CompuServe (2019), e-Bay (2019), Grab (Company) (2019), Hall (2018), Iqbal (2021), Turban et al. (2018), Yahoo! (2019a), Yahoo! (2019b), and YouTube (2019)

In addition, more than 4.5 billion people were using the Internet in early 2020, while social media users exceeded the 3.8 billion mark. Almost 60 percent of the world's population is already online, and the latest trends suggest that more than half of the world's population will be using social media by the middle of this year, compared to five percent of people who spent all of their money online using social commerce in 2015. The illustrious and vibrant evolution of e-commerce has divided businesses into several forms, from electronic transactions in the early 1970s to e-commerce in 1985 and later to e-commerce via social media, also known as sociopreneurship or social commerce.

2.2.3 E-Commerce Business Models

E-commerce is having a high impact on the global and local economies. E-commerce sales in the United States reached over USD 305 billion in 2014, with projections indicating an increase to USD 548 billion in 2019. Meanwhile, worldwide B2C e-commerce sales in 2015 totalled USD1.7 trillion and are expected to reach USD2.35 trillion by 2018. Then, Asia Pacific was the largest region, with USD 7700 billion in turnover from e-commerce trading. Also, China was expected to exceed USD 1 trillion in e-commerce sales. Amazon.com, the multinational e-commerce trader, led global e-commerce with recorded net sales of USD107.01 billion, followed by Alibaba with USD12.3 billion and e-Bay with USD8.59 billion (as reported in Altus Host).

According to IPrice Group, the e-commerce industry in Malaysia proliferated in mid-2000, with sales of RM24.6 billion (The Star, 2017). AT Kearney (2016) predicted that e-commerce would contribute almost or more than RM114 billion to the gross domestic product (GDP) in 2020. Most e-commerce businesses in Malaysia are in the

form of B2B, B2C, and B2G. B2B generates the highest e-commerce income, accounting for RM315.2 billion (79.2 percent), followed by B2C at RM73.8 billion (18.5 percent), and B2G at RM9.2 billion (2.3 percent). The total e-commerce income was RM398.2 billion in Malaysia as of 2017 (DOSM, 2017). Business to Government (B2G) had the highest annual growth rate from e-commerce transactions between 2017 and 2019 by type of customer, at 55.7 percent, followed by Business to Customer (B2C) at 53.3 percent, and Business to Business (B2B). As reported in DOSM (2020), B2G spending reached RM31.8 billion in 2019, compared to RM13.1 billion in 2017, followed by B2C spending at RM193.9 billion in 2019, compared to RM82.5 billion in 2017. Meanwhile, income from B2B was RM449.6 billion in 2019, in contrast to RM352.2 billion in 2017. The manufacturing sector dominated the income from e-commerce transactions through B2B, with a value of RM327.8 billion, while the services sector made the highest B2C and B2G contributions, at RM172.5 billion and RM26.2 billion, respectively (DOSM, 2020).

In this study, e-commerce business models such as B2B explains the transactions between one business party and another, B2C is the transaction between a business party and directly to customers or users, or sometimes the customers sell back to companies and known as C2B. While C2C is when the customers are also doing transactions with other customers. About two e-commerce business model related to government which are B2G and C2G. B2G is a business-to-government transaction; and C2G is a transaction between consumers and government in education, health, social security, and taxation.

Table 2.3 describes the e-commerce business model by category. This study conducts e-commerce in accordance with the e-commerce business model. There are six e-commerce business models, namely, business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C), consumer-to-business (C2B), business-to-government (B2G), and consumer-to-government (C2G) (Palme, 2017).

Table 2.3
E-Commerce Business Model

No.	E-Commerce Categories	Description
1.	Business to Business (B2B)	<ul style="list-style-type: none"> • B2B is an online transaction between a business and other businesses. Business activities between them include resource production, service, and reselling of products and services by other businesses. • Business activities are carried out online, covering all goods and services transactions between companies and selling products or services to other companies online. • However, they are not involved in sales to consumers. • Most industries that use B2B are health, business products and services, financial services, information technology (IT), and construction services.
2.	Business to Consumer (B2C)	<ul style="list-style-type: none"> • B2C is an internet transaction between businesses and users. It is defined as a business or transaction between a company and a customer who is an end-user of the product or service. • In 1979, Michael Aldrich first used the B2C indicator and television as the primary medium to influence consumers. • Typically, B2C refers to shopping, dining at restaurants, pay, and commercials. However, the growth of the internet creates a new B2C business channel in the form of e-commerce or selling of goods and services. • Plenty of virtual malls and stores operate via the Internet, selling a wide range of goods, such as personal computers, programming software, digital or non-digital books, a variety of shoes, vehicles, foods and beverages, financial supplies, computer distribution, and many more. • The B2C workshop has open access to any guest and customer.
3.	Consumer to Consumer (C2C)	<ul style="list-style-type: none"> • C2C covers all online transactions between users. The other third parties create the online business platform to do the transactions.

Table 2.3 (Continued)

No.	E-Commerce Categories	Description
		<ul style="list-style-type: none"> The users do C2C online and also auctions. Examples of online business platforms are eBay.com, Ali Express.com, Lazada, and Shopee.
4.	Consumer to Business (C2B)	<ul style="list-style-type: none"> C2B - There is a growing inversion of the product convention. Here, customers offer their items or administration on the web, and the organisation submits their donations. Customers then review their bids and select organisations that meet their desired values. A widespread platform is a market that sells photos, images, media elements, and designs without claiming royalties, such as Stockphoto, EyeEm, and others.
5.	Business to Government (B2G)	<ul style="list-style-type: none"> B2G is a business of selling information, products, or services to the government or government agencies. For instance, a website providing B2G services can offer businesses with one place to search tax and form apps for one or more government (city, state or province, etc.) levels, providing the ability to submit completed forms and payments, update corporate information; ask for a particular problem; and others. B2G also includes electronic procurement services or supplier exchange. B2G occurs in a virtual workplace where businesses and agencies streamline their work on contracted projects by sharing regular websites to arrange online meetings, analyse plans, and manage progress. Other examples of B2G are the rent of applications and online databases mainly for use by government agencies.
6.	Consumer to Government (C2G)	<ul style="list-style-type: none"> C2G is an electronic transaction conducted between individuals and public or governmental administrations. Examples of C2G applications include: <ol style="list-style-type: none"> Education - used for information spreading, distance learning, etc. Social Security - sharing information, transfer payment, etc. Tax - tax filing, payment, making tax estimates, etc. Health - health appointment, information on illness, and payment of health services, etc. Both models involve Public Administration or government (B2G and C2G) in relation to efficiency and the use of facilities from the government to the community, with the aid of information and communication technologies (ICTs).

Sources: Cheng (2011) and Palme (2017)

Most e-commerce businesses in Malaysia are in the form of B2B, B2C, and B2G. B2B generates the highest e-commerce income, accounting for RM315.2 billion (79.2 percent), followed by B2C at RM73.8 billion (18.5 percent), and B2G at RM9.2 billion (2.3 percent). A study by Yeo et al. (2019) identified the C2C Malaysia involved in tax non-compliance because perceived low chance of detection, insignificant income and status as a student's where the e-commerce income as side income. Also, the rapid rise of C2C e-commerce in China has brought serious difficulties to China's tax collection and management (Yu & Yu, 2015).

2.2.4 E-Commerce in Malaysia

The eBay Malaysia was launched in 2004 marked the start of Malaysian e-commerce, followed by Lelong.com.my as the e-commerce platform. With 9.56 million monthly visits in 2007, Lelong.com.my was one of the first C2C e-commerce businesses. Then, Malaysian e-commerce platforms like Lazada and Zalora in 2012 and Shopee in 2015 joined the bandwagon (Aprameya, 2020). Malaysia is also expanding its e-commerce worldwide. Malaysia currently has one of Southeast Asia's highest internet penetration rates (around 82.3 percent), owing to digitalised middle-income consumers seeking out foreign-branded products (Aprameya, 2020). Moreover, Malaysia's younger entrepreneur is learning technological skills by building an increasingly powerful internet infrastructure and expanding their businesses globally.

In 2019, e-commerce sales transactions in Malaysia grew to RM675.4 billion, compared to RM447.8 billion in 2017. In 2020, Malaysia's e-commerce sales reached RM896.4 billion, an increase of 32.7 percent compared to 2019 (DOSM, 2020). According to a study by SME Corporation Malaysia, 35.3 percent of Malaysian SMEs

participated in e-commerce in 2019, contributing about 15 percent of total income in Malaysia.

The e-commerce marketplaces in Malaysia include Lazada, Shopee, PrestoMall, and Lelong.com (Austrade, 2020). Lazada, owned by Alibaba Group, generated an income of USD647 million dollars in 2014 from the Southeast Asia market, comprising Lazada Malaysia, Indonesia, Thailand, the Philippines, and Vietnam. Besides, brands such as Padini Tops, Dr Cardin Shoes, XES Ladies, and other local items and services were available to worldwide customers through the Shop Malaysia Online Campaign in 2021 to support local brands (The Star Online, 2021). Shopee Malaysia commenced in 2015, soon after Shopee Singapore, focusing on C2C and B2C. Shopee Malaysia uses logistic companies such as Pos Malaysia and Ninja Van to improve their speed and efficiency. As reported by Austrade (2020), Shopee Malaysia showed a 48.1 percent increase in e-commerce orders, with 200 million downloads, from 2018 to 2019. It has become the preferred platform for other businesses.

Besides using e-commerce marketplaces, sites like Zalora, FashionValet, Happy Fresh, and Hermo use their websites to do e-commerce (Austrade, 2020). Customers can browse these websites to buy the products. Another primary income source for e-commerce in Malaysia is blogs. Joyce Wong of Kinky Blue Fairy, Malaysia's top blogger, began blogging in 2004. She gained income from paid reviews and other side tasks as a famous blogger, such as being a model, product ambassador, and emcee (Mukono, 2021). Furthermore, other than retail and blogging, digital businesses have also been employed to boost revenue through the media broadcasting and service sectors.

The number of Malaysian YouTubers has rapidly grown since YouTube was launched in 2005. YouTube is one of the platforms that is helping digital businesses grow by providing video production services to YouTubers. Kafaym Ab, Les' Copaque YouTube Channel, Aliff Irfan, and Syahmi Production are some of the most famous YouTubers in Malaysia (Ammar, 2019; SocialBlade, 2020). On 11 June 2020, Les Copaque's YouTube channel revealed that it has had 10 million subscribers since its launch in 2009 (Zaidi, 2020). In 2021, the leading platform for doing e-commerce was social commerce platforms such as Facebook, WhatsApp Messenger, and Instagram. Besides that, Shopee and Lazada are also used by Malaysian e-commerce to perform online transactions (SME Corporation Malaysia, 2021). Due to the increase in e-commerce in Malaysia, several measures have been taken concerning the economic landscape, including taxation.

Even though there are no specific figure about the SMEs involve in e-commerce, but there are SMEs that involved in e-commerce. As reported, in 2016 the SMEs accounted for approximately 98.5 percent of all businesses in Malaysia, with micro-enterprises accounting for 76.5 percent, small enterprises accounting for 21.2 percent, and medium enterprises accounting for 2.3 percent. Meanwhile, big companies account for 1.5 percent of total businesses in Malaysia (SMEE Corp, 2016; DOSM, 2016). The SMEs contribute about 38.3 percent of the total GDP in Malaysia (Suhaily Safie, 2020). The 14th National SME Development Council (NSDC) Meeting in July 2013 approved the concept of SMEs, where small businesses are described as meeting one of two requirements: sales turnover or the number of full-time employees. Sales turnover refers to total income, including other income.

Business size is determined by the annual revenue or the entire workforce, categorised by industry categories like manufacturing, services, or other industries. The classifications of microenterprise, small, and medium enterprise are determined by the sales turnover and total number of employees in various sectors such as manufacturing, services, or other industries, as presented in Table 2.4. Microenterprises in every industry must have a sales turnover below RM300,000 and employ a maximum of five workers. Small businesses in the manufacturing sector often generate sales ranging from RM300,000 to RM15 million and employ between five to 75 workers.

In other industries, small businesses usually have revenues between RM300,000 and RM3 million and employ between five to 30 workers. Medium-sized manufacturing enterprises have annual revenues ranging from RM15 million to RM50 million with a workforce of 75 to 200 employees. Medium-sized enterprises in the services and other industries are those having an annual sales turnover ranging from RM3 million to RM20 million and employing 30 to 75 employees (SME Corp., 2013). Businesses that do not fit into the two specified categories are classified as large.

Table 2.4
Determination of MSMEs in Malaysia

Business Sectors	Manufacturing		Service Sectors & Other Sectors	
<i>Business Size</i>	<i>Sales Turnover/Year</i>	<i>Total Number of Full-time Employees</i>	<i>Sales Turnover/Year</i>	<i>Total No. of Full-time Employees</i>
<i>Micro</i>	Less than RM300K	Less than five (5) employees	Less than RM300K	Less than five (5) employees
<i>Small</i>	RM300K to RM15 million	Five (5) to 75 employees	RM300K to RM3 million	Five (5) to 30 Employees
<i>Medium</i>	RM15 million to RM50 million	75 to 200 employees	RM15 million - RM50 million	30 – 75 employees

Source: SME Corp. (2013)

E-commerce transactions are conducted via smartphones (smart commerce), social media platforms (social commerce), and websites or blogs (e-commerce). Furthermore, e-commerce encompasses a variety of business models, including drop shipping, business agents, stockists, the sale of digital products, product/service reviewers, and more, as detailed in Table 2.5.

Table 2.5
E-Commerce Business Sectors in Malaysia

No.	Sector	Business Description	Flow of Activities
1.	Retailing	Dropship, Agent, Stockist, etc.	Taking orders, packing, receiving payment, and delivering.
2.	Transport and Logistic	e.g., Pos Laju, GDex, Nationwide, Skynet, Air Asia, Car Rental, Online Ticketing, etc.	Order for services, payment, insurance, delivery
3.	Financial Services	Bank, Payment Gateway, debit card, credit card, membership card, loyalty card, etc.	Validate financial status, issue statement
4.	Manufacturing and Agriculture	3D Printing, etc.	Taking orders, packing, receiving payment, delivering
5.	Education	eBook, online tutor, online tutorial etc.	Taking orders, packing, receiving payment, delivering
6.	Healthcare	Online doctor, online pharmacy, etc.	Taking orders, packing, receiving payment, delivering
7.	Broadcasting and Media	e.g., YouTube, photography (services as a photographer and selling images), etc.	Content creation, uploading, receiving payment
8.	Sharing Economy	Sharing cars, houses, rooms, bikes, etc.	Order for services, payment
9.	Subscription	Online comics, online newspapers, video streaming, audio streaming, etc.	Registration, Payment
10.	Services	Infrastructure and software as a service, event management, wedding planning, etc.	Order for services, payment

Table 2.5 (Continued)

No.	Sector	Business Description	Flow of Activities
11.	Advertisement	Blogger, “Instafamous” (social media influencer), Instagram reviewer	Content Creation, uploading, payment
12.	Crowd Sourcing	E.g. kickstarter.com	Content creation, uploading, payment
13.	Selling of Digital Product	Data, eBook, apps	Content creation, uploading, payment

Source: IRBM (2018a)

2.2.5 Taxation of E-Commerce

There are income tax on e-commerce depending on the tax authority in that countries such as e-commerce businesses operating in the United States are subject to federal income tax on their profits, regardless of whether they operate online or through traditional brick-and-mortar stores. Additionally, individual taxpayers are required to report income earned from online activities, such as selling products or providing services, and pay income tax accordingly. Meanwhile in United Kingdom (UK) are subject to corporate tax on their profits, which includes income generated from online sales and other digital activities. The UK also imposes income tax on individuals engaged in e-commerce activities, such as online freelancing or running e-commerce businesses.

E-commerce businesses in Canada are subject to federal and provincial corporate income tax on their profits, as well as income tax on dividends distributed to shareholders. Individual taxpayers engaged in e-commerce activities are required to report their online income and pay income tax accordingly. Australia applies corporate tax to the profits of e-commerce companies operating within its jurisdiction. Individual taxpayers in Australia are also subject to income tax on earnings from online activities,

including online sales, digital services, and other online business ventures. In India, e-commerce businesses are subject to corporate income tax on their profits, as well as other direct taxes such as the Minimum Alternate Tax (MAT). Individual taxpayers engaged in e-commerce activities are required to report their online income and pay income tax according to the applicable tax rates.

From an income tax perspective, Malaysia adopts the territorial scope of taxation where income derived from or sourced in Malaysia subject to tax. Income is said to be derived from Malaysia where the activities generating such income are carried out in Malaysia. This principle applies equally for both conventional and e-commerce transaction. Under the current self-assessment system, businesses or individuals involved in e-commerce are required to declare the income arising from this transactions in their tax returns.

The Malaysian tax system currently taxes e-commerce operations based on three basic principles: (a) income sources, (b) taxpayer's resident status, and (c) business form. Malaysian residents are subject to income tax on their earnings, but remitted income outside Malaysia is not. The tax only applies to non-resident taxpayers who earn income in Malaysia (IRBM, 2013a). E-commerce income can come from Malaysia or elsewhere. An e-commerce business's resident status, existence, and website location all have an impact on its taxable income. The location of the business activities determines the source of e-commerce income, whether it originates in Malaysia or not.

In 2003, the electronic filing (e-filing) of tax returns became available. The IRBM has developed e-filing to allow taxpayers to submit tax returns electronically rather than

manually. The purposes of the Self-Assessment System (SAS) are to raise taxes for the country at the lowest possible cost, enhance compliance, and introduce effective enforcement (IRBM, 2001; Kasipillai, 2000; Loo, 2006). In accomplishing this mission, three goals were established: determine and secure the exact sum of tax revenue as provided by law in the most efficient and cost-effective manner; encourage the public to trust the tax system's fairness and high integrity; and encourage voluntary compliance among Malaysian taxpayers (Palil, 2010).

Malaysian residents are subject to income tax on their earnings, but remitted income outside Malaysia is not. The tax only applies to non-resident taxpayers who earn income in Malaysia (IRBM, 2013a). The IRBM assesses e-commerce businesses' resident status based on the server they use to file their taxes (IRBM, 2013a). The IRBM uses the permanent establishment (PE) of an e-commerce entrepreneur's server to assess the resident status of e-commerce. If a company has its headquarters in Malaysia and generates its e-commerce revenue locally, Malaysian taxation will apply. However, the IRBM faces various challenges, such as the difficulties in identifying the residential status of a business and the sources of income (Hanifah, 2007; Cheng, 2011), besides the recording and bookkeeping problems because e-commerce has large and complicated e-commerce transactions (Udin & Adebayo, 2015).

Table 2.6 illustrates the measurement of e-commerce and other income in Malaysia and abroad. In this case, the resident status, existence, and website location determine the taxable income of an e-commerce business. The location of the business activities determines the source of e-commerce income, whether it originates in Malaysia or not.

Table 2.6

Permanent Establishment of the E-Commerce Income

RESIDENT STATUS	Business Operations		Website Hosted		E-Commerce Income Deemed Derived from Malaysia?
	Malaysia	Overseas	Malaysia	Overseas	
RESIDENT	√		√		Yes
	√			√	Yes
	√	Branch		√	A company's income from operations in Malaysia is taxable in Malaysia, while income derived from sales via the website attributable to the business operations of the branch outside Malaysia is not considered to come from Malaysia.
		√	√		No
		√		√	No
NON-RESIDENT	√		√		Yes
	√			√	Yes
		√	√		No
	Branch	√		√	Yes. Income, including e-commerce income that is attributable to the business operations of the branch in Malaysia.
	Branch	√	√		No. Income from the branch is liable to tax in Malaysia.

Notes :

Business	: Either manufacturing/trading/services
Products	: Either tangible/intangible
Website	: Identity/queries/order/payment/online delivery
Tangible Products	: Deliver by normal physical channel

Business activities comprise sourcing of contents/procurement of goods/promotion and advertisement/selling/arranging of delivery of products/maintaining websites.

Source: IRBM (2013a), p.19.

An e-commerce business is responsible for declaring taxes on income or losses. Businesses and website owners must complete and submit Form e-B (business) or e-P (partnership) via e-filing. Furthermore, e-commerce entrepreneurs are required to display business particulars on their websites, such as the name of the business, registration number, and other particulars, according to the Companies Act 1965,

Section 12(1)(b), and the Consumer Protection Regulation [e-commerce transaction] 2012 (IRBM, 2018a). At the end of 2018, CCM registered more than 120,000 e-commerce transactions in Malaysia (BERNAMA, 2018).

However, many unregistered online or e-commerce businesses are reportedly generating e-commerce income. This situation happens in Indonesia, where only 50 percent of the 1,500 e-commerce traders who have Taxpayer Identification Numbers (NPWP) reported their tax returns (SPT) in 2014 (Mukarromah 2014). As in Malaysia, the IRBM (2013a) released several guidelines, as follows: (i) The tax authority will tax e-commerce income whether it originates from within or outside Malaysia; (ii) there are no specific tax provisions on e-commerce transactions. Instead, they will adopt the neutrality principle, which subjects e-commerce and conventional businesses to similar tax treatment; and (iii) the income tax on e-commerce should refer to the Income Tax Act 1967 to determine income earned from Malaysia or outside Malaysia.

The Malaysian government also provides incentives for e-commerce entrepreneurs, for example, the tax deduction for the cost of developing a website, as stated in Rules 2003 PU (A) 101 (MCMC, 2003). However, all documents for each deduction or expense claimed must be kept for seven years, including (i) statements of payment gateways, i.e., PayPal Statement, iPay88 Statement, Money Online (MOL), etc.; (ii) bank statements and receipts for domestic and personal expenses; (iii) income statements from advertising companies such as Nuffnang, Google AdSense (Google Ads), etc.; and (iv) the agreement and original receipts (IRBM, 2018a).

Tax regulations for e-commerce entrepreneurs are based on their business income, server location (inside or outside Malaysia), taxpayer status (individuals or companies), and the need to maintain proper documentation to ensure adherence to tax audits. Failure to comply with these regulations can result in penalties and legal consequences.

Malaysia has implemented a digital tax beginning on January 1, 2020. The service tax is used to cover digital services in several nations (Australia, Japan, South Korea, and Singapore). The digital tax is imposed on foreign service providers (FSPs) who provide digital services to local users, such as mobile applications, online games, streaming services (e.g., Spotify and Netflix), cloud storage services, social networks, and so on. To avoid double taxation on businesses as a result of the application of digital tax, local service providers receive group relief and a "business-to-business" exemption when importing qualifying services. Local service providers that have paid digital tax to FSPs can deduct the amount paid from the service tax that they must pay. To summarise, the digital tax only applies to the importation of taxable digital services by local end-consumers, or for personal consumption.

2.3 Theories in Tax Compliance Behaviour

Bello and Danjuma (2014) identified multiple theories that influence tax compliance behaviour, such as the Economic Deterrence Model, social-psychology models, Fiscal Exchange Theory, comparative treatment model and Political Legitimacy and Trust in Government theory which they suggest that a single theory is insufficient to explain tax compliance behaviour. Refer to tax challenge of e-commerce and the enforcement strategies employed by IRBM to reinforce the voluntary nature of e-commerce, this

study used a combination of SSF's, Fischer's Model, and the Permanent Establishment Principle.

2.3.1 Slippery Slope Framework (SSF)

The rapid growth of e-commerce in Malaysia presents significant challenges for the tax authority. The digital nature of transactions, the explosion of small and micro-enterprises, and the limitations of traditional enforcement mechanisms make it difficult to detect and assess taxable income accurately. The anonymity and flexibility of online platforms facilitate income concealment and tax evasion. The digital economy has outpaced existing tax laws and regulations, creating ambiguities and loopholes that tax avoidance can exploit. Fostering voluntary compliance in the e-commerce sector is particularly challenging, as the perception of low enforcement risk and a lack of trust in the tax authority can lead to widespread non-compliance.

Kirchler (2007) introduced the SSF to distinguish between enforced and voluntary tax compliance behaviour. This framework uniquely integrates economic and psychological aspects such as audit probability, fines, tax rates, tax knowledge, tax attitudes, norms, and perceived fairness to create a comprehensive understanding of tax compliance behaviour. According to SSF, taxpayers' perceptions of tax officials as 'police' and themselves as 'robbers' lead to heightened tax enforcement, whereas viewing tax authorities as 'trusted service providers' encourages voluntary compliance. The SSF posits that high authority power results in enforced compliance, while a positive level of trust in tax authorities fosters voluntary compliance.

The SSF also reflects the elements of authority and trust. A tax authority with high power prompts enforced tax compliance behaviour, whereas voluntary tax compliance arises from a positive level of trust in the tax authorities. Kirchler (2007) identified both conflicting and cooperative tax environments. In a hostile climate, taxpayers are presumed to engage in tax evasion, necessitating enforcement measures like fines and tax audits. Figure 2.1 illustrates the impact of power and trust within the tax authority on the relationship between taxpayers and tax authorities. The theory suggests that minimal trust and power (represented by the front slope) lead to decreased tax compliance. The upper left slope indicates enforced tax compliance when trust is low and power is high. Conversely, the top right slope shows that strong trust and low power result in voluntary tax compliance. Kirchler et al. (2008) assert that a high level of trust leads to voluntary compliance, while a high level of authority results in enforced compliance.

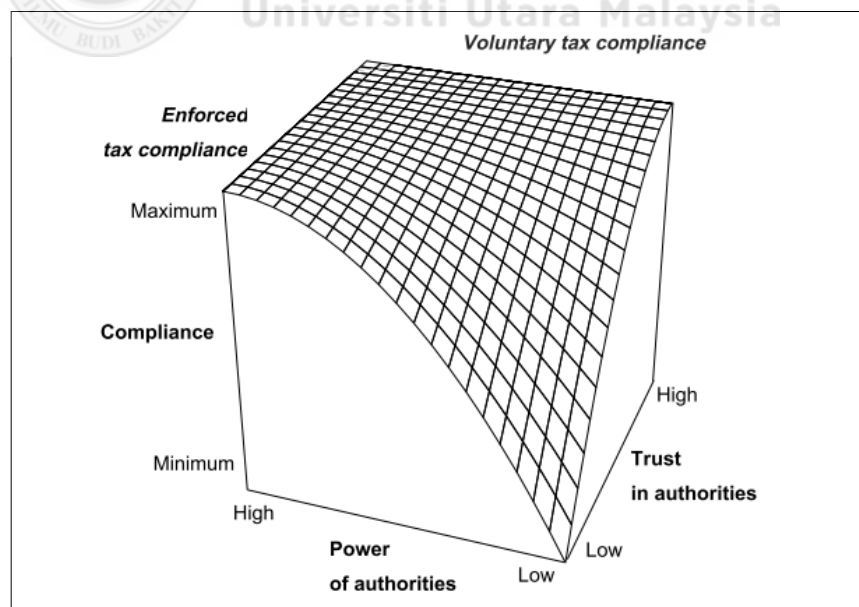


Figure 2.1
The Slippery Slope Framework (SSF) (Kirchler et al., 2008)

The SSF delineates the climate of tax compliance as antagonistic, where high power and low trust lead to enforced compliance, and synergistic, where high trust and moderate power create an environment fostering voluntary cooperation. Experiments have shown that both trust and power increase tax compliance, but power mainly leads to rule-following, while trust enhances voluntary cooperation (Kogler et al., 2011; Muehlbacher and Kirchler, 2010; Wahl et al., 2010).

The power dimension, associated with the tax authority's ability to enforce compliance, comprises coercive power (aggressive audits, fines, and sanctions) and legitimate power (legal authority to govern the tax system). Coercive measures often lead to a hostile climate and enforced compliance, while legitimate power, when coupled with transparency and fairness, can enhance taxpayers' trust and responsibility for tax compliance (Gangl & Torgler, 2017). Despite findings that power does not correlate strongly with tax compliance in Malaysia (Faizal et al., 2017), it serves to control non-compliance (Kirchler, 2007).

The trust dimension reflects the relationship between tax authorities and taxpayers, where high trust leads to voluntary compliance. Taxpayers' perception of fair, clear, and community-serving tax laws builds trust (Gangl et al., 2015a). The SSF underscores the need for tax authorities to cultivate a service-oriented environment, treating taxpayers as customers and assisting them in complying with tax regulations (Gangl et al., 2012a). Bukhari (2010) also found that even a moderate level of trust can positively influence voluntary compliance behaviours.

The SSF is particularly suitable for studying tax compliance behaviour among e-commerce entrepreneurs in Malaysia. It integrates economic and psychological factors, allowing for a nuanced analysis of compliance motivations. The SSF's adaptability to the unique challenges of the digital economy, such as tracking digital transactions and inconsistent enforcement, makes it an effective framework for understanding and improving tax compliance in this sector. By examining the mediation effects and synergies between power and trust dimensions, the SSF provides valuable insights for designing effective tax policies and strategies in the Malaysian e-commerce industry.

This study utilizes the SSF to explore the factors influencing enforced and voluntary tax compliance behaviour among e-commerce entrepreneurs. It examines how advancements in digital payment systems and online marketplaces, driven by digitalization and technology, affect tax compliance. The research focuses on economic and psychological determinants, such as audit probability, fines, tax rates, tax knowledge, tax attitudes, norms, and perceived fairness, emphasizing the SSF's core determinants: tax audit rate, audit probability, tax penalty, and tax service.

Additionally, the study incorporates dimensions of power, including coercive and legitimate power, and trust as mediators to analyse the relationship between these determinants and the tax compliance approaches proposed by the SSF. This approach provides a comprehensive understanding of tax compliance behaviour among Malaysian e-commerce entrepreneurs, considering legal, behavioural, and technological factors.

2.3.2 The Fischer's Model

Allingham and Sandmo (1972) initially utilised Becker's crime model to formulate the deterrence theory, positing that the threat of detection and punishment deters individuals from committing crimes, including tax evasion. With the premise that higher probabilities of audits and severe penalties can discourage taxpayers from evading taxes, this theory has gained widespread use to understand tax non-compliance. However, Feld et al. (2006) argue that despite low levels of enforcement in some countries, tax compliance remains high, indicating that factors beyond deterrence significantly influence taxpayer behaviour.

Jackson and Milliron (1986) identified 14 significant factors affecting tax compliance, which Fischer et al. (1992) categorised into four main determinants: non-compliance opportunities, attitudes and perceptions, tax system complexity, and demographic variables. Non-compliance opportunities encompass variables such as income level, income source, and occupation, where higher income levels and complex income sources provide more opportunities for evasion. Attitudes and perceptions include the perceived fairness of the tax system and peer influence, suggesting that a fair tax system and compliance among peers enhance tax adherence.

The complexity of a tax system includes the likelihood of detection, penalties, and tax rates. Higher detection chances and significant penalties can deter non-compliance, while high tax rates may encourage evasion. Demographic variables such as age, gender, and education also play a crucial role, as older individuals and better-educated taxpayers are generally more compliant due to established financial practices and a better understanding of tax laws.

Fischer's model, developed by Roger W. Fischer and colleagues, provides a comprehensive framework for examining how socio-psychological and economic factors influence taxpayers' compliance decisions. The model illustrates that demographic factors like age, gender, and education indirectly impact compliance by influencing non-compliance opportunities and attitudes towards the tax system. By integrating socio-psychological, economic, and behavioural factors, Fischer's model provides a nuanced understanding of why individuals comply with tax laws, even in the absence of strong deterrence, as illustrated in Figure 2.2.

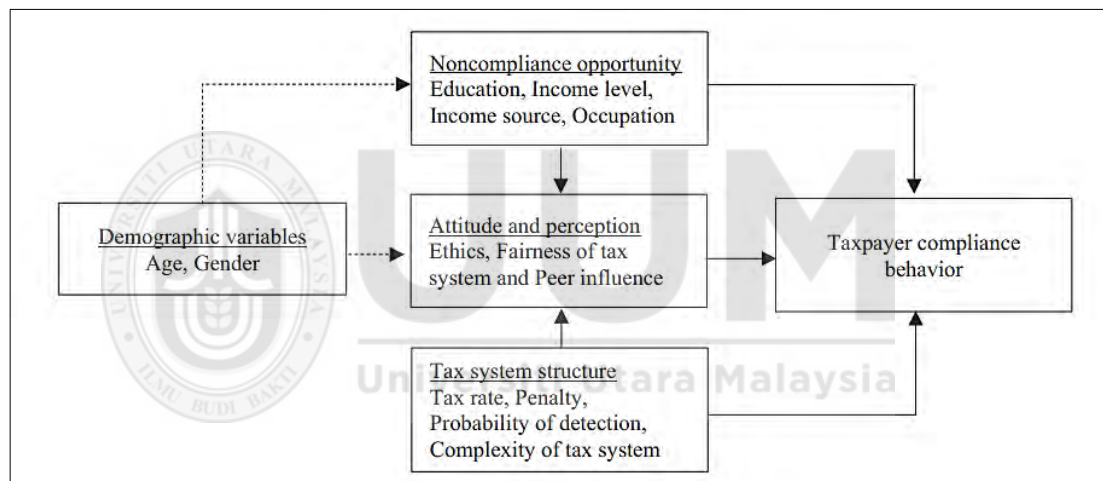


Figure 2.2
Fischer's Model (Fischer et al., 1992, p.2)

Fischer's model is particularly well-suited for this study because it integrates economic, social, and psychological factors, offering a comprehensive understanding of tax compliance behaviour. This holistic approach is crucial for analysing the diverse motivations and deterrents specific to e-commerce entrepreneurs. Additionally, the e-commerce environment is characterised by rapid technological advancements and digital transactions. Fischer's model effectively explores how digitalization influences tax compliance, including the impacts of digital payment systems and online marketplaces.

This study uses Fischer's model to investigate the tax compliance behaviour of e-commerce entrepreneurs in Malaysia, focusing on how demographic factors such as the owner's age, business size, business length, and income source influence compliance. Additionally, this study examines tax complexity as a determinant for investigating tax compliance behaviour among e-commerce entrepreneurs in Malaysia. Understanding these factors is essential for designing targeted interventions by tax authorities. The study, by applying Fischer's model, aims to provide valuable insights for developing fair and effective tax policies that enhance compliance in the e-commerce context.

Demographic factors such as the owner's age, business size, business length, and income source are significant for understanding the nature of e-commerce entrepreneurs in Malaysia. Previous studies have found that younger entrepreneurs, who are more comfortable with digital tools but less familiar with tax legislation, may exhibit different compliance behaviours compared to older entrepreneurs, who are accustomed to traditional techniques but may struggle with digital tax duties. Smaller e-commerce businesses often lack the resources for tax compliance, whereas larger businesses, with more resources and greater scrutiny from tax authorities, tend to have higher compliance rates. Newer businesses frequently encounter difficulties in implementing effective tax strategies, whereas established companies typically have stronger procedures and better relationships with tax authorities, resulting in higher compliance.

Additionally, firms with multiple income streams face more complex tax situations and difficulties in accurate reporting, whereas those with a single income source find

it easier to manage tax obligations. Understanding these demographic factors is critical for Malaysian tax authorities to develop targeted interventions, such as education and training programs for younger and newer business owners, resource allocation support for small businesses, and simplified tax processes for businesses with multiple income sources. Tailored education and training programs can enhance tax knowledge among younger and newer business owners, while resource allocation support can help small businesses develop robust tax compliance systems. Simplifying tax processes for businesses with multiple income sources can also address the complexities they face.

In summary, this study utilises Fischer's model to explore tax compliance behaviour by focusing on individual motivations and social norms. Specifically, the study investigates how factors like owner's age, business length, business size, income source diversity, and tax system complexity influence enforced or voluntary tax compliance in the current context.

2.3.3 Permanent Establishment Principle

Generally, the principle of a permanent establishment (PE) is described as a "nexus," referring to an office or branch where business is conducted or a place of management tied to a physical business location. The Inland Revenue Board of Malaysia (IRBM) defines a permanent establishment as a "fixed place of business where an enterprise executes its business wholly or partially." According to the IRBM (2013a, p. 16), a PE must meet three criteria: the existence of a business place, a fixed business location, and business operations at the existing and fixed location. However, in the realm of e-commerce, location and time are often irrelevant, as business activities can occur anywhere and at any time via the Internet (Nellen, 2015). This aligns with the OECD

definition, which describes a PE as a business with a fixed place, occupying a territorial area for a specific period, and using it for business purposes (Hoffart, 2007).

Despite this, current trends indicate that e-commerce entrepreneurs can operate without a fixed location (Vaca, 2016). If e-commerce entrepreneurs do not register their PE, it becomes significantly challenging to trace their activities and determine the appropriate jurisdiction for taxing their income. Non-registered PEs impact the country's income tax, particularly concerning foreign subsidiaries (Li, 2013). Othman and Hanefah (2006) have urged the IRBM to establish clear criteria for the PE of e-commerce in Malaysia to safeguard against tax non-compliance, tax loss, double taxation, tracking issues, and reduced physical presence. The high cost of compliance in detecting e-commerce activities stems from these businesses operate under various authorities without a physical presence, offices, or staff. Furthermore, the principle of neutrality may prompt businesses to relocate servers to jurisdictions with low or no taxes, thus shifting profits and avoiding tax payments.

Tax practitioners agree that determining the PE of an e-commerce business is crucial for taxation purposes (MIA, 2018). Consequently, Malaysia's tax authority has decided that PE is based on the time and location of a server (IRBM, 2013b) rather than the website's location (Othman & Hanefah, 2006). Alternatively, the location of an e-commerce business, or PE, is determined by the market country in which e-commerce transactions take place (Simmons et al., 2017). This research uses PE as an independent variable, referring to server locations in Malaysia, abroad, or both. The IRBM agrees that the server location establishes the e-commerce PE without requiring a physical business location (IRBM, 2013b). If a server's business time and location

are within Malaysia, it is considered a Malaysian income source and subject to taxation. The IRBM (2013b) describes a server as a device encompassing basic hardware and software applications, as well as operations where e-commerce applications are located or operated.

Table 2.6 summarises the tested variables based on the SSF, Fischer's model, and the PE principle. The tax audit rate, audit probability, tax penalty, and tax service are the economic and psychological determinants of the SSF. The research also considers the dimensions of power (coercive and legitimate) and trust as mediators for tax compliance behaviour (enforced and voluntary). Fischer's model takes into account demographic factors and the complexity of the tax system. Additional demographic variables include owner's age, business size and length, and income source. Permanent establishments are a critical concern to prevent tax losses for the government, as e-commerce can operate from anywhere.

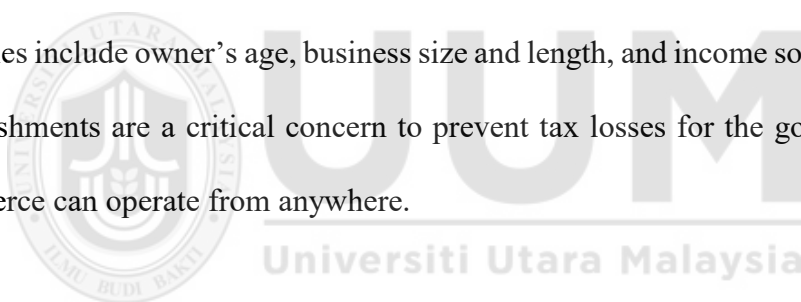


Table 2.7
Summary of Relevant Theories of the E-commerce Entrepreneurs' Tax Behaviour

Theory/ Model	Summary of Theories	Variable Tested	Literature Source
SSF	SSF introduced economic and psychological determinants. Power dimension is used to determine enforced tax compliance behaviour, and trust is used to determine voluntary tax compliance behaviour.	<u>IVs</u> Tax audit rate Audit probability Tax penalty Tax service <u>DVs</u> Enforced Tax Compliance Behaviour	Kirchler et al. (2008)

Table 2.7 (Continued)

Theory/ Model	Summary of Theories	Variable Tested	Literature Source
		Voluntary Tax Compliance Behaviour	
		<u>Mediators</u> Coercive Power Legitimate Power Trust	
Fischer's Model	Focusing on demographic factors, non-compliance opportunities, tax system structure, and tax compliance costs. Tax complexity is a part of the tax system or structure.	<u>IVs</u> Tax Complexity Owner's age Business Length Income Source Business Size	Fischer et al. (1992)
PE Principle	Physical location or virtual e-commerce should have neutrality, efficiency, certainty, simplicity, effectiveness, justice, and flexibility.	<u>IV</u> Permanent establishment	OECD (2003), Hoffart (2007) and OECD (2010)

2.4 Tax Compliance Behaviour

Generally, tax behaviour consists of tax compliance and tax non-compliance. Tax compliance is a person's inclination to act promptly and in a manner that complies with the tax law without waiting for enforcement activities (James & Alley, 2002). Taxpayers who declare their taxes in accordance with tax laws are considered compliant (Alm, 1991; Jackson & Milloron, 1986).

When taxpayers comply with their tax reporting requirements, accurate tax liability calculation, accurate income tax filing, and on-time tax payment are considered compliance (Franzoni, 2000; Chattopadhyay & Das-Gupta, 2002). Singh (2001) also defined tax compliance as filing income taxes, stating all taxable income accurately, and paying taxes within a specified period without waiting for any action or

promptness from the tax authority. Some tax authorities have defined tax compliance as taxpayers' ability and inclination to follow tax laws, reveal actual income annually, and pay the actual amount of tax as required (IRS, 2009; ATO, 2009). In addition, when defining tax compliance, the point to which taxpayers comply or do not comply with their tax system should be considered (Marziana et al., 2010). Tax non-compliance is the opposite of tax compliance.

Tax compliance behaviour refers to specific behaviours in complying with specific tax laws (Gangl et al., 2019; Kirchler et al., 2003). The actions include truthful and prompt tax payment and filing (tax honesty), appropriate and open handling of documents (administrative compliance), enlisting as a taxpayer (tax filing), legally exploiting the tax law (tax avoidance), paying below the statutory tax (tax evasion), or criminally abusing the tax law (tax fraud) (Pattiasina et al., 2020).

Tax compliance behaviour among e-commerce entrepreneurs in Malaysia varies due to the diverse nature of participants and the unique challenges posed by the digital economy. Entrepreneurs range from those fully compliant to those who may unintentionally neglect tax obligations due to a lack of understanding. Enforcement efforts by authorities like the IRBM are complicated by the digital landscape's anonymity and rapid transactions, which can facilitate tax evasion. Deliberate tax evasion also occurs, where individuals exploit digital platforms to avoid taxes. Malaysia is responding with enhanced regulations and enforcement measures, including mandatory registration and improved data analytics, to promote transparency and fairness in e-commerce taxation. Effective collaboration between

stakeholders is essential for fostering a compliant and sustainable e-commerce environment.

The Income Tax Act of 1967 (IRBM, 2013a, and 2019a) treats e-commerce entrepreneurs similarly to other businesses. Tax compliance involves timely and accurate tax reporting, accurate liability calculation, accurate filing, and on-time payment. Tax compliance behaviour includes truthful and prompt tax payment, appropriate handling of documents, enlisting as a taxpayer, legally exploiting the tax law, paying below the statutory tax, or criminally abusing the tax law. Non-compliance involves the opposite, tax compliance. Kirchler et al. (2008) and Randlane (2016) identified two types of tax compliance behaviour: enforced and voluntary tax compliance behaviour.

2.4.1 Enforced Tax Compliance Behaviour (ETCB)

Enforced tax compliance behaviour refers to the act of complying with tax laws due to the fear of penalties or consequences imposed by tax authorities for non-compliance (Kirchler (2007)). External factors, such as the threat of audits, fines, or legal action, primarily drive compliance in this context, rather than intrinsic motivations or voluntary adherence to tax obligations. Enforced tax compliance behaviour occurs when individuals or businesses comply with tax laws primarily to avoid punishment or negative repercussions from tax authorities. Kirchler (2007) designed the SSF to emphasize the enforced tax compliance behaviour that occurs when the tax authority holds greater power. The antagonistic tax climate assumes that taxpayers always intend to engage in tax evasion, necessitating the implementation of enforcement actions like fines and tax audits (Kirchler 2007).

Due to tax evasion and fraud among taxpayers, including e-commerce business owners (MalayMail, 2019), the IRBM has increased tax compliance through methods like aggressive audits, widespread audits, fines and punishments for tax evaders, sanctions, and harsh penalties. These enforcement methods have increased enforced tax compliance (Kirchler et al., 2008). However, some taxpayers still think paying taxes makes more economic sense because they will face penalties greater than the actual tax amount if caught trying not to pay it (Ryan & Deci, 2000). Taxpayers, on the other hand, only comply when they fear audits and penalties and believe that compliance actions are correct (Ryan & Deci, 2000). In another study, Braithwaite (2003) found that these enforcement actions would create social distance between taxpayers and tax authorities.

As discussed above, enforcement actions such as the tax audit rate, audit probability, and tax penalty force e-commerce entrepreneurs to enforce tax compliance. This is because they believe it is more economical to avoid tax non-compliance for fear of enforcement actions and enforcement controls by the tax authority. This study defines enforced tax compliance as the enforcement controls used by tax authorities to improve the tax compliance behaviour of e-commerce entrepreneurs through aggressive audits, a high frequency of audits, fines and penalties for tax evaders, sanctions, and severe penalties.

2.4.2 Voluntary Tax Compliance Behaviour (VTCB)

Voluntary tax compliance behaviour contrasts with enforced tax compliance behaviour. The former relates to compliance with tax requirements without enforcement mechanisms (Isa & Pope, 2011). Voluntary compliance occurs when

taxpayers tend to cooperate, arising from their moral responsibility to support the public's benefit (Kirchler & Wahl, 2010). Basically, there are four foundational tax compliance obligations which are registering with the tax authority upon reaching specific criteria as a taxpayer, reporting tax liability accurately, including correct income, expenses, and tax declaration, submitting a timely tax return and paying tax liability by or before the deadline or pre-restructuring the schedule (Josephine & Dom, 2013). To fulfil the tax compliance obligations, some taxpayers may volunteer to do so but some taxpayers may need forces (Isa & Pope, 2011; Ryan & Deci, 2000).

Voluntary tax compliance behaviour is also identified as (i) submitting tax returns, (ii) exposing all taxable income, (iii) making appropriate claims for tax return deductions, and (iv) completing the assessed tax on time. Taxpayers comply with all tax regulations relating to their obligations under voluntary tax compliance (Randlane, 2016). However, voluntary tax compliance does not necessarily mean voluntary compliance with merely tax laws; it also includes how taxpayers can calculate the appropriate amount of tax returns, file accurate and timely returns, and pay taxes owed (Manhire, 2015). Additionally, taxpayers may adhere to tax payments because it is the most convenient option (Gangl et al., 2015b).

According to Gangl et al. (2015b) and Kelman (2006), voluntary motivation to pay taxes increases due to favourable exchange. Tax authorities, acting as tax service providers, can persuade taxpayers to voluntarily pay taxes without the need for enforcement, provided they respect tax laws. Hence, the increase in voluntary compliance typically arises due to high confidence in tax authorities (Kogler et al., 2012).

Malaysian tax authorities' mission is to encourage voluntary tax compliance behaviour among their tax payers, including e-commerce entrepreneurs. Thus, IRBM has provided tax services to enhance voluntary compliance among taxpayers in Malaysia (IRBM, 2017). The IRBM has implemented many strategies to intensify voluntary tax compliance behaviour among taxpayers. The strategies include strengthening cooperation in auditing, implementing a fair, efficient, and effective tax system, and organizing public awareness programs like Revenue4U. These efforts aim to increase national revenue every year and reduce the tax gap.

From the discussion above, therefore, it can be agreed upon that voluntary tax compliance behaviour if the action of the taxpayers to report the correct account (reporting compliance), prepare and file the tax income accurately (filing complying), and make payment of the tax liability within the prescribed period (payment compliance) willingly.

2.5 Relationship of Tax System and Structure and Tax Compliance Behaviour

The subsequent sections delve into the literature on the primary determinants of tax compliance behaviour among Malaysian e-commerce entrepreneurs, emphasising both economic and non-economic dimensions. Economic determinants encompass actions that encourage tax compliance by relating to the costs and benefits of such activities (Loo, 2006). Examples include tax audits, tax rates, penalties, and tax rewards. Non-economic determinants, such as behavioural and social-psychological factors, also play a significant role. Behavioural determinants refer to taxpayers' actions influenced by personal issues, such as financial constraints, and their perceptions of the tax system

(fairness, complexity, and awareness), which impact their compliance behaviour (Ritsema, 2003).

Previous researchers have identified several key economic determinants: tax audits (Dinku & Alamirew, 2018; Palil, 2010; Syakura et al., 2016), audit probabilities (Deyganto, 2018; Engida & Baisa, 2014; Kirchler et al., 2008; Manaye, 2018; Manchilot, 2018; Mardhiah et al., 2018), fines and penalties (Adimassu & Jerene, 2016; City & Tilahun, 2018; Dinku & Alamirew, 2018; Kirchler et al., 2008; Mardhiah et al., 2018), tax rates (Adimassu & Jerene, 2016; City & Tilahun, 2018; Kirchler et al., 2008; Palil, 2010; Richardson, 2006), income level (Deyganto, 2018; Richardson, 2006), perceptions of government spending (Adimassu & Jerene, 2016; City & Tilahun, 2018; Palil, 2010), compliance cost (City & Tilahun, 2018), financial constraints (Manaye, 2018), and income source (Richardson, 2006).

Behavioural determinants suggest that individuals are not merely independent, selfish utility maximizers but change based on differences in attitudes, beliefs, norms, and roles (Elffers, 1991). Researchers such as Richardson (2006), Kirchler et al. (2008), Manchilot (2018), and Hamid et al. (2019) have explored behavioural determinants like tax complexity, tax fairness, tax knowledge, tax attitudes, and norms, which influence taxpayer behaviour. Furthermore, factors such as revenue authority contact, peer influence, and taxpayer ethics also have an impact on tax behaviour (Richardson, 2006).

This study applies the SSF to encompass both economic and non-economic determinants. The economic determinants include tax audit rate, audit probability, and

tax penalty, while the non-economic determinant is tax service. These factors are relevant to tax issues and compliance practices in Malaysia, which feature aggressive tax audits, high penalties, and a high probability of auditing (BERNAMA, 2017b; Shamsuddin, 2017; The Star Online, 2019). Furthermore, this study examines the role of permanent establishment as a variable in determining the tax compliance behaviour of e-commerce entrepreneurs, alongside demographic factors from Fischer's model such as the owner's age, business length, business size, income source, and tax complexity.

2.5.1 Tax Audit Rate and Tax Compliance Behaviour

A tax audit examines a taxpayer's business activities and financial records to determine their actual income and accurately calculate the tax owed according to tax regulations (IRBM, 2013c; IRBM, 2015b). The IRBM introduced the Tax Audit Framework on April 1, 2013, to guarantee the fair, transparent, and impartial conduct of tax audits. The framework outlines the criteria for selecting tax audit cases, including risk analysis, information from third parties, specific sectors, particular taxpayer groups, and taxpayer profiles (IRBM, 2013c). It also specifies the rights and obligations of tax officers, taxpayers, and tax agents during audits. Tax officers are required to perform their duties efficiently and assist taxpayers, while the framework emphasizes the importance of strict compliance with tax laws, such as the ITA 1967.

In this study, the tax audit rate refers to the frequency with which the tax authority conducts inspections or audits. A tax audit is a primary activity of the IRBM under the Self-Assessment System (SAS), designed to promote voluntary compliance with tax laws and regulations (IRBM, 2013c) through desk or field audits (IRBM, 2015b). Its

goal is to enable taxpayers to accurately report their tax liabilities in accordance with tax laws by informing and increasing their understanding of their rights and responsibilities under the ITA 1967 (IRBM, 2013c). Additionally, the tax authority uses audits to meet income targets (Saidu Badara, 2012), identify the correct tax liability (Alm et al., 2010; Saidu Badara, 2012), and prevent non-compliance (Ali, Cecil, & Knoblett, 2001; Mohdali, Isa, & Yusoff, 2014; Park & Hyun, 2003; Saidu Badara, 2012).

According to Sections 78 to 81 of the ITA 1967, the tax authority has the power to demand specific returns, books, bank statements, access to buildings, documents, and information. Taxpayers must maintain complete records of their tax affairs. Audits may include interviews, physical stock and equipment inspections, and disclosure of business activities, accounting, and record-keeping systems (IRBM, 2013c). Additionally, tax auditors in Malaysia employ various enforcement styles, such as educating, negotiating, strict enforcement, intimidation, or avoidance (Muhammad, 2013).

Tax audits' effectiveness is critical to addressing tax compliance issues. Alm and Torgler (2011) and Alm et al. (2012) recommended targeting audits at high-risk groups to enhance their effectiveness. Ayalew (2014) noted that effective tax audits have specific deterrent effects that can improve voluntary compliance. These audits educate taxpayers about tax law applications, improve bookkeeping, track taxes, collect more taxes, and punish violations. However, Gangl et al. (2015b) found that an increase in coercive power, such as frequent tax audits, fails to increase tax compliance and can even destroy trust, making taxpayers feel forced to comply. This suggests that while

tax audits are a tool for enforcing compliance, they may lead to enforced compliance when conducted coercively.

Taxpayers' perceptions of their audit experiences influence voluntary tax compliance. According to Isa and Pope (2011), effective tax audits can improve tax system management and increase voluntary compliance. Effective audits help educate taxpayers about their tax obligations, thereby fostering a better understanding of and adherence to tax laws. Hofmann et al. (2017a) demonstrated that combining legitimate power with trust creates a service climate that enhances voluntary compliance behaviour. This suggests that tax audits are more likely to encourage voluntary compliance when perceived as fair and educational rather than punitive.

Research by Gangl et al. (2015b) revealed that an increase in coercive power, such as frequent tax audits, does not necessarily lead to higher tax compliance and may even destroy trust. This coercive approach can make taxpayers feel compelled to comply due to fear of punishment rather than a genuine willingness to adhere to tax laws. Muehlbacher and Kirchler (2010) also suggested that incessant tax audits might negatively impact the confidence of compliance-minded taxpayers. Therefore, while tax audit rates can enforce compliance through coercive power, this approach may not be sustainable or effective in the long term.

Combining legitimate power with trust can create a positive service climate that enhances voluntary tax compliance behaviour. Hofmann et al. (2017a) indicated that legitimate power negatively influences compliance in a hostile setting but positively affects enforced compliance. Combining legitimate power with trust creates an

environment that encourages taxpayers to comply voluntarily. This approach underscores the importance of building trust and perceiving tax audits as fair and supportive rather than solely punitive. Effective tax audits that are transparent and educational can leverage legitimate power to enhance voluntary compliance.

Overall, tax compliance hinges on the effectiveness of tax audits and recurring audits. Effective tax audits can educate taxpayers, improve bookkeeping, track taxes, collect more taxes, and punish violations. While periodic tax audits can improve tax compliance behaviour, enforcement practices that rely on coercive power tend to enforce tax compliance. Conversely, combining legitimate power with trust fosters a service climate that can enhance voluntary compliance behaviour. However, increasing coercive power through frequent tax audits may destroy trust and make taxpayers feel forced to comply. Therefore, a balanced approach that integrates both legitimate power and trust is essential for fostering sustainable tax compliance.

2.5.2 Audit Probability and Tax Compliance Behaviour

Audit probability is defined as the likelihood that a taxpayer will undergo an audit, according to Stefura (2012). The rate or frequency of tax audits determines this probability. Tax authorities, such as the IRBM, use risk analysis, third-party data, and other factors to select taxpayers for audits (IRBM, 2013c). Audit probability is a form of enforcement when the tax authority does not trust taxpayers' actions. It can significantly influence tax compliance behaviour. According to Inasius (2018), audit probability encourages taxpayers to be more attentive when reporting all income, finishing tax returns, and claiming accurate deductions to determine their tax liability. Conversely, unaudited taxpayers may feel pressured to understate their actual income

and submit fraudulent deductions (Manaye, 2018). Palil et al. (2013) and Gangl et al. (2013) concurred that a high audit probability could encourage tax compliance. In his study of Nigerian taxpayers, Modugu (2014) found that the likelihood of an audit increases tax compliance. These findings are consistent with studies by Ahmed and Kedir (2015), Bott (2016), Engida and Baisa (2014), Hofmann et al. (2014), and Stefura (2012).

Audit probability can also impact voluntary tax compliance behaviour. Adimassu and Jerene (2016) discovered that the likelihood of audits significantly influences taxpayers' voluntary compliance behaviour in the Self-Assessment System (SAS) of the Southern Nation Nationalities and Peoples' Regional State (SNNPRS), Ethiopia. However, Feld and Frey (2007) questioned whether audit probability might eliminate trust among taxpayers who are intrinsically motivated to comply voluntarily. Furthermore, some studies suggest that audit probability may generate enforced tax compliance rather than voluntary compliance behaviour, as taxpayers feel that the tax authority is observing them (Hofmann et al., 2017a; Mardhiah et al., 2018). The presence of a high audit probability can sometimes impede voluntary compliance, as it creates a perception of distrust between taxpayers and the tax authority (Kirchler et al., 2007).

Coercive power can be used to mediate audit probability and generate enforced tax compliance. Gangl et al. (2013) argue that a high audit probability, when associated with coercive power, could encourage tax compliance behaviour by making taxpayers feel forced to comply. However, this coercive approach can negatively affect taxpayers' trust in the tax authority. According to Gangl et al. (2015b), coercive power

fails to increase tax compliance in the long term and destroys trust, resulting in taxpayers feeling compelled rather than willing to comply. Hofmann et al. (2014) found in their studies that high coercion can lead to higher tax compliance, albeit typically enforced rather than voluntary.

In contrast, legitimate power combined with trust can enhance voluntary tax compliance behaviour. Isa and Pope (2011) investigated how taxpayers perceive tax audit experiences, and they found that effective tax audits can improve tax system management and increase voluntary compliance. Similarly, Hofmann et al. (2017a) demonstrated that legitimate power has a negative influence in a hostile setting but has a positive effect on enforced compliance. However, combining legitimate power with trust fosters a service climate that can enhance voluntary compliance behaviour. Effective tax audits enable tax auditors to educate taxpayers about tax law applications, improve bookkeeping, track taxes, collect more taxes, and punish violations. These actions, when perceived as legitimate and fair by taxpayers, can lead to improved voluntary compliance as they trust the tax authority and feel more inclined to comply willingly.

Overall, audit probability influences tax compliance behaviour in a variety of ways. It can encourage attentiveness in reporting income and claiming accurate deductions, but it can also create pressure to understate earnings and submit fraudulent deductions. The tax authority's exercise of power mediates the impact of audit probability on tax compliance, coercive power tends to enforce compliance, while legitimate power and trust promote voluntary compliance.

2.5.3 Tax Penalty and Tax Compliance Behaviour

Penalties remain widely enforced in Malaysia as a control and enforcement strategy for promoting tax compliance. In early January 2018, the IRBM increased the penalty from 45 percent in 2017 to 100 percent (IRBM, 2017b; Mahzan, 2017). The Income Tax Act 1967 stipulates penalties, imprisonment, or both for offences such as underestimating taxes, failing to file tax returns on time, late tax payment, wilful default, and tax avoidance (Malaysia Tax, 2019; Kuan, 2013).

Research indicates that tax penalties are effective tools for promoting tax compliance. Park and Hyun (2003) argued that increasing tax penalties is the most effective method for ensuring compliance. Similarly, Yunus et al. (2017) found a significant relationship between tax penalties and tax compliance behaviour among SMEs in Malaysia. Studies by Sheikh-Obid (2004), Sia (2008), and Loo et al. (2009) also established a positive correlation between tax penalties and compliance, suggesting that taxpayers fear penalties. Hofmann et al. (2017a) and Mardhiah et al. (2018) found that high tax penalty rates increase enforced compliance more than voluntary compliance behaviour.

Despite the positive correlation found in some studies, penalties do not always result in increased voluntary tax compliance. Kirchler (2007) found that tax enforcement through penalties does not enhance tax compliance. Engida and Baisa (2014) and Okoye et al. (2012) found no significant correlation between tax penalties and tax compliance behaviour. Low trust in tax authorities can lead to increased non-compliance, as indicated by Kirchler et al. (2014b). They suggested that penalties would enforce rather than encourage voluntary compliance behaviour.

Tax penalties can enforce compliance through coercive power. Kirchler et al. (2010) noted that low trust conditions necessitate the implementation of audit probability with coercive power, influencing enforced tax compliance behaviour. The fear of facing penalties creates an environment where taxpayers comply due to the threat of punishment rather than a genuine willingness to comply. Research has shown that high penalty rates enforce compliance more effectively than promoting voluntary adherence (Faizal et al., 2017).

On the other hand, legitimate power combined with trust can foster voluntary tax compliance. Faizal et al. (2017) suggested that high taxpayer trust, coupled with flexible coercive power, might influence tax compliance positively. Kirchler et al. (2010) argued that when trust is present, other factors such as knowledge, attitudes, moral attraction, fairness, and democracy play a more significant role in promoting voluntary compliance. In environments where taxpayers perceive the tax authority as legitimate and fair, they are more likely to comply voluntarily.

Overall, Malaysia's Income Tax Act 1967 imposes penalties for various tax offences, and while penalties can enforce compliance, their effectiveness in promoting voluntary compliance is debatable. Studies indicate that high penalty rates increase enforced compliance more than voluntary compliance. Trust in tax authorities, combined with legitimate power, is crucial for fostering voluntary compliance. Penalties alone may not be sufficient, and a balanced approach incorporating trust and fairness is essential for improving overall tax compliance behaviour.

2.5.4 Tax Service and Tax Compliance Behaviour

Tax services encompass a wide range of offerings designed to assist individuals and businesses in fulfilling their tax obligations effectively. For e-commerce entrepreneurs, these services are crucial due to the unique challenges posed by digital transactions, varying tax regulations, and cross-border operations. Key aspects include ensuring compliance with complex tax laws across multiple jurisdictions, managing sales tax obligations accurately, and leveraging technology for efficient tax preparation and filing. Customised solutions, real-time service delivery, and cost-effective options are essential to meet the diverse needs of e-commerce businesses while fostering trust and voluntary compliance with tax authorities.

Service orientation and professionalism in tax services are critical strategies for fostering trust and encouraging voluntary tax compliance behaviour (Kirchler et al., 2014b). Gangl et al. (2013) highlight that high-quality services and treating taxpayers as clients, rather than as offenders, can enhance compliance. Most respondents reported contacting tax authorities at least once in the previous year before the implementation of compliance enhancement strategies. In a service-oriented climate, the tax authority is seen as a service provider, and the taxpayer as a customer, necessitating a cooperative effort to improve tax compliance (Gangl et al., 2015a). The tax authority should act as an intermediary and service provider, offering useful tax information that aids taxpayers in voluntarily complying with tax laws, which has shown positive impacts (Alm et al., 2010; Alm et al., 2016).

Two key elements of tax service are low costs and the hospitality of the tax authority. Alabede (2012) found that perceptions of tax service and public governance quality

significantly influence tax compliance behaviour. To better understand this behaviour, the tax compliance model should incorporate factors such as public governance quality, tax service quality, ethnic diversity, and changes in taxpayers' financial situations. Low-cost tax services encourage filing and reporting compliance, helping the taxpayers' access information and reducing uncertainty about liabilities (Alm et al., 2010). Studies confirm that perceived tax service quality is positively linked to compliance behaviour (Alabede, Affrin, & Idris, 2011). Alm and Torgler (2011) and Alm, Kirchler, and Muehlbacher (2012) suggest that tax authorities should enhance their expertise in tax laws and implement diverse regulatory strategies effectively. Gangl et al. (2015a) note that tax authorities, through legitimate power, can provide support, establish a good reputation, and gain taxpayers' trust as a rightful authority capable of influencing behaviour.

In Malaysia, the Inland Revenue Board of Malaysia (IRBM) officers work to enhance their knowledge on various tax issues to improve services and promote tax awareness among taxpayers (Abdul Manaf et al., 2013). They are expected to be friendly, supportive, and less bureaucratic, especially in processes like tax appeals. Collaboration with tax professionals to educate the public is also recommended. Alm and Torgler (2011) previously suggested that tax authorities maintain legitimacy by enhancing services, such as creating clear procedures accessible via websites and phone services. Motivated, competent, and kind personnel are also essential. The IRBM introduced the Integrity Plan to foster values like trustworthiness, transparency, fairness, and gratitude, enhancing the corporate reputation and taxpayer confidence (IRBM, 2017).

The customer satisfaction index showed a high satisfaction rate with IRBM services, increasing from 98percent in 2016 to 99.11percent in 2017 (IRBM, 2018a). Kirchler (2007) and Torgler (2011) advocate for a "service and client" approach over a punitive "cops and robbers" approach to build trust and motivate voluntary compliance (NEF, 2005). Poor tax service is a significant challenge to compliance (Ali & Mulugeta, 2019), as service quality influences compliance decisions (Maseko, 2013). Faizal et al. (2019) also note that awareness of and certainty about tax services can improve compliance.

With technological advancements, tax authorities should enhance taxpayer services at lower costs, such as through e-filing. Prioritizing tax services and exceptional interactions with taxpayers involves providing accurate tax law information to build trust, offering professional services through expert officers who address accidental mistakes or admitted errors, ensuring fairness in tax control activities, and providing customer service with a friendly and respectful approach at a low cost.

In the context of e-commerce, these principles are particularly relevant. E-commerce entrepreneurs require efficient, accessible, and trustworthy tax services due to the unique challenges of the digital marketplace. By leveraging technology and maintaining high service standards, tax authorities can foster a compliant e-commerce sector, where trust and legitimate power mediate voluntary compliance effectively.

2.5.5 Tax Complexity and Tax Compliance Behaviour

Tax complexity refers to the difficulty taxpayers face in understanding and complying with tax laws, encompassing both the intricacies of tax rules (content complexity) and

the challenges in meeting tax obligations (compliance complexity). In e-commerce, tax complexity arises from cross-border transactions, diverse sales tax regulations, digital product taxation issues, and the need for efficient record-keeping and documentation. Managing these complexities requires clear regulations, streamlined compliance processes, and technology integration to facilitate accurate tax reporting. Simplifying tax rules and fostering collaboration between tax authorities and e-commerce businesses are essential for enhancing compliance and supporting digital business growth. The SMEs in Kenya also suggested to the Kenya Revenue Authority that they simplify and provide free tax filing and should not penalise late tax submissions. In order to encourage eligible taxpayers to comply, the tax computation should be simple (Nduruchi et al., 2017).

Tax complexity has a significant impact on voluntary tax compliance behaviour, reflecting the relationship between tax system transparency and fairness (IRBM, 2017). According to Alm et al. (2010), simplifying tax computations and providing assistance from tax authorities or service companies can enhance compliance. Mulder et al. (2009) and Saad (2010) distinguish between content complexity (understanding tax law) and compliance complexity (adhering to tax laws), highlighting that higher complexity correlates with lower compliance. This complexity affects corporate taxpayers, leading to behaviours like underreporting income or over-claiming expenses (Sapiei et al., 2014). Indonesian e-commerce taxpayers emphasise the need for clearer tax laws and reduced bureaucracy (Syakura et al., 2016), echoing findings among Malaysian SMEs in e-commerce (Hamid et al., 2019).

Tax complexity measures include difficulties in tax computation, record-keeping, and uncertainty (Isa, 2014). Education levels also influence tax system understanding, with undergraduates and postgraduates typically better informed about Malaysian tax regulations (Saad et al., 2014). According to Feld & Frey (2007) and Verboon & Van Dijke (2011), tax authorities should suggest fair procedures to reduce tax complexity, thereby simplifying compliance (Mahangila, 2017). Damajanti and Abdul Karim (2017) assert that clarity in tax reporting procedures, calculation techniques, and payment procedures improves taxpayer compliance. Palil (2010) argues for equal access to tax knowledge to encourage accurate tax reporting across all taxpayer levels. Regarding e-commerce, digital transactions introduce unique challenges in documenting and understanding tax rules (Mat Udin & Adebayo, 2015). The Malaysian tax system's simplicity and security contribute positively to taxpayer satisfaction (Jaidi et al., 2013), reinforced by initiatives like the e-commerce Tax Voucher: Digital Economy (IRBM, 2018a) and updated guidelines on electronic commerce taxation (IRBM, 2019a). Hammouri & Shanab (2017) highlight e-filing as a secure and efficient method to comply with tax regulations.

However, recent studies reveal varying perspectives on tax complexity's impact on compliance. Shahroni et al. (2022) find a positive correlation between tax complexity and compliance among online businesses, suggesting that simplifying taxation may not always improve compliance due to businesses' ability to hire experts for tax management. Conversely, Hamid et al. (2022) stress the importance of addressing tax computation and filing challenges to enhance compliance among online business owners.

In conclusion, nuanced approaches are required to address the diverse compliance behaviours and challenges faced by digital businesses, even though reducing tax complexity and ensuring fair procedures are critical for improving voluntary tax compliance, especially in the context of e-commerce.

2.6 Relationship of Demographic Factors, Permanent Establishment and Tax Compliance Behaviour

This section discusses the relationship of the demographic factors, permanent establishment and tax compliance behaviour.

2.6.1 Owner's Age and Tax Compliance Behaviour

Owner's age refers to the chronological age of individuals who own and operate businesses, particularly in the context of e-commerce. E-commerce owners' age can influence their approach to tax compliance. Younger entrepreneurs may have different perspectives on tax obligations, requiring tailored educational efforts and compliance support from tax authorities. The rise in internet users in Malaysia has led to an increasing number of young entrepreneurs engaged in e-commerce, contributing to the taxpayer demographic. IRBM (2018b) reports that approximately 3.615 million individual taxpayers registered in 2017, with a notable increase in voluntary tax compliance among young entrepreneurs. Examples include a 14-year-old selling scarves online and young people earning income through platforms like YouTube (Harian Metro, 2018; Ammar, 2019).

Studies on the influence of taxpayer age on compliance produced mixed results. According to Deyganto (2018), older taxpayers exhibit higher compliance due to their

experience and understanding of tax requirements. Ahmed and Kedir (2015) and Muehlbacher et al. (2011) also noted a positive relationship between age and voluntary tax compliance. Conversely, Hofmann et al. (2018) suggested age has a minimal impact on compliance, a view echoed by Adimassu and Jerene (2016) in their study on high-income taxpayers in Ethiopia. Similarly, Akinboade (2015) found no significant correlation between age and tax compliance among SME owners in Cameroon.

Regarding enforced tax compliance, Inasius (2020) observed that age influences voluntary but not enforced compliance among SMEs in Indonesia. Kirchler et al. (2014), citing the OECD (2012), reported that older individuals and those with higher education levels tend to show higher voluntary compliance. However, studies like Ali and Ahmad (2014) indicate young taxpayers are more likely to comply when they trust tax authorities. This study aims to investigate how owner's age influences both enforced and voluntary tax compliance behaviours among e-commerce entrepreneurs, given the diverse findings on this topic.

2.6.2 Business Length and Tax Compliance Behaviour

According to Alayuddin (2008) and Khamis et al. (2018), the duration of a business's operation is known as business length. Generally, longer-operating e-commerce businesses tend to exhibit more stable financial conditions and organisational structures. This stability often correlates with better tax compliance behaviour, as these businesses have had time to establish routines, systems, and financial management practices that include tax compliance (Alayuddin, 2008; Khamis et al., 2018). Longer operational histories often indicate business stability, which influences the strictness

of meeting tax obligations. In e-commerce, where rapid growth and adaptation are common, newer businesses may face initial financial constraints that impact compliance during the early years (Manaye, 2018). Research by Sapiei et al. (2014) and Adegboye et al. (2018) in Malaysia and Nigeria, respectively, supports a link between longer business tenure and reduced tax non-compliance among corporate taxpayers, suggesting that established businesses tend to adhere more strictly to tax laws. Alayuddin (2008) and Khamis et al. (2018) also discovered a crucial element that shapes the behaviour of enforced tax compliance.

Contrasting views exist regarding the relationship between business length and voluntary tax compliance behaviour. While longer-established businesses may demonstrate enforced compliance, voluntary compliance behaviours can vary. Hutagalung and Waluyo (2014) found that business length does not significantly explain voluntary tax compliance, implying that simply being an older business does not guarantee proactive tax compliance in e-commerce settings. Abdul-Jabbar (2009) similarly noted inconclusive impacts on voluntary tax compliance among corporate SMEs in Malaysia based on business length. In e-commerce, where agility and adaptation are critical, older businesses may not necessarily exhibit higher levels of voluntary tax compliance without tailored incentives and regulatory support to foster proactive tax adherence.

2.6.3 Business Size and Tax Compliance Behaviour

In this research, the size of the e-commerce businesses (micro, small, medium, or big) is based on their yearly sales and the total number of employees. These criteria have been used to classify manufacturing, services, and other sectors (SME Corp., 2013)

into their size. According to Sapiei et al. (2014), business size is a major factor in tax non-compliance among corporate businesses. They found that companies with higher sales turnover under-report their income.

Akinboade (2015) also found that SMEs in Cameroon are less compliant than large companies. The same scenario occurs among SMEs in Nigeria (Ojeka et al., 2015). It is argued that smaller businesses do not comply with taxes due to a lack of knowledge. They have more opportunities to avoid taxes and may choose to do so to avoid losing money to pay taxes (Kamleitner et al., 2012). In this research, the demographic factor of business size is selected as one of the variables to determine the enforced and voluntary tax compliance behaviour of e-commerce entrepreneurs.

2.6.4 Income Source and Tax Compliance Behaviour

The origin or type of revenue for an individual or business is its income source. For e-commerce entrepreneurs, income streams include revenue from online sales, affiliate commissions earned by promoting and selling other companies' products, advertising income from website and platform ads, subscription fees from regular payments for access to premium content or services, sponsorship income from brands paying for product promotion, and consulting fees for providing e-commerce expertise.

E-commerce can serve as both a primary and secondary income source. It becomes the primary source of income when traders earn all of their revenue from e-commerce transactions. Conversely, if e-commerce income is only part-time, it is considered secondary income. Sometimes, e-commerce entrepreneurs may earn their primary income from e-commerce transactions while simultaneously earning part-time income

from selling other e-commerce products or services. This research assumes that e-commerce taxpayers either earn their entire income from e-commerce, have both a salary and part-time e-commerce income, or have other sources of income in addition to part-time e-commerce income. In a study by Yeo et al. (2019), e-commerce entrepreneurs agreed that their income from e-commerce was only a side income since they were still studying and they are refused to pay the tax. Some salaried taxpayers refuse to declare their e-commerce income, believing that their salary tax already covers it, according to Syakura et al. (2016).

Similarly, Wenzel (2001) found that individual taxpayers report extra income less accurately and show less interest in tax compliance when the additional or secondary income is relatively small. The relationship between income sources and tax compliance behaviour is significant because different sources of income may have varying levels of visibility and traceability, affecting how taxpayers perceive and manage their tax responsibilities. For instance, income that is easily traceable and subject to third-party reporting (like salary income) may lead to higher compliance rates compared to income that is less visible or harder to track (like some types of self-employment income or side incomes from e-commerce).

Research has shown that respondents often lack knowledge about different types of taxable income, particularly additional and other income, which can inadvertently lead to tax non-compliance (Yusoff & Mohd, 2017). Stefura (2012) further supported this by finding that the source of income plays a crucial role in tax compliance, often leading to taxpayers failing to report untraceable income. This study found a significant relationship between income source and tax compliance. The relationship

between income sources and voluntary tax compliance behaviour is significant because different types of income may influence taxpayers' perceptions of their tax liabilities and obligations. Income sources that are more visible, easily traceable, and subject to third-party reporting (e.g., salary income, dividends) tend to promote higher levels of voluntary compliance compared to income that is less transparent or harder to monitor (e.g., cash income, self-employment income). Understanding how income sources shape voluntary tax compliance can inform tax policy and administration strategies aimed at promoting compliance behaviours and ensuring the integrity of the tax system. Given that anyone can engage in e-commerce, income sources can also be considered a key determinant of tax compliance behaviour among e-commerce entrepreneurs.

2.6.5 Permanent Establishment (PE) and Tax Compliance Behaviour

The evolution of e-commerce may challenge the appropriateness and validity of international tax principles, such as physical presence and place of establishment, which form the basis for assessing tax liability (Choudhary, 2011). AltusHost (2016) reported that 90 percent of companies have switched to e-commerce, including social commerce, increasing the probability that they may not have a physical presence.

According to Hoffart (2007), the OECD Convention Model has further established fundamental criteria for determining if a permanent establishment exists: (a) there must be a fixed place of business (situs test); (b) the fixed place of business must be located [in a] certain territorial area (locus test); (c) the use of the fixed place of business must last for a certain period of time (tempus test); (d) the taxpayer must have a certain right of use [over] the fixed place.

Cox et al. (2013) contended that e-commerce transactions deviate from the existing tax system, posing challenges to established principles and occasionally operating beyond legal boundaries, leading to untaxed transactions beyond regulatory control. Businesses utilising virtual business platforms online can create innovative methods to optimise core business processes and access resources more effectively (Lau & Halkyard, 2003). E-commerce innovation and capital mobility may push local businesses to relocate to low-tax areas by incorporating offshore entities for conducting business (Cox et al., 2013). Vaca (2016) stated that e-commerce entrepreneurs have the ability to function without a permanent physical site.

This situation challenges the administration and enforcement of tax on e-commerce transactions. The tax authorities' capability to amass taxes depends on the recognition, place, and taxpayers' verification and corresponding taxable transactions (Young, 2012). The Internet has created obscurity, which has led to the complexity of identifying the right taxpayers (Azam, 2013). Harpaz (2014) highlighted the challenges in collecting taxes from e-commerce due to the existing tax rules being primarily designed for traditional commerce, which relies on physical presence for transaction identification.

In addition, with the expansion of information security and secrecy, there is a demand for a balance between laws and privacy regulations and the call to ensure tax compliance (Lau & Halkyard, 2003). Even so, the environment of online transactions makes surveillance and managing e-commerce transactions across borders challenging. Furthermore, tax authorities must contemplate the correct country where taxpayers should be taxed. This could be challenging when companies do not have a

considerable physical existence in any country but are virtually present in some nations (Azam, 2007). These features of e-commerce complicate the process of identifying the origin and destination of transactions (Agbo, 2020). As a result, the concept of permanent establishment was introduced.

The recognition of e-commerce's permanent establishment aims to determine the existence of business, residential status, place of establishment, physical presence, and other factors that form the basis for assessing tax liability. A permanent establishment is important because smaller businesses or individuals also could engage in global transactions (Choudhary, 2011). Virtual transactions put pressure on certain tax concepts that require physical existence for distinct classification (Azam, 2007), such as how to classify the income source, e-commerce's residency, permanent establishment, and source rules (Carpenter & Parsons, 2016).

A permanent establishment is generally defined as where a business is operated, in whole or part (Sidik, 2018). In this study, permanent establishment refers to server locations for e-commerce that conduct a business without a fixed location (IRBM, 2013b; Othman & Hanefah, 2006). Palil (2004) states that the derivation and transfer basis is no longer appropriate for e-commerce surroundings, as it fails to maximise Malaysia's e-commerce tax revenue. While no empirical studies on permanent establishment and tax compliance behaviour have been conducted thus far, permanent establishments could become an issue of tax non-compliance.

2.7 Control Variables and Tax Compliance Behaviour

This section discusses the control variables, namely, gender, ethnicity and tax compliance behaviour.

2.7.1 Gender and Tax Compliance Behaviour

Some studies fail to examine gender differences or find that women are not necessarily more obedient than men. According to Kasipillai and Jabbar (2006), men and women have the same attitude towards tax compliance. Akinboade (2015) found that the gender of SME business owners in Cameroon does not influence tax compliance. Similarly, Ser (2013) found that gender does not affect tax non-compliance in Malaysia. Contradictorily, Chung and Trivedi (2003) revealed that female taxpayers are more compliant to pay taxes when presented with convincing reasons. Other studies also suggest that female entrepreneurs exhibit higher tax compliance levels than male taxpayers (Ahmed & Kedir, 2015; Deyganto, 2018; Kirchler et al., 2014). Engida and Baisa (2014) found that gender is associated with tax compliance behaviour. Contrarily, Wenzel (2002) found no differences between men and women in reporting extra income, and Peter et al. (2017) found no significant relationship between gender and tax compliance behaviour. Therefore, in this research, gender is used as a control variable, as it may indirectly affect the e-commerce entrepreneurs' tax compliance behaviour.

2.7.2 Ethnicity and Tax Compliance Behaviour

Anyone can engage in e-commerce as stated in Harian Metro, 2018 and Ammar, 2019. In Malaysia, there are four main ethnic groups: Malay, Chinese, Indian, and others. Previous studies have looked into the influence of ethnicity or race on tax compliance.

For instance, Alm et al. (2016) found a relationship between ethnicity and tax compliance behaviour in the United States. The finding is supported by Peter et al. (2017), who reported that ethnicity influences tax compliance behaviour. However, Kasipillai and Jabbar (2006) stated that ethnicity does not significantly affect tax compliance behaviour among Malaysian taxpayers. In this research, ethnicity is used as a control variable, as there is no observable difference in tax compliance behaviour between ethnicities in Malaysia.

2.8 Summary of the Chapter

E-commerce is rapidly growing every year. The e-commerce business models, especially B2B, B2C, and B2G, have contributed to e-commerce growth in Malaysia. Income from e-commerce is primarily treated as income from e-commerce operations, following Section 4(a) of the ITA 1967. Similarly, corporate taxation also applies to e-commerce businesses. ITA 1967, the Guidelines on Taxation of E-Commerce 2019 and 2013 are used as regulations for e-commerce in Malaysia. This research looks at the determinants of e-commerce entrepreneurs' tax compliance behaviour. The determinants for this study are based on the SSF, Fischer's model, and the Permanent Establishment Principle. Two types of e-commerce entrepreneurs' tax compliance behaviour are enforced and voluntary. This study also highlights the determinants of tax compliance behaviour, including tax audit rate, audit probability, tax penalty, tax service, and tax complexity. Demographic factors, namely the owner's age, business length, business size, income source, and permanent establishment, are also examined. In addition, this research examines the roles of mediators, such as coercive power, legitimate power, and trust. This study also includes gender and ethnicity as control variables.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter elucidates the process, which commences with the establishment of a conceptual framework and the formulation of hypotheses. Subsequently, it elucidates the research design, operational definitions, and measurement of variables. Additionally, it encompasses the process of gathering data, which involves aspects such as the population being studied, the sampling method used, and the techniques employed for data collection. This methodology encompasses data analysis techniques, which are summarised at the conclusion of the chapter.

3.2 Conceptual Framework of the Study

As mentioned in Chapter 1, the study's main objective is to examine the determinants of e-commerce entrepreneurs' tax compliance behaviour. Thus, this study framework clarifies the relationship between relevant determinants of the e-commerce entrepreneurs' tax compliance behaviour by considering SSF as the underlying theory and expanding it to include Fischer's model and the permanent establishment principle as supporting theories.

The SSF stipulates that tax authorities' coercive and legitimate power (of) and trust (in) tax authority as dimensions influence tax compliance behaviour of the focus of this research, i.e., e-commerce entrepreneurs. Thus, if the tax authority power is expanded, the enforced tax compliance behaviour of the e-commerce entrepreneurs

will be affected, as described by Kirchler (2007), Kirchler et al. (2008), and Kastlunger et al. (2013). When the dimension of power and trust decreases, entrepreneurs tend to be tax non-compliant (Ahmed & Kedir, 2015; Bott, 2016; Engida & Baisa, 2014; Hofmann et al., 2014; Stefura, 2012). However, the results differ when the dimension of power is segregated into coercive and legitimate. Coercive power causes enforced tax compliance behaviour (Hofmann et al., 2017a; Faizal et al., 2017), while legitimate power leads to voluntary tax compliance behaviour (Kastlunger et al., 2013; Kirchler & Wahl, 2010; Verboon & Van Dijke, 2011).

Previous studies implemented coercive and legitimate power separately. Thus, several studies recommended that they be implemented together to encourage higher tax compliance behaviour (Gangl et al., 2015a; Hofmann et al., 2014). Hofmann et al. (2017a) discovered that increased coercive power significantly reduces trust and brings about enforced tax compliance behaviour. A higher legitimate power would increase trust and cause voluntary tax compliance behaviour (Gangl et al., 2012b).

SSF is used in this study because it is believed to be an appropriate model to assess economic and psychological factors when examining enforced and voluntary tax compliance behaviour. The determinants adopted from the SSF are tax audit rate, audit probability, tax penalty, and tax service. Furthermore, since everyone can operate e-commerce (Nellen, 2005), this research extends the SSF by including Fischer's model, which consists of the demographic factors, i.e., owner's age, business length, and business size. Income sources, representing non-compliance opportunity, and tax complexity, representing tax system or structure, are also included to understand whether these variables influence enforced or voluntary tax compliance behaviour.

This paper also includes a model that interacts with income source and tax complexity with coercive power, legitimate power, and trust as mediators.

In addition, the variable permanent establishment is added to examine the tax compliance behaviour of e-commerce entrepreneurs. Vaca (2016) argued that while e-commerce can be operated without physical presence, some e-commerce entrepreneurs can be identified from the servers while others cannot. Trust in the tax authority is assumed to encourage e-commerce entrepreneurs to register their permanent establishment based on their business operation's location. Sometimes, tax authorities use their power to promote e-commerce entrepreneurs to register their permanent establishments (Rahimi Rahim, 2017). In line with PE principles such as neutrality, efficiency, security, simplicity, effectiveness, equity, and flexibility, the tax authorities' concern depends on the uniqueness of the e-commerce server location. With the rapid development of ICTs, e-commerce without a specific location triggers tax non-compliance behaviour, for example, tax evasion, aggressive tax planning, and non-disclosure of residential status.

Figure 3.1 illustrates the conceptual framework of this paper. The framework specifies two dimensions of power: legitimate power and coercive power, as proposed by Kirchler et al. (2008). This separation is also suggested by Mardhiah et al. (2018), who found that when only one power factor is tested, there is no notable correlation between the power of tax authority and enforced tax compliance. As for compliance behaviour, Kirchler et al. (2008) proposed that tax compliance behaviour was separated into enforced and voluntary tax compliance behaviour.

As mentioned earlier, the determinants of the e-commerce entrepreneurs' tax compliance behaviour, namely tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent establishment (PE), have been used to investigate e-commerce entrepreneurs' enforced and voluntary tax compliance behaviour.

The proposed framework predicts that tax audit rate, audit probability, and tax penalty represent the coercive power of tax authorities to influence enforced e-commerce tax compliance behaviour. If e-commerce entrepreneurs, as taxpayers, assume that the tax authority increases their coercive power to detect tax evasion through frequent tax audits and penalise tax evaders through higher penalties, the enforced tax compliance behaviour will be affected (Hofmann et al., 2017a; Mardhiah et al., 2018; Muehlbacher & Kirchler, 2010). However, if legitimate power is applied, voluntary tax compliance will be affected (Kastlunger et al., 2009).

Other variables in the proposed framework are tax service and tax complexity. The perception towards tax service concerns the use of money collected, helpfulness, and benevolent attitude of the tax authority, which will increase confidence in the tax authority and, thus, tax compliance behaviour (Kirchler et al., 2008). Meanwhile, the relationship between tax complexity and trust in tax authority can also impact voluntary tax compliance (Kirchler et al., 2008). The more complex the tax legislation and taxpayers' poor grasp of tax laws, the higher the level of distrust and non-compliance behaviour in taxpayers (Kirchler et al., 2008). Other factors such as owner's age, business length, business size, income source, and PE are also significant in determining e-commerce entrepreneurs' tax compliance behaviour (Abdul-Jabbar,

2009; Ahmed & Kadir, 2015; Deyganto, 2018; Kirchler et al., 2014; Muehlbacher et al., 2011). The relationships are presented in four models. Model 1 shows the direct relationship, while Models 2, 3, and 4 show the indirect relationships between the independent variables and the dependent variable with the existence of mediators. In addition, gender and ethnicity are used as control variables.



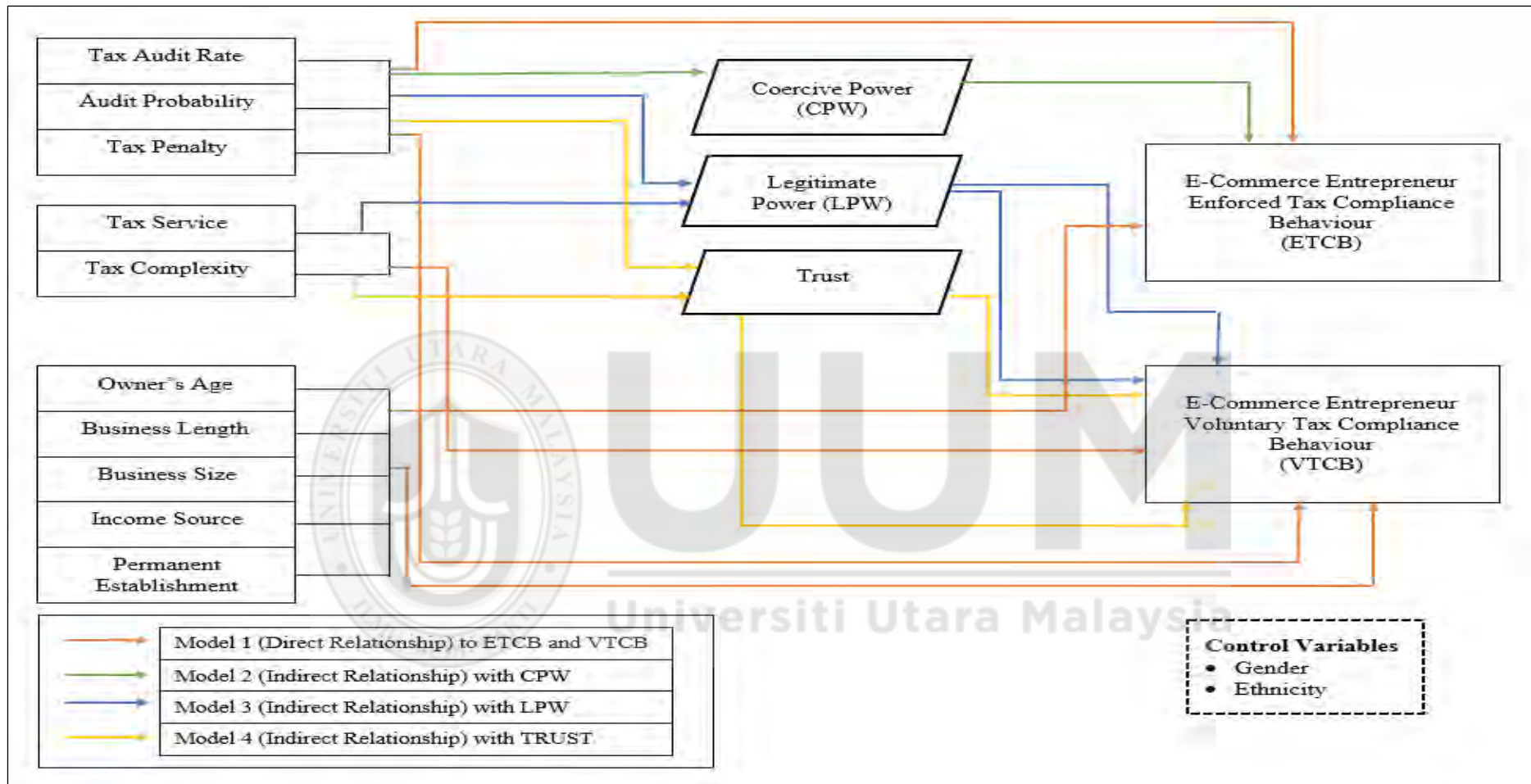


Figure 3.1
Conceptual Framework of Research

The hypotheses are developed to examine the relationship between all the variables and are discussed in the next section.

3.3 Hypotheses Development

This part discusses the hypotheses development. According to Sekaran and Bougie (2013), a hypothesis is a prediction and testable claim derived from a relational basis between two or more variables. This paper looks into ten determinants of e-commerce entrepreneurs' tax compliance behaviour, which employs coercive power (of), legitimate power (of), and trust (in) tax authority as mediators.

3.3.1 Tax Audit Rate, Coercive Power, Legitimate Power, Trust and Tax Compliance Behaviour

Tax audit rate refers to the frequency of examination or inspection of the taxpayers' transactions and financial affairs carried out by the tax authority through desk audits and field audits (IRBM, 2013c and IRBM, 2015b). Some studies found that a low tax audit rate is associated with low tax compliance behaviour (Dinku & Alamirew, 2018; Forest & Sheffrin, 2002; Gomez & Luis, 2008; Muehlbacher & Kirchler, 2010; Stefura, 2012), including e-commerce entrepreneurs in Indonesia (Syakura et al., 2016). Niu (2011) found that tax audit positively correlates with particularly voluntary tax compliance behaviour. In addition, strict monitoring or regular tax audits by the tax authority affect voluntary tax compliance (Hofmann et al., 2017a; Mardhiah et al., 2018). It is argued that frequent tax audits boost tax compliance behaviour (Alm et al., 1992; Hofmann et al., 2014) because taxpayers will be more aware of tax reporting, tax filing, and claiming deductions (Manaye, 2018).

In contrast, some studies show that a high tax audit rate or strict monitoring would decrease tax compliance behaviour (Hofmann et al., 2017a; Mardhiah et al., 2018). However, Okoye et al. (2012) discovered no correlation between tax audit rate and tax compliance behaviour. Kirchler (2007) believes that tax audits cannot improve voluntary tax compliance behaviour, and his study was confirmed by Gangl et al. (2015a) and Kirchler et al. (2014b) findings.

Ryan and Deci (2000) believed that taxpayers' behaviour hinges on their opinion of the tax authority, such as feeling like they are being forced, negative feelings about tax, no alternatives to avoid tax, more costly if detected, and other factors. Thus, previous studies show mixed findings on the relationship between tax audit rate and tax compliance behaviour.

The SSF views tax audit rate as an economic determinant of enforced tax compliance behaviour (Kirchler et al., 2008). Gangl et al. (2015b) found that coercive power fails to raise voluntary tax compliance behaviour and slightly destroys trust and forced feelings by the taxpayers. Also, frequent audits encourage a higher enforced tax compliance behaviour (Hofmann et al., 2014). However, if merged with legitimate power, it can lead to voluntary tax compliance (Gangl et al., 2015a; Hofmann et al., 2014) because legitimate power is more suitable and successful in influencing taxpayers' behaviour than strict audits and severe punishment (Gangl et al., 2015a). Additionally, tax audits that are too frequent may affect the trust of compliance-minded taxpayers (Muehlbacher & Kirchler, 2010). In another study, Gangl et al. (2015b) found that with increased coercive power, tax audits fail to increase tax compliance and destroy trust. As a result, taxpayers may feel forced to comply, but

frequent audits encourage higher tax compliance (Hofmann et al., 2014). In Malaysia, tax audits are the primary activity used to promote voluntary compliance with the power of the tax authority, either coercively or legitimately (IRBM, 2015b).

Overall, tax audit rate influences enforced and voluntary tax compliance behaviours. Enforced tax compliance behaviour is mediated by the coercive power of the tax authority, but voluntary tax compliance behaviour is mediated by legitimate power and trust. The tax audit rate will increase voluntary tax compliance behaviour if there is legitimate power and trust in the tax authority. As this research investigates the relationship between tax audit and the two tax compliance behaviours, the first set of hypotheses (H_{1a} to H_{1e}) are:

H_{1a}: There is a significant relationship between tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{1b}: There is a significant relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{1c}: Coercive power mediates the relationship between tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{1d}: Legitimate power mediates the relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{1e}: Trust mediates the relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.

The above hypotheses will focus on the research objectives and questions presented in Chapter 1, i.e., RO1 to RO5.

3.3.2 Audit Probability, Coercive Power, Legitimate Power, Trust and Tax Compliance Behaviour

Tax authorities constantly monitor and trace potential taxpayers who engage in e-commerce through social media, marketplaces, and other platforms where e-commerce entrepreneurs have the potential to be audited (Singh, 2017). Audit probability is the likelihood of being investigated and inspected by the tax authority, depending on the frequency of tax audits (Stefura, 2012). This economic factor also determines tax compliance behaviour. Palil et al. (2013), Gangl et al. (2013), Modugu (2014), Hofmann et al. (2014), and Adimasu and Jerene (2016) discovered that tax compliance increases when there is a high probability of being audited. This is similar to studies by Ahmed and Kedir (2015), Bott (2016), Engida and Baisa (2014), Hofmann et al. (2014), and Stefura (2012), which indicate that low audit detection leads to low tax compliance. Nevertheless, some empirical studies by Young (1994), Slemrod et al. (2001), Feld and Frey (2007), Braithwaite et al. (2009), and Manaye (2018), found that audit probability reduces tax non-compliance.

The chances of e-commerce entrepreneurs being audited are very high. Tax authorities can easily access their online business information (Singh, 2017b). Based on the SSF, coercive power, such as high audit probability, influences enforced compliance and decreases voluntary compliance. Gangl et al. (2015a) established that the coercive power of audit probability has a negative relationship with voluntary compliance, whereas higher audit probability affects enforced compliance more than voluntary compliance. Audit probability also encourages enforced tax compliance behaviour when taxpayers feel being observed by tax authorities (Hofmann et al., 2017a; Mardhiah et al., 2018). Nevertheless, Gangl et al. (2015b), Hofmann et al. (2014), and

Kirchler et al. (2008) suggest that tax authorities should administer coercive and legitimate power to reduce enforcement but boost voluntary compliance among taxpayers.

Generally, SSF suggests that audit probability influences enforced tax compliance behaviour but not voluntary tax compliance behaviour. The tax authority's coercive power mediates enforced tax compliance behaviour, while voluntary tax compliance behaviour is mediated by legitimate power and trust. However, audit probability can also influence voluntary tax compliance behaviour if there is legitimate power and trust in the tax authority. Therefore, grounded on the SSF, which aims to examine the relationship between audit probability and e-commerce entrepreneurs' tax compliance behaviour, the second set of hypotheses (H_{2a} to H_{2e}) is developed to answer RO1 to RO5.

H_{2a}: There is a significant relationship between audit probability and e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{2b}: There is a significant relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{2c}: Coercive power mediates the relationship between audit probability and e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{2d}: Legitimate power mediates the relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{2e}: Trust mediates the relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.3 Tax Penalty, Coercive Power, Legitimate Power, Trust and Tax Compliance Behaviour

Tax penalties, such as fines, imprisonment, punishment, torture, and occupation restrictions, are used as control and enforcement strategies to increase tax compliance behaviour (Becker, 1974). Park and Hyun (2003) and Yunus et al. (2017) discovered that tax penalties and knowledge of the penalty can promote tax compliance. Other research, such as by Sheikh-Obid (2004), Sia (2008), and Loo et al. (2009), discovered a positive relationship between the tax penalty and tax compliance. However, Kirchler (2007) found a negative relationship between tax penalty and tax compliance, while Engida and Baisa (2014) noticed that tax penalty is not significantly correlated with tax compliance behaviour.

Tax authorities' low power (such as penalties or fines) and low trust can increase tax non-compliance (Kirchler et al., 2014). High tax penalties increase enforced compliance rather than voluntary tax compliance behaviour (Hofmann et al., 2017a; Mardhiah et al., 2018). Faizal et al. (2017) suggested that taxpayers perceive trust and coercive power usage to detect and punish tax offenders. A high tax penalty is a coercive power in the SSF and negatively relates to voluntary tax compliance behaviour (Gangl et al., 2015a). Similarly, Gangl et al. (2015b) agreed that coercive power, like tax audit rate, cannot increase tax compliance, destroys trust, and makes taxpayers feel forced to comply. However, a high tax penalty encourages tax compliance (Hofmann et al., 2014). Meanwhile, a study found that neither legitimate nor coercive power could influence tax compliance (Faizal et al., 2017). Research by Hofmann et al. (2017a) found that legitimate power negatively affects enforced tax compliance, but legitimate power increases trust and voluntary cooperation.

In general, tax penalties influence tax compliance behaviour. High tax penalties and coercive power will influence enforced tax compliance behaviour. However, tax penalties can affect voluntary tax compliance behaviour if there is legitimate power and trust in the tax authority. In investigating the tax penalty and e-commerce entrepreneurs' tax compliance behaviour, the third set of hypotheses (H_{3a} to H_{3e}) is developed to address RO1 to RO5.

H_{3a}: There is a significant relationship between tax penalty and e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{3b}: There is a significant relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{3c}: Coercive power mediates the relationship between tax penalty and e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{3d}: Legitimate power mediates the relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{3e}: Trust mediates the relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.4 Tax Service, Legitimate Power, Trust and Tax Compliance Behaviour

Professionalism in tax services can promote trust and improve tax compliance behaviour (Kirchler et al., 2014b). In a service climate, tax service exists when tax authorities are regarded as a "service provider" and taxpayers as "clients." Tax authorities and taxpayers must cooperate to raise voluntary tax compliance (Gangl et al., 2015a). Studies have shown a substantial positive relationship between tax services and tax compliance behaviour. The tax services being studied include (i) helpful tax information (Alm et al., 2010; Alm et al., 2016), (ii) tax service and public governance quality (Alabede et al., 2011; Alabede, 2012), (iii) reduce cost of tax services and more approachable to taxpayers (Alm et al., 2010), as well as (iv) expertise in tax law and

different regulation strategies (Alm & Torgler, 2011; Alm, Kirchler & Muehlbacher, 2012). An appropriate tax service impacts tax compliance (Gangl et al., 2015a; Maseko, 2013).

Trust can be increased through exceptional tax services and high confidence in tax authorities, leading to voluntary compliance. This has been supported by Kastlunger et al. (2013) and Faizal et al. (2019). Wahl et al. (2010) noted that voluntary tax compliance is more likely when there is a perceived element of trustworthiness in the tax authority's service. E-commerce taxpayers in Indonesia regard tax authorities as supportive, competent, and cooperative. This is due to the tax authority's investment in public goods, the smooth functioning of the tax system, and reduced bureaucracy (Syakura et al., 2016).

Overall, tax service affects voluntary tax compliance behaviour. Furthermore, legitimate power and confidence in tax authorities conciliate the relationship between tax service and voluntary tax compliance behaviour. Therefore, the following hypotheses (H_{4a} to H_{4c}) are written to study the relationship between tax service and e-commerce entrepreneurs' tax compliance behaviour to achieve RO2, RO4 and RO5.

H_{4a}: There is a significant relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{4b}: Legitimate power mediates the relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{4c}: Trust mediates the relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.5 Tax Complexity, Legitimate Power, Trust and Tax Compliance Behaviour

Tax complexity is related to challenges in understanding and complying with tax laws (Mulder et al., 2009; Saad, 2010). Hamid et al. (2019) explored e-commerce in Malaysia and stated that taxpayers perceive taxation as too complicated. Tax complexity can decrease the taxpayer's motivation to adhere to the tax. Furthermore, Syakura et al. (2016) examined e-commerce in Indonesia and discovered that high tax complexity could cause low tax compliance behaviour. Similarly, other researchers, including Adimassu and Jerene (2016), AlHaj (2016), Damajanti and Abdul Karim (2017), Mahangila (2017), Richardson (2006), and Oyewole et al. (2014), have reported a negative relationship between tax complexity and tax compliance behaviour. They came to the conclusion that lowering tax complexity in preparing tax documentation, bookkeeping, or financial statements could increase tax compliance.

Although Malaysian taxpayers agree that tax regulations in Malaysia are easily understood, and they are highly competent to comply with the rules (Hammouri & Shanab, 2017), Malaysian SMEs' e-commerce operators find tax laws and regulations complex (Hamid et al., 2019). However, Syakura et al. (2016) and Richardson (2006) revealed that even though taxpayers know the tax rules and regulations, they still choose not to comply. E-commerce taxpayers in Indonesia feel that the tax authority should be less rigid in the tax system bureaucracy (Syakura et al., 2016).

On the contrary, Shahroni et al. (2022), in their study on online business owners through social media such as YouTube, Facebook, and Instagram, revealed that tax complexity positively correlates with tax compliance behaviour. This shows that simplified taxation cannot improve tax compliance because business owners can

overcome payment methods and computation problems by hiring experts to file tax returns. Besides, Hamid et al. (2022) also discovered that tax complexity is significantly related to tax compliance behaviour among online business owners in Malaysia.

Overall, tax complexity influences voluntary tax compliance behaviour. In addition, legitimate power and trust in tax authority conciliate the relationship between tax complexity and voluntary tax compliance behaviour. Therefore, in examining tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour, the fifth set of hypotheses (H_{5a} to H_{5c}) that will address RO2, RO4 and RO5 is proposed.

H_{5a}: There is a significant relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{5b}: Legitimate power mediates the relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.

H_{5c}: Trust mediates the relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.6 Owner's age and Tax Compliance Behaviour

E-commerce can be operated by anybody, regardless of their age (Nellen, 2015). Most registered e-commerce entrepreneurs in Malaysia are young (IRBM, 2018b). Previous studies show mixed findings on whether younger taxpayers are more law-abiding than older taxpayers. For instance, studies conducted by Ahmed and Kedir (2015), Deyganto (2018), OECD (2012), and Muehlbacher, Kirchler, and Schwarzenberger (2011), noted that taxpayers' age is positively related to tax compliance behaviour. In general, older taxpayers are more law-abiding than younger taxpayers. Then, study by

Kumi et al. (2023) identified a positive relationship with enforced tax compliance among taxpayers in Ghana.

However, in studies by Adimassu and Jerene (2016) and Akinboade (2015), age has no significant relationship with voluntary tax compliance behaviour. Meanwhile, Ali and Ahmad (2014) and Che Saruji and Palil (2012) found that youths are more willing to complete their tax returns if they have faith in the tax authority. Many young e-commerce entrepreneurs in Malaysia voluntarily registered themselves as income taxpayers (IRBM, 2018b). Since this study examines the relationship between age and e-commerce entrepreneurs' tax compliance behaviour, Hypotheses 6a and 6b (H_{6a} and H_{6b}) are developed to deal with RO1 and RO2.

H_{6a} : Owner's age has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{6b} : Owner's age has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.7 Business Length and Tax Compliance Behaviour

Business length refers to how long a business has operated length or the age of the business. Some research revealed a significant relationship between business length and tax compliance behaviour (Sapiei et al., 2014; Adegboye et al., 2018). Several studies found that old businesses are more tax-compliant than new businesses (Adegboye et al., 2018; Hutagalung & Waluyo, 2014). However, Hutagalung and Waluyo (2014) found that tax compliance behaviour is not significantly related to business length. The influence of business age on tax compliance behaviour among SMEs in Malaysia is inconclusive (Abdul-Jabbar, 2009). Hence, this research examines the relationship between business length and e-commerce entrepreneurs' tax

compliance behaviour. Hypotheses 7a and 7b (H_{7a} and H_{7b}) are developed to address RO1 and RO2.

H_{7a} : Business length has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{7b} : Business length has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.8 Business Size and Tax Compliance Behaviour

Business size refers to the total number of full-time employees and the yearly sales. Annual sales and the number of employees vary according to the business sector, whether manufacturing, services, or other sectors (SME Corp., 2013). According to Sapiei et al. (2014), the business size is significantly related to tax non-compliance among corporate businesses. Akinboade (2015) found that SMEs in Cameroon are less compliant than large companies. Kamleitner et al. (2012) found that small businesses have a higher likelihood of not complying with taxes. This research intends to look at the relationship between business size and e-commerce entrepreneurs' tax compliance behaviour; thus, the subsequent hypotheses (H_{8a} and H_{8b}) are developed as follows:

H_{8a} : Business size has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{8b} : Business size has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.9 Income Source and Tax Compliance Behaviour

The source of income from e-commerce can be categorised as primary (full-time and main income) or secondary (part-time income). Syakura et al. (2016) found that some salaried taxpayers refuse to declare their e-commerce income because they are already

taxed on their salary (as a primary income source). Wenzel (2001) also found that individual taxpayers are less likely to comply if they receive extra or small income. Yusoff and Mohd (2017) found that respondents with less knowledge about taxable income types may unintentionally commit tax non-compliance. Stefura (2012) found that taxpayers sometimes fail to report untraceable income. Therefore, this study investigates the relationship between income sources and e-commerce entrepreneurs' tax compliance behaviour. Hypotheses H_{9a} and H_{9b} are developed to address RO1 and RO2.

H_{9a}: Income source has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{9b}: Income source has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.

3.3.10 Permanent Establishment and Tax Compliance Behaviour

A permanent establishment (PE) is a physical or virtual location of e-commerce businesses with no physical presence in their operations. The Malaysian government urges e-commerce businesses to register after six months of their operations (The Star Online, 2017). PEs present a challenge in detecting or tracing e-commerce entrepreneurs who conduct their business virtually (Young, 2012). Cox et al. (2013) agreed that e-commerce can evade tax. Some e-commerce businesses can engage in aggressive tax planning by splitting their profits into different business locations, especially in countries with lower tax rates (Li, 2013). Given these previous studies, it is crucial to examine whether PE can influence the tax compliance behaviour of e-commerce entrepreneurs. Thus, the tenth set of hypotheses (H_{10a} and H_{10b}) is developed to answer RO1 and RO2.

H_{10a}: Permanent establishment has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.

H_{10b}: Permanent establishment has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.

Figures 3.2, 3.3, and 3.4 demonstrate the hypotheses constructed for this research. Four models are employed in this research. Figure 3.2 displays Model 1, which investigates the direct correlation between the independent variables (IVs) and two dependent variables, DV1 (enforced tax compliance behaviour) and DV2 (voluntary tax compliance behaviour). Figure 3.3 illustrates Model 2, which examines the indirect correlation between Mediator 1 (coercive power) and the independent variables (IVs) and dependent variable 1 (DV1). Models 3 and 4 investigate the role of Mediator 2 (legitimate power) and Mediator 3 (trust) in mediating the connection between the independent variables (IVs) and dependent variables (DVs). Gender and ethnicity are considered as covariates. Figure 3.4 depicts the comprehensive evolution of hypotheses arising from both direct and indirect relationships.

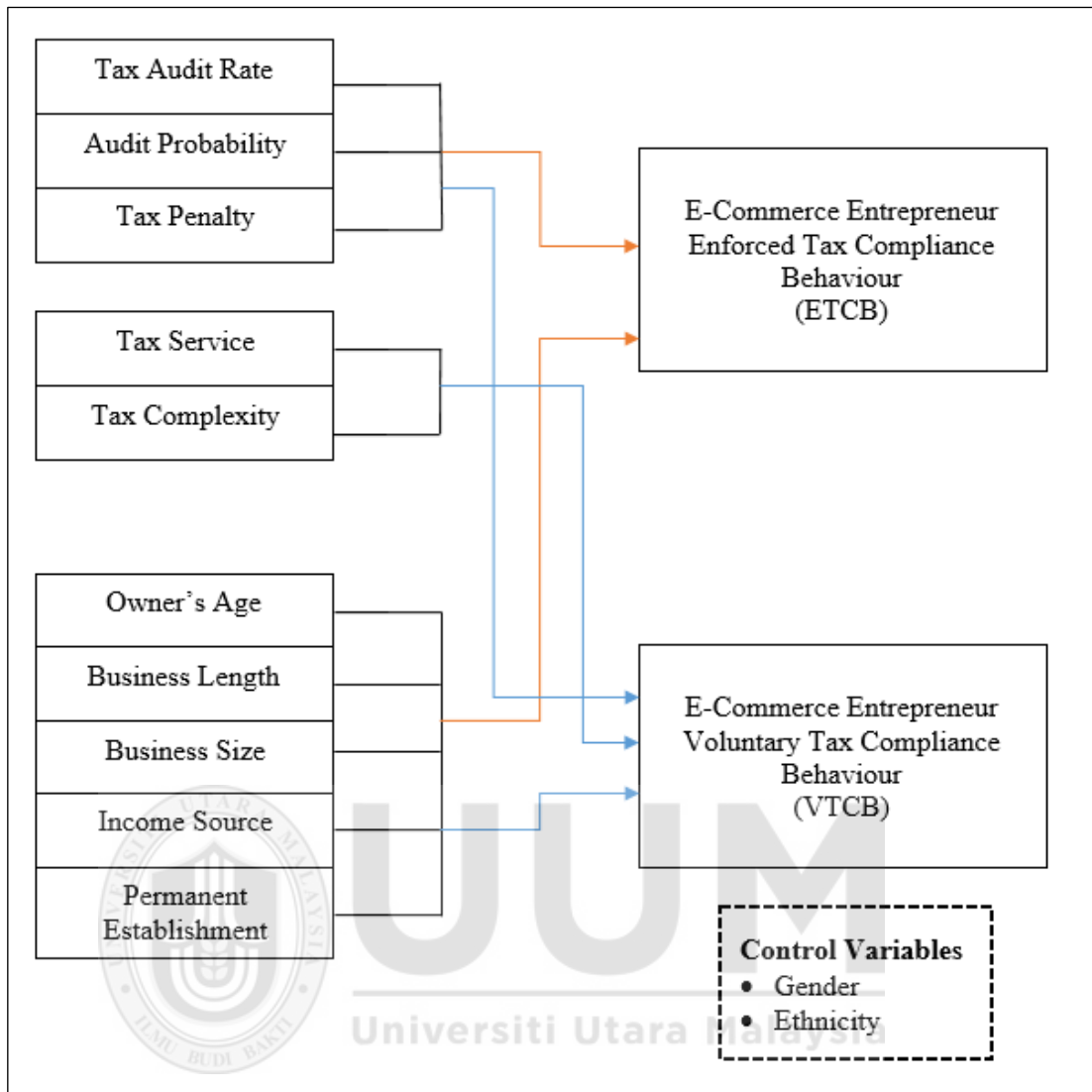


Figure 3.2
Model 1 (direct relationship)

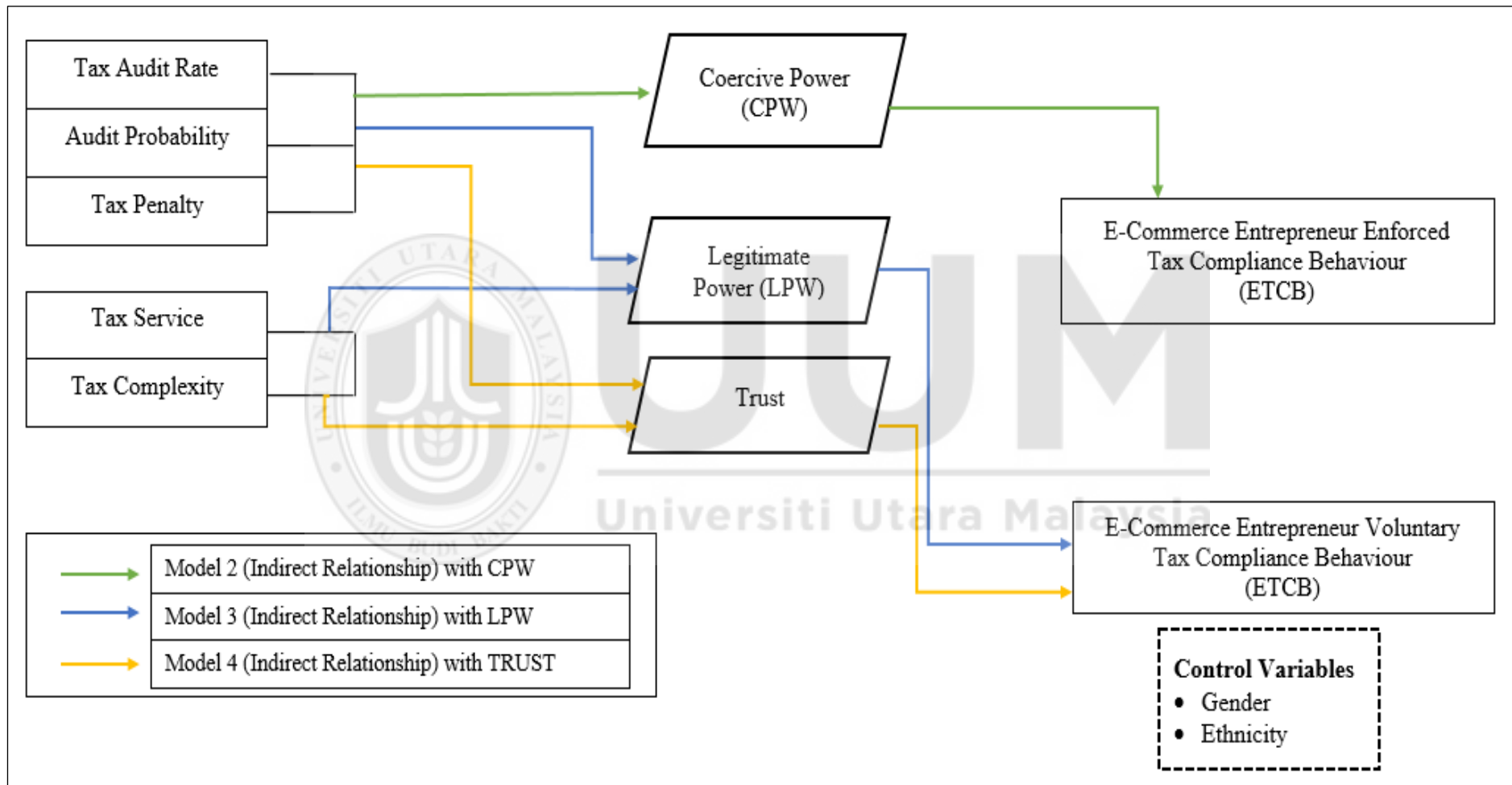


Figure 3.3
 Model 2, 3 and 4 (indirect relationship)

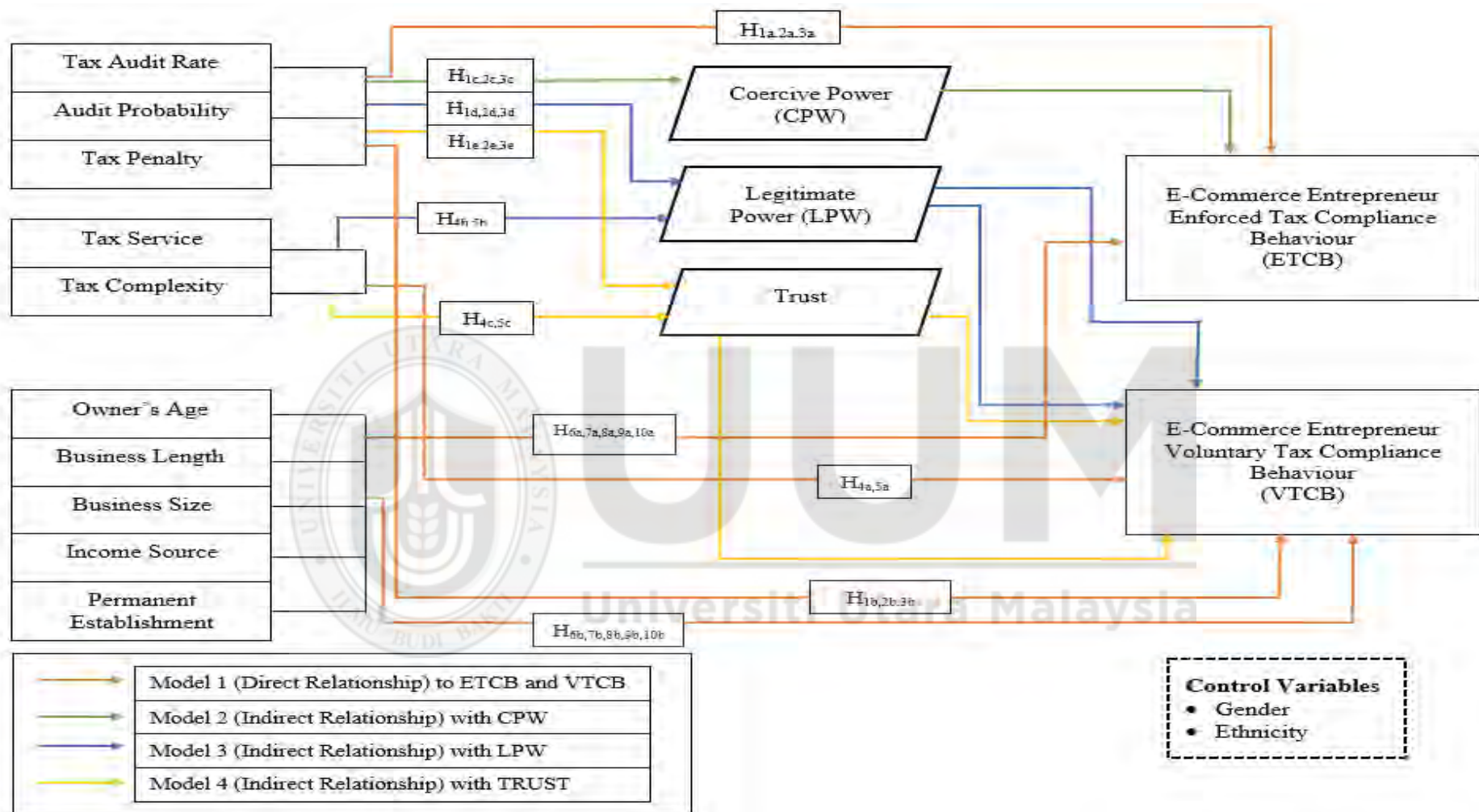


Figure 3.4
Research Hypotheses

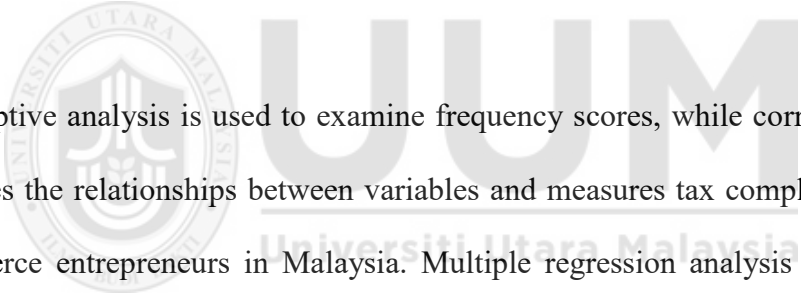
3.4 Research Design

As outlined in Chapter 1, this research investigates the determinants affecting tax compliance behaviour among e-commerce entrepreneurs in Malaysia. The study focuses on key determinants such as tax audit rate, audit probability, tax penalty, tax service, tax complexity, the owner's age, business length, business size, income sources, and permanent establishment. To guide the analysis, the research employs the SSF, Fischer's model, and the principle of permanent establishment.

The research design serves as a framework to systematically structure and analyse data, emphasizing specific aspects of the research process. This study utilizes a quantitative approach, which involves statistical, mathematical, or numerical techniques for data analysis. The quantitative approach is particularly effective for analyzing and generalizing data collected through surveys, questionnaires, or polls. This methodology is supported by established scholars, including Sekaran & Bougie (2013), Bryman & Bell (2007), Creswell (2009), Babbie (2010), and Mujis (2010).

The unit of analysis for this study includes e-commerce entrepreneurs in Malaysia, i.e. individuals or organizations conducting business online. These entrepreneurs are involved in providing product and service information, promoting and advertising their offerings, and delivering product and service reviews. They may also oversee the supply or distribution of goods and services, although payment and delivery aspects may occur offline. Examples of e-commerce entrepreneurs include dropshippers, agents, retailers, transport and logistics companies, financial service providers, e-book authors, online educators, YouTubers, and social media influencers. The primary focus of the study is to examine their tax compliance behaviour.

The study employs cross-sectional data, which allows for the collection of a sufficient amount of data at a single point in time to address the research questions. Cross-sectional data is frequently used in studies on tax compliance behaviour (Gobena & Van Dijke, 2016; Murphy et al., 2016; Ruhoma, 2015) and is more straightforward and cost-effective compared to longitudinal studies (Bryman & Bell, 2007). Data is gathered through a survey research method, using formatted questionnaires distributed online via Google Docs and various platforms such as Facebook Messenger, Instagram Messenger, WhatsApp, e-commerce platforms, and email. Given that the number of registered e-commerce entities grew from 120,000 in 2018 to approximately 373,213 in 2020 (BERNAMA, 2021), a survey is an appropriate method for collecting valuable data.



Descriptive analysis is used to examine frequency scores, while correlation analysis assesses the relationships between variables and measures tax compliance among e-commerce entrepreneurs in Malaysia. Multiple regression analysis is employed to predict variable values and examine the strength of relationships between multiple variables, particularly for direct relationships. Additionally, a simple mediation model is used to analyse indirect relationships between independent and dependent variables.

Overall, this research contributes valuable insights into how various factors impact tax compliance behaviour in the context of e-commerce. By applying established models and leveraging a robust data collection strategy, the study seeks to enhance understanding and provide actionable recommendations for improving tax compliance among e-commerce entrepreneurs in Malaysia.

3.5 Operational Definition

The operational definition describes the variables used in this research and the method used to measure them. The operational definition includes the concept of e-commerce, e-commerce entrepreneur, tax compliance behaviour (dependent variable), determinants of tax compliance behaviour (independent variables), mediators, and control variables. Table 3.1 shows the operational definitions used in this research.

Table 3.1
Operational Definitions

No.	Key Terms	Operational Definition
1.	Electronic Commerce (e-commerce)	E-commerce involves selling and purchasing goods or services, marketing, and product information that generates income via the internet using various methods. It is designed to receive or place orders, but the payment and delivery of goods or services do not necessarily have to be online. Transactions over the internet can occur between enterprises, households, individuals, governments, and other public or private organisations. E-commerce operates on several business models, including B2B, B2C, B2G, C2B, C2C and C2G.
2.	E-commerce Entrepreneurs	E-commerce entrepreneurs are business people and companies involved in e-commerce. They conduct their business electronically or via the internet, provide information about products and services, promote and advertise their products or services, and offer product and service reviews. They may also handle the supply or delivery of goods or services, albeit payment and delivery-related matters can be conducted offline. They are potential taxpayers or taxpayers and work in a range of sectors, including online retail, transportation and logistics, manufacturing and agriculture, education, healthcare, broadcasting and media, sharing economy, services, advertising, crowdsourcing, and digital product sales.
3.	E-commerce Entrepreneurs' Enforced Tax Compliance Behaviour	It is the behaviour of e-commerce entrepreneurs regarding tax compliance, which can be influenced by enforcement or deterrence approaches, such as audits and penalties carried out by tax authorities. E-commerce entrepreneurs may comply with taxes if they think tax authorities are monitoring them or if they are forced to comply due to the threat of penalties.

Table 3.1 (Continued)

No.	Key Terms	Operational Definition
		Additionally, tax rewards may motivate entrepreneurs to comply with tax regulations. Tax authorities can use enforcement controls to improve compliance behaviour regarding tax regulations among e-commerce entrepreneurs.
4.	E-commerce Entrepreneurs' Voluntary Tax Compliance Behaviour	It refers to e-commerce entrepreneurs' readiness to follow with tax law requirements such as reporting, filing, and payment. They assume that tax authorities will reciprocate their cooperation and show tolerance in cases of admitted or unintentional mistakes. Additionally, compliance with tax law may be seen as easier than evasion.
5.	Tax Audit Rate	Tax audit rate refers to the perceived frequency of tax audits or inspections conducted by the tax authority to confirm the exactness of tax returns and identify tax non-compliance behaviour and activities.
6.	Audit Probability	Audit probability refers to the perceived likelihood of being audited, where the chances are categorised as high, fair, or low, caused by tax non-compliance activities.
7.	Tax Penalty	Tax penalty is the perception of the consequences of non-compliance with tax regulations, where it is used as a control and enforcement strategy to increase tax compliance behaviour. These consequences can take the form of fines, imprisonment, restrictions on movements and occupation, and other forms of punishment. The perception of tax penalty rates, lack of tax penalty education, and the perception of insufficient tax penalties for taxpayers can also influence tax compliance behaviour.
8.	Tax Service	Tax service is the perception of excellent services given by the tax authority, which refers to the primary reference of legal regulations, professional service, perceived fairness, and customer service, which includes treating taxpayers with respect and fairness.
9.	Tax Complexity	Tax complexity refers to the perception of complexity in tax computation, record-keeping, tax uncertainty, electronic payment (e-filing), and the challenge of understanding tax laws. This includes the perception of complexity in e-commerce tax regulations, for example, tax reporting, tax filing, and tax payment. Tax complexity can affect the effectiveness of income tax returns, unclear rules, and difficulty in understanding tax guide materials.

Table 3.1 (Continued)

No.	Key Terms	Operational Definition
10.	Coercive Power	Coercive power is the perception of the use of severe control and punishment by the tax authority to guide taxpayers' behaviour toward tax compliance. This is because the tax authority has the authority to collect taxes, punish tax evaders, reward taxpayers to promote compliance and impose severe punishments on intentional tax evaders.
11.	Legitimate Power	Legitimate power refers to the perception of the tax authority as being dominant in the form of legitimacy, expertise, efficiency, providing good advice and information, and identifying tax evaders.
12.	Trust	Trust refers to the perception of trust in the tax authority based on their necessary political support, reliability, knowledgeable and competent advice, and good guidance on tax issues.
13.	Business Length	Business length refers to the duration of business operations.
14.	Income source	E-commerce income can be classified as primary (when e-commerce is the primary source of income), secondary (when e-commerce is a part-time source of income), or primary and secondary (when e-commerce is the primary source of income but the individual also earns income from other e-commerce ventures).
15.	Business Size	<p>Business size refers to yearly sales and the total number of employees, which categorise businesses into different sectors such as manufacturing, services, or other industries.</p> <ul style="list-style-type: none"> a) Micro-enterprise: annual sales of less than RM300,000 and full-time employees of less than five. b) Small Business: annual sales of RM300,000 to RM15 million and number of full-time employees of 5 to 74. c) Medium: annual sales of RM15 million to RM50 million and number of full-time employees of 74 to 200. d) Big Company: annual sales of more than RM50 million and full-time employees of more than 200.
16.	Permanent Establishment	PE refers to the location of the server of the e-commerce business, either in Malaysia, outside Malaysia, or both.

3.6 Measurement of Variables

The questionnaire developed for this study consists of 10 sections. Section 1 is the introductory message as required in Selm and Jankowski (2006). The main sections, Sections 2 to 6, seek to identify the perceptions and opinions of e-commerce entrepreneurs on the determinants of tax compliance behaviour, such as tax audit rate, audit probability, tax penalty, tax service, and tax complexity. The measurements and items for independent variables in this research are modified from the earlier literature. The details are shown in Table 3.2. There are 22 questions related to determinants of tax compliance behaviour, which are under Sections Two to Six, namely, tax audit rate (TA1 to TA4), audit probability (AP1 to AP5), tax penalty (TP1 to TP4), tax service (TS1 to TS6) and tax complexity (TC1 to TC3).

Table 3.2
Measurements for E-Commerce Entrepreneurs' Tax Compliance Behaviour (Independent Variables)

Section	No. of Questions	Code	Adapted Items	Literature	
2	4	<u>Tax Audit Rate</u>			(Gangl et al., 2015)
		(TA1)	Frequent tax audits are carried out by the tax authority.		
		(TA2)	The frequent tax audits attempt to detect taxpayers' behaviour and activities.		
		(TA3)	I keep complying with taxes even though the tax authority carries out no frequent tax audits.		
		(TA4)	I do not feel forced to comply with taxes even though there are frequent tax audits.		
3	5	<u>Audit Probability</u>			(Kirchler & Wahl, 2010)
		(AP1)	There are fair chances of being audited by the tax authority.		
		(AP2)	The probability of being audited by the tax authority is low.		
		(AP3)	Taxpayers who have never been audited might be tempted to do non-compliance activities.		
<u>Rational of these questions:</u>					
This section identifies the perceptions and opinions of e-commerce entrepreneurs about the tax audit rate. This section is to answer RO1.					
<u>Rational of these questions:</u>					
This section identifies the perceptions and opinions of e-commerce entrepreneurs about the audit probability.					

Table 3.2 (Continued)

Section	No. of Questions	Code	Adapted Items	Literature
This section is to answer RO1.		(AP4)	There is a high chance of detection for my e-commerce/online business.	
		(AP5)	There is an equal chance for e-commerce and non-e-commerce entrepreneurs to be selected for audit.	
<p>4</p> <p>4</p> <p><u>Rational of these questions:</u> This section identifies the perceptions and opinions of e-commerce entrepreneurs about the tax penalty. This section is to answer RO1.</p>		<u>Tax Penalty</u>		
		(TP1)	The tax penalty imposed depends on the type of tax offence the taxpayer has committed.	(Gangl et al., 2015)
		(TP2)	The current tax penalty rate is insufficient to address the behaviour regarding tax compliance.	
		(TP3)	High tax penalty rates can encourage taxpayers to report their true income to avoid being penalised.	
		(TP4)	There is still a lack of tax education, particularly with regard to tax penalties.	
<p>5</p> <p>6</p> <p><u>Rational of these questions :</u> This section identifies the perceptions and opinions of e-commerce entrepreneurs about the tax service. This section is to answer RO2.</p>		<u>Tax Service</u>		
		(TS1)	The tax authority does everything possible to serve people.	(Kirchler & Hoelzl,
		(TS2)	The tax authority treats people with respect.	2017;
		(TS3)	It is difficult for taxpayers to consult the tax authority.	Muehlbacher et al., 2011)
		(TS4)	The tax authority keeps its promises.	
		(TS5)	The tax authority treats everybody fairly.	
		(TS6)	The tax authority sufficiently takes people's circumstances into account.	
<p>6</p> <p>3</p> <p><u>Rational of these questions :</u> This section identifies the perceptions and opinions of e-commerce entrepreneurs about tax complexity. This section is to answer RO2.</p>		<u>Tax Complexity</u>		
		(TC1)	The sentences and wordings in the income tax return guide are lengthy and not user-friendly.	(Saad, 2011)
		(TC2)	The rules related to income tax are clear.	(Alhaj, 2016)
		(TC3)	I do not have to make much effort to understand the explanations given in tax authority guidebooks and other similar explanatory materials.	

Meanwhile, Section Seven examines the relationship between determinants and mediators, the latter being the tax authority's coercive power and legitimate power and the e-commerce entrepreneur's trust in the tax authority. Table 3.3 illustrates the details of the mediators.

Table 3.3
Measurements for E-Commerce Entrepreneurs' Tax Compliance Behaviour (Mediators)

Section	No. of Questions	Code	Adapted Items	Literature
7	16		<u>Coercive Power</u>	
		(CPW1)	I believe the tax authority has the absolute power to collect tax.	Hofmann et al., 2017a;
		(CPW2)	I believe the tax authority has the absolute power to punish taxpayers.	Kastlunger et al., 2013; Kirchler & Wahl, 2010; and Yunus et al., 2017.
		(CPW3)	I believe the tax authority has the power to reward.	
		(CPW4)	I believe the tax authority severely punishes tax evaders.	
		(CPW5)	I believe the tax authority enforces its demands through deterrence approaches (i.e., audits and penalties).	
		(CPW6)	I believe the tax authority severely punishes when it finds a mistake.	
		(CPW7)	I believe the tax authority prosecutes taxpayers with deterrence approaches (i.e., audits and penalties).	
			<u>Legitimate Power</u>	
		(LPW1)	I believe the tax authority arranges comprehensible procedures for the collection of taxes.	
		(LPW2)	I believe the tax authority ensures that the concerns of taxpayers are processed efficiently and quickly.	
		(LPW3)	I believe the tax authority is capable of providing good advice and information to taxpayers.	

Table 3.3 (Continued)

Section	No. of Questions	Code	Adapted Items	Literature
		(LPW4)	I believe the tax authority has the right to prosecute tax evaders.	
		<u>Trust</u>		
		(TR1)	I trust the Malaysian tax authority because it has the necessary political support.	(Gangl et al., 2015; Hofmann et al., 2017;
		(TR2)	I trust the Malaysian tax authority because it is reliable.	Kirchler & Wahl, 2010; Muehlbacher et al., 2011)
		(TR3)	I trust the Malaysian tax authority because its staff are knowledgeable.	
		(TR4)	I trust the Malaysian tax authority because it gives competent advice.	
		(TR5)	I trust the Malaysian tax authority because it always provides taxpayers with guidance and advice on tax issues without fail.	

Section Eight explores how e-commerce entrepreneurs behave regarding tax compliance, whether through enforced or voluntary tax compliance behaviour. The measurements and items for dependent variables, i.e., enforced and voluntary tax compliance behaviour, were adapted from previous literature. The number of questions related to tax compliance behaviour is eight and was then divided into two parts: ECB1 to ECB4 for enforced tax compliance behaviour and VCB1 to VCB4 for voluntary tax compliance behaviour. The adapted items for measuring tax compliance behaviour are presented in Table 3.4.

Table 3.4

Measurements for E-Commerce Entrepreneurs' Tax Compliance Behaviour (Dependent Variables)

Section	No. of Questions	Code	Adapted Items	Literature	
<p><u>Rational of these questions:</u> This section identifies how e-commerce entrepreneurs behave or act toward tax compliance behaviour, either enforced or voluntary.</p>	8	<u>Enforced Tax Compliance Behaviour</u>			
		(ECB1)	I comply with the tax law in Malaysia because there are many deterrence approaches (i.e., audits and penalties) carried out by the tax authority.	(Gangl et al., 2015; Hofmann et al., 2017; Kirchler & Wahl, 2010; Muehlbacher et al., 2011)	
		(ECB2)	I comply with the tax law in Malaysia because I will be monitored by the tax authority.		
		(ECB3)	I comply with the tax law in Malaysia because I feel forced to comply with taxes.		
		(ECB4)	I comply with the tax law in Malaysia because the tax authority rewards taxpayers in many ways.		
		<u>Voluntary Tax Compliance Behaviour</u>			
		(VCB1)	I comply with the tax law in Malaysia because the tax authority will probably reciprocate my cooperation.		(Gangl et al., 2015; Hofmann et al., 2017; Kirchler & Wahl, 2010; Muehlbacher et al., 2011)
		(VCB2)	I comply with the tax law in Malaysia because the tax authority treats me correctly as long as I admit my mistakes.		
(VCB3)	I comply with the tax law in Malaysia because the tax authority supports those who make unintentional mistakes.				
(VCB4)	I comply with the tax law in Malaysia because it is easier to do so than to deceive the tax authority.				

The demographic factors determinants are in Section Nine, as shown in Table 3.5. The section gathers the demographic determinants: the owner's age, business length, income source, business size, and permanent establishment. The control variables, namely, the ethnicity and gender of the owners, are also gathered. In addition, the

business sector and type of e-commerce are also identified to ensure the right respondents responded to the questionnaire.

Table 3.5

Measurements for E-commerce entrepreneurs' Tax Behaviour (Demographic Data and Control Variable)

Section	No. of Questions	Code	Adapted Items	Literature
9	13		<u>Demographic Data</u>	
			a) Owner's age	Benk, Cakmak, &
			b) Business Length	Budak (2011); Sapiei
			c) Income Source	et al. (2014); Ser
			d) Business Size	(2013); and Palme
			e) PE	(2017)
			<u>Control Variables</u>	
			a) Gender	
			b) Ethnicity	

In sum, there are ten sections, including a welcome note and an appreciation note in the first and last sections. Sections Two to Eight use a five-point Likert scale, commonly utilised in research, to measure the items. Various researchers may use different measurement scales like five-point, six-point, or seven-point Likert scales with odd or even numbers. The six-point scale can avoid odd numbers, while the five-point and seven-point scales disregard even numbers. Previous studies have shown that the five-point scale is the most reliable compared to other points, as it can reduce the burden of potential respondents in making a decision, and respondents had expressed the optimal level of confidence in their extreme judgments when these scales were applied (Birkett, 1986; Chomeya, 2010; Tang et. al., 1999).

A 5-point Likert scale, commonly utilised in research and extensively tested in the social science literature, is used to measure the independent variables (Hassan et al., 2021). This research uses the following scale: (1) Strongly Disagree, (2) Disagree, (3)

Neutral, (4) Agree, and (5) Strongly Agree. Meanwhile, Section Nine deals with demographic factors and uses a single scale with multiple options.

3.7 Data Collection

Data collection is the process of retrieving responses using an appropriate data collection method and procedure, which can answer the research questions through direct or indirect sources of reference or respondents.

3.7.1 Population and Sampling Method

This research uses Malaysian e-commerce entrepreneurs as its population because population refers to a group of people or objects with a standard set of characteristics or particular interests the researcher wishes to investigate (Kumar & Ramayah, 2013; Sekaran, 2013). Furthermore, e-commerce entrepreneurs refer to those who subscribe to the Internet to provide information on their products and services, promote and advertise their products or services, provide product and service reviews, and supply or deliver products or services, but process payment and delivery of the products or services offline. All e-commerce entrepreneurs should register their e-commerce business and must file their income tax return for the e-commerce business after six months operation (Sarah Rahim & New Straits Times, 2017).

The Ministry of International Trade and Industry (MITI) has estimated that the population of e-commerce entrepreneurs in Malaysia was more than 120,000 at the end of 2018 (BERNAMA, 2018). A total of 373,213 entities have registered under the online category with the Companies Commission of Malaysia between 1 March and 31 October 2020 (BERNAMA, 2021). However, there are still non-registered e-

commerce entrepreneurs in the country. Big companies and micro, small, and medium enterprises (including manufacturing, services, and other sectors, as defined by SME Corp (2013) are involved in e-commerce. These include agents, drop shippers, stockists, e-book sellers, online tutors, online tutorial providers, online doctor pharmacies, bloggers, Instafamous individuals, Insta reviewers, Youtubers, and anybody who gains income from e-commerce transactions, as mentioned in Tax Broucher 2018: Digital Economy (IRBM, 2018b). These e-commerce entrepreneurs also use social media (social commerce), websites and blogs (e-commerce), smartphones (mobile commerce), and other internet sources in carrying out their business operations.

The sampling approach involves the deliberate selection of a certain number of individuals from a larger population in order to make the process of conducting surveys more cost-effective and easier to administer (Pandiyan & Chandran, 2011). This research use systematic random sampling as a sampling strategy to gain an understanding of the nature or qualities of the sample, enabling the researchers to make generalisations about its properties (Sekaran, 2013). Then used the one-in-k systematic sampling refers to the process of randomly selecting one element from the first k elements in the frame, and then selecting every k-th element thereafter as recommended by Pandiyan and Chandran (2011).

Based on the research conducted by Krejcie and Morgan in 1970, as cited in Sekaran's work from 2013, it is recommended to have a sample size of 382 when the population exceeds 75,000 individuals. By employing this approach and considering the 373,213 e-commerce businesses registered in Malaysia in 2020, the research utilised a sample

size of 500. This sample size includes 30 percent to account for potential non-response, following the precedent set by prior studies as suggested by Israel (2012). Roscoe (1975) also suggested that a sample size ranging from 30 to 500 is appropriate for the majority of research investigations.

In conducting the multi-regression analysis, a minimum sample size is required. According to Bartlett et al. (2001) and Pallant (2007), the results of a relatively small sample may lack generalisability. Also, this study used the formulas by Miles and Shevlin (2001) and Tabachnick and Fidell (2007) ($N > 50 + 8M$) as rules of thumb to determine the minimum sample size. In this formula, M is the number of independent variables. The minimum sample size is $N = 50 + 8(10) = 130$, with ten dependent variables.

3.7.2 Data Collection Procedure

According to Muhammad and Kabir (2018), various data collection methods are used to gather quantitative data, such as questionnaires, structured interviews, observations, experiments, or obtaining relevant data from management information systems. This research used an electronic questionnaire as the data collection method because it is a relatively low-cost and efficient method for data collection, enabling research to be completed within time and resource constraints. Since e-commerce entrepreneurs apply ICTs in business, the preparation of electronic questionnaires is an advantage to researchers. The advantage is in line with Selm and Jankowski (2006), who considered the adoption of ICTs by e-commerce entrepreneurs as an advantage in collecting data electronically.

A questionnaire, according to Sekaran and Bougie (2013), is a list of questions that a researcher makes so that people can answer them. It can be either open-ended or closed-ended. The most common types of studies are used when a lot of quantitative information about an event is needed. Paper-and-pencil surveys were used in the past (Muhammad & Kabir, 2018), but as internet use grew, electronic questionnaires became more popular (Mahyadin, 2018). The electronic questionnaire was designed using Google Documents (Google Docs), which is the best method to prevent data loss because respondents can fill out all questions and submit them after completing the questionnaire (Mahyadin, 2018). In addition, the electronic questionnaire decreases the time it takes to collect data. In an electronic survey using emails by Selm and Jankowski (2006), responses took about four days to respond.

Since the data can be directly transferred to the analysis software, the electronic questionnaire can decrease human errors (Mohd Asaad, 2012) and is suitable for large data sets (Salant & Dillman, 1994). It is also an inexpensive data collection method (Van Selm & Jankowski, 2006). McPeake et. al. (2014) stated that the electronic questionnaire is fast, efficient, less costly, and easy to analyse massive data. In addition, since e-commerce businesses are adopting information and communication technologies (ICTs) in their trading, using an electronic questionnaire to collect data is an advantage.

So, the electronic surveys were sent out in person and through the Malaysia Digital Economy Corporation (MDEC) application. Further information: MDEC is the government agency in Malaysia that handles e-commerce registration and other issues.

The research data were collected from personal distribution and getting back the questionnaire from the respondents. A similar method has been used in other previous research on tax compliance in both developed and developing nations (Azmi & Perumal, 2008; Chan et al., 2000; Jabbar & Abdul Manaf, 2006; Kasipillai, 1997; Mustafa, 1997; Saad, 2011; Song & Yarbrough, 1978). Therefore, adopting an electronic questionnaire is worthwhile regarding cost, time, accuracy, and data collection effectiveness, particularly for e-commerce entrepreneurs.

Validity tests, such as face validity and content validity, were conducted before the pilot test was distributed to 30 e-commerce entrepreneurs. Reliability was then tested using SPSS version 22. The questionnaire was refined by deleting items or questions not recommended by SPSS, where the Cronbach's alpha result was less than 0.6. The data collection process began after receiving an official letter from Othman Yeop Abdullah Graduate School of Business (OYAGSB), Universiti Utara Malaysia, on July 16, 2020. The electronic questionnaire link was sent to selected e-commerce entrepreneurs using the systematic random sampling method from August 2020 to June 2021, which took 11 months.

Figure 3.5 shows the data collection procedure.

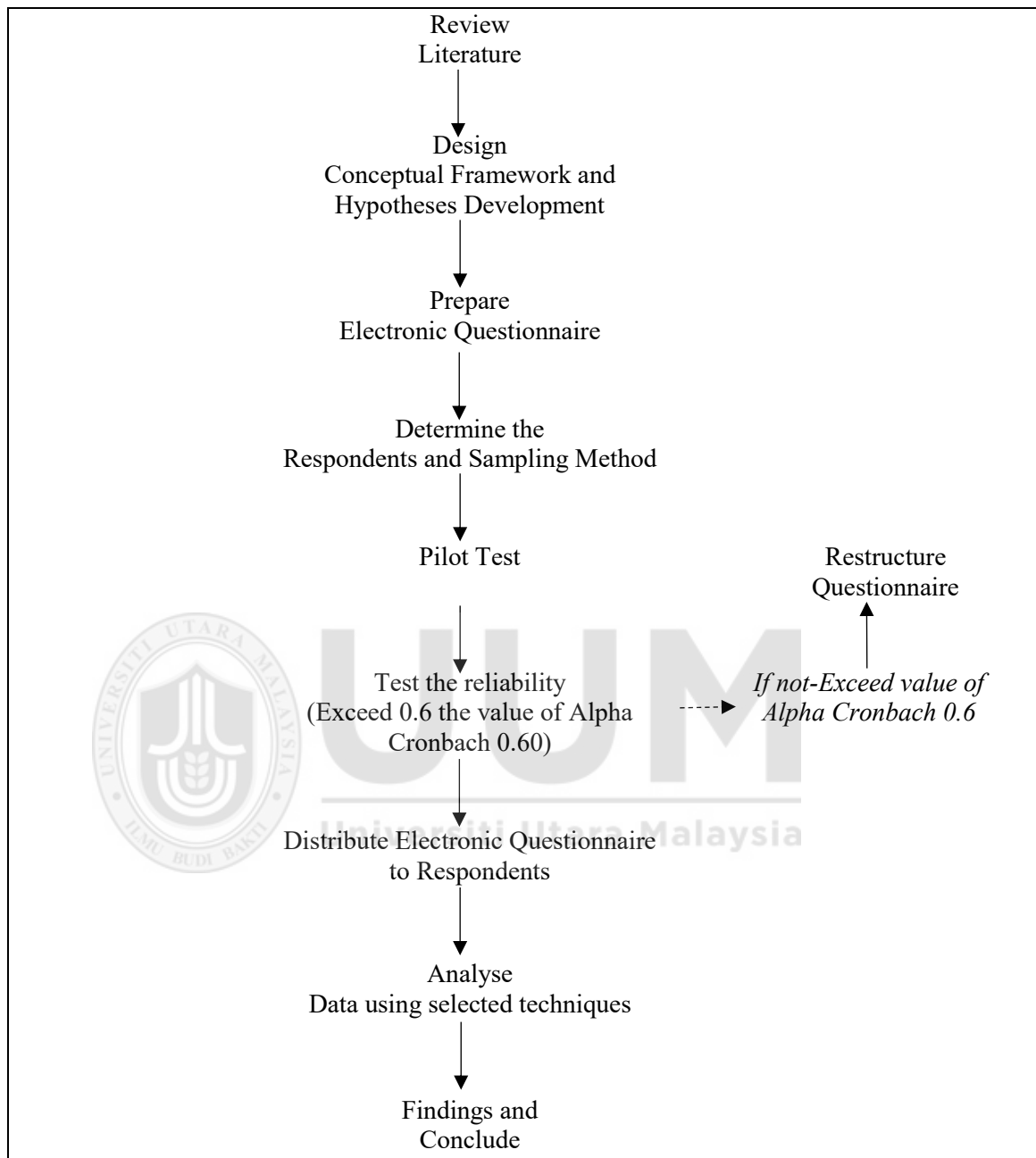


Figure 3.5
Data Collection Procedure

3.8 Techniques of Data Analysis

Data analysis aims to show and interpret the results from the questionnaire distributed to e-commerce entrepreneurs. Statistical Package for the Social Sciences (SPSS) Version 22 was utilised for post-research analysis, specifically the SPSS PROCESS Macro Version 4.0, to identify relationships for the indirect models (Models 2, 3, and 4) that relate to the mediators, independent variables, and dependent variables.

After screening and cleaning, the response rate was identified, and the profile of respondents and descriptive statistics were analysed. There are two criteria for a proper measurement: reliability and validity. Reliability means the degree to which measures are error-free and yield constant results. There are three ways to test reliability: the test-retest method, the split-half method, and the equivalent-form method.

This research implements the test-retest method. The test-retest method is used when the same scale or measure is used for the same respondents at two points (Pandiyan & Chandran, 2011). The pilot test is a “small-scale research” using 30 or more samples from the research population before the actual research is used. The pilot test is used to obtain items’ reliability estimates or build values and provide the opportunity to identify problematic items in the questionnaire (Talib, 2016). This study distributes 30 sets of electronic questionnaires as a pilot test to see how they worked and whether changes were needed before beginning a full-scale survey. From here, Cronbach’s alpha score is used to determine the internal consistency or average correlation of items in a survey instrument to measure reliability. The alpha coefficients must have values from 0 to 1 (Santos, 1999), and higher scores indicate higher reliability.

Validity refers to the degree to which a scale, measuring device, or instrument measures what it is supposed to measure. A validity test is used to determine if a questionnaire is valid. Data is considered valid if the corrected item-total correlation exceeds the R-value (Ghozali, 2011). On the other hand, the reliability test is used to decide whether the measurement results remain consistent when performed multiple times using the same measuring instrument. A construction or variable with a Cronbach Alpha value greater than 0.6 is considered reliable (Ghozali, 2011).

There are four fundamental methods of validity: face or content validity, criterion validity, construct validity, and sensitivity validity (Pandiyan & Chandran, 2011). The questionnaire's content validity was revised with the help of experts, including academics and practitioners with significant experience in the e-commerce field. After the revision, standard and reliable resources were used to examine the questionnaire's validity. Face or content validity is the professional judgement of an expert regarding the relevance of the measurement instrument, which, in their opinion, accurately reflects what is supposed to be measured (Pandiyan & Chandran, 2011). This research employs face or content validity from an expert, Professor Katrina Gangl, who was involved in researching using SSF and introduced the extended SSF (eSSF) model.

3.8.1 Pilot Test

A pilot study was conducted to test the research instrument's adequacy and ensure its face and content validity. For the pilot research, 30 online questionnaires were prepared and administered to e-commerce entrepreneurs who conducted their business electronically or via the Internet. These entrepreneurs were potential taxpayers or taxpayers. The response rate was 100 percent.

This study used internal consistency testing to establish the reliability of the measurement items. Cronbach's alpha is used as it is one of the most popular reliability statistics (Cronbach, 1951). To gauge its reliability, Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument. Cronbach's alpha was used because of its wide application and suggested for social science research (Gliem & Gliem, 2003; Hair et al., 2010; Sekaran & Bougie, 2010). Cronbach's alpha is often utilised to test the internal consistency of the measurement items in the tax compliance literature (Manaf, 2004; Murphy, 2007; Wenzel, 2002).

A reliability test of the individual items and variables in the questionnaire was conducted using the SPSS. Referring to Hinton et al. (2014), Cronbach's alpha coefficient greater than 0.7 shows high reliability, and a coefficient between 0.5 and 0.7 shows moderate reliability. A coefficient of less than 0.5 shows that the measurement items are unreliable. The feedback from the pilot study and the reliability test performed (see Table 3.6) point to the unneeded, ambiguous, and complex questions in the instrument.

Hence, changes to the questionnaire were made. Some questions were omitted, rephrased, or rescaled accordingly. It is necessary to make changes in the questionnaire to enhance the intelligibility of the questionnaire so that respondents would understand it better. After the changes were made, Cronbach's alpha for Tax Audit Rate, Tax Penalty, and Tax Complexity increased to 0.6, regarded as moderately reliable. Other items recorded Cronbach's alpha greater than 0.7, deemed very reliable.

Table 3.6
Cronbach's Alpha Result for Pilot Test

Latent Variable	Items (Before)	Cronbach's Alpha	Items (After)	Cronbach's Alpha
Tax Audit Rate	6	0.4	4	0.6
Audit Probability	5	0.6	5	0.6
Tax Penalty	5	0.5	4	0.6
Tax Service	6	0.7	6	0.7
Tax Complexity	5	0.4	3	0.6
Coercive Power	7	0.9	7	0.9
Legitimate Power	4	0.9	4	0.9
Trust	5	0.95	5	0.95
Enforced Compliance	4	0.8	4	0.8
Voluntary Compliance	4	0.8	4	0.8
Total	51		46	

3.8.2 Descriptive Statistics Analysis

This research employed descriptive statistics to gain insights into the respondents' behaviour patterns and demographic backgrounds and reduce the data to a manageable size. The descriptive statistics display each tested variable's mean score and standard deviations. Evidence shows that the same techniques have been used in some tax evasion and compliance studies (Embaye, 2007; Feld & Schneider, 2007; Manaf, 2004; Torgler et al., 2007). Data transformation was used to calculate the percentages and frequencies of the patterns answered by the respondents.

3.8.3 Correlation Analysis

A correlation analysis was carried out to establish the relationship between the research variables and to uncover the presence of multi-collinearity among the variables (Hair et al., 2010; Meyer et al., 2006). Pearson product-moment coefficient was utilised to determine the correlation between continuous and categorical variables (Coakes & Ong, 2011). The correlation among the variables of this research was set up at a

statistically significant level of ($p < .01$) and ($p < .05$), and the strength of the correlation was explained using the rule of thumb given in Meyer et al. (2006) in which correlation coefficients of $\pm .5$ (high), $\pm .3$ (moderate), and $\pm .1$ (small).

3.8.4 Multiple Regression

Multiple regression analysis is used to predict the value of a dependent variable based on two or more independent variables, extending simple linear regression to examine the strength of relationships between multiple variables. This research investigates how factors such as tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and the permanent establishment directly affect both enforced and voluntary tax compliance behaviour. For accurate results, multiple regression analysis depends on several key assumptions, including sample size, normality, linearity, homoscedasticity, and multicollinearity. If these assumptions are not met, the results may be biased or distorted (Meyer et al., 2006; Osborne & Waters, 2002). The research ensures these assumptions are properly assessed and met before conducting the regression analysis.

In interpreting the regression results, the analysis first considers the F value, which tests whether the model significantly predicts the dependent variable. A value greater than 1 indicates the model is effective. The analysis also examines R-squared (R^2) and adjusted R-squared (adjusted R^2). R-squared measures the proportion of variance in the dependent variable explained by the independent variables, while adjusted R-squared adjusts for the number of predictors, providing a more accurate assessment of model fit. Changes in R-squared indicate whether adding new predictors improves the model beyond what would be expected by chance.

3.8.5 Simple Mediation Model

Additionally, the study explores how coercive power, legitimate power, and trust mediate these relationships. The effect of mediators between the determinants of tax compliance behaviour using the SPSS PROCESS Macro version 4.0 is also tested. This application was created by Andrew F. Hayes and used to examine the mediator effect in this study. PROCESS Macro is an observed variable Ordinary Least Square (OLS) and a logistic regression path analysis modelling tool extensively utilised in social, business, and health sciences. It estimates direct and indirect effects in single and multiple mediator models, two- and three-way interactions in moderation models, simple slopes and regions of interest for research interactions, and conditional indirect effects in simple mediation models with one or multiple mediators or moderators.

The SPSS PROCESS Macro application is a structure to analyse a hypothesised mediation model, giving a relatively simple way to examine relatively complex models using bootstrapping cumulative layout shifts. This SPSS PROCESS Macro is widely explained by Abu Bader and Jones (2021), and researchers such as Abdullahi et al. (2017) have used it to identify the mediation effect of independent and dependent variables. This software enhances the analysis of complex models by offering a streamlined, user-friendly interface that automates calculations for mediation, moderation, and conditional process models compared to using the multi-regression. Using multi-regression there are complex steps to identify the indirect effect between IV to DV mediates by mediators.

There are about four steps has to be compute but using PROSESS Macro only one step. Its use of bootstrapping ensures more reliable significance tests for indirect

effects, while its versatility accommodates various types of analyses involving multiple variables. Additionally, the macro delivers comprehensive output that simplifies the interpretation and reporting of results, making it an invaluable tool for researchers dealing with intricate statistical models.

3.9 Summary of the Chapter

This research investigates the influence of the determinants of e-commerce entrepreneurs' tax compliance behaviour, including tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent establishment. The interaction between the coercive and legitimate power of tax authorities and the role of trust in tax authorities are also included as mediators.

Thirty-one hypotheses are proposed, which include tax audit rate: H_{1a} to H_{1e}, audit probability: H_{2a} to H_{2e}, tax penalty: H_{3a} to H_{3e}, tax service: H_{4a} to H_{4c}, tax complexity: H_{5a} to H_{5c}, owner's age: H_{6a} and H_{6b}, business length: H_{7a} and H_{7b}, business size: H_{8a} and H_{8b}, income source: H_{9a} and H_{9b}, permanent establishment: H_{10a} and H_{10b}. All the hypotheses will be used to answer five research questions (RQ1 to RQ5) and objectives (RO1 to RO5) using a conceptual framework adapted from the SSF, Fisher's model, and the PE principle. This quantitative research tests the hypotheses on determinants of e-commerce entrepreneurs' tax compliance behaviour in a Malaysian context. In assessing the sample size, the study considers the population of e-commerce entrepreneurs, which numbered over 373,000 in 2020. The most effective approach is the systematic random sampling.

About 600 electronic questionnaires are distributed to e-commerce entrepreneurs using the Google Docs programme, with the support of the Malaysia Digital Economy Corporation (MDEC), the Federal Agricultural Marketing Authority (FAMA), and other participants. Before collecting the data, 30 electronic questionnaires were distributed to assess the instrument's reliability and validity. The SPSS software Version 22 and SPSS PROCESS Macro Version 4.0 were used to examine the collected data. Table 3.7 summarises the technique of data analysis by model of testing either direct or indirect testing.



Table 3.7

Summary of Techniques of Data Analysis

Model of Testing	Hypotheses	Techniques of Data Analysis	
<i>RO1: To investigate the influence of tax audit rate, audit probability, tax penalty, owner's age, business length, business size, income source, and permanent establishment (PE) on e-commerce entrepreneurs' enforced tax compliance behaviour.</i>			
Model 1a : (direct relationship) Tax Audit Rate, Audit Probability, Tax Penalty, owner's age, business length, business size, income source, and permanent establishment (PE) → Enforced Tax Compliance Behaviour	<p>H_{1a}: There is a significant relationship between tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{2a}: There is a significant relationship between audit probability and e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{3a}: There is a significant relationship between tax penalty and e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{6a}: Owner's age has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{7a}: Business length has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{8a}: Business size has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{9a}: Income source has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.</p> <p>H_{10a}: Permanent establishment has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.</p>	SPSS	22nd
		Version	
		Descriptive Statistics	
		Pearson Correlation	
		Multi-Regression	
<i>RO2: To investigate the influence of tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent establishment (PE) on e-commerce entrepreneurs' voluntary tax compliance behaviour.</i>			
Model 1b : (direct relationship) Tax Audit Rate, Audit	H_{1b}: There is a significant relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.	SPSS	22nd
		Version	

Table 3.7 (Continued)

Model of Testing	Hypotheses	Techniques of Data Analysis
Probability, Tax Penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent establishment (PE) → Voluntary Tax Compliance Behaviour	<p>H_{2b}: There is a significant relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{3b}: There is a significant relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{4a}: There is a significant relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{5a}: There is a significant relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{6b}: Owner's age has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour</p> <p>H_{7b}: Business length has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{8b}: Business size has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{9b}: Income source has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.</p> <p>H_{10b}: Permanent establishment has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.</p>	Descriptive Statistics Pearson Correlation Multi-Regression
RO3: To investigate the mediation effect of the coercive power of the tax authority on the relationship between the tax audit rate, audit probability, and tax penalty on the e-commerce entrepreneurs' enforced tax compliance behaviour.		
Model 2 : (Indirect relationship) Tax Audit Rate, Audit Probability, and Tax Penalty	<p>H_{1c}: Coercive power mediates the relationship between tax audit rate and enforced tax compliance behaviour.</p> <p>H_{2c}: Coercive power mediates the relationship between audit probability and enforced tax compliance behaviour.</p>	SPSS Version 22 Descriptive Statistics Pearson Correlation

Table 3.7 (Continued)

Model of Testing	Hypotheses	Techniques of Data Analysis
→ Coercive Power and Enforced Tax Compliance Behaviour	H_{3c} : Coercive power mediates the relationship between tax penalty and enforced tax compliance behaviour.	SPSS PROCESS Macro Version 4.0
<i>RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between the tax audit rate, audit probability, tax penalty, tax service, and tax complexity on the e-commerce entrepreneurs' voluntary tax compliance behaviour..</i>		
Model 3 : (Indirect relationship) Tax Audit Rate, Audit Probability, Tax Penalty, Tax Service, Tax Complexity → Legitimate Power → Voluntary Tax Compliance Behaviour	H_{1a} : Legitimate power mediates the relationship between tax audit rate and voluntary tax compliance behaviour. H_{2a} : Legitimate power mediates the relationship between audit probability and voluntary tax compliance behaviour. H_{3a} : Legitimate power mediates the relationship between tax penalty and voluntary tax compliance behaviour. H_{4b} : Legitimate power mediates the relationship between tax service and voluntary tax compliance behaviour. H_{5b} : Legitimate power mediates the relationship between tax complexity and voluntary tax compliance behaviour.	SPSS Version 22 Descriptive Statistics Pearson Correlation SPSS PROCESS Macro Version 4.0
<i>RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the tax audit rate, audit probability, tax penalty, tax service, and tax complexity on e-commerce entrepreneurs' voluntary tax compliance behaviour.</i>		
Model 4 : (Indirect relationship) Tax Audit Rate, Audit Probability, Tax Penalty, Tax Service, Tax Complexity → Trust → Voluntary Tax Compliance Behaviour	H_{1e} : Trust mediates the relationship between tax audit rate and voluntary tax compliance behaviour. H_{2e} : Trust mediates the relationship between audit probability and voluntary tax compliance behaviour. H_{3e} : Trust mediates the relationship between tax penalty and voluntary tax compliance behaviour. H_{4c} : Trust mediates the relationship between tax service and voluntary tax compliance behaviour. H_{5c} : Trust mediates the relationship between tax complexity and voluntary tax compliance behaviour.	SPSS Version 22 Descriptive Statistics Pearson Correlation SPSS PROCESS Macro Version 4.0

CHAPTER 4

DATA ANALYSIS

4.1 Introduction

This chapter's data analysis, which focuses on response rate, data screening and cleaning, respondent profiles, and descriptive statistics of the variables, comes from SPSS (Version 22) and SPSS PROCESS Macro (Version 4.0). Additionally, this section presents the results of the correlation analysis and assesses the validity of the research instrument. Before proceeding with the multi-regression analysis, it is necessary to complete a few steps. This chapter also included a discussion on the multiple regression analysis that was conducted, which included identifying the appropriate sample size and the diagnostic test for linearity, homoscedasticity, and multicollinearity, and chapter four concludes with a summary.

4.2 Response Rate

The data for this research was gathered using an electronic questionnaire administered through a simple random sampling of e-commerce entrepreneurs. The link was provided to the MDEC and distributed through several social media platforms and websites such as Facebook, Instagram Business, WhatsApp Business, Telegram Business Group, Lazada, and Shoppe, as well as through emails to the e-commerce entrepreneurs. The response rate was 35 percent, based on 210 responses out of 600 distributed data. Typically, for non-face-to-face distributed questionnaires, the response rate ranges from 20 to 40 percent (Kerlinger & Pedhazur, 1973). Sills and Song (2002) found low response rates in electronic questionnaires due to factors such

as questionnaire length, language, lack of prior notice, no follow-ups, and no incentives to increase motivation among respondents. Ramayah et al. (2011) also reported that only 10 percent to 20 percent of participants responded to the research conducted in Malaysia. Table 4.1 shows the response rate.

Table 4.1
Analysis of Response Rate

Items	No. of Respondents	Percentage (%)
Questionnaires Distributed	600	100
Questionnaires Returned	210	35
Usable Questionnaires	146	24.3

With a 35 percent response rate, this study is considered to have a high response rate compared to Choshin and Ghaffari's (2017), which only received 33.3 percent response with the same types of respondents, i.e., e-commerce entrepreneurs. Previous tax research (as presented in Table 4.2) indicates that the tax response rate ranges between 23 percent and 50.7 percent (Abidin, 2017; Azmi et al., 2020; Faizal et al., 2017; Nasrul et al., 2022, Saad, 2011). Additionally, tax research is a sensitive topic that may make taxpayers hesitant to respond to questionnaires (Sapiei et al., 2014).

Table 4.2
Literature of the Response Rate (Selected Studies)

Author (s)	Topic Studied	Rates of Response
<u>Research in Taxation</u>		
Saad (2011)	Fairness Perceptions and Compliance Behaviour: Taxpayers' Judgements in Self-Assessment Environments	426 out of 2267 (40.85 percent)
Faizal et al. (2017)	Perception on justice, trust, and tax compliance behaviour in Malaysia	90 out of 300 (30 percent)

Table 4.2 (Continued)

Author (s)	Topic Studied	Rates of Response
Abidin (2017)	Determinants of Intention to Use Online Monthly Tax Deduction (e-MTD) System: A Research on Micro and Small Enterprises	106 out of 440 (23 percent)
Azmi et al. (2020)	Tax compliance motives among grab car drivers in Malaysia	100 out of 500 (20 percent)
Saeed et al. (2020)	Voluntary Tax Compliance and the Slippery Slope Framework	50 out of 130 (40 percent)
Nasrul et al. (2022)	Determinants of Tax Compliance among Micro Business : Malaysian Perspective	152 out of 300 (50.7 percent)
Research on E-Commerce		
Choshin & Ghaffari (2017)	An investigation of the impact of effective factors on the success of e-commerce in small- and medium-sized companies.	148 out of 444 (33.3 percent)

4.3 Data Screening and Cleaning

Data screening and cleaning refer to the process of preparing data for analysis by removing or modifying incorrect, missing, irrelevant, duplicated, or improperly formatted data. The screening and transformation were conducted following the methods proposed by Coakes and Ong (2011), Hair et al. (2010), Meyer et al. (2006), and Pallant (2007). The data was screened before analysis to inspect and correct errors, which involved verifying the data, checking for missing values, and examining the response patterns. As mentioned earlier, this study aims to investigate the determinants of tax compliance behaviour among e-commerce entrepreneurs in Malaysia. There were ten research questions with ten research objectives. The SPSS Version 22 was utilised to analyse data gathered through electronic surveys.

Out of 210 responses obtained, representing a response rate of 35 percent, only 146 could be used after inspection and cleaning. Some questionnaires had to be discarded because the respondents did not answer carefully, especially on the negative items;

thus, their answers were regarded as unreliable. KMO (Kaiser Meyer Olkin) value testing identifies the minimum sample requirement. Bartlett's Test of Sphericity is significant ($p = 0.000$), indicating adequate sample size (Chua, 2009; Santoso, 2006).

Also, the KMO test result of above 0.5 indicates that the data of this study are reaching regularity (Chigamba & Fatoki, 2011; Williams et al. 2010). As shown in Table 4.3, the KMO value of 0.844 (above 0.50) indicates that the 146 respondents selected are sufficient and reach the minimum sample requirement.

Table 4.3
KMO and Bartlett's Test
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.844
Bartlett's Test of Sphericity	Approx. Chi-Square	661.632
	df	45
	Sig.	.000

4.3.1 Missing Data and Outliers

The data were free from errors and missing values, indicating that electronic questionnaires produced clean data, as prior researchers such as Mohd Asaad (2012) and Mahyadin (2018) suggested. The outlier cases were identified using the D-squared (D^2) method. The D^2 value was calculated using the linear regression method in SPSS based on the 46 total items. Since there were 45 degrees of freedom in the Chi-square table with $p < 0.001$, the benchmark is 66.619 (Tabachnick & Fidell, 2013). Any case with a D^2 value of 66.619 or above was considered a multivariate outlier and removed from further analysis.

Hair et al. (2010) and Meyer et al. (2006) suggest that cases with uttermost or unusual values on a single variable (univariate) or a combination of variables (multivariate) should be identified for possible deletion. Consequently, nine cases were taken out from the analysis as they were identified as outliers (25, 72, 96, 137, 163, 187, 215, 236 and 284).

4.3.2 Data Transformation

Three negative questions were used to increase the validity of the response. Then, screening and cleaning were performed, and only quality data was reported because of the unusual answers. The items related to determinants, tax service (code TS), and tax complexity (code TC), specifically item codes TS3, TC2, and TC3, were recoded into different variables as TS3_R, TC2_R, and TC3_R. The items were then computed into means scores, namely, Mean TS_R and Mean TC_R.

4.4 Profile of Respondents

This research uses descriptive statistics to explain the main characteristics of the data examined. The position/designation, owner's age, business length, ethnicity, gender of respondents, business sectors, types of e-commerce, business and tax file registration, permanent establishment, business size, and income source were described based on descriptive statistics. The independent variables are the owner's age, business length, business size, income source, and permanent establishment (PE).

4.4.1 Position/Designation

Table 4.4, depicts the data gathered on the position or designation of the respondents. It shows that about 41.8 percent belong to other categories,

including dropshippers, agents, and distributors. Next, 35.6 percent are business owners, 12.3 percent are executives, and 10.3 percent are managers.

Table 4.4
Position/Designation of Respondents

Category	Position/Designation	
	Frequency	Percentage (%)
Position/Designation		
Owner	52	35.6
Executive	18	12.3
Manager	15	10.3
Others	61	41.8
Total	146	100

4.4.2 Owner's Age

Table 4.5 shows the frequency of the respondent's age. The age group between 31 and 40 has the highest proportion (34.9 percent), followed by those aged 41 to 50 (29.5 percent). Respondents aged 21 to 30 comprise 26.7 percent of the sample, and those below 20 are 2.7 percent.

Table 4.5
Owner's age

Category	Owner's age	
	Frequency	Percentage (%)
Below 20	4	2.7
21 to 30	39	26.7
31 to 40	51	34.9
41 to 50	43	29.5
Above 50	9	6.2
Total	146	100

4.4.3 Business Length

Table 4.6 shows the distribution of business length. Most of the respondents have five or fewer years of involvement in e-commerce, followed by those with six to 10 years (13.7 percent), 16 to 20 years (5.5 percent), and 11 to 15 years (4.8 percent). Only 2.1 percent have more than 20 years of involvement in e-commerce.

Table 4.6
Business Length

Category	Business Length	
	Frequency	Percentage (%)
5 years and below	108	74.0
6-10 years	20	13.7
11-15 years	7	4.8
16-20 years	8	5.5
Above 20 years	3	2.1
Total	146	100

4.4.4 Ethnicity

A majority of the respondents are Malays. Jamak et al., (2014) found that the microenterprises in Malaysia are mostly owned by Malays. As shown in Table 4.7, 89.7 percent of the respondents are of Malay ethnicity, while the remaining are Chinese (4.1 percent), Kadazan and Dusun (4.1 percent), and Indian (2.1 percent).

Table 4.7
Ethnicity

Category	Ethnicity	
	Frequency	Percentage (%)
Malay	131	89.7
Chinese	6	4.1
Indian	3	2.1
Others	6	4.1
Total	146	100

4.4.5 Gender of Respondents

Female respondents represent 67.8 percent, while male respondents are only 32.2 percent.

Table 4.8
Gender of Respondents

Category	Gender	
	Frequency	Percentage (%)
Male	47	32.2
Female	99	67.8
Total	146	100

4.4.6 Business Sectors

Table 4.9 reveals that most respondents (56.8 percent) are active in e-commerce retailing as drop shippers, agents, stockists, or product distributors. Approximately 15.1 percent have multiple business sectors in e-commerce, including e-commerce retailing, services, and financial services. Besides, they are involved in financial services (3.4 percent), education (4.8 percent), services (4.8 percent), manufacturing and agriculture (2.7 percent), healthcare and subscriptions (0.7 percent), and transport and logistics (1.4 percent).

Table 4.9
Business Sectors (E-Commerce)

Category	Business Sectors (E-Commerce)	
	Frequency	Percentage (%)
Retailing (<i>Dropship/Agent/Stockist/Product Distributor</i>)	83	56.8
Transport & Logistics (<i>Logistic Service/Car Rental/Online Ticketing</i>)	2	1.4
Financial Services (<i>Bank/Payment Gateway/Credit Card/Debit Card/loyalty card/ membership card</i>)	5	3.4
Manufacturing & Agriculture (<i>3D Printing</i>)	4	2.7
Education (<i>eBook/online tutor/online tutorial</i>)	7	4.8
Healthcare (<i>online doctor/online pharmacy</i>)	2	1.4
Sharing economy (<i>Sharing cars, houses, rooms, bikes</i>)	1	0.7
Subscription (<i>Comic Online/Newspaper Online/Video Streaming/Audio Streaming</i>)	1	0.7
Services (<i>Infrastructure and software service, event management, wedding planning</i>)	7	4.8
Others e-commerce	12	8.2
More than one	22	15.1
Total	146	100

4.4.7 E-Commerce Business Model

More than 50 percent (55.5 percent) of the respondents chose B2C for their e-commerce. Most respondents (27.4 percent) are involved in multiple e-commerce business models, such as B2B, B2C and B2G. In addition to B2C, C2C (8.2 percent),

B2B (5.5 percent), C2G (2.1 percent), and B2G (1.4 percent) are also represented, while none of the respondents reported engaging in C2B (see Table 4.10).

Table 4.10
E-Commerce Business Model

Category	E-Commerce Business Model	
	Frequency	Percentage
Business to Business (B2B)	8	5.5
Business to Consumer (B2C)	81	55.5
Business to Government (B2G)	2	1.4
Consumer to Business (C2B)	0	0
Consumer to Consumer (C2C)	12	8.2
Consumer to Government (C2G)	3	2.1
More than one	40	27.4
Total	146	100

4.4.8 Business and Tax File Registration

Approximately 59.6 percent of e-commerce entrepreneurs registered their businesses, while 40.4 percent are yet to register (21.9 percent are not registered, and 18.5 percent are in the process of registering). Meanwhile, as shown in Table 4.11, 48.6 percent have filed their tax, 28.8 percent have not, and 22.6 percent are in the process of preparing their tax filing.

Table 4.11
Business and Tax File Registration

Category	Business Registration	
	Frequency	Percentage
<u>Register with Registrar</u>		
Yes	87	59.6
No	32	21.9
Yet to register	27	18.5
Total	146	100
	Tax File Registration	
Register Tax File	Frequency	Percentage
Yes	71	48.6
No	42	28.8
Yet to register	33	22.6
Total	146	100

4.4.9 Permanent Establishment (PE)

The respondents have PEs. About 87.7 percent of the PEs are in Malaysia, while 3.4 percent are outside Malaysia. About 8.9 percent of the respondents have PEs both in Malaysia and outside Malaysia (see Table 4.12).

Table 4.12
Permanent Establishment

Category	Permanent Establishment	
	Frequency	Percentage
Malaysia	128	87.7
Outside Malaysia	5	3.4
Malaysia and Outside Malaysia	13	8.9
Total	146	100

4.4.10 Business Size

Business size is determined by yearly turnover and the total number of full-time employees. As shown in Table 4.13, most of the respondents are from microenterprises (77.4 percent), followed by small businesses (19.9 percent), medium businesses (2.1 percent), and large companies (0.7 percent).

Table 4.13
Business Size

Business Size	Turnover (Annual)	Number of Employees (Full Time)	Business Size	
			Frequency	Percentage (%)
Micro Enterprise	less than RM300,000 per year	less than 5	113	77.4
Small Business	more than RM300,000 but up to RM15 Million per year	5 to 74	29	19.9
Medium Business	more than RM15 Million but up to RM50 Million	75 to 200	3	2.1
Large Company	more than RM50 Million	more than 200	1	0.7
Total			146	100

4.4.11 Income Source

Income sources are classified as primary, secondary, or a combination. Approximately 47.3 percent of respondents run e-commerce to gain a secondary source of income, 32.2 percent as their primary source of income, and the remaining 20.5 percent to obtain both sources of income. Table 4.14 displays the distribution of the income sources.

Table 4.14
Income Source

Income Source of E-Commerce	Income Source	
	Frequency	Percentage (%)
Primary Income (full-time in e-commerce/online business)	47	32.2
Secondary Income (part-time in e-commerce/online business)	69	47.3
Primary and Secondary Income (full-time and part-time in e-commerce)	30	20.5
Total	146	100

4.5 Descriptive Statistics

Descriptive statistical analysis is used to acquire the mean scores, standard deviation, frequency, and percentage of the dependent, independent, and mediator variables. The data was measured on a five-point Likert scale with three levels of agreement: (1) Strongly Agree and Agree, (2) Neutral, and (3) Strongly Disagree and Disagree. A score of 4.00 to 5.00 indicates a high level of agreement with a criterion; a mean score of 3.00 to 3.99 indicates moderate agreement, 2.00 to 2.99 indicates average agreement and a score of 1.99 or less is regarded as low (adapted from Jamil, 2015). The subsequent sections provide a comprehensive analysis of the descriptive statistics for the variables.

4.5.1 Tax Audit Rate

Table 4.15 presents descriptive statistics on the tax audit rate. The results indicate that 80.1 percent of respondents agreed that frequent tax audits aim to monitor taxpayers' behaviour and activities, and 79.5 percent continue to comply even when audits are infrequent. Furthermore, 65.8 percent believe they do so voluntarily, not due to the tax audit rate and 52.1 percent of respondents concur that they conduct tax audits frequently. While, the mean scores for statements related to the tax audit rate range from 3.58 to 4.20, with standard deviations ranging from 0.907 to 1.130. On average, respondents express a moderate level of agreement (mean score = 3.94, standard deviation = 0.666) with these statements. These findings underscore the perceived role of tax audit rate in influencing compliance behaviours and highlight a nuanced understanding among respondents regarding the relationship between audit rates and taxpayer compliance.

Table 4.15
Descriptive Statistics for Tax Audit Rate (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
TA1	Frequent tax audits are carried out by the tax authority.	3.58	1.075	76	52.1	53	36.3	17	11.6
TA2	The frequent tax audits attempt to detect taxpayers' behaviour and activities.	4.20	0.907	117	80.1	21	14.4	8	5.5
TA3	I keep complying with taxes even though the tax authority carries out no frequent tax audits.	4.19	0.964	116	79.5	20	13.7	10	6.8
TA4	I do not feel forced to comply with taxes even though there are frequent tax audits.	3.80	1.130	96	65.8	32	21.9	18	12.3
Average		3.94	0.666						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.2 Audit Probability

Table 4.16 provides descriptive statistics on respondents' perceptions of audit probability. The results show that 63 percent of respondents believe their e-commerce activities have a high chance of detection, and 61.6 percent acknowledge that the IRBM has equal chances of selecting and auditing them (56.8 percent). Furthermore, 83 percent agree that individuals who have never undergone an audit may be inclined to engage in tax non-compliance, whereas only 31.5 percent believe there is a low likelihood of auditing.

The mean scores for responses related to audit probability range from 3.06 to 3.79, with standard deviations ranging from 0.934 to 1.236. On average, respondents show a moderate level of agreement with items concerning audit probability (mean score = 3.58, standard deviation = 0.645). These findings underscore the perceived influence of audit probabilities on taxpayers' compliance behaviours and attitudes towards tax enforcement measures.

Table 4.16
Descriptive Statistics for Audit Probability (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
AP1	There are fair chances of being audited by the tax authority.	3.73	0.965	83	56.8	51	34.9	12	8.2
AP2	The probability of being audited by the tax authority is low.	3.06	1.019	46	31.5	58	39.7	42	28.8
AP3	Taxpayers who have never been audited might be tempted to do non-compliance activities.	3.58	1.236	83	56.8	32	21.9	31	21.2

Table 4.16 (Continued)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
AP4	There is a high chance of detection for my e-commerce/online business.	3.79	0.934	92	63.0	43	29.5	11	7.5
AP5	There is an equal chance for e-commerce and non-e-commerce entrepreneurs to be selected for audit.	3.77	0.962	90	61.6	43	29.5	13	8.9
Average		3.58	0.645						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.3 Tax Penalty

The mean scores from Table 4.17 reveal diverse perspectives among respondents regarding their views on tax penalties across different statements. The highest mean score of 4.27 indicates a strong consensus among participants that there exists a significant gap in tax education, particularly concerning understanding tax penalties, with 78.8 percent expressing agreement or strong agreement. In contrast, the lowest mean score of 3.14 suggests more mixed opinions regarding whether current tax penalty rates adequately address tax compliance issues, with approximately 35.6 percent of respondents agreeing or strongly agreeing with this statement, highlighting a divided perspective.

Furthermore, a mean score of 4.14 and 79.5 percent agreement show substantial consensus regarding the appropriate adjustment of tax penalties based on the type of tax offence committed. Additionally, a mean score of 3.75 and 64.4 percent agreement demonstrate moderate consensus that higher tax penalty rates can serve as an incentive for taxpayers to accurately report their income.

The findings indicate that the mean scores for the respondents' responses to all statements on tax penalties range from 3.14 to 4.27, with standard deviations of 0.826 to 1.214. This result shows that most respondents exhibit a moderate level of agreement with the items related to tax penalty (average mean score = 3.82, standard deviation = 0.649), indicating that they agree that tax penalty should be applied. These findings underscore the complexity of attitudes towards tax penalties and highlight opportunities for policy adjustments and educational initiatives aimed at improving compliance and understanding within tax systems.

Table 4.17
Descriptive Statistics for Tax Penalty (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
TP1	The tax penalty imposed depends on the type of tax offence the taxpayer has committed.	4.14	0.852	116	79.5	26	17.5	4	2.7
TP2	The current tax penalty rate is insufficient to address the behaviour regarding tax compliance.	3.14	1.201	52	35.6	54	37.0	40	27.4
TP3	High tax penalty rates can encourage taxpayers to report their true income to avoid being penalised.	3.75	1.214	94	64.4	28	19.2	24	16.4
TP4	There is still a lack of tax education, particularly with regard to tax penalties.	4.27	0.826	115	78.8	29	19.9	2	1.4
Average		3.82	0.649						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.4 Tax Service

Table 4.18 presents a detailed overview of respondents' perceptions regarding various aspects of the tax authority's services. The mean scores provide significant insights into the perceptions of these services. Respondents generally agree, with a mean score of 3.73, that the tax authority is proactive in serving the public, indicating a widespread perception of diligent service efforts. Similarly, a mean score of 3.64 indicates strong agreement that the tax authority treats people with respect, emphasizing positive interactions in service delivery. However, there is variability in perceptions regarding the ease of consulting the tax authority, as reflected by a lower mean score of 2.90, suggesting some taxpayers experience challenges in accessing consultation services.

Respondents view the tax authority favourably in terms of reliability, with a mean score of 3.36 for keeping promises, indicating perceived trustworthiness. Moreover, there is a general consensus, with mean scores of 3.39 and 3.18, respectively, that the tax authority treats everyone fairly and considers individual circumstances adequately. These scores highlight an overall agreement on fairness in treatment, though perceptions vary slightly regarding the consideration of personal circumstances. The range of mean scores from 2.90 to 3.73, with standard deviations between 0.892 and 1.094, indicates a moderate level of agreement among respondents regarding the tax services provided by the authority. While many respondents express comfort with the tax services offered, there exist areas for improvement to improve accessibility and consistency in meeting individual needs.

Overall, while positive perceptions such as proactive service and respectful treatment are evident, the findings also point to opportunities for enhancing service accessibility

and responsiveness to individual circumstances. Addressing these areas could further bolster overall satisfaction and trust in the tax authority's services among taxpayers.

Table 4.18
Descriptive Statistics for Tax Service (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
TS1	Tax authority does everything possible to serve people.	3.73	1.033	91	62.3	39	26.7	16	11.0
TS2	Tax authority treats people with respect.	3.64	1.009	81	55.5	49	33.6	16	11.0
TS3	It is difficult for taxpayers to consult the tax authority.	2.90	1.094	42	28.8	55	37.7	49	33.6
TS4	Tax authority keeps its promises.	3.36	0.892	56	38.4	75	51.4	15	10.3
TS5	Tax authority treats everybody fairly.	3.39	0.950	64	43.8	65	44.5	17	11.6
TS6	Tax authority takes people's circumstances sufficiently into account.	3.18	1.064	53	36.3	61	41.8	32	21.9
Average		3.37	0.742						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.5 Tax Complexity

According to Table 4.19, in terms of income tax return guides, respondents rated them moderately at 3.27, indicating that about 34.9 percent find them difficult to use due to their lengthy and unfriendly wording. The rating for clarity of income tax rules was lower at 2.88, with only 25.3 percent believing the rules are clear, suggesting many find them complex. The rating for understanding tax authority guidebooks was 3.03, indicating that 34.2 percent find them somewhat straightforward to understand, with mixed feelings about their accessibility and clarity.

The result shows how people view the complexity of tax-related matters, the mean scores range from 2.88 to 3.27, with standard deviations from 1.088 to 1.129. This indicates that respondents generally agree at a moderate level about the complexity of tax rules and regulations, with an average mean score of 3.06 and a standard deviation of 0.845. They find aspects like the wording in tax return guides, tax rules, and other explanatory materials challenging to understand. Overall, these perceptions highlight varying perspectives on how simple it is to use income tax resources and understand tax rules. Simplifying these materials could improve satisfaction and compliance among taxpayers.

Table 4.19
Descriptive Statistics for Tax Complexity (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
TC1	The sentences and wording in the income tax return guide are lengthy and not user-friendly.	3.27	1.091	51	34.9	62	42.5	33	22.6
TC2	The rules related to income tax are clear.	2.88	1.088	37	25.3	59	40.4	50	34.2
TC3	I do not have to make much effort to understand the explanations given in tax authority guidebooks and other similar explanatory materials.	3.03	1.129	50	34.2	48	32.9	48	32.9
Average		3.06	0.845						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.6 Coercive Power

Table 4.20 illustrates the descriptive statistics of coercive power. The outcomes show that the mean scores for all statements on coercive power range from 3.59 to 3.94, and the standard deviations range from 0.891 to 1.124. On average, the majority of

respondents exhibit a moderate level of agreement with the items under coercive power (average mean score = 3.71, standard deviation = 0.763), indicating that they agree that the tax authority has coercive power to collect the tax, punish tax evaders, use enforcement approaches, and reward taxpayers for enhancing their tax compliance behaviour. The data from respondents regarding their beliefs about the tax authority's powers and enforcement approaches reveal consistent trends across several statements.

On average, respondents indicated strong agreement with statements suggesting the authority's capability and enforcement strategies. The belief that the tax authority has the absolute power to collect taxes, for example, received a high mean score of 3.94, with 71.9 percent of respondents agreeing or strongly agreeing. A lot of people agreed with what the authority said about its power to punish taxpayers (mean score = 3.59, 59.6 percent agreement) and its power to make people do what it wants by using deterrence methods like audits and penalties (mean score = 3.78, 60.3 percent agreement).

These findings underscore a prevailing perception among respondents of the tax authority's authoritative role in tax collection and enforcement. High mean scores for beliefs about harsh punishments and prosecution using deterrence approaches (mean scores ranging from 3.60 to 3.73, with agreement percentages ranging from 53.4 to 58.2 percent) show that most people agree that the government takes strict measures to stop tax evasion. Overall, these results indicate a robust belief in the tax authority's powers and its use of deterrence strategies to uphold tax compliance and enforcement.

Table 4.20

Descriptive Statistics for Coercive Power (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
CPW1	I believe the tax authority has the absolute power to collect tax.	3.94	1.032	105	71.9	31	21.2	10	6.8
CPW2	I believe the tax authority has the absolute power to punish taxpayers.	3.59	1.124	87	59.6	35	24.0	24	16.4
CPW3	I believe the tax authority has the power to reward.	3.71	1.090	83	56.8	42	28.8	21	14.4
CPW4	I believe the tax authority severely punishes tax evaders.	3.60	1.086	79	54.1	46	31.5	21	14.4
CPW5	I believe the tax authority enforces its demands through a deterrence approach (i.e., audit and penalties)	3.78	0.921	88	60.3	51	34.9	7	4.8
CPW6	I believe the tax authority severely punishes when it finds a mistake.	3.61	1.020	78	53.4	49	33.6	19	13.0
CPW7	I believe the tax authority prosecutes taxpayers with deterrence approaches (i.e., audits and penalties).	3.73	0.891	85	58.2	53	36.3	8	5.5
Average		3.71	0.763						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.7 Legitimate Power

According to respondent feedback, Table 4.21 provides descriptive statistics on perceptions of legitimate power within the tax authority. The mean scores for statements related to legitimate power range from 3.47 to 3.87, with corresponding standard deviations between 0.919 and 1.158. On average, respondents express a moderate level of agreement (average mean score = 3.63, standard deviation = 0.910) regarding the authority's capabilities and procedures.

These findings indicate that respondents generally believe the tax authority arranges understandable tax collection procedures (mean score = 3.47, 51.4 percent agreement), efficiently processes taxpayer concerns (mean score = 3.55, 54.8 percent agreement), and is capable of providing useful advice and information (mean score = 3.60, 56.8 percent agreement). Furthermore, respondents strongly believe in the authority's right to prosecute tax evaders (mean score = 3.87, 69.2 percent agreement). Overall, these results highlight a widespread perception among respondents of the tax authority's legitimate power and effectiveness in tax administration.

Table 4.21
Descriptive Statistics for Legitimate Power (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
LPW1	I believe the tax authority arranges comprehensible procedures for the collection of taxes.	3.47	1.158	75	51.4	42	28.8	29	19.9
LPW2	I believe the tax authority ensures that the concerns of taxpayers are processed efficiently and fast.	3.55	1.145	80	54.8	40	27.4	26	17.8
LPW3	I believe the tax authority is capable of providing good advice and information to taxpayers.	3.60	1.111	83	56.8	43	29.5	20	13.7
LPW4	I believe the tax authority has the right to prosecute tax evaders.	3.87	0.919	101	69.2	36	24.7	9	6.2
Average		3.63	0.910						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.8 Trust

The descriptive statistics from Table 4.22 provide insights into the levels of trust among respondents regarding the Malaysian tax authority. Across various statements, mean scores range from 3.34 to 3.63, with corresponding standard deviations between 1.004 and 1.141. On average, respondents indicate a moderate level of agreement (average mean score = 3.52, standard deviation = 0.917) with statements related to trust in authority. The data reveals that respondents trust the Malaysian tax authority for several reasons. They believe in the authority's reliability (mean score = 3.52, 49.3 percent agreement), the competence of its staff (mean score = 3.63, 56.2 percent agreement), and the quality of advice provided (mean score = 3.61, 54.1 percent agreement). Additionally, there is trust in the authority's consistent provision of guidance on tax matters (mean score = 3.49, 47.3 percent agreement). These findings highlight a moderate but generally positive perception of trust in the Malaysian tax authority among respondents. They express confidence in the authority's ability to competently handle tax issues and provide reliable guidance, reflecting a foundational trust in the institution's capabilities and service delivery.

Table 4.22
Descriptive Statistics for Trust (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
TR1	I trust the Malaysian tax authority because it has the necessary political support.	3.34	1.141	62	42.5	57	39.0	27	18.5
TR2	I trust the Malaysian tax authority because they are reliable.	3.52	1.091	72	49.3	51	34.9	23	15.8
TR3	I trust the Malaysian tax authority because the staff are knowledgeable.	3.63	1.004	82	56.2	50	34.2	14	9.6

Table 4.22 (Continued)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
TR4	I trust the Malaysian tax authority because they give competent advice.	3.61	1.079	79	54.1	49	33.6	18	12.3
TR5	I trust the Malaysian tax authority as it always provides taxpayers with guidance and advice on tax issues without fail.	3.49	1.122	69	47.3	54	37.0	23	15.8
Average		3.52	0.917						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.9 Enforced Tax Compliance Behaviour

Table 4.23 provides descriptive statistics on enforced tax compliance behaviour among Malaysian respondents, revealing nuanced insights into their perceptions and motivations regarding tax compliance. The mean scores for statements in this category range from 3.22 to 3.85, with standard deviations between 0.927 and 1.216, indicating a moderate level of agreement overall (mean score = 3.57, standard deviation = 0.742). The data shows that a significant proportion of respondents, 65.1 percent, comply with tax laws because of deterrent measures such as audits and penalties implemented by the tax authority. This underscores the impact of enforcement actions on promoting compliance. Furthermore, 61.6 percent of respondents acknowledge the tax authority's monitoring role, indicating an awareness of tax oversight.

In terms of internal motivations, 51.4 percent feel compelled to comply with tax laws, indicating a sense of obligation. In contrast, only 38.4 percent cite tax incentives as a motivating factor for compliance, suggesting that while rewards play a role, they are less influential compared to deterrents and perceived obligations. These findings

underscore the multifaceted nature of tax compliance behaviour in Malaysia, influenced by both external enforcement mechanisms and internal perceptions of duty. They highlight the importance of effective enforcement strategies and the need for balanced approaches that consider both deterrents and incentives to foster greater compliance among taxpayers.

Table 4.23

Descriptive Statistics for Enforced Tax Compliance Behaviour (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
ECB1	I comply with the tax law in Malaysia because there are many deterrence approaches (i.e., audits and penalties) carried out by the tax authority.	3.85	0.927	95	65.1	42	28.8	9	6.2
ECB2	I comply with the tax law in Malaysia because I will be monitored by the tax authority.	3.75	1.049	90	61.6	37	25.3	19	13.0
ECB3	I comply with the tax law in Malaysia because I feel forced to comply with taxes.	3.47	1.216	75	51.4	43	29.5	28	19.2
ECB4	I comply with the tax law in Malaysia because the tax authority rewards taxpayers in many ways.	3.22	1.166	56	38.4	59	40.4	31	21.2
Average		3.57	0.742						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.5.10 Voluntary Tax Compliance Behaviour

Table 4.24 provides descriptive statistics on voluntary tax compliance behaviour among respondents in Malaysia, offering insights into their attitudes and motivations towards complying with tax laws. The mean scores for statements related to voluntary

compliance range from 3.34 to 4.05, with standard deviations between 0.905 and 1.153. On average, respondents demonstrate a moderate level of agreement (average mean score = 3.60, standard deviation = 0.763) with these statements.

The data indicates that a significant majority, 71.9 percent, comply with tax laws because they perceive it as easier than attempting to deceive the tax authority. This pragmatic viewpoint suggests that individuals choose compliance due to its convenience and efficiency, as opposed to the risks and effort associated with evasion. Moreover, 53.4 percent of respondents believe that the tax authority supports individuals who make unintentional mistakes, reflecting a perception of leniency and fairness in tax administration. In terms of corrective actions, nearly half of the respondents (49.3 percent) agree that admitting mistakes leads to fair treatment from the tax authority. This indicates a belief in the authority's responsiveness to honesty and cooperation from taxpayers. However, only 41.1 percent believe that the tax authority will likely reciprocate their cooperation, indicating a mixed sentiment about the outcomes of cooperation.

Overall, these findings highlight the complex interplay of practical considerations, perceptions of fairness, and expectations of reciprocity in shaping voluntary tax compliance behaviour in Malaysia. They emphasize the importance of clear communication, fairness in enforcement, and building trust between taxpayers and the tax authority to effectively improve compliance outcomes.

Table 4.24

Descriptive Statistics for Voluntary Tax Compliance Behaviour (n=146)

Code	Items	M	Std. Dev.	SA/Agree		Neutral		SD/Disagree	
				F	%	F	%	F	%
VCB1	I comply with the tax law in Malaysia because the tax authority will probably reciprocate my cooperation.	3.34	1.153	60	41.1	56	38.4	30	20.8
VCB2	I comply with the tax law in Malaysia because the tax authority treats me correctly as long as I admit mistakes.	3.48	1.078	72	49.3	55	37.7	19	13.0
VCB3	I comply with the tax law in Malaysia because the tax authority supports those who make unintentional mistakes.	3.53	1.058	78	53.4	48	32.9	20	13.7
VCB4	I comply with the tax law in Malaysia because it is easier to do so than to deceive the tax authority.	4.05	0.905	105	71.9	35	24.0	6	4.1
Average		3.60	0.763						

Note: M = Mean, Std. Dev. = Standard Deviation, F = Frequency, SA = Strongly Agree, SD = Strongly Disagree

4.6 Reliability of Research Instrument

The reliability test reflects the consistency of responses to the questionnaire items, as presented in Table 4.25. Hinton et al. (2014) proposed four cut-off values for reliability: excellent reliability (above 0.90), high reliability (between 0.70 and 0.90), moderate reliability (between 0.50 and 0.70), and low reliability (0.50 and below). Hair et al. (2010) stated that Cronbach's alpha coefficient of 0.10 to 0.40 is deemed poor, 0.50 to 0.94 is considered good, and 0.95 to 0.99 is considered excellent. Additionally, Sekaran and Bougie (2013) suggest that a Cronbach's alpha coefficient of less than 0.6 is weak, 0.6 to 0.7 is acceptable, and above 0.8 is good.

Table 4.25

The Cut-off Points of Cronbach's Alpha Coefficient

Authors	Hinton et al., (2014)	Hair et al. (2010)	Sekaran and Bougie (2013)
Cut-off Points of Cronbach's Alpha Coefficient	Excellent (≥ 0.9) High (0.7 to < 0.9) Moderate (0.5 to < 0.70) Low (< 0.5)	Excellent (0.95 to 0.99) Good (0.5 to 0.94) Poor (0.1 to 0.40)	Good (> 0.8) Acceptable (0.6 to 0.7) Weak (< 0.6)

Source: Hinton et al., (2014), Hair et al. (2010) and Sekaran and Bougie (2013)

Table 4.26 shows the results of the reliability test. Cronbach's alpha coefficients range from 0.5 to 0.9 and are considered to have good and high-reliability values, according to Hair et al. (2010) and Hinton et al. (2014). Cronbach's alpha coefficients for coercive power, legitimate power, and trust items are less than 0.9. Meanwhile, items in tax service and voluntary tax compliance behaviour have Cronbach's alpha coefficients of 0.8. These results are regarded as highly trustworthy (Hinton et al., 2014) and considered good by Sekaran and Bougie (2013). Meanwhile, the reliability values for items related to other factors, such as audit probability (0.6), tax complexity (0.6), enforced tax compliance behaviour (0.6), tax audit rate (0.5), and tax penalty (0.5), are considered moderately reliable by Hinton et al., (2014).

Table 4.26

Reliability Test

Code	Variables	Items	Cronbach's Alpha	Cut-off Point for Reliability
CPW	Coercive Power	7	0.9	A score of more than 0.7 is considered highly reliable (Hinton et al., 2014)
LPW	Legitimate Power	4	0.9	
TR	Trust	5	0.9	
VCB	Voluntary Compliance	4	0.8	
TS	Tax Service	6	0.8	Scores between 0.5 and 0.7 are considered moderately reliable (Hinton et al., 2014)
AP	Audit Probability	5	0.6	
TC	Tax Complexity	3	0.6	
ECB	Enforced Compliance	4	0.6	
TAR	Tax Audit Rate	4	0.5	
TP	Tax Penalty	4	0.5	
Total		46		

Notes :

DV = *ECB* and *VCB*

IV = *TA*, *AP*, *TP*, *TS*, *TC*

M = *CPW*, *LPW*, *TR*

4.6.1 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

The KMO measures the sample adequacy, which determines whether the answers given by respondents are appropriate or otherwise. A satisfactory factor analysis should have a KMO value close to 0.5. Kaiser (1974). It suggests 0.5 as the minimum acceptable value, 0.7 to 0.8 as acceptable, and above 0.9 as excellent. As shown in Table 4.27, all the variables have KMO values of sample adequacy above 0.5 and are considered acceptable for satisfactory factor analysis.

Table 4.27
Results of KMO and Bartlett's Test

Variables	Items	KMO Measure of Sampling Adequacy	Sig.
1. Tax audit rate	TA1, TA2, TA3, TA4	0.5	0.000
2. Audit probability	AP1, AP2, AP3, AP4, AP5	0.7	0.000
3. Tax penalty	TP1, TP2, TP3, TP4	0.5	0.000
4. Tax service	TS1, TS2, TS3, TS4, TS5, TS6	0.8	0.000
5. Tax complexity	TC1, TC2, TC3	0.6	0.000
6. Coercive Power	CPW1, CPW2, CPW3, CPW4, CPW5, CPW6, CPW7	0.8	0.000
7. Legitimate power	LPW1, LPW2, LPW3, LPW4, LPW5	0.8	0.000
8. Trust	TR1, TR2, TR3, TR4, TR5	0.8	0.000
9. Enforced Tax Compliance Behaviour	ETCB1, ETCB2, ETCB3, ETCB4	0.6	0.000
10. Voluntary Tax Compliance Behaviour	VTCB1, VTCB2, VTCB3, VTCB4	0.8	0.000

4.7 Correlation Analysis and Discussion

The Pearson Product Moment Correlation analysis investigates the relationship between the dependent and the independent variables and the parametric test analyses linear relationships (Piaw, 2012). Correlation coefficients indicate a low (0.10), medium (0.30), or high (0.50) relationship between variables (Alabede, 2012). Table 4.29 displays the results of the Pearson correlation analysis, i.e., the relationship between tax audit rate, audit probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, and permanent

establishment, and their effect on enforced and voluntary tax compliance behaviour. The control variables are gender and ethnicity.

Appendix 4 presents the results of the inter-correlation between variables. The results show that most correlations are weak, producing a small effect (± 1). Among all the variables, tax audit rate ($r=.402$), audit probability ($r=.355$), and tax penalty ($r=.252$) show a significant correlation, with enforced tax compliance behaviour at a 1 percent significance level. In contrast, there are weak relationships between the owner's age ($r=-.015$), business length ($r=-.123$), business size ($r=.005$), income source ($r=-.091$), and permanent establishment ($r=-.086$), and enforced tax compliance behaviour. In contrast, tax complexity ($r=-.169$) and business size ($r=-.185$) have a significant correlation (at a 5 percent significance level) with voluntary tax compliance behaviour. In addition, tax service ($r=.457$) shows a significant correlation with voluntary tax compliance behaviour at a 1 percent significance level.

However, the owner's age ($r=.041$), business length ($r=-.029$), income source ($r=-.094$), and permanent establishment ($r=-.073$) exhibit weak relationships with voluntary tax compliance behaviour. Among the mediators, coercive power exhibits a high correlation with audit probability ($r=.450$), tax penalty ($r=.428$), and tax audit rate ($r=.339$), significant at a 1 percent level. In addition, the index-correlation matrix reveals that legitimate power also has high correlations with tax service ($r=.621$), tax penalty ($r=.540$), audit probability ($r=.462$), tax audit rate ($r=.379$) and tax complexity ($r=-.496$), and is significant at a 1 percent level. Trust also shows high correlations with tax service ($r=.644$), tax penalty ($r=.499$), audit probability ($r=.416$), and tax complexity ($r=-.438$) at a 1 percent level of significance. However, trust only exhibits

a medium correlation with tax audit rate ($r=.281$). Generally, the correlation analysis results suggest a medium degree of linear relationships among the variables in the research.

4.8 Test for Multiple Regression Analysis

The multiple regression technique is utilised to determine the relationship between tax compliance behaviour (dependent variables) and its determinants (independent variables) and the mediating effect of tax compliance behaviour on the relationship. Coakes and Ong (2011) and Pallant (2007) determined that the basic assumptions of multiple regression were evaluated in successfully applying the multiple regression technique. Meyer et al. (2006) noted that violating one or more assumptions may result in biased or inaccurate statistical results. Several assumptions are tested before the regression process is performed, including the minimum sample size requirement, normality test, linearity test, homoscedasticity test, and multicollinearity test.

4.8.1 Normality

In the regression analysis procedure, the probability plot is utilised to check the normality of the entire data distribution. The multiple regression technique assumes data normality when the residuals' scores are distributed concerning the dependent variable (Pallant, 2007). The scatterplot residuals show that the relationship between the five independent variables (tax audit rate, audit probability, tax penalty, tax service, and tax complexity) and the dependent variables (enforced and voluntary tax compliance behaviour) meet the threshold of linearity and normality.

The data normality is determined based on the skewness³ and kurtosis⁴ values. Statistical and graphical procedures can be employed to assess data normality.

According to Meyers et al., (2006), skewness and kurtosis are the statistical measures most utilised to examine the normality of the data; their values should not exceed ± 1 . Hair et al. (2010) mentioned that the commonly used critical values for skewness and kurtosis are ± 1.96 (for $p=.05$ significant levels) and ± 2.58 (for $p= .02$ significant levels). Skewness and kurtosis are used to measure the normality of each variable.

Table 4.28 shows that all variables' skewness and kurtosis values are within the required range ± 1 . The normal probability plot is the most reliable way for determining the normality of data using graphical means (Hair et al., 2010). If the distribution resembles a diagonal line, the data is considered normal (Ahmednor Ali, 2017) and results indicate that the data distribution for the regression reasonably follows the diagonal line, as Hair et al. (2010) suggested (see Appendix 5).

This study also employed statistical and graphical methods to assess the data's normality, as advised by Meyers et al. (2006). The data is presumed fairly normal based on the statistical and graphical assessment results of the data distribution. The data distribution for the regression follows the diagonal line, and the results are presumed fairly normal.

³ A skewed variable has a mean in the centre of distribution.

⁴ A kurtosis describes the distribution's peaking.

Table 4.28
Testing for Normality (n=146)

Variables	Statistics			
	Mean	Std. Dev.	Skewness	Kurtosis
<u>Dependent Variable</u>				
Enforced Compliance	3.60	0.852	-0.255	0.036
Voluntary Compliance	3.57	0.742	0.200	-0.341
<u>Independent Variable</u>				
Tax Audit Rate	3.94	0.666	-0.221	-0.462
Audit Probability	3.58	0.645	0.237	0.051
Tax Penalty	3.82	0.649	-0.183	-0.343
Tax Service	3.37	0.742	-0.375	0.879
Tax Complexity	3.06	0.845	0.070	0.181
<u>Mediators</u>				
Coercive Power	3.71	0.763	-0.069	-0.344
Legitimate Power	3.63	0.910	-0.299	-0.304
Trust	3.52	0.917	-0.304	0.190

4.8.2 Linearity

Multiple regressions assume that the variables in the statistical analysis are linearly related (Meyer et al., 2006), but Coakes and Ong (2011) mentioned that mild deviations from linearity are not a severe issue in multiple regression analysis. Hair et al. (2010) and Meyers et al. (2006) recommend using scatter plots to assess the linearity between two variables. Meyers et al. (2006) mentioned that linearly related variables would produce an oval shape and a downside running scatter plot. Pearson correlation coefficients also evaluate the degree of linear association between two variables (Hair et al., 2010; Meyers et al., 2006).

A matrix scatter plot and Pearson correlation coefficients are used to examine the linear relationship between the variables. The matrix scatter plot (see Figure 4.1) produces a reasonably oval shape, as Meyers et al. (2006) suggested. The correlation coefficients (see Appendix 6 in page 286) indicate a linear association between the variables. Additionally, a residual scatter plot is generated as part of the multiple

regression analysis. The shape of the residual scatter plot (see Figure 4.1) also fairly depicts a linear relationship between the variables.

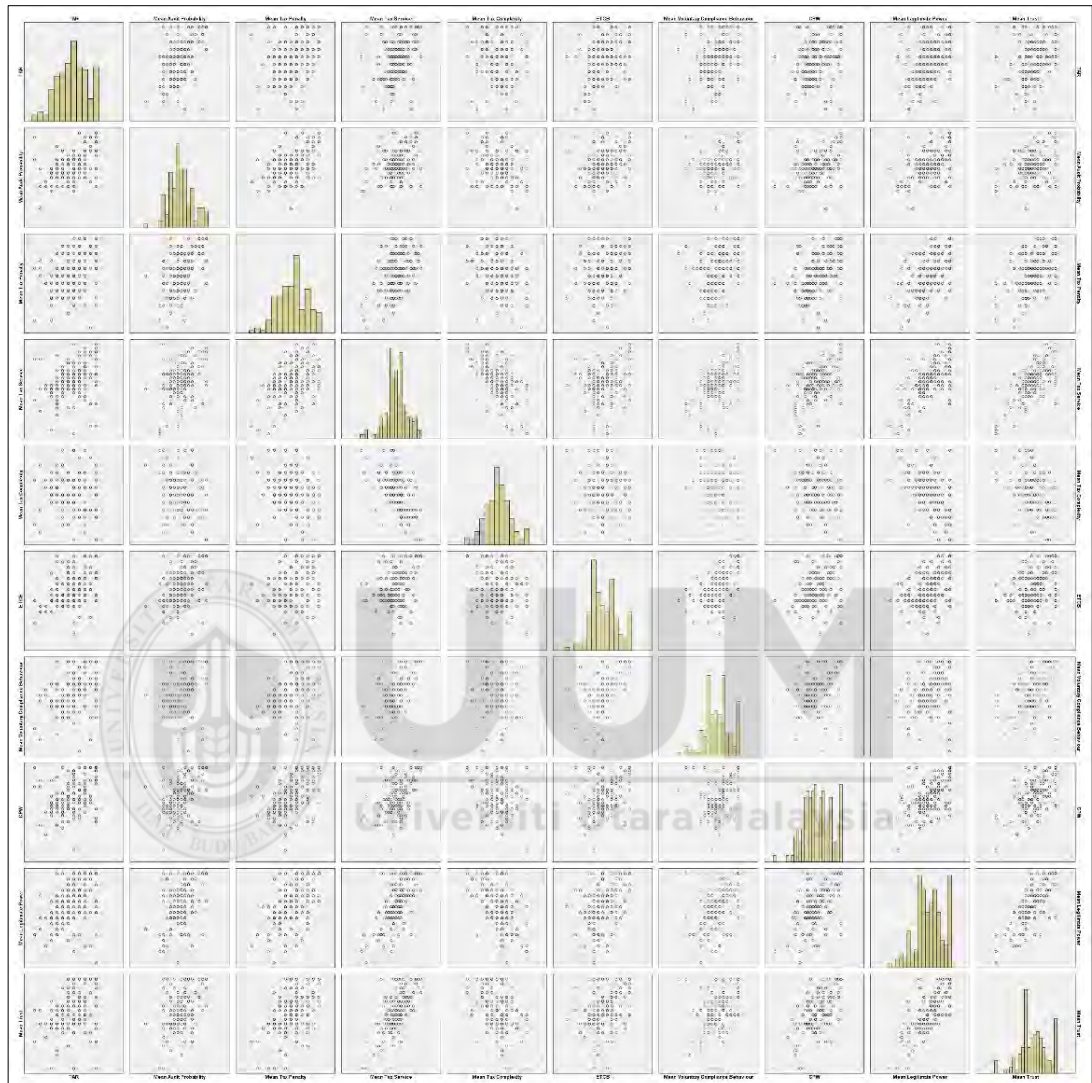


Figure 4.1
Linearity Result

4.8.3 Homoscedasticity

The heteroscedasticity test is part of the classical assumption test in the regression model. There are many ways to detect the presence or absence of homoscedasticity in a dataset. One way is by looking at the scatterplot graph on SPSS output. The general rule of thumb is that a data set is classified as homoscedastic if the ratio of the largest

to the smallest variance is 1.5 or below. As stated by Hair et al. (2010), the dependent variables are assumed to exhibit equal variances across the independent variables. In an analysis, equal variances among dependent variables are preferred as the variance of a dependent variable is explained by a dependence relationship and should not be concentrated only in a narrow range of independent values. If there is an unequal variance, the relationship is heteroscedastic.

The scatterplot was analysed in this study and showed linearity for both dependent variables: e-commerce entrepreneurs' enforced tax compliance behaviour and voluntary tax compliance behaviour. This test fulfils the homoscedasticity assumption.

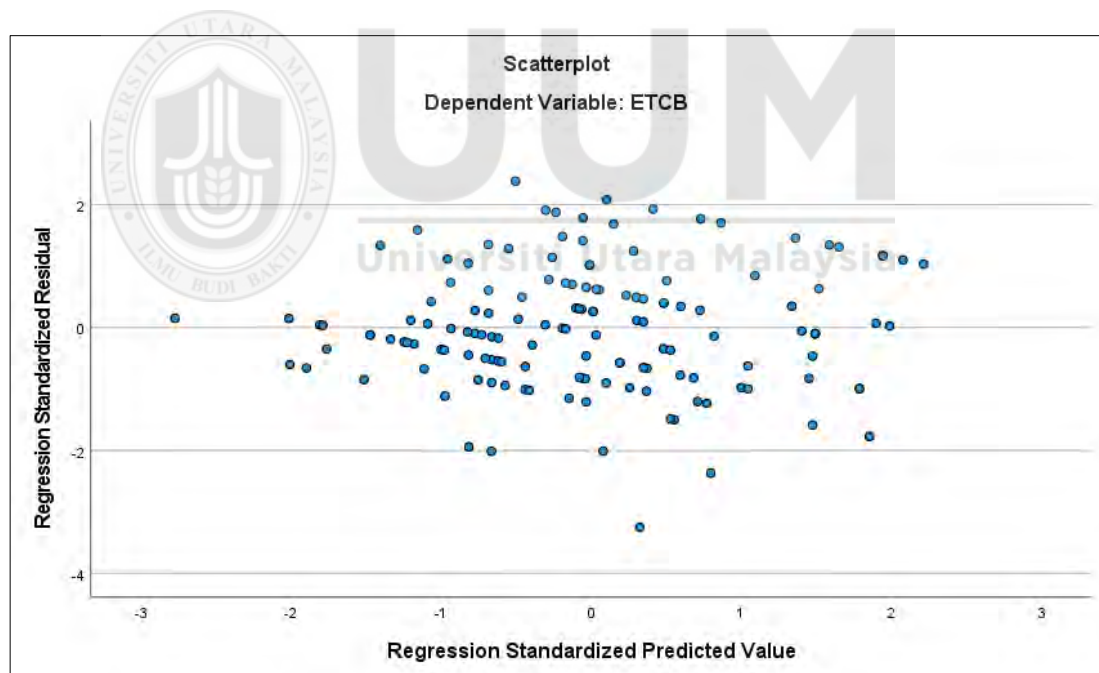


Figure 4.2
Scatterplot for ETCB

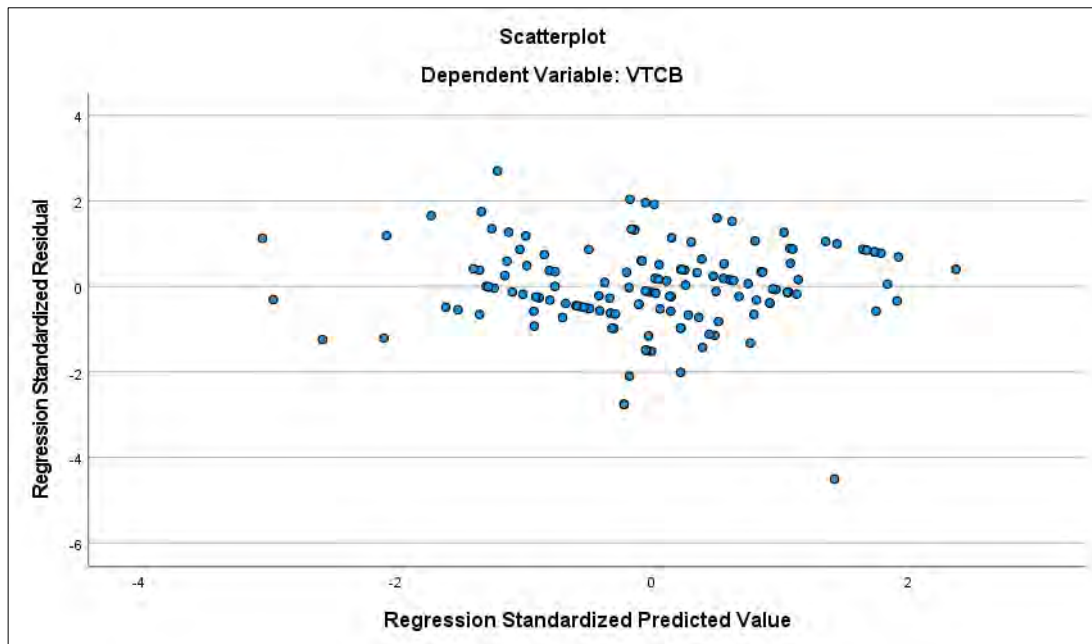


Figure 4.3
Scatterplot for VTCB

4.8.4 Multicollinearity

Multicollinearity is the degree of relationship between independent variables, which exists when several independent variables are significantly interrelated (Pallant, 2007). The tolerance values and variance inflation factor (VIF) are used to analyse the multicollinearity of many variables. Multicollinearity with a tolerance value of more than .10, which equates to a VIF of more than and equal to 1 and less than 10, is generally considered acceptable (Hair et al., 2010). In an analysis, multicollinearity can lower a single independent variable's predictive power by the extent to which it is connected to other independent variables (Hair et al., 2010).

Correlations between independent variables can be used to detect multicollinearity. The correlation matrix is valued based on Pallant's (2010) suggested threshold of correlation value above 0.7 among the independent variables. However, multicollinearity may be a concern if the correlation value exceeds 0.90 (Meyers et al., 2006).

Table 4.29 shows the testing results for multicollinearity using tolerance and VIF values. All the independent variables' tolerance values are more than .10, and the VIF values are less than 10. The results comply with the recommendation by Hair et al. (2010); thus, multicollinearity is not an issue.

Table 4.29
Testing for Multicollinearity for the Main Effect

Dependent Variables	Enforced		Voluntary	
	Tax Compliance Behaviour		Tax Compliance Behaviour	
Collinearity Statistics	Tolerance	VIF	Tolerance	VIF
<u>Independent Variables :</u>				
Tax Audit Rate	.735	1.361	.720	1.389
Audit Probability	.621	1.612	.614	1.630
Tax Penalty	.662	1.510	.605	1.652
Tax Service	-	-	.515	1.943
Tax Complexity	-	-	.662	1.511
Owner's age	.749	1.336	.739	1.353
Business Length	.666	1.503	.664	1.505
Business Size	.872	1.146	.856	1.169
Income Source	.867	1.153	.806	1.237
Permanent Establishment	.857	1.166	.840	1.191
<u>Control Variables :</u>				
Ethnicity	.925	1.081	.922	1.084
Gender	.911	1.098	.909	1.101

Another assessment of multicollinearity is done by using Pearson correlation coefficients as well as the values of tolerance and VIF. Table 4.30 reports the results of the correlation coefficient analysis. The results show that the correlation coefficients between variables are below 0.7, as Pallant (2010) suggested, and not more than 0.9, as Meyers et al. (2006) recommended. Thus, multicollinearity is absent. The results from analysis of multi-regression and simple mediation analysis are presented in Chapter 5.

4.9 Summary of Chapter

The data analysis procedure commenced with the screening and cleansing of the data. No missing data was detected, and only a small number of outliers were identified. Subsequently, data transformations were implemented for a select number of questionnaire items. Around 42 percent of the individuals surveyed and a total of 146 samples met the criteria for data analysis. The participants consisted of drop shippers, agents, product distributors, and business owners. The age of the firm owners spans from 31 to 40, with a collective e-commerce experience of fewer than five years. The majority of the respondents, approximately 67.8 percent, are females who are mostly employed in the retail and services industries, either individually or in a combined capacity. Their main focus was on the B2C e-commerce business model, however several were also interested in the B2G e-commerce business model.

The majority of individuals completed the process of registering their e-commerce businesses and submitting their tax returns. They chose Malaysia as their permanent base of operations and identified e-commerce revenue as their secondary income stream. The descriptive statistics for the independent variables in this study indicate a moderate level of agreement, with mean values ranging from 3.00 to 3.99. The dependability components of the study instrument demonstrate a high level of reliability (above 0.7) for coercive power, lawful power, trust, voluntary tax compliance behaviour, and tax service. Conversely, the dependability of audit probability, tax complexity, audit rate, tax penalty, and enforced tax compliance behaviour is moderate, ranging from 0.5 to 0.7.

A correlation test indicates a connection between the majorities of the variables. Prior to doing the regression analysis, many tests were carried out, which included examining the sample size ($N=16 > 50+8(10) = 130$), assessing normality (value ± 1), checking for linearity, homoscedasticity, and multicollinearity. All tests satisfied the regression criteria. Four models were examined to demonstrate the direct relationship between independent and dependent variables, as well as the indirect relationship that includes mediator factors. Model 1 utilised the SPSS programme (Version 22) for direct modelling, whilst indirect models (Models 2, 3, and 4) employed the SPSS PROCESS Macro (Version 4.0).



CHAPTER 5

RESULTS AND DISCUSSION

5.1 Introduction

This chapter five presents the results and discussion on the determinants influencing tax compliance behaviour among Malaysian e-commerce entrepreneurs. The analysis encompasses both direct and indirect models to assess the impact of various factors. The examined variables include tax audit rate, audit probability, tax penalty, tax service, tax complexity, demographic factors, and permanent establishment. Additionally, the chapter explores the effects of coercive and legitimate powers, as well as trust, on tax compliance behaviour. The chapter concludes with a comprehensive summary of the findings.

5.2 Analysis of determinants and Mediating Effects on Tax Compliance Behaviour : Direct and Indirect Models

Using the conceptual framework from Chapter 3, this study came up with 31 hypotheses. The hypotheses were then tested using the results of multiple regression analyses suggested by Baron and Kenny (1986), Hair et al. (2010), and Alabede (2012). In order to answer research question one (RQ1), the first research objective (RO1) examined the determinants of the enforced tax compliance behaviour, such as tax audit rate, audit probability, tax penalty, owner's age, business length, business size, income source, and permanent establishment. To answer research question two (RQ2), research objective two (RO2) looks at two factors: tax service and tax complexity, including tax audit rate, audit probability, tax penalty, owner's age,

business length, business size, income source, and permanent establishment. Its goal is to find out what makes Malaysian e-commerce entrepreneurs voluntarily file their taxes.

Additionally, research objective three (RO3), which focuses on factors such as tax audit rate, audit probability, tax penalty, and coercive power (as mediator 1), addresses research question three (RQ3). Similarly, research objectives four and five (RO4 and RO5), which address factors such as tax audit rate, audit probability, tax penalty, tax service, and tax complexity, utilize legitimate power (as mediator 2) and trust (as mediator 3) to address research questions four and five.

From these research questions and objectives, Model 1 pertains to the direct model, while Models 2, 3, and 4 pertain to indirect model analyses. Models 1a and 1b examined direct relationships and comprised 18 hypotheses. Model 1a investigates the relationship between tax audit rate, audit probability, tax penalty, owner's age, business length, business size, income source, permanent establishment, and e-commerce entrepreneurs' enforced tax compliance behaviour. The equation for Model 1a is represented by Equation 5.1:

Model 1a:

$$\text{Enforced Tax Compliance Behaviour} = \beta_0 + \beta_1 \text{ Tax Audit Rate} + \beta_2 \text{ Audit Probability} + \beta_3 \text{ Tax Penalty} + \beta_4 \text{ Owner's age} + \beta_5 \text{ Business Length} + \beta_6 \text{ Business Size} + \beta_7 \text{ Income Source} + \beta_8 \text{ Permanent Establishment} + \varepsilon \dots\dots\dots \text{Equation 5.1}$$

Where β_0 is the intercept, β_1 to β_8 are the coefficients, and ε is the error term.

This study uses SPSS (Version 22) for the analysis of the direct models (Models 1a and 1b). Model 1b investigates the relationship between tax audit rate, audit

probability, tax penalty, tax service, tax complexity, owner's age, business length, business size, income source, permanent establishment, and e-commerce entrepreneurs' voluntary tax compliance behaviour. The equation for Model 1a is represented by Equation 5.2:

Model 1b :

$$\text{Voluntary Tax Compliance Behaviour} = \beta_0 + \beta_1 \text{ Tax Audit Rate} + \text{Audit Probability} + \text{Tax Penalty} + \text{Tax Service} + \beta_2 \text{ Tax Complexity} + \beta_3 \text{ Owner's age} + \beta_4 \text{ Business Length} + \beta_5 \text{ Business Size} + \beta_6 \text{ Income Source} + \beta_7 \text{ Permanent Establishment} + \varepsilon$$

.....Equation 5.2

Where β_0 is the intercept, $\beta_1 - \beta_8$ are the coefficients, and ε is the error term.

In Model 2 (indirect model), the mediating effects of coercive power on the relationships between tax audit rate, audit probability, tax penalty, and enforced tax compliance behaviour are analysed. Model 3 examines the mediating effects of legitimate power on the relationship between tax audit rate, audit probability, tax penalty, tax service, and tax complexity, and e-commerce entrepreneurs' voluntary tax compliance behaviour. Finally, Model 4 examines the mediating effects of trust on the relationship between tax audit rate, audit probability, tax penalty, tax service, and tax complexity, and e-commerce entrepreneurs' voluntary tax compliance behaviour. Ethnicity and gender are included as control variables in all models. This analysis is using SPSS PROCESS Macro (Version 4.0).

In the PROCESS macro by Andrew Hayes, the indirect effect in a mediation analysis is the product of two paths which are Path a represents the effect of the independent variable (X) on the mediator (M) and Path b represents the effect of the mediator (M) on the dependent variable (Y), controlling for the independent variable (X).

The indirect effect is calculated as:

$$\text{Indirect Effect} = a \times b$$

Where:

- a is the coefficient for the effect of X on M,
- b is the coefficient for the effect of M on Y, controlling for X.

In the context of the PROCESS macro, this is typically referred to as "a*b" in output reports. To test the significance of the mediation (indirect effect), Hayes recommends using bootstrapping value. The macro provides bootstrap confidence intervals for the indirect effect. If the confidence interval does not contain zero, the indirect effect is considered statistically significant.

5.3 Results and Discussions

This sub-chapter analyses the impact of tax compliance behaviour on e-commerce entrepreneurs, using direct and indirect models. Direct models examine variables such as tax audit rate, audit probability, tax penalty, demographic factors (owner's age, business size, business length, and income source), and permanent establishment on enforced and voluntary tax compliance behaviour, whereas indirect models examine coercive power, legitimate power, and trust as mediators. The discussion combines results from various models to understand the influence of each variable and mediator on tax compliance behaviour among e-commerce entrepreneurs.

Eight hypotheses concern the determinants of e-commerce entrepreneurs' enforced tax compliance behaviour such as Tax Audit Rate (code TAR), Audit Probability (code AP), Tax Penalty (code TP), Owner's Age (code AGE), Income Source (code INCOME), Business Size (code BS), Business Length (BL) and Permanent

Establishment (code PE). A multiple regression analysis was performed to examine the relationship between all the independent variables and enforced tax compliance behaviour (dependent variable) among e-commerce entrepreneurs in Malaysia.

The multiple regression results as in Appendix 8.1 show the adjusted R^2 value is 0.168 indicating that 16.8 percent of the variance in enforced tax compliance behaviour was explained by the independent variables. The regression model was a significant predictor of enforced tax compliance behaviour, with the F value of 4.655 (8, 137) and p equal to less than .001 ($p < .001$).

Besides that, there are 10 hypotheses regarding the determinants of e-commerce entrepreneurs' voluntary tax compliance behaviour such as Tax Audit Rate (code TAR), Audit Probability (code AP), Tax Penalty (code TP), Tax Service (code TS), Tax Complexity (TC), Owner's Age (code AGE), Income Source (code INCOME), Business Size (code BS), Business Length (BL) and Permanent Establishment (code PE). The multiple regression results in Appendix 8.2 show the adjusted R^2 value of 0.267 indicating that 26.7 percent of the variance in voluntary tax compliance behaviour was explained by the independent variables. The regression model was a significant predictor of tax compliance behaviour, with the F value of 3.344 (10, 135), and p value less than 0.000 ($p < 0.000$).

5.4 Results and Discussion on Tax Audit Rate

The tax audit rate is a crucial determinant of e-commerce entrepreneurs' tax compliance behaviour. As previously noted, the tax audit rate refers to the frequency at which the tax authority examines taxpayers' business transactions and financial

affairs to ensure the accurate reporting of income and tax payable per tax laws and regulations. This research considers the tax audit rate as a key factor influencing both enforced and voluntary tax compliance behaviour among e-commerce entrepreneurs in Malaysia. Additionally, this determinant is analysed together with coercive power to measure enforced tax compliance behaviour and with legitimate power and trust to evaluate voluntary tax compliance behaviour. The following section will present the results and discussion.

5.4.1 Tax Audit Rate and Tax Compliance Behaviour

Hypotheses H_{1a} and H_{1b} are to investigate the direct effect of the tax audit rate and e-commerce entrepreneurs' enforced and voluntary tax compliance behaviour, respectively. Table 5.1 summarises the results regarding the tax audit rate, which suggests that it is a suitable determinant of e-commerce entrepreneurs' tax behaviour. The results indicate a positive relationship between tax audit rate and enforced tax compliance behaviour (ETCB) with a coefficient (β) of 0.321 suggesting that increase in the tax audit rate will increase ETCB among e-commerce entrepreneurs. This is consistent with the SSF, where the ETCB was obtained using the enforcement approach.

This finding is consistent with those of Forest and Sheffrin (2002), Gomez et al. (2010), and Syakura et al. (2016). Besides frequency, the strictness of audits is also significant in increasing the reported income among taxpayers (Manaye, 2018). The study findings support many other studies, such as Kirchler (2007), Niu (2011), Hofmann et al. (2014), and Kirchler et al. (2014b), Gangl et al. (2015a), Hofmann et al. (2017a), and Mardhiah et al. (2018).

This study found positive association between the tax audit rate and the voluntary tax compliance behaviour (VTCB) of e-commerce entrepreneurs at a coefficient (β) of 0.359. Even though SSF noted that the tax audit rate is an enforcement strategy, the results also imply that raising the tax audit rate will boost the VTCB of e-commerce entrepreneurs. Unfortunately, the findings in this study are different from those of Kirchler (2007), Kirchler et al. (2014b), and Gangl et al. (2015a), which documented that tax audit rate do not significantly affected the VTCB.

The β coefficient for VTCB ($\beta=0.359$) is slightly higher than for ETCB ($\beta=0.321$). This suggests that the tax audit rate has a stronger positive influence on voluntary tax compliance behaviour (VTCB) compared to enforced tax compliance behaviour (ETCB) because the audits provided an opportunity for tax authorities to educate entrepreneurs about their tax obligations and the consequences of non-compliance. This educational aspect can lead to improved awareness and understanding of tax laws, thereby promoting voluntary compliance in the future.

Table 5.1
Results for the Tax Audit Rate and E-commerce Entrepreneurs' Tax Compliance Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Tax Audit Rate	H _{1a} : There is a significant relationship between tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = .321$ SE = .098 t = 3.261 p = 0.001		Significant at 1 percent significance level (p < 0.01)
	H _{1b} : There is a significant relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = .359$ SE = .107 t = 3.350 p = .001	Significant at 1 percent significance level (p < 0.01)

5.4.2 Mediation effect of Coercive Power to Tax Audit Rate and Enforced Tax Compliance Behaviour

This study also investigates the role of coercive power in mediating the relationship between tax audit rate and ETCB among e-commerce entrepreneurs, as depicted in Figure 5.1. The path 'a' from tax audit rate to enforced tax compliance behaviour has a β coefficient of .3489, a t-value of 4.0764, and a p-value of .0001. Regression analysis indicates that the tax audit rate (independent variable) has a significant direct effect on e-commerce entrepreneurs' ETCB (dependent variable) at a 1 percent level of significance. The path 'b' is TAR to CPW with a β coefficient of .3877, a t-value of 4.2927, and a p-value of 0.0000.

The second regression analysis demonstrates that the tax audit rate has a significant projected coercive power (mediator) at the 1 percent significance level. Finally, the examination of indirect effects shows that coercive power is a substantial predictor of e-commerce entrepreneurs' ETCB. This relationship is statistically significant at a 1 percent level of significance. The route 'c' from coercive power (CPW) to enforced tax compliance behaviour (ETCB) has a beta coefficient (β) of .2841, a t-value of 3.7971, and a p-value of 0.0002.

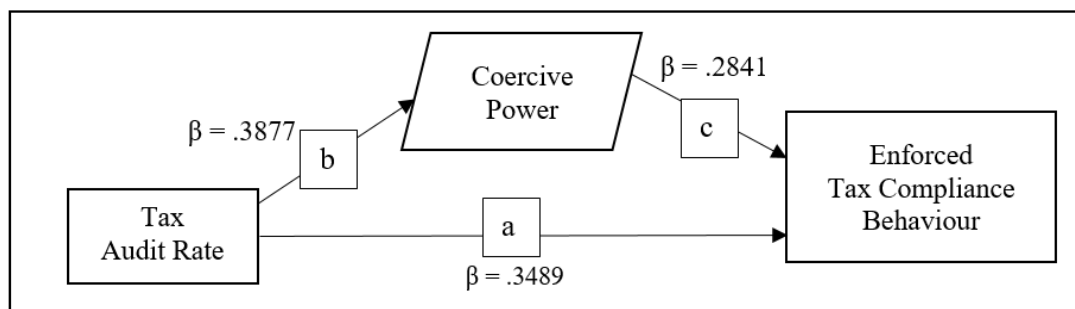


Figure 5.1
 Illustration of the Mediation Path between Coercive Power (CPW), Tax Audit Rate (TAR), and Enforced Tax Compliance Behaviour (ETCB)

The results obtained from the analysis of the 5000 Bootstrap samples demonstrate a statistically significant and positive relationship between tax audit rate and enforced tax compliance behaviour among the e-commerce entrepreneurs. The relationship between these variables is impacted by coercive power, which exerts an indirect influence with a magnitude of .1101. The range of the Bootstrap confidence interval for this effect is from .0315 to .2284. The outcomes are presented in Table 5.2.

Table 5.2
Mediation Analysis (Tax Audit Rate, Coercive Power and E-Commerce Entrepreneurs' Enforced Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TAR → CPW	.3877	.0903	4.2927	.0000	.2092	.5663
TAR → ETCB	.3489	.0856	4.0764	.0001	.1797	.5181
TAR → CPW → ETCB	.2841	.0748	3.7971	.0002	.1362	.4320
<i>Effects</i>						
Direct	.3489	.0856	4.0764	.0001	.1797	.5181
Indirect*	.1101	.0503			.0315	.2284
Total Effect	.4590	.0842	5.4491	.0000	.2925	.6255

* Based on 5,000 bootstrap samples

Thus, hypothesis H_{1c} is confirmed. Coercive power accounts for approximately 24 percent of the overall influence on e-commerce entrepreneurs' enforced tax compliance behaviour. This study obtains the calculation from the equation $P_M = (0.1101)/(0.4590)$, where the tax audit rate plays a crucial role in determining the level of ETCB in the context of SSF. The findings are consistent with those of Gangl et al. (2015b), who observed that greater coercive power, such as the intensity of tax audits, leads to an increase in e-commerce entrepreneurs' compliance with enforced tax regulations. Furthermore, Muehlbacher and Kirchler (2010) discovered that coercive authority has the potential to erode trust when taxpayers perceive themselves as being compelled to conform.

As mentioned, e-commerce entrepreneurs conduct much of their business online and often across multiple jurisdictions and they may believe that tax authority has less visibility into their transactions and operations. This perception could lead to a lax attitude toward tax compliance, assuming that non-compliance may go unnoticed or be harder to detect. The tax authority used coercive power to enhance compliance through frequent tax audits and utilized coercive measures to counteract the perceived lower detection risks in e-commerce. So, coercive power plays a crucial role in mitigating the perceived lower detection risks associated with e-commerce operations.

5.4.3 Mediation effect of Legitimate Power to Tax Audit Rate and Voluntary Tax Compliance Behaviour

The study examined the relationship between tax audit rate and the voluntary tax compliance behaviour (VTCB) of e-commerce entrepreneurs, with legitimate power acting as a mediator, as hypothesised in H_{1d}. Figure 5.2 shows the direct model and the paths 'a' (TAR to VTCB) with a beta value of 0.3691 and a t-value of 3.6849, 'b' (TAR to LPW) with a beta value of 0.5185 and a t-value of 4.8736, and 'c' (LPW to VTCB) with a beta value of 0.2731 and a t-value of 3.7345. At a significance level of 1 percent, paths 'a' and 'c' (p = .0003) and path 'b' (p = .0000) are statistically significant.

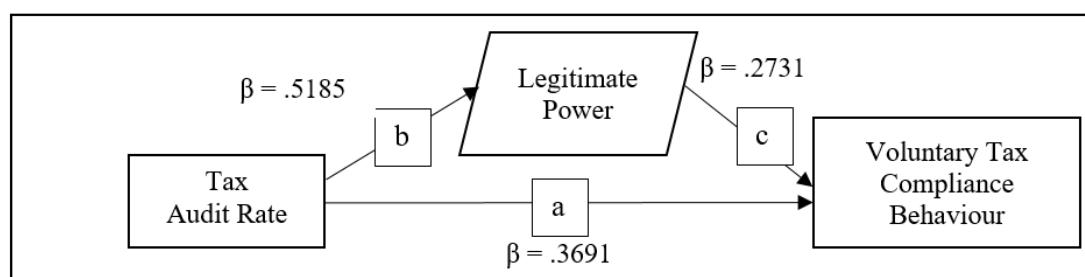


Figure 5.2
Illustration of the Mediation Path between Legitimate Power (LPW), Tax Audit Rate (TAR) and Voluntary Tax Compliance Behaviour (VTCB)

The analysis of 5000 bootstrap samples reveals a statistically significant and positive association between the tax audit rate and the VTCB of e-commerce entrepreneurs. This relationship is mediated by legitimate power, with an indirect effect size of 0.1416. The 95 percent bootstrap confidence interval ranges from 0.0458 to 0.2485. Table 5.3 presents the mediation analysis results for the relationship between tax audit rate and e-commerce entrepreneurs' VTCB, specifically highlighting the role of legitimate power.

Table 5.3
Mediation Analysis (Tax Audit Rate, Legitimate Power and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TAR → LPW	.5185	.1064	4.8736	.0000	.3082	.7289
LPW → VTCB	.2731	.0731	3.7345	.0003	.1285	.4177
TAR → LPW → VTCB	.3691	.1002	3.6849	.0003	.1711	.5672
<i>Effects</i>						
Direct	.3691	.1002	3.6849	.0003	.1711	.5672
Indirect*	.1416	.0517			.0458	.2485
Total	.5107	.0969	5.2733	.0000	.3193	.7022

* Based on 5,000 bootstrap samples

The mediator, legitimate power, accounted for approximately 28 percent of the overall impact on the VTCB of e-commerce entrepreneurs in Malaysia [$P_M=(0.1416)/(0.5107)$]. The findings are not consistent with those of Gangl et al. (2015b), who observed the intensity of tax audits, leads to an increase in e-commerce entrepreneurs' compliance with enforced not voluntary tax compliance. These findings demonstrate a significant correlation: legitimate power mediates the relationship between the tax audit rate and the VTCB of e-commerce entrepreneurs.

Thus, hypothesis H_{1d} is confirmed. Legitimate power enhances VTCB among e-commerce entrepreneurs because they provide understandable procedures for the

collection of taxes, promoting consistency in tax administration, providing advice and admitting the roles of the tax authority as an authorized institution that has the right to prosecute tax evaders, facilitating cooperation, and building business reputation.

5.4.4 Mediation Effect of Trust to Tax Audit Rate and Voluntary Tax Compliance Behaviour

This section discusses the mediation analysis for trust, tax audit rate, and e-commerce entrepreneurs' VTCB based on H_{1e}. A bootstrapping method was performed using PROCESS Macro to determine if trust mediates the relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour, as illustrated in Figure 5.3. The regression analysis shows that tax audit rate is a significant predictor of e-commerce entrepreneurs' VTCB at a 1 percent level of significance (path 'a', TAR to VTCB has a $\beta = .3489$, $t = 4.0764$, $p = .0001$).

Next, the result of the regression analysis shows that tax audit rate is a significant predictor of trust (mediator) at the 1 percent significance level (path 'b', TAR to TRUST has a $\beta = .3792$, $t = 3.4303$, $p = 0.0008$). Lastly, the result shows that trust is a significant predictor (at the 1 percent significance level) of e-commerce entrepreneurs' VTCB (path 'c', TRUST to VTCB has a $\beta = .2752$, $t = 3.9289$, $p = 0.0001$).

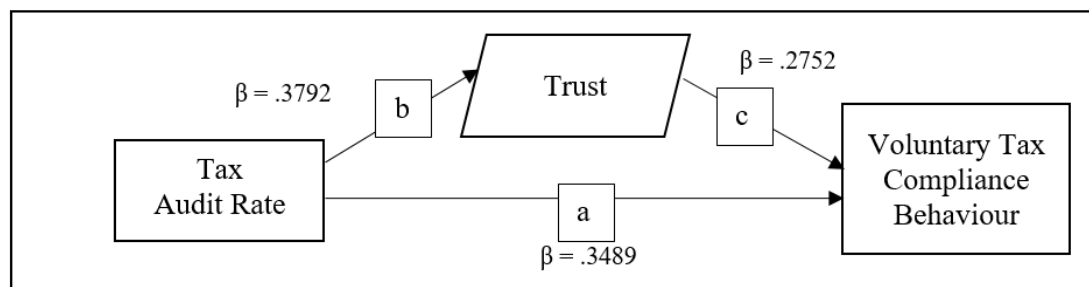


Figure 5.3
Illustration of the Mediation Path between Trust, Tax Audit Rate (TAR) and Voluntary Tax Compliance Behaviour (VTCB)

Table 5.4 presents the findings of the mediation analysis examining the impact of tax audit rate and trust on the VTCB of e-commerce entrepreneurs. The findings from the analysis of 5000 bootstrap samples reveal a statistically significant positive association between the tax audit rate and the VTCB of e-commerce businesses. This link is mediated by trust, with an indirect effect size of .1044 (Bootstrap CI₉₅ = .0285 and .1985).

The mediator, trust, contributes to almost 20 percent of the overall impact on e-commerce entrepreneurs' willingness to comply with taxes voluntarily [$P_M = (0.1044)/(0.5107)$]. The outcome demonstrates a substantial correlation, indicating that trust acts as a mediator between the tax audit rate and the VTCB of e-commerce entrepreneurs. Thus, H_{1e} is supported.

Table 5.4
Mediation Analysis (Tax Audit Rate, Trust and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TAR → TRUST	.3792	.1105	3.4303	.0008	.1607	.5977
TRUST → VTCB	.2752	.0701	3.9289	.0001	.1367	.4137
TAR → TRUST → VTCB	.4064	.0960	4.2320	.0000	.2165	.5962
<i>Effects</i>						
Direct	.4064	.0960	4.2320	.0000	.2165	.5962
Indirect*	.1044	.0434			.0285	.1985
Total	.5107	.0969	5.2733	.0000	.3193	.7022

* Based on 5,000 bootstrap samples

Overall, the study reveals a positive relationship between tax audit rate with both tax compliance behaviour among e-commerce entrepreneurs. These results demonstrate that IRBM's tax audit rate has enabled e-commerce entrepreneurs in Malaysia to fully comply with tax laws. However, the study differs from the SSF concept in that the tax audit rate does not significantly enhance VTCB. However, the results demonstrate that

the tax audit rate and coercive power enhance ETCB, while legitimate power and trust enhance VTCB. These results are aligned with the theory in SSF. Coercive power plays a role in the connection between the tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.

On the other hand, legitimate power and trust play a role in the connection between the tax audit rate and the VTCB of e-commerce entrepreneurs. This suggests that conducting frequent tax audits can increase compliance through enforcement. However, if tax authorities carry out audits with genuine authority and taxpayers have high trust in them, it can also encourage voluntary tax compliance among e-commerce entrepreneurs. Surprisingly, there is a notable correlation between legitimate power and trust, which improves the VTCB of e-commerce firms.

5.5 Results and Discussion on Audit Probability

Next, the study proposes that audit probability influences e-commerce entrepreneurs' enforced and voluntary tax compliance behaviour. As mentioned, audit probability is linked to the tax audit rate, and the chances of being audited depend on the frequency of a tax audit. This research used the audit probability as a determinant of the enforced and voluntary tax compliance behaviour of e-commerce entrepreneurs in Malaysia. Besides that, this determinant is also examined together with coercive power to determine ETCB, legitimate power, and trust to determine VTCB. The results and discussion will be explained in the next section, which starts with direct and indirect models.

5.5.1 Audit Probability and Tax Compliance Behaviour

From that the subsequent hypotheses, H_{2a} and H_{2b}, are developed. Results in Table 5.5, $\beta = 0.197$, SE = .197, $t = 1.788$ and $p = 0.076$ ($p < 0.10$), indicate a significant relationship at a 10 percent significance level between audit probability and e-commerce entrepreneurs' ETCB. Therefore hypotheses H_{2a} is supported. These findings are the same as those of Feld and Frey (2007), Hofmann et al. (2017a), and Mardhiah et al. (2018), which found that audit probability encourages enforced tax compliance behaviour. Similarly, Engida and Baisa (2014) found that audit probability could persuade taxpayers to be more truthful when reporting all income, filing tax returns, and claiming the correct deductions to find out their tax liability.

In contrast, the audit probability with $\beta = -.034$, SE = .120, $t = -.286$ and $p = .776$ ($p > 0.01/0.05/0.1$) shows no significant relationship with e-commerce entrepreneurs' VTCB. This finding fails to support hypothesis H_{2b}, suggesting that audit probability has no significant relationship with the e-commerce entrepreneurs' VTCB. This is contra with the findings by Inasius (2018), Kirchler et al. (2007) and Adimassu and Jerene (2016).

Table 5.5
Results for the Audit Probability and E-commerce Entrepreneurs' Tax Compliance Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Audit Probability	H _{2a} : There is a significant relationship between audit probability and e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = .197$ SE = .110 $t = 1.788$ $p = .076$		Significant at a 10 percent significance level ($p < 0.1$)
	H _{2b} : There is a significant relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = -.034$ SE = .120 $t = -.286$ $p = .776$	Not Significant ($p > 0.01$)

5.5.2 Mediation effect of Coercive Power to Audit Probability and Enforced Tax Compliance Behaviour

The mediation of coercive power (CPW) between audit probability (AP) and enforced tax compliance behaviour (ETCB) of e-commerce entrepreneurs is depicted in Figure 5.4. The results obtained using SPSS PROCESS Macro Version 4.0 demonstrated the mediation between the variables, both directly and indirectly. The direct results indicate that path 'a' (AP to ETCB) has a β value of .2673, a t-value of 2.7874, and a p-value of 0.0060 ($p < 0.01$). Path 'b' (AP to CPW) has a β value of .5298, a t-value of 5.9643, a p-value of 0.0000 ($p < 0.01$). Lastly, path 'c' (CPW to ETCB) has a $\beta = .2863$. At a 1 percent level of significance, the results indicate significant relationships between audit probability and the ETCB of e-commerce entrepreneurs, between audit probability and coercive power, and between coercive power and the ETCB of e-commerce entrepreneurs.

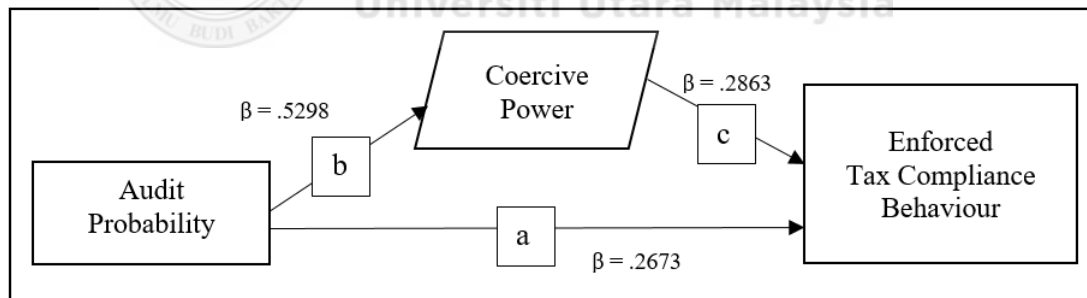


Figure 5.4
Illustration of the Mediation Path between Coercive Power (CPW), Audit Probability (AP) and Enforced Tax Compliance Behaviour (ETCB)

Based on 5000 bootstrap samples, the results of the indirect effect indicate a significant indirect positive relationship between audit probability and the ETCB of e-commerce entrepreneurs, mediated by coercive power ($a*b = .1517$ with Bootstrap CI95 = .0488 and .2832). The results of the mediation analysis between audit probability and coercive power and the ETCB of e-commerce entrepreneurs are presented in Table

5.6. Coercive power, which acts as a mediator, explains roughly 36 percent of the overall impact on the ETCB of e-commerce entrepreneurs [$PM = 0.1517/(0.4190)$]. The findings indicate a strong correlation, suggesting that coercive power plays a role in mediating the connection between audit probability and the ETCB of Malaysian e-commerce entrepreneurs. Thus, hypothesis H_{2c} is confirmed.

Table 5.6
Mediation Analysis (Audit Probability, Coercive Power, and E-Commerce Entrepreneurs' Enforced Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
AP → CPW	.5298	.0888	5.9643	.0000	.3542	.7053
CPW → ETCB	.2863	.0810	3.5346	.0006	.1262	.4465
AP → CPW → ETCB	.2673	.0959	2.7874	.0060	.0777	.4568
<i>Effects</i>						
Direct	.2673	.0959	2.7874	.0060	.0777	.4568
Indirect*	.1517	.0596			.0488	.2832
Total	.4190	.0959	4.6997	.0000	.2427	.5952

* Based on 5,000 bootstrap samples

5.5.3 Mediation effect of Legitimate Power to Audit Probability and Voluntary Tax Compliance Behaviour

The study looks at the role of legitimate power in mediating the association between audit probability and e-commerce entrepreneurs' VTCB, proposing hypothesis H_{2d} . Figure 5.5, illustrates the mediating effect of legitimate power (LPW) for the audit probability (AP) and e-commerce entrepreneurs' VTCB relationship. Applying SPSS PROCESS Macro Version 4.0, results reveal the direct and indirect mediating effects between the variables. The direct model with path 'a' (AP to VTCB) has $\beta = .1175$ and $t = 1.0410$; path 'b' (AP to LPW) has $\beta = .6558$ and $t = 6.2205$; and path 'c' (LPW to VTCB) has $\beta = .3367$ and $t = 4.2282$. At a 1 percent significance level, paths 'b' and 'c' are significant with a p-value of .0000, while path 'a' has a p-value of .2997 and is therefore insignificant.

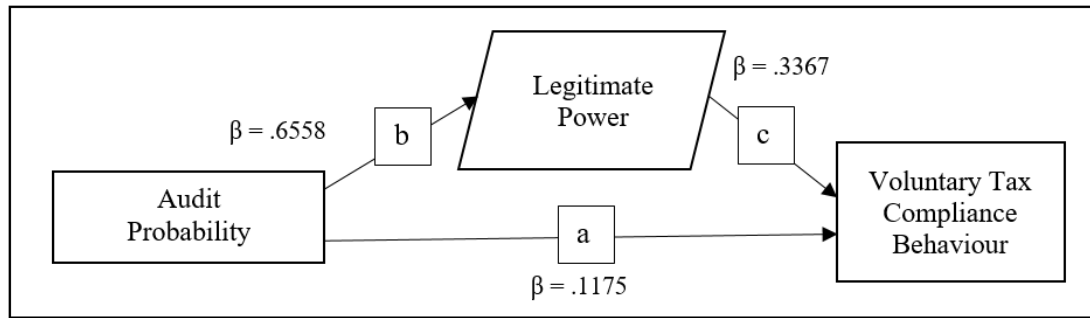


Figure 5.5
Illustration of the Mediation Path between Legitimate Power (LPW), Audit Probability (AP) and Voluntary Tax Compliance Behaviour (VTCB)

The results of the indirect effect, based on 5000 bootstrap samples, show a significant positive relationship between audit probability and e-commerce entrepreneurs' VTCB, mediated by legitimate power ($a*b=.2208$ with Bootstrap CI95=.0967 and .3526). Table 5.7, shows the mediation analysis results for audit probability with legitimate power on e-commerce entrepreneurs' VTCB. The mediator, legitimate power, accounts for approximately 65 percent of the total effect on e-commerce entrepreneurs' VTCB [$P_M=(0.2208)/(0.3383)$]. These results indicate that legitimate power mediates the relationship between audit probability and e-commerce entrepreneurs' VTCB and supports hypothesis H_{2d}.

Table 5.7
Mediation Analysis (Audit Probability, Legitimate Power and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
AP → LPW	.6558	.1054	6.2205	.0000	.4474	.8642
LPW → VTCB	.3367	.0796	4.2282	.0000	.1793	.4942
AP → LPW → VTCB	.1175	.1129	1.0410	.2997	-.1056	.3406
<i>Effects</i>						
Direct	.1175	.1129	1.0410	.2997	-.1056	.3406
Indirect*	.2208	.0660			.0967	.3526
Total	.3383	.1058	3.1969	.0017	.1291	.5475

* Based on 5,000 bootstrap samples

5.5.4 Mediation effect of Trust to Audit Probability and Voluntary Tax Compliance Behaviour

This section provides mediation analysis results for trust, audit probability, and e-commerce entrepreneurs' VTCB based on H_{2e}. A bootstrapping method was performed using SPSS PROCESS Macro Version 4.0 to determine if trust mediates the relationship between audit probability and e-commerce entrepreneurs' VTCB, as illustrated in Figure 5.6. The regression analysis shows that the audit probability (independent variable) is not significantly related to e-commerce entrepreneurs' VTCB (dependent variable) at any level of significance (path 'a', AP to VTCB has a $\beta = .1574$, $t = 1.4269$, $p = .1558$).

Next, the result of the second regression analysis shows that at a 1 percent significance level, audit probability is a significant predictor of trust (mediator) (path 'b', AP to TRUST has a $\beta = .5803$, $t = 5.3446$, $p = 0.0000$). Lastly, the result shows that trust is a significant predictor (at a 1 percent significance level) of e-commerce entrepreneurs' VTCB (path 'c', TRUST to VTCB has a $\beta = .3118$, $t = 4.0099$, $p = 0.0001$).

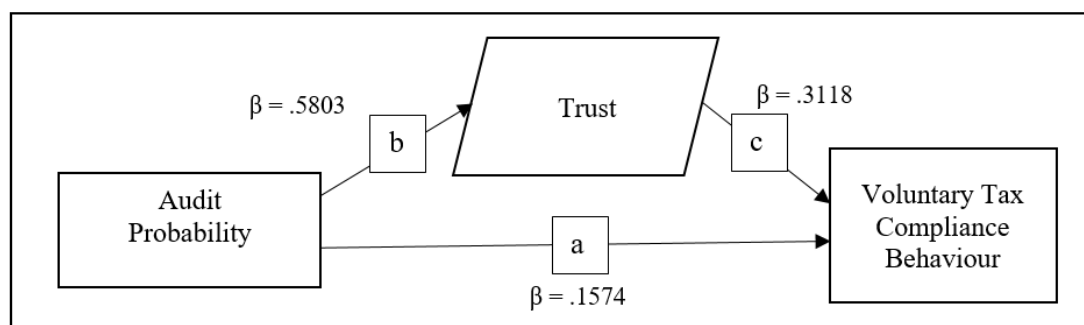


Figure 5.6
Illustration of the Mediation Path between Trust, Audit Probability (AP) and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour (VTCB)

The results of the mediation analysis between audit probability and trust and the voluntary tax compliance behaviour of e-commerce entrepreneurs are presented in

Table 5.8. Based on 5000 bootstrap samples, the results of the indirect effect indicate a significant positive indirect relationship between audit probability and the VTCB of e-commerce entrepreneurs, mediated by trust ($a*b = .1810$; Bootstrap CI95 = .0705 and .3001). Around 54 percent of the overall impact on the VTCB of e-commerce entrepreneurs can be attributed to the mediator, trust [$P_M = 0.1810/(0.3383)$].

The result indicates a significant relationship for the indirect model, suggesting that trust mediates the relationship between the VTCB of e-commerce entrepreneurs and audit probability. Consequently, H_{2e} is affirmed.

Table 5.8
Mediation Analysis (Audit Probability, Trust and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
AP \rightarrow TRUST	.5803	.1086	5.3446	.0000	.3657	.7950
TRUST \rightarrow VTCB	.3118	.0778	4.0099	.0001	.1581	.4656
AP \rightarrow TRUST \rightarrow VTCB	.1574	.1103	1.4269	.1558	-.0607	.3754
<i>Effects</i>						
Direct	.1574	.1103	1.4269	.1558	-.0607	.3754
Indirect*	.1810	.0588			.0705	.3001
Total	.3383	.1058	3.1969	.0017	.1291	.5475

* Based on 5,000 bootstrap samples

Audit probability records a significant relationship with e-commerce entrepreneurs' ETCB directly but not with VTCB. In the mediation analysis, coercive power mediates the relationship between audit probability and e-commerce entrepreneurs' ETCB which confirmed the SSF. These findings are the same as those of Feld and Frey (2007), Hofmann et al. (2017a), and Mardhiah et al. (2018), which found that audit probability encourages ETCB. Meanwhile, legitimate power and trust mediate the relationship between audit probability and e-commerce entrepreneurs' VTCB shows the new finding. Engida and Baisa (2014) found that audit probability could persuade

taxpayers to be more truthful when reporting all income, filing tax returns, and claiming the correct deductions to find out their tax liability.

Meanwhile, Manaye (2018) asserted that unaudited taxpayers may be inclined to under-report their income and declare false deductions. Kirchler et al. (2010) stated that when the trust is low, audit probability should be implemented with coercive power, which can influence ETCB. However, if trust is present, other determinants such as knowledge, attitudes, moral appeals, fairness, and democracy may bring about to voluntary tax compliance behaviour. This study finds that legitimate power and trust should work together to enhance e-commerce entrepreneurs' VTCB. Legitimate power and trust include those mentioned in Kirchler et al. (2007).

In general, the determinant (audit probability) has a substantial impact on the enforced compliance, but has no discernible effect on voluntary compliance. Legitimate power and trust mediate this relationship, in addition to coercive power. Audit probability encourages enforced tax compliance, whereas unaudited taxpayers may underreport income, according to previous research. Democracy, trust, knowledge, attitudes, moral appeals, and fairness are all factors that can affect voluntary tax compliance. This research indicates that legitimate authority and trust ought to collaborate in order to augment the voluntary tax compliance conduct of e-commerce entrepreneurs.

5.6 Results and Discussions on Tax Penalty

Those who violate tax regulations in Malaysia are subject to penalties, imprisonment, or a combination of the two, which are determined by the gravity or frequency of the offences (Malaysia Tax, 2019). The present study employed the tax penalty as a

determinant to examine the voluntary and enforced tax compliance behaviour of Malaysian e-commerce entrepreneurs. Furthermore, in combining with legitimate power and trust to ascertain VTCB, coercive power is also evaluated as a determinant of ETCB. The results and discussion, as well as two determinants, namely the audit probability and tax audit rate, will be elaborated upon in the following section.

5.6.1 Tax Penalty and Tax Compliance Behaviour

The next hypotheses, H_{3a} and H_{3b}, examine the relationship between the tax penalty and e-commerce entrepreneurs' enforced and voluntary tax compliance behaviour. The multiple regression results for tax penalty and e-commerce entrepreneurs' tax compliance behaviour are presented in Table 5.9. The β values for these two variables are .098 and .125, respectively, and the p values for these variables are .358 and .297 (that is greater than 0.1). It has been determined that there is no substantial association between the tax penalty and either of the two predictors, namely the enforced or voluntary tax compliance. It follows that both H_{3a} and H_{3b} are not acceptable.

This contradicts the findings of Mohdali et al. (2014), Park and Hyun (2003), Yunus et al. (2017), Sheikh-Obid (2004), Sia (2008), and Loo et al. (2009). However, it aligns with the findings of Kirchler (2007), Engida and Baisa (2014), and Okeye et al. (2012), who also found that the tax penalty did not affect tax compliance behaviour. Also, Hofmann et al. (2017a) and Mardhiah et al. (2018) collected data from respondents who were not e-commerce entrepreneurs. Contrary to the SSF, which states that the tax penalty is one of the enforcement elements that effects the enforced tax compliance behaviour, the tax penalty does not have any effect on the tax compliance behaviour of Malaysian enterprises who are involved in e-commerce.

Table 5.9

Results for the Tax Penalty and E-commerce Entrepreneurs' Tax Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Tax Penalty	H _{3a} : There is a significant relationship between tax penalty and e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = .098$ $p = .358$		Not Significant ($p > 0.01$)
	H _{3b} : There is a significant relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = .125$ $p = .297$	Not Significant ($p > 0.01$)

5.6.2 Mediation effect of Coercive Power to Tax Penalty and Enforced Tax Compliance Behaviour

Another variable tested with coercive power as a mediator is the tax penalty. The hypothesis (H_{3c}) identify the coercive power mediates the relationship between tax penalty and e-commerce entrepreneurs' ETCB. A bootstrapping method was performed using SPSS PROCESS Macro Version 4.0 to determine if coercive power mediates the relationship between tax penalty and e-commerce entrepreneurs' ETCB, as illustrated in Figure 5.7.

First, the regression analysis reveals that the tax penalty, which is the independent variable, does not have a substantial impact on the ETCB of e-commerce entrepreneurs, which is the dependent variable. This is demonstrated by the fact that path 'a' is TP to ETCB, which has a β value of .1109, a t value of 1.1541, and a p value of .2504. After that, the outcome of the second regression analysis reveals that the tax penalty has a noteworthy impact as a predictor (at the 1% significance level) of the coercive power (mediator). Path 'b', which is TP to CPW, has a β value of .4993, a t value of 5.5949, and a p value of 0.0000.

At a significance level of one percent, the findings indicate that coercive power has an important role as a predictor of the ETCB of e-commerce entrepreneurs. The path 'c', which is CPW to ETCB, has a coefficient of determination (β) of .2844, a t-value of 3.0880, and a p-value of as much as 0.0024.

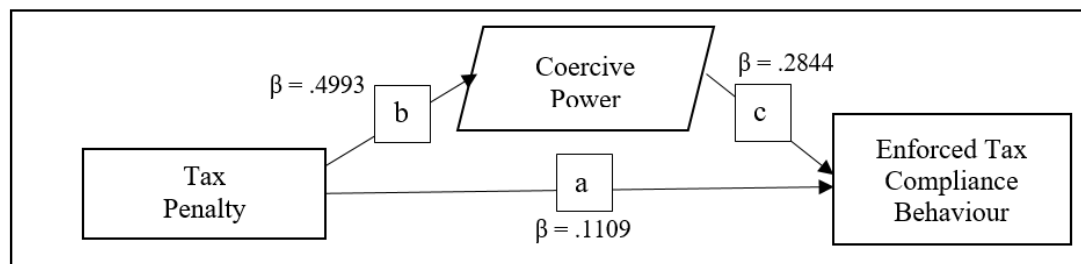


Figure 5.7
Illustration of the Mediation Path between Coercive Power (CPW), Tax Penalty (TP) and Enforced Tax Compliance Behaviour (ETCB)

Indirect impact results demonstrate a substantial positive link between tax penalty and the ETCB of e-commerce entrepreneurs, which is mediated by coercive power ($a*b=.1734$ with Bootstrap $CI_{95}=.0679$ and $.3076$). These results are based on 5000 bootstrap samples. The results of the mediation study are presented in Table 5.10 to illustrate the impact of tax penalty and coercive power on the ETCB. Coercive power, which acts as a mediator, is responsible for around 61 percent of the entire influence on the ETCB among the Malaysian e-commerce.

Table 5.10
Mediation Analysis (Tax Penalty, Coercive Power, and E-Commerce Entrepreneurs' Enforced Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TP \rightarrow CPW	.4993	.0892	5.5949	.0000	.3229	.6758
CPW \rightarrow ETCB	.3473	.0818	4.2444	.0000	.1855	.5090
TP \rightarrow CPW \rightarrow ETCB	.1109	.0961	1.1541	.2504	-.0791	.3010
<i>Effects</i>						
Direct	.1109	.0961	1.1541	.2504	-.0791	.3010
Indirect*	.1734	.0610			.0679	.3076
Total	.2844	.0921	3.0880	.0024	.1023	.4664

* Based on 5,000 bootstrap samples

5.6.3 Mediation effect of Legitimate Power to Tax Penalty and Voluntary Tax Compliance Behaviour

In addition, refer to SSF, legitimate power is examined as a potential mediator in the relationship between tax penalty and the voluntary tax compliance behaviour of e-commerce entrepreneurs. The following hypothesis, H_{3d}, represents this relationship. Figure 5.8 illustrates the mediation (via legitimate power) for tax penalty and the VTCB of entrepreneurs involved in e-commerce.

The direct and indirect effects that the variables have on one another are revealed by the findings that were produced using PROCESS. Path 'a' (TP to VTCB) features a β value of .2100 and a t-value of 1.7910, while path 'b' (TP to LPW) possesses a β value of .7617 and a t-value of 7.6745. Finally, path 'c' (LPW to VTCB) possesses a β value of .2943 and a t-value of 3.5304. Path 'a' is significant at the 10 percent level ($p = .0754$), whereas paths 'b' and 'c' are significant at the 1 percent level of significance ($p = .0000$ and $.0006$, respectively).

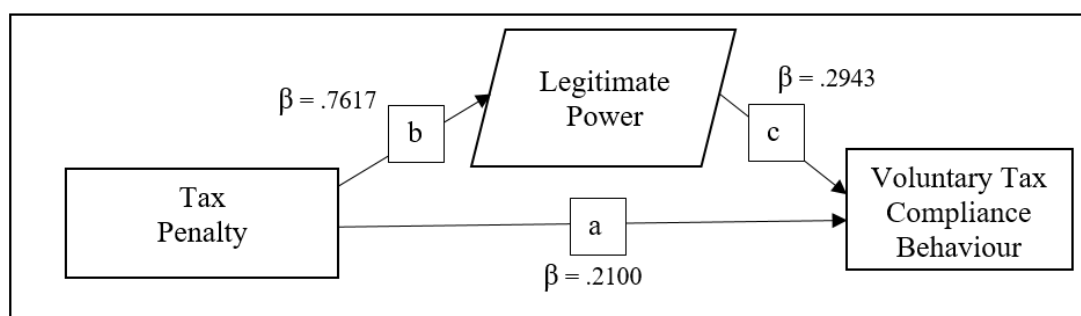


Figure 5.8
Illustration of the Mediation Path between Legitimate Power (LPW, Tax Penalty (TP) and Voluntary Tax Compliance Behaviour (VTCB)

The results of the mediation analysis to determine the impact of tax penalty and legitimate power that influence the VTCB of e-commerce entrepreneurs are presented

in Table 5.11. The indirect impact demonstrates a substantial positive association between tax penalty and the VTCB of e-commerce entrepreneurs, which is mediated by legitimate power ($a*b=.2241$ with Bootstrap $CI_{95}=.0835$ and $.3809$). This relationship is based on 5000 bootstrap samples. It is estimated that the mediator, legitimate power, is responsible for roughly 52 percent of the entire effect on the VTCB of e-commerce entrepreneurs [$P_M = (0.2241) / (0.4342)$]. It may be concluded from these findings that legitimate power acts as a mediator between tax penalty and the VTCB of e-commerce entrepreneurs, hence providing support for Hypothesis 3d.

Table 5.11
Mediation Analysis (Tax Penalty, Legitimate Power and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TP → LPW	.7617	.0993	7.6745	.0000	.5655	.9579
LPW → VTCB	.2943	.0834	3.5304	.0006	.1295	.4590
TP → LPW → VTCB	.2100	.1173	1.7910	.0754	-.0218	.4418
<i>Effects</i>						
Direct	.2100	.1173	1.7910	.0754	-.0218	.4418
Indirect*	.2241	.0752			.0835	.3809
Total	.4342	.1025	4.2363	.0000	.2316	.6367

* Based on 5,000 bootstrap samples

5.6.4 Mediation effect of Trust to Tax Penalty and Voluntary Tax Compliance Behaviour

Based on Hypothesis H_{3e} , trust effects the relationship between tax penalty and e-commerce entrepreneurs' VTCB. Figure 5.9 shows PROCESS bootstrapping to test mediation effect of trust to the relationship between tax penalty and e-commerce entrepreneurs' VTCB. The regression study indicates that tax penalty significantly predicts e-commerce entrepreneurs' VTCB at a 5% level (path 'a', TP to VTCB, $\beta = .2437$, $t = 2.1323$, $p = .0347$). The second regression analysis reveals that tax penalty significantly predicts trust (mediator) at a 1% significance level (path 'b', TP to

TRUST, $\beta = .7033$, $t = 6.8732$, $p = 0.0000$). Finally, trust significantly predicts e-commerce entrepreneurs' VTCB at a 1% significance level (path 'c', TRUST \rightarrow VTCB, $\beta = .2707$, $t = 3.3340$, $p = 0.0011$).

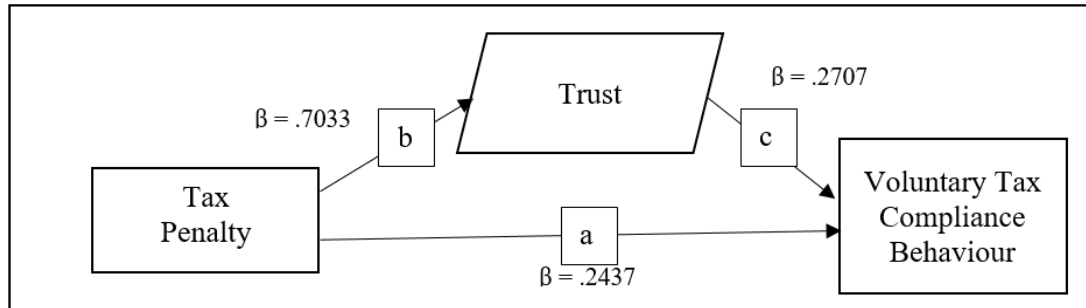


Figure 5.9

Illustration of the Mediation Path between Trust, Tax Penalty (TP) and Voluntary Tax Compliance Behaviour (VTCB)

In the indirect approach, trust mediates the relationship between tax penalty and e-commerce entrepreneurs' VTCB. The mediation investigation for tax penalty and trust on e-commerce entrepreneurs' VTCB is shown in Table 5.12. 5000 bootstrap samples show a substantial positive indirect relationship between the tax penalty and e-commerce entrepreneurs' VTCB mediated by trust ($a*b = .1904$ with Bootstrap $CI_{95} = .0588$ and $.3170$). Trust mediates 44 percent of e-commerce entrepreneurs' VTCB [$P_M = (0.1904)/(0.4342)$]. Therefore, H_{3e} is supported.

Table 5.12

Mediation Analysis (Tax Penalty, Trust and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TP \rightarrow TRUST	.7033	.1023	6.8732	.0000	.5010	.9056
TRUST \rightarrow VTCB	.2707	.0812	3.3340	.0011	.1102	.4313
TP \rightarrow TRUST \rightarrow VTCB	.2437	.1143	2.1323	.0347	.0178	.4697
<i>Effects</i>						
Direct	.2437	.1143	2.1323	.0347	.0178	.4697
Indirect*	.1904	.0656			.0588	.3170
Total	.4342	.1025	4.2363	.0000	.2316	.6367

* Based on 5,000 bootstrap samples

Even though this determinant (tax penalty) records no significant relationship with e-commerce entrepreneurs' enforced and voluntary tax compliance behaviour, in the mediation analysis, coercive power mediates the relationship between the tax penalty and e-commerce entrepreneurs' ETCB, while legitimate power and trust mediate the relationship between the tax penalty and e-commerce entrepreneurs' VTCB. This results in adding new literature to research related to tax compliance behaviour.

According to Kirchler (2007), Okoye et al. (2012), Mohdali et al. (2014), and Engida and Baisa (2014), tax non-compliance can still occur even though taxpayers are threatened with penalties. High tax penalties imposed through coercive power can be enforced instead of voluntary tax compliance behaviour (Hofmann et al., 2017a; Mardhiah et al., 2018). Ali et al. (2020) state that a high tax penalty rate, considered a coercive power, affects tax compliance behaviour. In addition, good tax guidelines and rewards may positively influence tax compliance among Malaysians (Yunus et al., 2017). This study finds that VTCB will increase when a tax penalty is imposed with legitimate power and trust.

This study finds that voluntary tax compliance behaviour will increase when a tax penalty is imposed with legitimate power and trust. Table 5.21 summarises the findings, showing that coercive power affects tax penalty by approximately 61 percent, compared to only 25 percent for tax audit rate and 36 percent for audit probability. Legitimacy and trust have the greatest impact on audit probability (about 65 and 54 percent, respectively), followed by tax penalty (about 52 and 44 percent, respectively) and tax audit rates (about 28 and 20 percent, respectively).

In summary, the determinant (tax penalty) is not directly influenced by the ETCB of the Malaysian e-commerce entrepreneurs, but this relationship is mediated by coercive power, whereas the relationship between the tax penalty and VTCB is mediated by legitimate power and trust. The coercive imposition of severe tax penalty has the potential to enhance adherence to tax compliance regulations. Effective tax regulations and incentives have the potential to enhance tax compliance in Malaysia.

5.7 Results and Discussions on Tax Service

This study examined how the tax service affects Malaysian e-commerce entrepreneurs' voluntary tax compliance. Tax service is chosen to predict e-commerce entrepreneurs' voluntary tax compliance behaviour. The perception of great tax authority services includes legal regulations, professional service, perceived justice, and excellent client service (IRBM, 2017). This is also considered along with legitimate power and trust to evaluate voluntary tax compliance behaviour among Malaysian e-commerce. The next section employs direct and indirect models to explain the results and discussion.

5.7.1 Tax Service and Voluntary Tax Compliance Behaviour

Hypotheses H_{4a} examine whether tax service influence e-commerce entrepreneurs' voluntary tax compliance behaviour (VTCB). The multiple regression results, where the β value for tax service is .461, with a p-value of .000, SE = .114, t = 4.057 and significant at a 1 percent level ($p < 0.001$). The result shows that tax service significantly relates to e-commerce entrepreneurs' VTCB. Thus, H_{4a} is supported, indicating that tax service greatly affects e-commerce entrepreneurs' VTCB.

Tax service has a considerable positive relationship with VTCB, as shown by Alabede et al. (2011), (2012), Alm et al. (2010), (2016), Alm and Torgler (2011), and Alm, Kirchler, and Muehlbacher (2012). Tax service includes helpful tax information, cheaper tax service, taxpayer hospitality, and tax law expertise that affects voluntary tax compliance. This study found that e-commerce entrepreneurs are satisfied with tax authority services rather than mediators' power or trust. The finding supports IRBM's 2017 and 2018 customer satisfaction ratings of 98 percent and 99 percent.

Table 5.13
Results for the Tax Service and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour

Determinants	Hypothesis	VTCB	Result
Tax Service	H _{4a} : There is a significant relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.	$\beta = .461$ SE = .114 t = 4.057 p = .001	Significant at 1 percent (p < 0.01)

5.7.2 Mediation effect of Legitimate Power to Tax Service and Voluntary Tax Compliance Behaviour

The PROCESS Macro used to demonstrate both direct and indirect mediation effects between variables. Hypothesis H_{4d} investigates the function of legitimate power in mediating the relationship between tax service and VTCB among e-commerce entrepreneurs in Malaysia. Figure 5.7 depicts how legitimate power mediates the relationship between tax service and e-commerce entrepreneurs' VTCB. The path 'a' (TS to VTCB) has a $\beta = .3966$, t = 3.7434, path 'b' (TS to LPW) has a $\beta = .7630$, t = 9.4366, and path 'c' (LPW to VTCB) has a $\beta = .1747$, t = 2.0267. Paths 'a', 'b', and 'c' are significant (p = .0003, .0000, and .0446, respectively) at the 5 percent significance level (p = .0446).

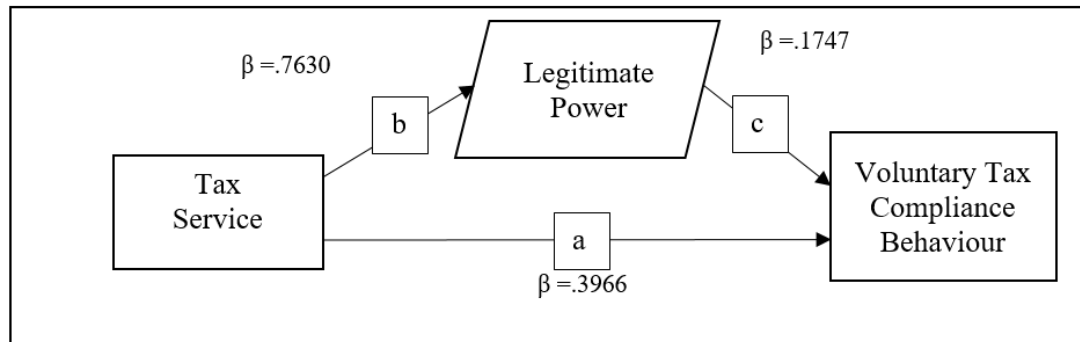


Figure 5.10
Illustration of the Mediation Path between Legitimate Power (LPW), Tax Service (TS) and Voluntary Tax Compliance Behaviour (VTCB)

Table 5.14 indicates how legitimate power mediates the relationship between tax service and e-commerce entrepreneurs' VTCB. According to 5000 bootstrap samples, there is no significant indirect relationship between the tax service and e-commerce entrepreneurs' VTCB mediated by legitimate power ($a*b = .1333$ with Bootstrap $CI_{95} = -.0462$ and $.3267$). Therefore, H_{4d} is unsupported.

Table 5.14
Mediation Analysis (Tax Service, Legitimate Power, and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TS \rightarrow LPW	.7630	.0809	9.4366	.0000	.6031	.9228
LPW \rightarrow VTCB	.1747	.0862	2.0267	.0446	.0043	.3452
TS \rightarrow LPW \rightarrow VTCB	.3966	.1060	3.7434	.0003	.1872	.6061
<i>Effects</i>						
Direct	.3966	.1060	3.7434	.0003	.1872	.6061
Indirect*	.1333	.0951			-.0462	.3267
Total	.5299	.0840	6.3112	.0000	.3640	.6959

* Based on 5,000 bootstrap samples

5.7.3 Mediation effect of Trust to Tax Service and Voluntary Tax Compliance Behaviour

This section examines the mediation role of trust results on the relationship between tax service and e-commerce entrepreneurs' VTCB based on H_{4e} . A bootstrapping

method was performed and results as illustrated in Figure 5.11. The regression analysis shows that tax service is a significant predictor of e-commerce entrepreneurs' VTCB at a 1 percent level of significance (path 'a', TS to VTCB has a $\beta = .4218$, $t = 3.8681$, $p = .0002$). Next, the result of the second regression analysis shows that at a 1 percent significance level, tax service is a significant predictor of trust, the mediator (path 'b', TS to TRUST has a $\beta = .7901$, $t = 9.9909$, $p = 0.0000$). Lastly, the result shows that trust is not a significant predictor (at any significance level) of e-commerce entrepreneurs' VTCB (path 'c', TRUST to VTCB has a $\beta = .1369$, $t = 1.5435$, $p = .1250$).

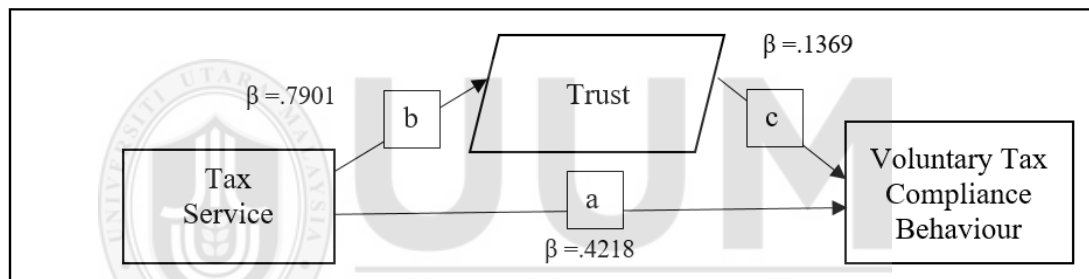


Figure 5.11
Illustration of the Mediation Path between Trust, Tax Service (TS) and Voluntary Tax Compliance Behaviour (VTCB)

Table 5.15 shows the mediation analysis results for the effect of tax service together with trust on e-commerce entrepreneurs' VTCB. The results of the indirect effect based on 5000 bootstrap samples show that there is no significant indirect relationship between tax service and e-commerce entrepreneurs' VTCB mediated by trust ($a*b = .1081$ with Bootstrap $CI_{95} = -.0480$ and $.3120$). This indicates trust does not mediate the relationship between tax service and e-commerce entrepreneurs' VTCB. Therefore, Hypothesis H_{4e} is rejected.

Table 5.15

Mediation Analysis (Tax Service, Trust, and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TS → TRUST	.7901	.0791	9.9909	.0000	.6338	.9464
TRUST → VTCB	.1369	.0887	1.5435	.1250	-.0384	.3122
TS → TRUST → VTCB	.4218	.1090	3.8681	.0002	.2062	.6374
<i>Effects</i>						
Direct	.4218	.1090	3.8681	.0002	.2062	.6374
Indirect*	.1081	.0928			-.0480	.3120
Total	.5299	.0840	6.3112	.0000	.3640	.6959

* Based on 5,000 bootstrap samples

The findings of this study indicate that entrepreneurs in the e-commerce industry are satisfied with the services provided by tax authorities rather than the legitimate power or trust of mediators. This is in contrast to the conclusions of Kirchler (2007) and Torgler (2011), who stated that in order to increase the level of trust that tax authorities have in their services, it is strongly suggested that a "service and client" approach be implemented. Findings by Maseko (2013), the quality of tax services can have an effect on the decisions that taxpayers make regarding their compliance with tax laws. Faizal et al. (2019) found that taxpayers' awareness of the service given by tax authorities and the certainty acquired can enhance tax compliance. They also noted that this awareness can promote tax compliance. Taxpayers' understanding of the service offered by tax authorities can also increase tax compliance.

5.8 Results and Discussions on Tax Complexity

Tax complexity causes problems in understanding tax laws, computation of tax liability and other tax procedures (Millron, 1985), and compliance with tax laws (Saad, 2010) and this is selected as determining variables of e-commerce entrepreneurs' VTCB. This research used the tax complexity as a determinant of the VTCB of e-commerce entrepreneurs in Malaysia. Besides that, this determinant is also examined

together with legitimate power and trust to determine VTCB. The results and discussion will be explained in the next section, which starts with direct and indirect models.

5.8.1 Tax Complexity and Voluntary Tax Compliance Behaviour

Contrarily, the β value and p-value for tax complexity are .105 and .235, respectively, showing no significant correlation with the e-commerce entrepreneurs' VTCB. Therefore, hypothesis H_{5a} is not supported, suggesting that tax complexity does not influence e-commerce entrepreneurs' VTCB. Table 5.16 summarises the results for tax service and tax complexity.

Table 5.16
Results for the Tax Complexity and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour

Determinants	Hypothesis	VTCB	Result
Tax Complexity	H _{5a} : There is a significant relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.	$\beta = .105$ p = .235	Not Significant (p > 0.01)

5.8.2 Mediation effect of Legitimate Power to Tax Complexity and Voluntary Tax Compliance Behaviour

Figure 5.12, illustrates the mediation analysis for legitimate power, tax complexity, and e-commerce entrepreneurs' VTCB and to examine hypothesis (H_{5d}). The results showed the direct and indirect mediating effects between the factors using SPSS PROCESS Macro Version 4.0. Path 'a' (TC to VTCB) has a β value of .0329 and a time value of .3721. Path 'b' (TC to LPW) has a β value of -.5373 and a time value of -6.8171. And path 'c' (LPW to VTCB) has a β value of .3902 and a time value of 4.7812. 'b' and 'c' have p-values of .0000 at the 1 percent significance level, while 'c' has a p-value of .7104 at all three levels of significance.

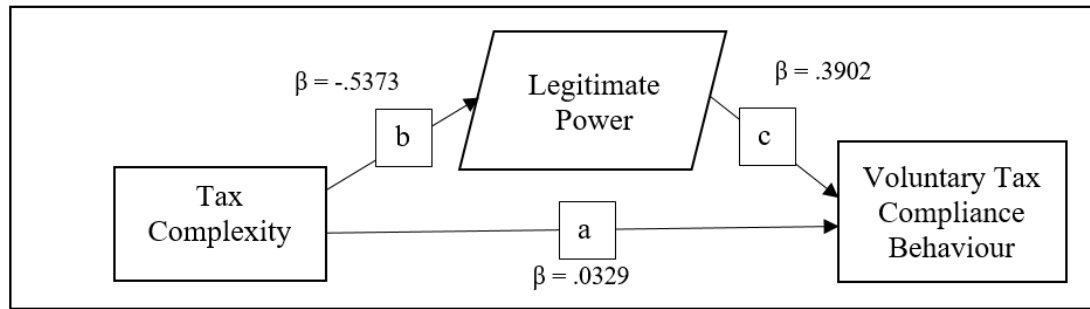


Figure 5.12

Illustration of the Mediation Path between Legitimate Power (LPW), Tax Complexity (TC) and Voluntary Tax Compliance Behaviour (VTCB)

Table 5.17 shows the mediation analysis results for tax complexity and legitimate power on e-commerce entrepreneurs' VTCB. The results of the indirect effect based on 5000 bootstrap samples show a significant indirect negative relationship between tax complexity and e-commerce entrepreneurs' VTCB mediated by legitimate power ($a*b = -.2096$ with Bootstrap $CI_{95} = -.3632$ and $-.0792$). The total effect of legitimate power on e-commerce entrepreneurs' VTCB is approximately more than 100 percent [$P_M = (-0.2096)/(-0.1768)$]. The result shows a significant negative relationship, indicating that legitimate power mediates the negative effect of tax complexity on e-commerce entrepreneurs' VTCB. Therefore, H_{5d} is supported.

Table 5.17

Mediation Analysis (Tax Complexity, Legitimate Power and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TC \rightarrow LPW	-.5373	.0788	-6.8171	.0000	-.6930	-.3815
LPW \rightarrow VTCB	.3902	.0816	4.7812	.0000	.2288	.5515
TC \rightarrow LPW \rightarrow VTCB	.0329	.0883	.3721	.7104	-.1417	.2074
<i>Effects</i>						
Direct	.0329	.0883	.3721	.7104	-.1417	.2074
Indirect*	-.2096	.0729			-.3632	-.0792
Total	-.1768	.0823	-2.1472	-.3395	-.0140	-.1752

* Based on 5,000 bootstrap samples

5.8.3 Mediation effect of Trust to Tax Complexity and Voluntary Tax Compliance Behaviour

In order to examine hypothesis (H_{5e}), a bootstrapping method was performed using PROCESS to examine if trust mediates the relationship between tax complexity and e-commerce entrepreneurs' VTCB, as illustrated in Figure 5.13. First, the regression analysis shows that tax complexity is not a significant predictor of e-commerce entrepreneurs' VTCB at any level of significance (path 'a', TC \rightarrow VTCB has a $\beta = -.0117$, $t = -.1363$, $p = .8918$). Next, the result of the second regression analysis shows that at a 1 percent significance level, tax complexity is a significant predictor of trust (mediator) (path 'b', TC \rightarrow TRUST has a $\beta = -.4682$, $t = -5.7154$, $p = 0.0000$). Lastly, the result shows that at a 1 percent significance level, trust significantly predicts e-commerce entrepreneurs' VTCB (path 'c', TRUST \rightarrow VTCB has a $\beta = .3526$, $t = 4.4485$, $p = .0000$).

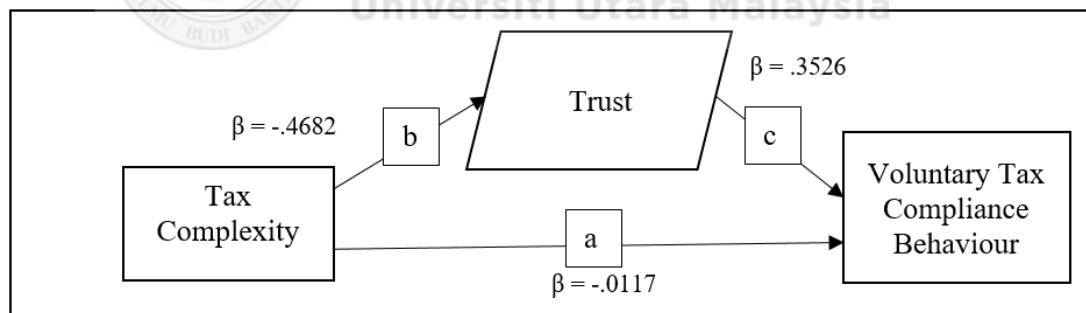


Figure 5.13
Illustration of the Mediation Path between Trust, Tax Complexity (TC) with and Voluntary Tax Compliance Behaviour (VTCB)

Table 5.18 shows the results of the mediating role of trust on the relationship between tax complexity and e-commerce entrepreneurs' VTCB. The results of the indirect effect based on 5000 Bootstrap samples show that there is a significant negative indirect relationship between tax complexity and e-commerce entrepreneurs' VTCB

mediated by trust ($a*b = -.1651$ with Bootstrap $CI_{95} = -.2766$ and $-.0671$). Trust accounts for approximately 93 percent of the total effect on e-commerce entrepreneurs' VTCB [$P_M = (-.1651)/(-.1768)$]. The result indicates a substantial relationship for the indirect model, indicating that trust mediates the relationship between tax complexity and e-commerce entrepreneurs' VTCB. Therefore, H_{5e} is supported.

Table 5.18

Mediation Analysis (Tax Complexity, Trust and E-Commerce Entrepreneurs' Voluntary Tax Compliance Behaviour)

Variable/Effect	β	SE	t	p	95% Confidence Interval	
					LLCI	ULCI
TC → TRUST	-.482	.0819	-5.7154	.0000	-.6301	-.3063
TRUST → VTCB	.3526	.0793	4.4485	.0000	.1959	.5093
TC → TRUST → VTCB	-.0117	.0858	-.1363	.8918	-.1813	.1579
<i>Effects</i>						
Direct	-.0117	.0858	-.1363	.8918	-.1813	.1579
Indirect*	-.1651	.0533			-.2766	-.0671
Total	-.1768	.0823	-2.1472	.0335	-.0140	-.1752

* Based on 5,000 bootstrap samples

Tax complexity has no significant relationship with e-commerce entrepreneurs' VTCB. However, legitimate power and trust mediate the relationship between tax complexity and e-commerce entrepreneurs' VTCB. The findings in Richardson (2006) show that tax complexity is negatively related to e-commerce entrepreneurs' VTCB when mediated by legitimate power and trust. The study findings agree with Hamid et al. (2022) and Hamid et al. (2019), which discovered that Malaysian online business taxpayers generally perceive taxation as excessively complicated regarding tax law, computation, and management. This study shows that tax return issues, rules, and guidelines can complicate taxation. However, the results are significant if handled with legitimate power (easy tax procedures, efficient and fast processing, and concern) and trust (guidance from competent staff).

5.9 Results and Discussions on Owner's age and Tax Compliance Behaviour

Multiple regression analysis results for owner's age and e-commerce entrepreneurs' enforced tax compliance behaviour (ETCB) ($\beta = .034$, $p = .605$). As for the relationship between owner's age and e-commerce entrepreneurs' VTCB, the results indicate that owner's age ($\beta = .007$, $p = .923$) as summarised in Table 5.19.

Owner's age does not influenced e-commerce entrepreneurs' ETCB or VTCB. The insignificant conclusion regarding the owner's age aligns with the findings of Adimasu and Jerene (2016) and Akinbode (2015), which indicate that age does not have a substantial impact on tax compliance behaviour. This is contrary with the study conducted by Inasius (2020) found that age had an impact on VTCB among small and medium-sized enterprises (SMEs) in Indonesia, but did not affect ETCB. Also, a study by Kumi et al. (2023) identified a positive relationship between age and enforced tax compliance among taxpayers in Ghana.

According to Ali and Ahmad (2014), young people between 15 and 40 years of age are involved in e-commerce entrepreneurship in Malaysia. Ismail and Bawa (2017) found that individuals between the ages of 25 and 34 are more likely to start their own company, which is consistent with the results of Musa's study (2018), where individuals between the ages of 31 and 40 are more actively engaged in business. Young adults, particularly those in the age range of 15-40 years, often referred to as digital natives, are more comfortable with technology and online platforms. This demographic tends to leverage digital tools and e-commerce platforms effectively for business purposes. Their familiarity with digital transactions can influence how they

perceive and manage tax compliance, as they may be more adept at navigating digital tax reporting systems or using software for financial record-keeping.

Table 5.19

Results for the Owner's age and E-commerce Entrepreneurs' Tax Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Owner's age	H _{6a} : Owner's age has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = .034$ $p = .605$		Not Significant ($p > 0.01$)
	H _{6b} : Owner's age has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = .007$ $p = .923$	Not Significant ($p > 0.01$)

5.10 Results and Discussions on Business Length and Tax Compliance Behaviour

Table 5.20 shows the multiple regression analysis results for business length ($\beta = -.99$, $p = .167$), indicate that there is no substantial relationship between business length and e-commerce entrepreneurs' ETCB. Meanwhile, business length and e-commerce entrepreneurs' VTCB indicate that business length ($\beta = -.007$, $p = .932$), do not significantly impact VTCB. The insignificance of the result regarding the length of the business is consistent with the findings of Hutagalung and Waluyo (2014) and Abdul-Jabbar (2009).

Only a few SMEs embraced e-commerce when eBay first introduced it to Malaysia in 2004. The growth only began in 2016, when 90 percent of the population became substantially active in e-commerce (AltusHost, 2016). This was around six years ago, and currently, 74 percent of respondents have fewer than five years of experience in e-commerce, in line with the findings. The landscape of business operations has become more complex as e-commerce expands. E-commerce entrepreneurs may

engage in various types of transactions, including cross-border sales and digital services, which can present challenges in accurately determining and reporting taxable income. The diverse nature of e-commerce activities may heighten the complexity of tax compliance requirements.

Table 5.20
Results for the Business Length and E-commerce entrepreneurs' Tax Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Business Length	H _{7a} : Business length has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = -.99$ $p = .167$		Not Significant ($p > 0.01$)
	H _{7b} : Business length has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = -.007$ $p = .932$	Not Significant ($p > 0.01$)

5.11 Results and Discussions on Business Size and Tax Compliance Behaviour

Multiple regression analysis results for business size ($\beta = .080$, $p = .486$) indicate that there is no substantial relationship between business size and e-commerce entrepreneurs' enforced tax compliance behaviour. Also, for the relationship between business size and e-commerce entrepreneurs' VTCB, the results indicate that business size ($\beta = -.196$, $p = .117$) does not significantly impact VTCB. The results do not support any of the hypotheses from H_{8a} to H_{8b}, indicating that the business size does not influence the ETCB or VTCB of e-commerce entrepreneurs. Table 5.21 summarizes the results for the business size determinant. In general, large businesses commonly comply with tax reporting compared to small businesses (Akinboade, 2015; Kamleitner et al., 2012; Ojeka et al., 2015; Sapiei et al., 2014), implying that micro-enterprises rarely pay their taxes even though they registered their business and filed their taxes.

Even though there is no significant relationship between business size and tax compliance behaviour, it still has to focus in terms of give the tax education for tax awareness. The small e-commerce business may struggle with financial records and tax requirements. Due to the fast and decentralized nature of transactions in the digital economy, small e-commerce businesses may find it challenging to meet their tax reporting obligations. While large companies in e-commerce could use advanced accounting and financial tools to simplify tax reporting. Therefore, e-commerce in micro-enterprises may use manual or basic accounting systems, which can lead to tax filing problems.

Table 5.21
Results for the Business Size and E-commerce Entrepreneurs' Tax Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Business Size	H _{8a} : Business size has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = 0.80$ $p = .486$		Not Significant ($p > 0.01$)
	H _{8b} : Business size has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = -.196$ $p = .117$	Not Significant ($p > 0.01$)

5.12 Results and Discussions on Income Source and Tax Compliance Behaviour

Table 5.22 displays the summary results for the income source factors. The multiple regression analysis results for income source ($\beta = .80$, $P = .847$) indicate that there is no substantial relationship between income source and e-commerce entrepreneurs' ETCB. Then, for the relationship between income source and e-commerce entrepreneurs' VTCB, the results indicate that income source ($\beta = .031$, $P = .741$). None of the hypotheses from H_{9a} to H_{9b} receive support from the results, indicating that the selected income source factor does not influence the tax compliance behaviour of e-commerce entrepreneurs.

Several factors influence the significance of income source in determining tax compliance behaviour among e-commerce entrepreneurs in Malaysia, potentially contradicting the findings of Stefura (2012) and Yusuf and Mohd (2017). This is because the nature of e-commerce income can differ significantly in terms of stability, predictability, and visibility. However, tax authorities should be aware that e-commerce entrepreneurs may receive income from multiple sources, including direct sales, affiliate marketing, and digital services. The variability and sometimes irregular nature of income streams can make it challenging to accurately assess and report income for tax purposes.

Table 5.22
Results for the Income Source and E-commerce Entrepreneurs' Tax Compliance Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Income Source	H _{9a} : Income source has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = .80$ $p = .847$		Not Significant ($p > 0.01$)
	H _{9b} : Income source has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = .031$ $p = .741$	Not Significant ($p > 0.01$)

5.13 Results and Discussions on Permanent Establishment and Tax Compliance Behaviour

The findings from Table 5.23, which present the results of multiple regression analysis, suggest that permanent establishment ($\beta = .023$, $p = 0.824$) does not demonstrate a substantial relationship with e-commerce entrepreneurs' enforced tax compliance behaviour (ETCB). Similarly, regarding the impact on e-commerce entrepreneurs' voluntary tax compliance behaviour (VTCB), the results indicate that permanent establishment ($\beta = .090$, $p = 0.417$) also lacks significant influence.

It is noteworthy that many e-commerce businesses operate digitally across various jurisdictions without establishing a physical presence. They often rely on methods such as drop-shipping, digital goods delivery, and cloud-based services, which do not typically require a traditional physical establishment. Consequently, these businesses may not meet the thresholds for establishing a permanent establishment (PE) that would trigger tax compliance obligations in different countries. Some jurisdictions set the thresholds for determining PE so high that many e-commerce enterprises remain below them, preventing the establishment of a PE and minimizing the impact on their tax compliance behaviour.

Moreover, while a majority of respondents indicated Malaysia as their primary location for conducting e-commerce transactions, some opted for other countries, reflecting the flexibility and digital nature of modern business operations. These factors collectively contribute to the nuanced relationship between permanent establishments and the tax compliance behaviour of e-commerce entrepreneurs, as observed in the study's regression analysis results.

Table 5.23
Results for the Permanent Establishment and E-commerce Entrepreneurs' Tax Compliance Behaviour

Determinants	Hypothesis	ETCB	VTCB	Result
Permanent Establishment	H _{10a} : Permanent establishment has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	$\beta = .023$ $p = .824$		Not Significant ($p > 0.01$)
	H _{10b} : Permanent establishment has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.		$\beta = .090$ $p = .417$	Not Significant ($p > 0.01$)

5.14 Summary of the Chapter

This chapter presents and discusses findings from a study that investigated 31 hypotheses about the factors influencing tax compliance behaviour among Malaysian e-commerce entrepreneurs. Using SPSS and the PROCESS tool, the study examined various factors, including main effects and mediators such as coercive power, legitimate power, and trust. The results indicate that tax audit rate and audit probability significantly impact ETCB among e-commerce entrepreneurs. However, this study found no significant effect of the tax penalty. Demographic factors such as the owner's age, business length, size, and income source, as well as the presence of a permanent establishment, did not show a significant influence on any tax compliance behaviour.

Furthermore, coercive power was identified as a mediator in the relationship between tax audit rate, audit probability, tax penalty, and enforced tax compliance behaviour. Notably, the study highlighted that the tax penalty, despite not directly influencing compliance, plays a more substantial role alongside coercive power in improving tax compliance among Malaysian e-commerce entrepreneurs.

The study found that only the tax audit rate and tax service directly affect VTCB. Demographic factors and the presence of a permanent establishment did not show a significant influence. This study identified legitimate power as a mediator for the effects of tax audit rate, audit probability, tax penalty, and tax complexity on VTCB. Tax services, on the other hand, directly influenced VTCB, regardless of legitimate power or trust mediation. Overall, the study's significant findings supported fifteen out of thirty-one hypotheses, providing insights into the complex dynamics influencing tax compliance behaviour in the e-commerce sector in Malaysia.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 Introduction

This part recapitulates and summarises the study, describes the contributions and implications, outlines research limitations, and suggests some directions for future studies on e-commerce entrepreneurs' tax behaviour. A conclusion is given at the end.

6.2 Recapitulation and Summary of the Study

Electronic commerce, also known as e-commerce, is a modern business model that has had consistent annual growth in income since its inception. Nevertheless, a decline in tax revenue signifies issues with tax adherence among all taxpayers, encompassing self-employed persons, firms, and e-commerce entrepreneurs. To encourage voluntary tax compliance among taxpayers, the Malaysian tax administration has implemented enforcement strategies like high audit rates and tax penalties. Nevertheless, these tactics are in conflict with the SSF, which acknowledges that the enforcement methods enhance compliance with enforced tax regulations but do not have the same effect on voluntary compliance. This scenario is consistent with the findings of Devos (2014), who argued that despite the existence of detection mechanisms, punishments, and sanctions, complete compliance has not been achieved.

Simultaneously, the act of enforcing has become financially impractical and has led to a detriment to society. This research aims to examine the impact of various factors, such as tax audit rate, audit probability, tax penalty, tax service, tax complexity,

owner's age, business length, business size, income source, and permanent establishment, on the tax compliance behaviour of e-commerce entrepreneurs in Malaysia.

Also, this research provides a concise overview of e-commerce, including its fundamental premise, the various revolutions it has undergone, and the different business models that exist within e-commerce, the development of e-commerce in Malaysia, and the taxation policies that apply to e-commerce. The chapter also presents three models employed in the study: the SSF, Fischer's model, and the Permanent Establishment Principle. The SSF distinguishes between two types of tax compliance behaviour: imposed tax compliance activity and voluntary tax compliance behaviour. The links between enforced and voluntary tax compliance behaviours have been investigated by examining determinants such as audit rate, audit probability, tax penalty, and demographic factors including permanent establishment.

In addition, the SSF discovered that the coercive power of the tax authority affects the compliance with taxes that are enforced, whereas the legitimate power of the tax authority and faith in it affects the behaviour of taxpayers who voluntarily comply with their tax obligations. In light of this, the research also investigates the impacts of coercive power on the enforced tax compliance behaviour of e-commerce entrepreneurs, specifically regarding the tax audit rate, audit probability, and tax penalty. Moreover, this study explores the impacts of legitimate power and trust, as well as audit rate, audit probability, tax penalty, tax service, and tax complexity, on the voluntary tax compliance behaviour of enterprises involved in e-commerce. In addition, demographic factors are taken into consideration, specifically the owner's

age, business length, business size, income source (adopted from Fisher's model), and permanent establishment (adopted from the Permanent Establishment Principle). Additionally, gender and ethnicity were incorporated into the design of the control variables.

In Chapter 3, thirty-one hypotheses were developed from the conceptual framework of the research to answer research questions (RQ1 to RQ5). This survey-based study collected data through an electronic questionnaire sent to e-commerce entrepreneurs involved in e-commerce transactions, with a sample size of 500. Systematic random sampling was employed to identify the sample of data.

Five techniques are used to analyse the data: descriptive statistics analysis, pilot test (30 respondents), correlation analysis using Pearson Product Moment Correlation, multi-regression analyses to identify direct model relationships and a simple mediation model to identify indirect models for the mediation effects. This study used SPSS (Version 22) and SPSS PROCESS Macro (Version 4.0) to analyse the data and answer the research questions.

Chapter 4 provides a detailed explanation of the data analysis. This study employed a survey to collect viewpoints from e-commerce entrepreneurs. Out of the 500 participants, nearly 42 percent (210 individuals) replied. After completing screening and cleaning, 146 respondents, or 29 percent, provided valid data. The participants in the study consisted of dropshippers, agents, and business owners who were between the ages of 31 and 40. The majority of them had fewer than five years of experience in the field of e-commerce. The individuals in question are categorised as micro-

enterprises and small-scale e-commerce entrepreneurs, with the majority of respondents being female. The participants are employed in the retail industry, specifically in both business-to-consumer (B2C) and business-to-business (B2B) transactions. The majority of Malaysian e-commerce entrepreneurs have officially established their businesses and submitted their tax returns. Around 80 percent of them have permanent establishments (PEs) within Malaysia, while the rest have PEs outside of Malaysia or in both locations.

The mean scores in this study indicate a moderate level, ranging from 3.00 to 3.99 (as defined by Jamil, 2005). The mean score for tax audit rate is 3.94, tax penalty 3.82, audit probability 3.58, tax service 3.37, and tax complexity 3.06. Meanwhile, the mean scores for the mediators are 3.71 for coercive power, 3.63 for legitimate power, and 3.52 for trust. Scores for enforced and voluntary tax compliance behaviours are 3.57 and 3.60, respectively.

The reliability test shows that coercive power, legitimate power, trust, voluntary tax compliance behaviour, and tax service are highly reliable (the scores are above 0.7). According to Hinton et al. (2014), audit probability, tax complexity, tax audit rate, and tax penalty are moderately reliable predictors of enforced tax compliance behaviour (with scores between 0.5 and 0.7). The Pearson correlation results indicate a moderate linear relationship between the variables. Additionally, this chapter includes the preparation of multiple regression analysis with both direct and indirect models.

Chapter 5 discusses the results in detail on RO1 to RO5. According to the hypothesis results, only the tax audit rate is significant and influences both enforced and voluntary

tax compliance behaviours of e-commerce entrepreneurs. Audit probability only affects enforced tax compliance behaviour, while tax service affects voluntary tax compliance behaviour. Tax penalty has no substantial relationship with any tax compliance behaviour of e-commerce entrepreneurs. However, coercive power mediates the relationship between tax audit rate, audit probability, tax penalty, and enforced tax compliance behaviour. Legitimate power and trust mediate the relationship between tax audit rate, audit probability, tax penalty, tax complexity, and voluntary tax compliance behaviour of e-commerce entrepreneurs. However, legitimate power and trust do not mediate the relationship between tax service and voluntary tax compliance behaviour of e-commerce entrepreneurs.

Chapter 6 explains the study recapitulation and summarization for all chapters. Additionally, the chapter highlights the theoretical, practical, and methodology contributions and their implications, while also acknowledging the research's limitations and outlining future research directions. The chapter ends with concluding remarks.

6.3 Contribution and Implication of the Study

This study provided contributions and implications for theoretical, practical, and methodological policymakers, academics, and policy practitioners. This aligns with Summer's (2001) stress on the importance of a study's contributions, particularly conceptual, empirical, and methodological. The subsequent sections go over the contributions and effects in detail.

6.3.1 Theoretical Implications

This study used SSF, Fisher's model, and the Permanent Establishment Principle to investigate the influence of the determinants on e-commerce entrepreneurs' tax behaviour. It provides results that reinforce each model's suggestions. This study investigated the three determinants of e-commerce entrepreneurs' enforced and voluntary tax compliance behaviour, i.e., tax audit rate, audit probability, and tax penalty. The outcomes indicate that tax audit rate and audit probability influence e-commerce entrepreneurs' enforced tax compliance behaviour, consistent with the SSF's suggestion. But it is not a tax penalty. This contradicts the SSF. The tax penalty is an economic approach that influences the enforcement of tax compliance behaviour, but it does not apply to Malaysian e-commerce entrepreneurs.

The respondents are among microenterprises that start an e-commerce business and might not fully understand their tax responsibilities. They may not be aware of the possible consequences of not following the rules, or they may not realize how bad tax fraud is. However, the tax penalty requires coercive power to influence e-commerce entrepreneurs' enforced tax compliance behaviour. The result is accordant with the SSF theory, which the theory also applies to tax audit rate and audit probability.

Moreover, voluntary tax compliance behaviour is influenced by tax audit rate and tax service of the e-commerce entrepreneurs. This is contrary to the SSF, where the tax audit rate is an economic factor but also influences voluntary tax compliance, especially among e-commerce entrepreneurs in Malaysia. IRBM can actually use economic approaches, such as tax audit rates, to influence voluntary tax compliance behaviour. Although audit probability and tax penalty are enforced determinants,

legitimate power and trust are required as mediators between these determinants and voluntary tax compliance behaviour. Tax complexity also mediates the impact of legitimate power and trust on e-commerce entrepreneurs' voluntary tax compliance behaviour. Unfortunately, demographic factors in Fisher's model do not influence e-commerce entrepreneurs' tax behaviour, and the same applies to the view of permanent establishment. Despite the lack of contribution from the Fischer's Model and PE principle to tax compliance behaviour, the tax authority can concentrate on other factors that exert a greater influence.

6.3.2 Practical Implication

The study's findings will be helpful to IRBM in managing tax collections from e-commerce entrepreneurs who have the potential to make significant contributions to the Malaysian economy. As such, this study recommends that IRBM play an aggressive role in encouraging e-commerce entrepreneurs and reducing their fear by strengthening e-commerce entrepreneurs' knowledge of taxation, which is vital for the nation's economic growth. The study's results also indicate the demand for the government to expand and administer more audit and investigation plans to increase tax compliance behaviour among e-commerce entrepreneurs.

However, audits and investigations should not only seize tax evaders but also educate them on their responsibilities as taxpayers, how to calculate taxes, and how to identify tax problems. When appropriately done, coercive power includes the absolute authority to collect taxes, punish and reward taxpayers, implement deterrence strategies, punish taxpayers, and prosecute taxpayers using the deterrence strategy. Taxpayers fear being audited and facing penalties. However, the IRBM should be more

friendly and welcoming to taxpayers or potential taxpayers to reduce coercive power elements.

Over time, the government should enhance its management strategies to promote voluntary compliance among taxpayers. It is recommended to disseminate pamphlets, brochures, or fliers to eligible taxpayers to educate them on the correct procedures for tax payment. In Malaysia, support agencies are available to deal with and collaborate with entrepreneurs to provide separate information about taxation, enhancing tax compliance behaviour.

Furthermore, the Ministry of Higher Education can create a curriculum on taxation embedded in a course such as entrepreneurship. This is to check students' understanding of compliance behaviour when they become taxpayers. Implementing taxation in a curriculum can equip future taxpayers to fulfil their responsibilities as taxpayers. In addition, the tax authority can establish favourable relationships towards the public and conduct effective programs regularly on taxation so that the public can improve their belief and trust in the tax authority.

This study's findings can help policymakers to understand better the tax compliance behaviour of e-commerce entrepreneurs in Malaysia. Policymakers can find ways to promote and motivate e-commerce entrepreneurs to carry out their tax obligations. The study suggests that improvements in tax services and a reduction in tax complexity, including implementing strict and practical measures such as holistic audits and investigations by the tax authority, will maximise compliance behaviour. The IRBM is advised to focus more on legitimate power determinants, such as comprehensive

procedures in tax collection and processing, efficient and fast tax services, and the capability of staff to offer sound advice and information to taxpayers. The IRBM also has the right to indict tax evaders. To gain trust, the IRBM needs necessary political support and reliable, knowledgeable staff who can advise and guide taxpayers on any tax issue.

6.3.3 Methodology Implication

This study used SPSS to identify the relationship between variables, either direct or indirect. IBM SPSS Statistics uses the SPSS Process macro as a popular tool for conducting moderation, mediation, and conditional process analysis. Andrew F. Hayes, a renowned researcher in quantitative methods, developed it. The Process macro provides a user-friendly interface for estimating various statistical models to test hypotheses about the relationships between variables. In mediation analysis, the Process macro estimates the indirect (mediated) effect of an independent variable on a dependent variable via one or more intervening variables (mediators). Researchers can evaluate the degree to which the proposed mediators transmit the independent variable's effect on the dependent variable.

It provides a user-friendly interface that guides researchers through the necessary steps and calculations, reducing the likelihood of errors in model specification and interpretation. The Process macro enables simultaneous estimation of multiple paths and effects within a single analysis. It also can combine moderation and mediation analyses, which lets researchers look at more complex relationships between variables. For instance, researchers can use moderated mediation and mediated moderation models, which may be challenging to achieve with traditional multiple regression

alone. It also employs bootstrapping techniques to estimate confidence intervals for indirect effects and conditional effects. Bootstrapping is a resampling method that does not rely on assumptions about the distribution of the indirect effect, making it more robust and accurate, especially for small sample sizes or non-normally distributed data.

For the conditional effects analysis, SPSS Process Macro makes it easier to look at conditional (moderated) effects. This lets researchers see how the strength and direction of relationships between variables may change when there are different levels of moderator variables. This functionality is particularly useful for testing hypotheses about boundary conditions and identifying when and for whom the effects are most pronounced. Then, this tool generates comprehensive output that includes estimates of direct and indirect effects, significance tests, confidence intervals, and other relevant statistics. This can easily interpret and report their findings thanks to the clear and intuitive format of this output. Besides that, the Process macro offers advanced features, such as probing interactions, plotting conditional effects, and conducting serial mediation analyses. These features provide additional flexibility and depth in exploring complex relationships between variables. I used this study to identify the simple mediation between coercive power and enforced tax compliance behaviour, as well as between legitimate power and trust in voluntary tax compliance behaviour.

6.4 Limitations and Direction of Future Research

There are several limitations in this research. First, this study uses only e-commerce entrepreneurs as the study participants. There are other types of digital economies, such as those based on entrepreneurship in cryptocurrencies and cloud computing. Future studies could focus on these different types of entrepreneurs in the digital

economy. In addition, this study has only a few e-commerce business models from B2B, B2C, and B2G respondents. Palme (2017) identified six e-commerce business models, including Business-to-Business (B2B), Business to Consumer (B2C), Consumer to Consumer (C2C), Consumer to Business (C2B), Business to Government (B2G), and Consumer to Government (C2G). C2C, C2B, and C2G are other e-commerce business models that could be considered.

Second, the primary data obtained through questionnaires may result in differences in perceptions between researchers and respondents because they cannot clarify each other's statements. Future studies may want to combine questionnaires with interviews so that the research may be more representative and the respondents' perceptions can be further investigated. While, this study has some limitations, notably the use of a minimal number of questions to measure each variable. This approach was adopted to ensure that respondents did not perceive the questionnaire as too extensive, which could lead them to provide casual rather than thoughtful answers. However, this strategy may result in less reliable responses. Additionally, the reduced number of questions might not capture the full complexity of each variable, potentially affecting the study's overall validity and the robustness of its conclusions. Future research could benefit from a more comprehensive questionnaire design, balancing the need for thoroughness with respondent engagement.

Third, the respondents are primarily micro-enterprise entrepreneurs rather than small, medium, or large companies. Most respondents generate their income through the Internet, whether from a website, social media, blogs, product reviews, online tutorials, YouTube channels, or other businesses using the Internet channels. Future studies are

expected to stratify based on three business sizes since each has different respondent characteristics. Thus, a bias might happen in the results.

Finally, this study is constrained by the use of determinants of the SSF, Fisher's Model, and Permanent Establishment Principle, namely tax audit rate, audit probability, tax penalty, tax service, tax complexity, and demographic factors (the owner's age, business length, income source, business size, and permanent establishment). Other researchers may want to consider other models and determinants, such as tax knowledge, tax attitudes, norms, perceived fairness, peer influence, and level of education. Furthermore, promoting tax compliance behaviour can act as a mediator. Overall, the limitations are related to the group of studies, method of data collection, low response rate, and determinants used.

6.5 Conclusion

The expansion of e-commerce is expected to contribute to Malaysia's revenue. Malaysia's main revenue stream is derived from taxes, encompassing both direct and indirect taxes. The tax collection in Malaysia remains low as a result of tax evasion or non-compliance, particularly in the e-commerce sector. The Income Tax Act of 1967 requires modification to more effectively correspond with the present technological environment and enhance the tax system for e-commerce industries. The rapid growth of e-commerce in Malaysia will lead to a significant decline in revenue.

The Self-Assessment System (SAS) is a method aimed at enhancing the level of voluntary compliance among taxpayers, with the government aspiring for all taxpayers to fulfil their tax obligations. Nevertheless, tax non-compliance can be attributed to

other factors. The IRBM, as a tax-collecting authority, has implemented proactive initiatives to promote taxation, foster confidence, and provide streamlined services to facilitate tax preparation and payment. However, there has been no improvement in tax collection rates. However, the preventive procedures that were put in place resulted in strict adherence to tax regulations. Hence, the objective of the research is to examine the determinants that influence the tax compliance behaviour of e-commerce entrepreneurs.

The findings show that the tax audit rate and audit probability affected enforced tax compliance behaviour. Tax penalty must go hand in hand with coercive power to influence enforced tax compliance behaviour of the e-commerce entrepreneurs in Malaysia. Given that anyone, regardless of age, can conduct e-commerce, the tax policy should concentrate on the tax audit rate and audit probability. Audits and investigations are comprehensive and focus on more than just business registrants.

Tax services, in turn, can influence voluntary tax compliance behaviour and do not require intermediaries such as legitimate authority and trust. Previous researchers assumed that the tax audit rate was an economic determinant, but it also influenced voluntary tax compliance behaviour. Then, the audit probability and tax penalty revealed the need to carry them out through intermediaries like legitimate authority and trust, thereby increasing voluntary tax compliance behaviour. However, demographic factors such as the owner's age, business length, business size, income source, and permanent establishment cannot influence e-commerce entrepreneurs' tax compliance behaviour. These findings have answered the research questions, and the study has achieved its objectives.

This study reveals that e-commerce entrepreneurs comply with tax regulations mainly because of the enforcement mechanisms. The tax audit rate and audit probability play a central role in ensuring enforced tax compliance, while tax penalties have an effect only when tax authorities use coercive powers. However, prevention measures alone cannot account for the level of tax compliance among e-commerce entrepreneurs. Tax services impacted voluntary tax compliance behaviour, but not tax complexity. Combining tax complexity, legitimate power, and trust in tax authority leads to an increase in voluntary tax compliance behaviour among e-commerce entrepreneurs.

Legitimate power and trust should work together to address tax complexity. The significant negative relationship suggests that as tax complexity increases, e-commerce entrepreneurs' voluntary tax compliance behaviour will decrease. Overall, tax audit rate, audit probability, and tax service influence e-commerce entrepreneurs' tax compliance behaviour. Also, the mix of mediators, like coercive power, legitimate power, and trust, affects other factors, like tax penalties, tax complexity, and how tax-compliant e-commerce entrepreneurs are, but not permanent establishment or demographic factors. Figure 6.1 depicts the hypotheses as a conclusion after the findings.

Overall, the findings of this study have several implications for tax policy and administration in Malaysia. First, enhancing audit effectiveness and maintaining adequate audit rates can bolster voluntary compliance among e-commerce entrepreneurs. Second, investing in strategies that build and maintain trust in the tax authority, such as transparency, fairness, and taxpayer education initiatives, can complement enforcement efforts and encourage sustained compliance. Third,

policymakers should consider tailored approaches for regulating the digital economy, taking into account the unique challenges and opportunities posed by e-commerce transactions. The other countries such as Indonesia and China, can use these findings in order to enhance their tax compliance among their e-commerce entrepreneurs.

As these factors closely link to coercive power, legitimate power, and trust, the tax authority should prioritize addressing the tax audit rate, audit probability, tax penalty, tax service, and tax complexity. To encourage more voluntary tax compliance, the tax authority must enhance its legitimate power and trust. This study contributes to tax collection by addressing the significant determinants mentioned above.



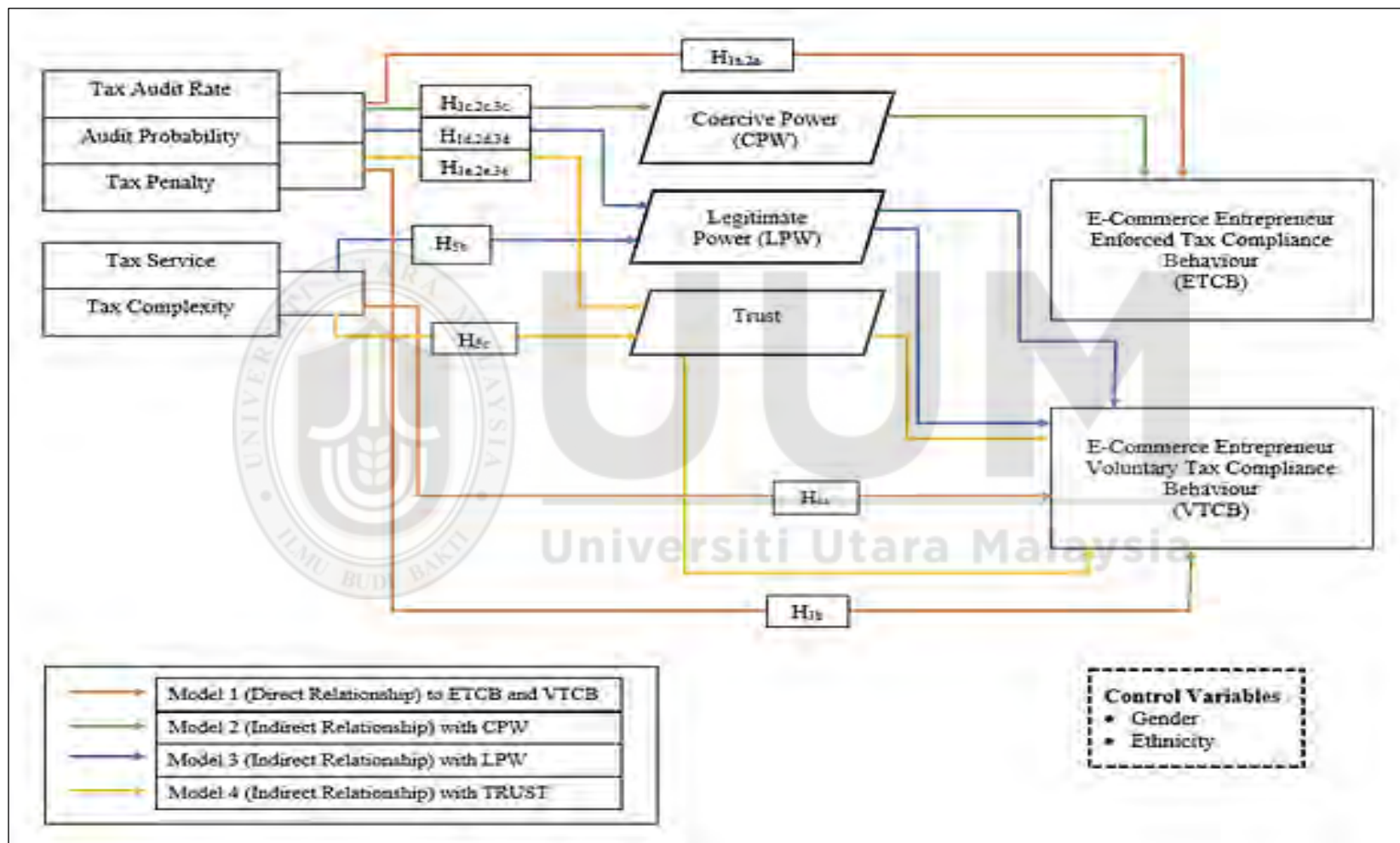


Figure 6.1
Hypotheses Framework (After Findings)

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APPENDICES

APPENDIX 1 : PERMISSION TO COLLECT DATA

	OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS Universiti Utara Malaysia 06010 UUM SINTOK KEDAH DARULAMAN MALAYSIA	
		Tel: 604-928 7101/7113/7130 Faks (Fax): 604-928 7160 Laman Web (Web): www.oyagsb.uum.edu.my

JUM/OYAGSB/R-4/4/1
16 July 2020

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **ADIEBAH BINTI AHMAD (Matric No: 902891)** is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing her Doctor of Philosophy (PhD). She is conducting a research entitled "**Determinants of E-Commerce Entrepreneur Tax Compliance Behaviour**" under the supervision of Assoc. Prof. Dr. Naraza Bt Mat Udin and Dr. Rusniza Binti Abdul Rahman.


In this regard, we hope that you could kindly provide assistance and cooperation for her 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.

Universiti Utara Malaysia
"SERVING THE NATION"
"KNOWLEDGE VIRTUE SERVICE"













Yours faithfully



ROZITA BINTI RAMLI
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Supervisor
- Student's File (902891)

Universiti Pengurusan Terkemuka
The Eminent Management University

APPENDIX 2 : PERMISSION LETTER TO MDEC

	OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS Universiti Utara Malaysia 06010 UUM SINTOK KEDAH DARULAMAN MALAYSIA	
		Tel : 604-928 7101/7113/7130 Faks (Fax): 604-928 7160 Laman Web (Web): www.oyagsb.uum.edu.my
		UUM/OYAGSB/R-4/4/1 16 July 2020
Malaysian Digital Economy Corporation Sdn. Bhd 2360, Persiaran APEC 63000 Cyberjaya, Selangor Darul Ehsan		
Dear Sir/Madam,		
LETTER OF RECOMMENDATION FOR DATA COLLECTION AND RESEARCH WORK		
This is to certify that ADIEBAH BINTI AHMAD (Matric No: 902891) is a student of Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia pursuing her Doctor of Philosophy (PhD). She is conducting a research entitled " Determinants of E-Commerce Entrepreneur Tax Compliance Behaviour " under the supervision of Assoc. Prof. Dr. Noraza Bt Mat Udin and Dr. Rusniza Binti Abdul Rahman.		
In this regard, we hope that you could kindly provide assistance and cooperation for her 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.		
“SERVING THE NATION” “KNOWLEDGE VIRTUE SERVICE”		
Yours faithfully		
		
ROZITA BINTI RAMLI Assistant Registrar for Dean Othman Yeop Abdullah Graduate School of Business		
c.c - Supervisor - Student's File (902891)		
Universiti Pengurusan Terkemuka The Eminent Management University		
		

APPENDIX 3 : QUESTIONNAIRE



**Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz**

TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY

Universiti Utara Malaysia

Survey Questionnaire
Dear Respondent,

I am conducting research on the *Determinants of Tax Compliance Behaviour of Malaysian E-Commerce Entrepreneurs*.

In this study, *Tax Compliance Behaviour* is defined as:

“the willingness of the taxpayers to report, compute, file and pay tax accurately and in accordance with the tax law,” i.e., Income Tax Act 1967.

Meanwhile, *Electronic Commerce (e-commerce) transaction* is defined as:

“any sale or purchase of goods or services, conducted over any networks by methods, specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. Additionally, an e-CT can be between enterprises, households, individuals, governments, and other public or private organisations” (IRBM, 2019a, p.5).”

Therefore, I am happy to inform you that you have been chosen to participate in this survey. Please be advised that there is no right or wrong answer; only your views and opinions on each of the statements are required. Your responses are highly critical in achieving the objectives of this study. I assure you that the confidentiality of your answer and the data collected will be used only for this study and academic purposes. Please answer all questions.

In case you would like to acquire further information regarding this study, please do not hesitate to get in touch with me at:

Adiebah Binti Ahmad Tel./WhatsApp: +6019 4704931 E-mail: missdieba@yahoo.com

Thank you for sparing your precious time.

Yours Sincerely,

ADIEBAH BINTI AHMAD

Student (PhD. Accounting)

Tunku Puteri Intan Safinaz School of Accountancy (TISSA)

Universiti Utara Malaysia.

LAMPIRAN 3 : SOAL SELIDIK



**Pusat Pengajian Perakaunan
Tunku Puteri Intan Safinaz**

TUNKU PUTERI INTAN SAFINAZ SCHOOL OF ACCOUNTANCY

Universiti Utara Malaysia

Tuan/Puan,

Saya sedang membuat penyelidikan tentang *Determinants of Tax Compliance Behaviour Malaysian E-Commerce Entrepreneurs* atau Penentu Tingkah laku Pematuhan Cukai Usahawan E-dagang Malaysia di dalam Bahasa Malaysia.

Di dalam kajian ini, Tingkah laku Pematuhan Cukai didefinisikan sebagai :

"kesediaan pembayar cukai untuk melaporkan, mengira, memfailkan dan membayar cukai tepat dan mengikut undang-undang cukai", iaitu Akta Cukai Pendapatan 1967.

Manakala Transaksi e-dagang didefinisikan sebagai:

"Apa-apa penjualan atau pembelian barangan atau perkhidmatan, yang dijalankan ke atas mana-mana rangkaian dengan kaedah-kaedah tertentu, yang direka khusus untuk maksud menerima atau meletakkan pesanan. Barangan atau perkhidmatan dipesan menggunakan kaedah tersebut, tetapi pembayaran dan penghantaran barang tidak perlu dilakukan secara dalam talian. Di samping itu, e-dagang boleh dikendalikan antara perusahaan, isi rumah, individu, kerajaan, dan organisasi awam atau swasta yang lain " (IRBM, 2019a, p.5)."

Oleh itu, saya berbesar hati untuk memaklumkan bahawa anda telah dipilih untuk menjawab soal selidik tinjauan ini. Sila maklum bahawa tiada jawapan yang betul/salah; anda dikehendaki menyatakan pendapat dan pandangan anda terhadap pernyataan-pernyataan yang diberikan. Jawapan anda adalah sangat penting untuk mencapai objektif-objektif kajian ini. Saya memberi jaminan bahawa kerahsiaan jawapan anda dan data yang dikumpulkan hanya akan digunakan untuk tujuan kajian ini. Sila jawab semua soalan.

Jika anda inginkan maklumat lanjut mengenai kajian ini, sila hubungi saya dengan menggunakan nombor telefon dan alamat e-mail di bawah :

Adiebah Binti Ahmad Tel./WhatsApps : +6019 4704931 E-mail: missdieba@yahoo.com

Terima kasih kerana meluangkan masa untuk menjawab soal selidik ini.

Yang benar,

ADIEBAH BINTI AHMAD

Pelajar (PhD. Perakaunan)

Sekolah Perakaunan Tunku Puteri Intan Safinaz (TISSA)

Universiti Utara Malaysia.

Please respond to the following statements by **CLICKING** the scale provided.
 [Sila jawab pernyataan-pernyataan berikut dengan **KLIK** mengikut skala yang diberikan]

SECTION 1:

TAX AUDIT RATE KADAR AUDIT CUKAI					
Statements <i>Pernyataan</i>	Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Neutral <i>Neutral</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>
(TA1) Frequent tax audits are carried out by the tax authority. <i>[Audit cukai kerap kali dijalankan oleh pihak berkuasa cukai].</i>	1	2	3	4	5
(TA2) The frequent tax audits attempt to detect taxpayers' behaviour and activities. <i>[Audit cukai yang kerap adalah usaha untuk mengesan tingkah laku dan aktiviti-aktiviti ketidakpatuhan pembayar cukai].</i>	1	2	3	4	5
(TA3) I keep complying with taxes even though the tax authority carries out no frequent tax audits. <i>[Saya tetap mematuhi cukai walaupun tidak ada audit cukai yang kerap dilakukan oleh pihak berkuasa cukai].</i>	1	2	3	4	5
(TA4) I do not feel forced to comply with taxes even though there are frequent tax audits. <i>[Saya tidak merasa terpaksa untuk mematuhi cukai walaupun terdapat audit cukai yang kerap].</i>	1	2	3	4	5

AUDIT PROBABILITY KEBARANGKALIAN AUDIT					
Statements <i>Pernyataan</i>	Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Neutral <i>Neutral</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>
(AP1) There are fair chances of being audited by the tax authority. <i>[Terdapat peluang yang sama untuk diaudit oleh pihak berkuasa cukai].</i>	1	2	3	4	5
(AP2) The probability of being audited by the tax authority is low. <i>[Kebarangkalian diaudit oleh pihak berkuasa cukai adalah rendah].</i>	1	2	3	4	5
(AP3) Taxpayers who have never been audited might be tempted to do non-compliance activities.	1	2	3	4	5

<i>[Pembayar cukai yang belum pernah diaudit mungkin akan tergerak hati untuk melakukan aktiviti ketidakpatuhan].</i>					
(AP4) There is a high chance of detection for my e-commerce/online business. <i>[Terdapat kebarangkalian yang tinggi bahawa ada pengesanan untuk e-dagang/perniagaan atas talian saya].</i>	1	2	3	4	5
(AP5) There is an equal chance for e-commerce and non-e-commerce entrepreneurs to be selected for audit. <i>[Terdapat peluang yang sama untuk usahawan e-dagang dan bukan e-dagang terpilih untuk diaudit].</i>	1	2	3	4	5

TAX PENALTY PENALTI CUKAI					
Statements Pernyataan	Strongly Disagree Sangat Tidak Setuju	Disagree Tidak Setuju	Neutral Neutral	Agree Setuju	Strongly Agree Sangat Setuju
(TP1) The tax penalty imposed depends on the type of tax offence the taxpayer has committed. <i>[Penalti cukai dikenakan berdasarkan jenis kesalahan cukai yang telah dilakukan oleh pembayar cukai].</i>	1	2	3	4	5
(TP2) The current tax penalty rate is insufficient to address the behaviour regarding tax compliance. <i>[Kadar penalti cukai sedia ada tidak mencukupi untuk menangani masalah tingkah laku kepatuhan cukai].</i>	1	2	3	4	5
(TP3) High tax penalty rates can encourage taxpayers to report their true income to avoid being penalised. <i>[Kadar penalti cukai yang tinggi akan menggalakkan pembayar cukai untuk melaporkan pendapatan sebenar bagi mengelakkan mereka dari dikenakan penalti].</i>	1	2	3	4	5
(TP4) There is still a lack of tax education, particularly with regard to tax penalties. <i>[Masih terdapat kelemahan dari segi pengetahuan tentang cukai terutamanya mengenai penalti cukai].</i>	1	2	3	4	5

TAX SERVICE PERKHIDMATAN CUKAI					
Statements Pernyataan	Strongly Disagree Sangat Tidak Setuju	Disagree Tidak Setuju	Neutral Neutral	Agree Setuju	Strongly Agree Sangat Setuju
(TS1) Tax authority does everything possible to serve people. [Pihak berkuasa cukai melakukan yang terbaik untuk memberi perkhidmatan kepada orang ramai].	1	2	3	4	5
(TS2) Tax authority treats people with respect. [Pihak berkuasa cukai melayan orang ramai dengan penuh hormat].	1	2	3	4	5
* (TS3) It is difficult for taxpayers to consult the tax authority. [Adalah sukar bagi pembayar cukai untuk menghubungi pihak berkuasa cukai].	1	2	3	4	5
(TS4) Tax authority keeps its promises. [Pihak berkuasa cukai menepati janji mereka].	1	2	3	4	5
(TS5) Tax authority treats everybody fairly. [Pihak berkuasa cukai melayan semua pelanggan dengan adil dan saksama].	1	2	3	4	5
(TS6) Tax authority takes people's circumstances sufficiently into account. [Pihak berkuasa cukai mengambil kira secukupnya situasi yang dihadapi oleh orang ramai].	1	2	3	4	5

TAX COMPLEXITY KERUMITAN CUKAI					
Statements Pernyataan	Strongly Disagree Sangat Tidak Setuju	Disagree Tidak Setuju	Neutral Neutral	Agree Setuju	Strongly Agree Sangat Setuju
(TC1) The sentences and wording in the income tax return guide are lengthy and not user-friendly. [Ayat-ayat dalam panduan Borang Nyata Cukai adalah panjang dan tidak mesra pelanggan].	1	2	3	4	5
*(TC2) The rules related to income tax are clear. [Undang-undang berkaitan cukai pendapatan adalah jelas].	1	2	3	4	5

* <p>(TC3) I do not have to make much effort to understand the explanations given in tax authority guidebooks and other similar explanatory materials.</p> <p><i>[Saya tidak perlu bersusah payah untuk memahami penerangan di dalam buku panduan yang diberikan oleh pihak berkuasa cukai dan bahan-bahan penerangan yang seumpamanya].</i></p>	1	2	3	4	5
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Please respond to the following statements by **CLICKING** the scale provided.
*[Sila jawab pernyataan-pernyataan berikut dengan **KLIK** mengikut skala yang diberikan]*

SECTION 2:

Statements <i>Pernyataan</i>	Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Neutral <i>Neutral</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>
(CPW1) I believe the tax authority has the absolute power to collect taxes. <i>[Saya percaya bahawa pihak berkuasa cukai mempunyai kuasa mutlak untuk mengutip cukai].</i>	1	2	3	4	5
(CPW2) I believe the tax authority has the absolute power to punish taxpayers. <i>[Saya percaya bahawa pihak berkuasa cukai mempunyai kuasa mutlak untuk menghukum pembayar cukai].</i>	1	2	3	4	5
(CPW3) I believe the tax authority has the power to reward. <i>[Saya percaya bahawa pihak berkuasa cukai mempunyai kuasa untuk memberi ganjaran].</i>	1	2	3	4	5
(CPW4) I believe the tax authority severely punishes tax evaders. <i>[Saya percaya bahawa pihak berkuasa cukai menghukum dengan keras mereka yang tidak membayar cukai].</i>	1	2	3	4	5
(CPW5) I believe the tax authority enforces its demands through deterrence approaches (i.e., audits and penalties). <i>[Saya percaya bahawa pihak berkuasa cukai menguatkuasakan tuntutanannya melalui pendekatan pencegahan (misalnya audit dan penalti)].</i>	1	2	3	4	5

Statements Pernyataan	Strongly Disagree Sangat Tidak Setuju	Disagree Tidak Setuju	Neutral Neutral	Agree Setuju	Strongly Agree Sangat Setuju
(CPW6) I believe the tax authority severely punishes when it finds a mistake. <i>[Saya percaya bahawa pihak berkuasa cukai menghukum dengan keras apabila terdapat kesilapan].</i>	1	2	3	4	5
(CPW7) I believe the tax authority prosecutes taxpayers with deterrence approaches (i.e., audits and penalties). <i>[Saya percaya bahawa pihak berkuasa cukai mendakwa pembayar cukai dengan pendekatan pencegahan (misalnya audit dan penalti)].</i>	1	2	3	4	5
(LPW1) I believe the tax authority arranges comprehensible procedures for the collection of taxes. <i>[Saya percaya bahawa pihak berkuasa cukai mengatur prosedur yang mudah difahami untuk kutipan cukai].</i>	1	2	3	4	5
(LPW2) I believe the tax authority ensures that the concerns of taxpayers are processed efficiently and fast. <i>[Saya percaya bahawa pihak berkuasa cukai memastikan bahawa masalah pembayar cukai diselesaikan dengan cepat dan pantas].</i>	1	2	3	4	5
(LPW3) I believe the tax authority is capable of providing good advice and information to taxpayers. <i>[Saya percaya bahawa pihak berkuasa cukai mampu dan tahu bagaimana untuk memberi nasihat dan informasi berguna kepada pembayar cukai].</i>	1	2	3	4	5
(LPW4) I believe the tax authority has the right to prosecute tax evaders. <i>[Saya percaya bahawa pihak berkuasa cukai mempunyai hak untuk mendakwa mereka yang tidak membayar cukai].</i>	1	2	3	4	5
(TR1) I trust the Malaysian tax authority because it has the necessary political support.	1	2	3	4	5

Statements <i>Pernyataan</i>	Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Neutral <i>Neutral</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>
<i>[Saya mempercayai pihak berkuasa cukai Malaysia kerana ia mempunyai sokongan politik yang diperlukan untuk melaksanakan tugas].</i>					
(TR2) I trust the Malaysian tax authority because they are reliable. <i>[Saya meyakini pihak berkuasa cukai Malaysia kerana mereka boleh dipercayai].</i>	1	2	3	4	5
(TR3) I trust the Malaysian tax authority because the staff are knowledgeable. <i>[Saya mempercayai pihak berkuasa cukai Malaysia kerana staf yang berpengetahuan tentang hal pencukaian].</i>	1	2	3	4	5
(TR4) I trust the Malaysian tax authority because they give competent advice. <i>[Saya mempercayai pihak berkuasa cukai Malaysia kerana mereka memberikan nasihat yang berguna].</i>	1	2	3	4	5
(TR5) I trust the Malaysian tax authority as it always provides taxpayers with guidance and advice on tax issues without fail. <i>[Saya mempercayai pihak berkuasa cukai Malaysia kerana selalu memberikan bimbingan dan nasihat kepada pembayar cukai mengenai isu-isu cukai tanpa gagal].</i>	1	2	3	4	5

Please respond to the following statements by **CLICKING** the scale provided.
[Sila jawab pernyataan-pernyataan berikut dengan KLIK mengikut skala yang diberikan]

SECTION 3:

Statements <i>Pernyataan</i>	Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Neutral <i>Neutral</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>
(ECB1) I comply with the tax law in Malaysia because there are many deterrence approaches (i.e., audits and penalties) carried out by the tax authority. <i>[Saya mematuhi undang-undang pencukaian Malaysia kerana terdapat</i>	1	2	3	4	5

Statements Pernyataan	Strongly Disagree Sangat Tidak Setuju	Disagree Tidak Setuju	Neutral Neutral	Agree Setuju	Strongly Agree Sangat Setuju
<i>banyak pendekatan pencegahan (misalnya audit dan penalti) yang dilaksanakan].</i>					
(ECB2) I comply with the tax law in Malaysia because I will be monitored by the tax authority. <i>[Saya mematuhi undang-undang pencukaaian Malaysia kerana saya sentiasa dipantau oleh pihak berkuasa cukai].</i>	1	2	3	4	5
(ECB3) I comply with the tax law in Malaysia because I feel forced to comply with taxes. <i>[Saya mematuhi undang-undang cukai Malaysia kerana saya rasa terpaksa untuk mematuhi cukai].</i>	1	2	3	4	5
(ECB4) I comply with the tax law in Malaysia because the tax authority rewards taxpayers in many ways. <i>[Saya mematuhi undang-undang pencukaaian Malaysia kerana pihak berkuasa cukai memberi ganjaran kepada pembayar cukai dengan pelbagai cara].</i>	1	2	3	4	5
(VCB1) I comply with the tax law in Malaysia because the tax authority will probably reciprocate my cooperation. <i>[Saya mematuhi undang-undang pencukaaian Malaysia kerana pihak berkuasa cukai mungkin akan membalas kerjasama saya].</i>	1	2	3	4	5
(VCB2) I comply with the tax law in Malaysia because the tax authority treats me correctly as long as I admit mistakes. <i>[Saya mematuhi undang-undang pencukaaian Malaysia kerana pihak berkuasa cukai memberi layanan yang baik kepada saya selagi mana saya mengaku kesilapan saya].</i>	1	2	3	4	5
(VCB3) I comply with the tax law in Malaysia because the tax authority supports those who make unintentional mistakes. <i>[Saya mematuhi undang-undang pencukaaian Malaysia kerana pihak berkuasa cukai membantu mereka yang membuat kesilapan yang tidak disengajakan].</i>	1	2	3	4	5
(VCB4) I comply with the tax law in Malaysia because it is easier to do so than to deceive the tax authority.	1	2	3	4	5

Statements <i>Pernyataan</i>	Strongly Disagree <i>Sangat Tidak Setuju</i>	Disagree <i>Tidak Setuju</i>	Neutral <i>Neutral</i>	Agree <i>Setuju</i>	Strongly Agree <i>Sangat Setuju</i>
[Saya mematuhi undang-undang pencukaaian Malaysia kerana adalah lebih mudah mematuhi cukai daripada menipu pihak berkuasa cukai].					

SECTION 4 :

Respondent's profile. Please CLICK in the appropriate box below.

Latar Belakang Responden. Sila KLIK bagi menjawab pernyataan yang diberikan.

1. Position/Designation : _____ (please specify)

- Owner/Pemilik Perusahaan
 Executive/Eksekutif
 Manager/Pengurus
 Others/Lain-lain: _____ (please specify)

2. Owner's age (in year; e.g : 24 years old) : _____ (please specify)

Usia Pemilik Perusahaan: _____ (sila nyatakan)

3. Business Length : _____ (please specify)

Usia Perusahaan : _____ (sila nyatakan)

4. Ethnicity of Owner :

Etnik/Kaum Pemilik Perusahaan :

- Malay/Melayu
 Chinese/Cina
 Indian/India
 Others/Lain-lain : _____ (please specify/Sila nyatakan)

5. Gender of Business Owner :

Jantina Pemilik Perusahaan :

- Male/Lelaki Female/Perempuan

6. Business Sectors (E-Commerce) (allow to choose more than one)

[Sektor Perniagaan (e-dagang) (boleh ditanda lebih satu) :

- Retailing (Dropship/Agent/Stockist/Product Distributor)
 Transport & Logistics (Logistic Service/Car Rental/Online Ticketing)
 Financial Services (Bank/Payment Gateway/Credit Card/Debit Card/loyalty card/membership card)
 Manufacturing & Agriculture (3D Printing)
 Education (eBook/online tutor/online tutorial)
 Healthcare (online doctor/online pharmacy)
 Broadcasting & Media (YouTube/Photography)
 Sharing economy (Sharing cars, houses, rooms, bikes)
 Subscription (Comic Online/Newspaper Online/Video Streaming/Audio Streaming)
 Services (Infrastructure and software service, event management, wedding planning)
 Advertisement (Blogger/Instafamous/Insta or Product Reviewer)

- Crowd Sourcing (*Kickstarter.com*)
- Selling of Digital Product (*Data/eBook/Apps*)
- Other e-commerce: _____ (*please specify*)

7. Types of e-commerce of your company/business

(Allow to choose MORE than ONE)

- B2B (Business to Business)
- B2C (Business to Consumer)
- B2G (Business to Government)
- C2B (Consumer to Business)
- C2C (Consumer to Consumer)
- C2G (Consumer to Government)

8. Is your e-commerce business registered with Registrar of Business (ROB)/Registrar of Company (ROC)? [Adakah perusahaan e-dagang anda berdaftar dengan Pendaftar Perniagaan (ROB)/atau Pendaftar Syarikat (ROC)?]

- Yes
- No
- Not Yet (in the process)

9. Does your e-commerce business has a tax file with the Inland Revenue Board of Malaysia (IRBM)? [Adakah perusahaan e-dagang anda mempunyai fail cukai dengan Lembaga Hasil Dalam Negeri (LHDN)?]

- Yes
- No
- Not Yet (in the process)

10. Permanent Establishment (PE)/Server Location of your company/business

- Malaysia
- Outside Malaysia
- Malaysia and Outside Malaysia

11. Turnover of your company/business

- Sales less than RM300,000 per year
- Sales more than RM300,000 to RM3 Million per year
- Sales more than RM3 Million to RM15 Million per year
- Sales more than RM15 Million to RM20 Million per year
- Sales more than RM20 Million to RM50 Million per year
- more than RM50 Million per year

12. The average number of staff (full-time) employed by your company/business

- less than 5 employees
- 5 to 29 employees
- 30 to 74 employees
- 75 to 200 employees
- more than 200 employees

13. Income Source of E-Commerce (Choose ONE)

- Primary Income (full-time in e-commerce/online business)
- Secondary Income (part-time in e-commerce/online business)
- Primary and Secondary Incomes (full-time and part-time in e-commerce)

APPENDIX 4 : PILOT TEST OUTPUT

TAX AUDIT RATE

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.378	.415	6
.619	.602	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TAX AUDIT 1	19.83	5.799	.442	.515	.161
TAX AUDIT 2	19.53	6.120	.464	.393	.177
TAX AUDIT 3	19.97	7.482	.009	.336	.444
TAX AUDIT 4	19.90	7.679	-.050	.078	.492
TAX AUDIT 5	19.43	7.702	.108	.296	.372
TAX AUDIT 6	20.00	5.586	.244	.541	.283

AUDIT PROBABILITY

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.649	.676	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
AUDIT PROBABILITY	15.00	7.724	.345	.537	.624
AUDIT PROBABILITY	15.87	7.223	.191	.226	.710
AUDIT PROBABILITY	15.23	6.185	.386	.265	.610
AUDIT PROBABILITY	14.90	5.817	.690	.763	.459
AUDIT PROBABILITY	15.13	6.533	.509	.614	.549

TAX PENALTY

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.519	.493	5
.573	.565	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TAX PENALTY 1	16.17	4.626	.358	.139	.414
TAX PENALTY 2	16.93	4.616	.328	.271	.436
TAX PENALTY 3	16.30	4.217	.413	.192	.368
TAX PENALTY 4	15.87	5.706	.291	.110	.468
TAX PENALTY 5	15.67	6.713	.035	.139	.573

TAX SERVICE

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.703	.733	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TAX SERVICE	17.60	12.179	.363	.239	.686
TAX SERVICE	17.87	8.878	.735	.628	.556
TAX SERVICE	18.63	13.964	-.105	.176	.848
TAX SERVICE	18.03	10.654	.561	.594	.630
TAX SERVICE	17.87	8.809	.749	.691	.550
TAX SERVICE	18.17	9.592	.595	.551	.608

TAX COMPLEXITY

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.429	.425	5
.619	.593	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TAX COMPLEXITY 1	10.53	4.809	.246	.182	.364
TAX COMPLEXITY 2	11.90	3.197	.543	.618	.066
TAX COMPLEXITY 3	11.13	5.085	.016	.330	.536
TAX COMPLEXITY 4	11.63	3.689	.518	.589	.140
TAX COMPLEXITY 5	12.27	5.789	-.081	.277	.564

COERCIVE POWER

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.870	.877	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
COERCIVE POWER	23.87	21.085	.812	.852	.829
COERCIVE POWER	24.00	20.138	.846	.877	.822
COERCIVE POWER	23.97	23.275	.423	.451	.885
COERCIVE POWER	24.20	22.441	.634	.720	.852
COERCIVE POWER	23.93	22.547	.762	.624	.839
COERCIVE POWER	24.23	23.771	.431	.651	.880
COERCIVE POWER	24.20	21.821	.709	.606	.843

LEGITIMATE POWER

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.882	.882	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
LEGITIMATE POWER	11.93	6.961	.715	.581	.861
LEGITIMATE POWER	11.80	7.269	.783	.825	.835
LEGITIMATE POWER	11.83	6.075	.865	.868	.798
LEGITIMATE POWER	11.83	8.144	.636	.422	.888

TRUST

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.951	.953	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TRUST	15.23	15.840	.676	.505	.972
TRUST	15.10	14.369	.885	.815	.936
TRUST	15.10	14.645	.915	.917	.931
TRUST	15.03	15.275	.924	.876	.931
TRUST	15.13	14.120	.949	.944	.924

ENFORCED TAX COMPLIANCE BEHAVIOUR

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.775	.789	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ENFORCE TAX COMPLIANCE BEHAVIOUR	11.23	8.530	.457	.356	.791
ENFORCE TAX COMPLIANCE BEHAVIOUR	11.63	5.895	.752	.601	.632
ENFORCE TAX COMPLIANCE BEHAVIOUR	11.73	5.168	.655	.444	.685
ENFORCE TAX COMPLIANCE BEHAVIOUR	11.70	5.872	.552	.374	.743

VOLUNTARY TAX COMPLIANCE BEHAVIOUR

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.807	.812	4

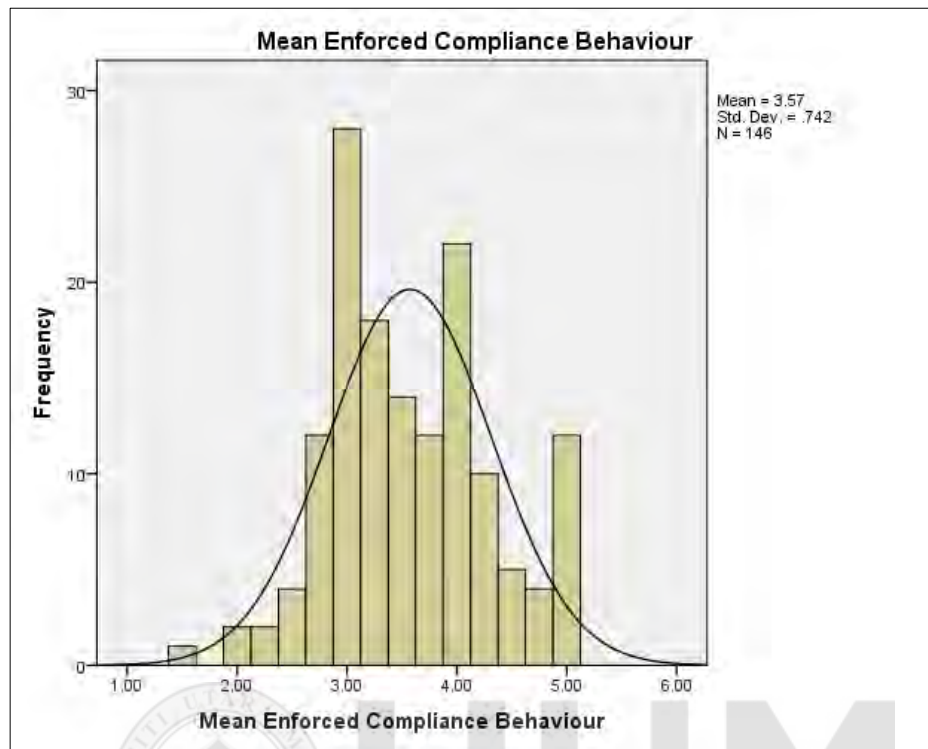
Item-Total Statistics

		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VOLUNTARY TAX COMPLIANCE BEHAVIOUR	TAX	12.03	5.206	.674	.505	.739
VOLUNTARY TAX COMPLIANCE BEHAVIOUR	TAX	12.23	6.116	.598	.392	.771
VOLUNTARY TAX COMPLIANCE BEHAVIOUR	TAX	12.03	6.309	.666	.484	.741
VOLUNTARY TAX COMPLIANCE BEHAVIOUR	TAX	11.70	6.976	.588	.379	.779

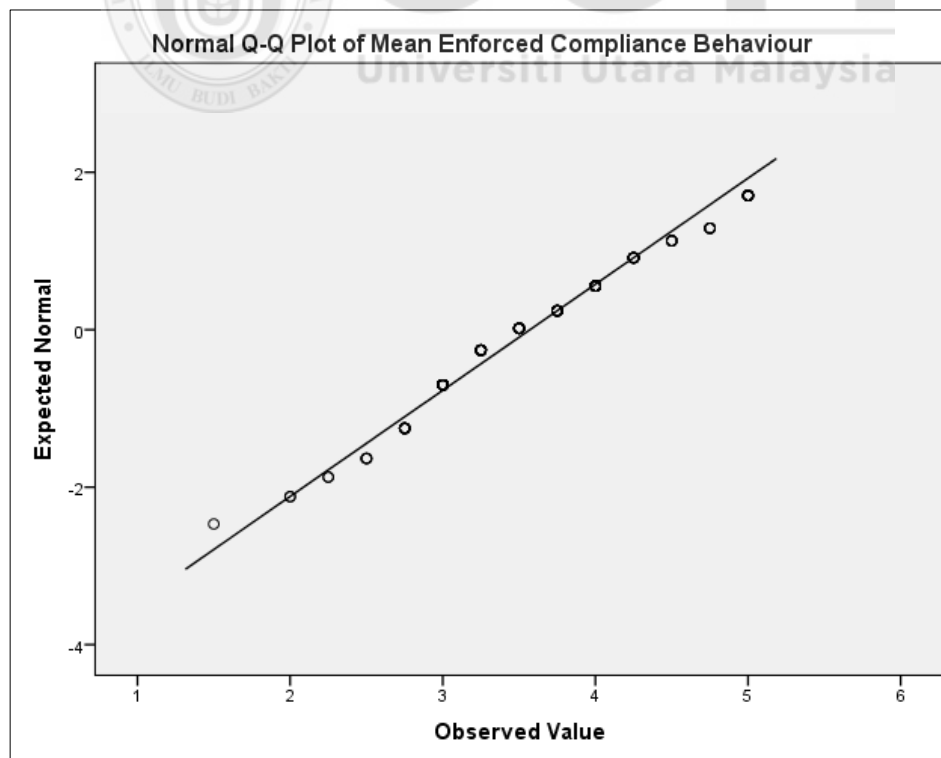


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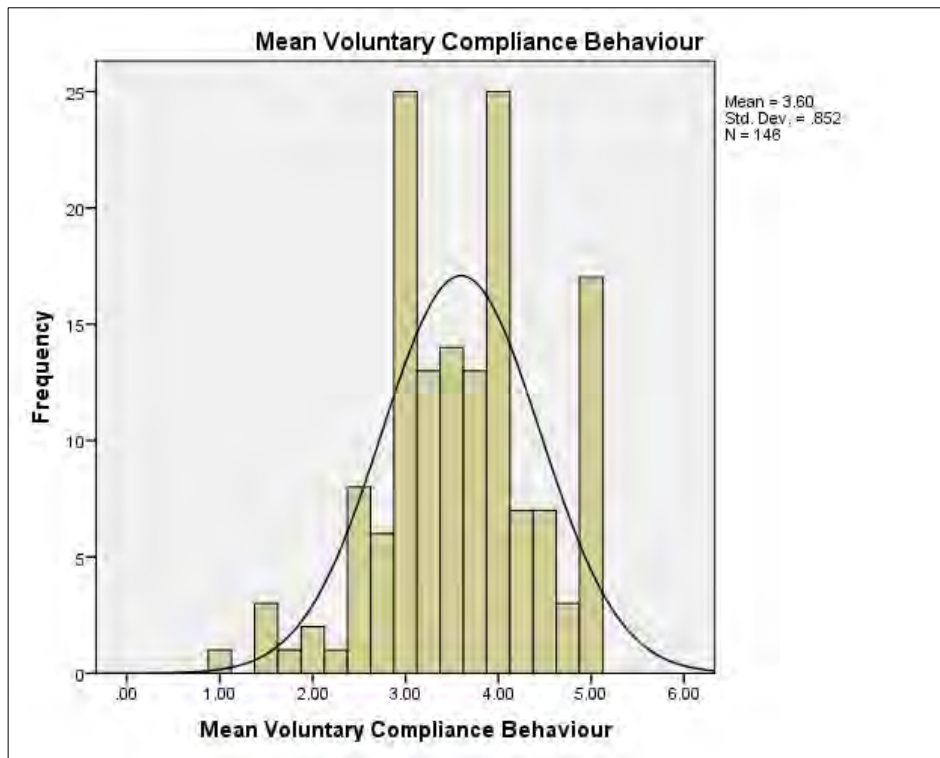
APPENDIX 5 : NORMALITY TEST



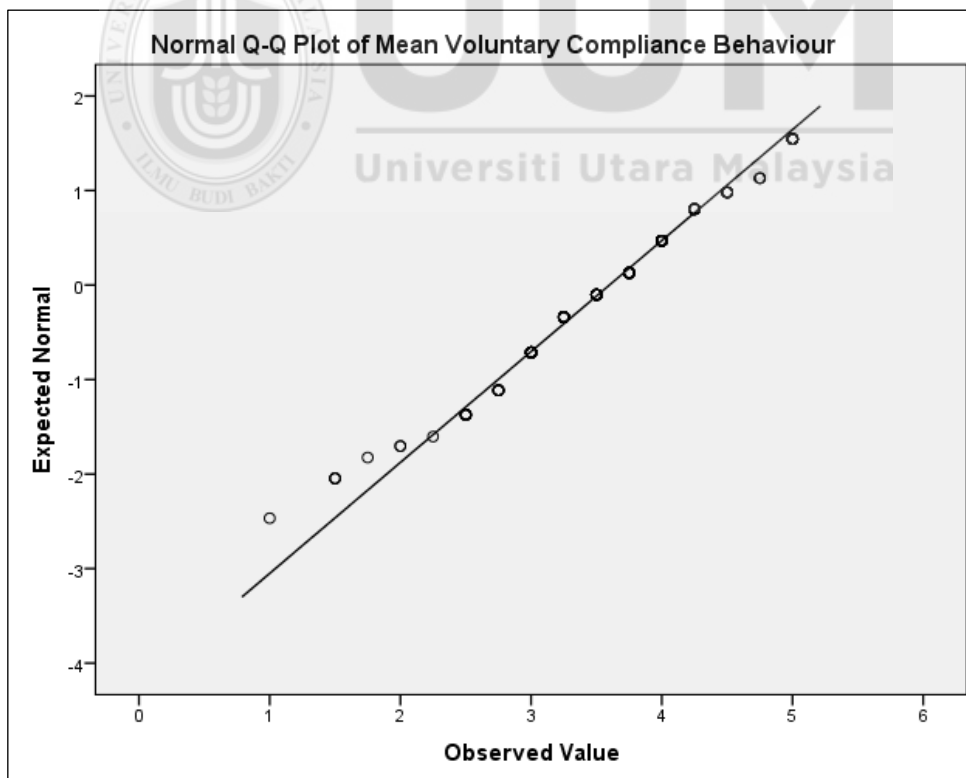
Histogram of Dependent Variable (Enforced Tax Compliance Behaviour).



Normal P-P Plot of Regression Standardized Residual



Histogram of Dependent Variable (Voluntary Tax Compliance Behaviour).



Normal P-P Plot of Regression Standardized Residual

APPENDIX 6 : INTER-CORRELATION MATRIX (n=146)

Pearson Correlations		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<u>DEPENDENT VARIABLES</u>																		
1	Enforced TCB	1.000																
2	Voluntary TCB	.600**	1.000															
<u>VARIABLES</u>																		
3	Tax Audit Rate	.402**	.392**	1.000														
4	Audit Probability	.355**	.255**	.456**	1.000													
5	Tax Penalty	.252**	.339**	.352**	.489**	1.000												
6	Tax Service	.284**	.457**	.283**	.343**	.453**	1.000											
7	Tax Complexity	-.176*	-.169*	-.142	-.249**	-.252**	-.561**	1.000										
8	Owner's age	-.015	.041	.030	-.067	-.006	.039	.053	1.000									
9	Business Length	-.123	-.029	-.053	-.138	.100	-.042	.038	.444**	1.000								
10	Business Size	.005	-.185*	-.001	-.089	-.127	-.170*	.058	.005	.229**	1.000							
11	Income Source	-.091	-.094	-.018	-.239**	-.225**	-.311**	.144	.036	.081	-.047	1.000						
12	Permanent Establishment	-.086	-.073	-.162	-.168*	-.113	-.209*	.196*	.086	.245**	.176*	.091	1.000					
<u>MEDIATORS</u>																		
13	Coercive Power	.399**	.330**	.339**	.450**	.428**	.460**	-.223**	-.048	-.039	.015	-.276**	.012	1.000				
14	Legitimate Power	.443**	.398**	.379**	.462**	.540**	.621**	-.496**	.051	.010	-.076	-.130	-.246**	.591**	1.000			
15	Trust	.378**	.377**	.281**	.416**	.499**	.644**	-.438**	-.057	-.084	-.222**	-.155	-.251**	.594**	.801**	1.000		
<u>CONTROL VARIABLES</u>																		
16	Ethnicity	.146	.177*	-.038	-.005	.052	-.021	.035	.130	.070	.062	-.135	.150	.045	-.017	-.029	1.000	
17	Gender	-.072	-.006	.056	.096	.044	.062	-.091	-.177*	-.084	-.105	.072	-.175*	.059	.018	.116	-.160	1.000

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed)

APPENDIX 8 : REGRESSION RESULTS FOR DIRECT AND INDIRECT MODELS

APPENDIX 8.1 : MODEL 1a MAIN EFFECT (ENFORCED TAX COMPLIANCE BEHAVIOUR)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.462 ^a	.214	.168	.67705	.214	4.655	8	137	<.001

a. Predictors: (Constant), PE, AGE, INCOME, TAR, BS, TP, BL, AP

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.069	8	2.134	4.655	<.001^b
	Residual	62.801	137	.458		
	Total	79.870	145			

a. Dependent Variable: ETCB

b. Predictors: (Constant), PE, AGE, INCOME, TAR, BS, TP, BL, AP

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	1.167	.573		2.036	.044
	TAR	.321	.098	.288	3.261	.001
	AP	.197	.110	.172	1.788	.076
	TP	.098	.106	.086	.922	.358
	AGE	.034	.067	.044	.518	.605
	BL	-.099	.071	-.129	-1.389	.167
	BS	.080	.114	.056	.698	.486
	INCOME	-.016	.083	-.015	-.193	.847
	PE	.023	.101	.018	.223	.824

a. Dependent Variable: ETCB

APPENDIX 8.2 : MODEL 1b MAIN EFFECT (VOLUNTARY TAX COMPLIANCE BEHAVIOUR)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.563 ^a	.318	.267	.72965	.318	6.281	10	135	<.001

a. Predictors: (Constant), PE, AGE, INCOME, TAR, BS, TC, TP, BL, AP, TS

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.437	10	3.344	6.281	<.001^b
	Residual	71.873	135	.532		
	Total	105.310	145			

a. Dependent Variable: VTCB

b. Predictors: (Constant), PE, AGE, INCOME, TAR, BS, TC, TP, BL, AP, TS

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	.020	.790		.026	.980
	TAR	.359	.107	.281	3.350	.001
	AP	-.034	.120	-.026	-2.86	.776
	TP	.125	.120	.095	1.048	.297
	TS	.461	.114	.401	4.057	<.001
	TC	.105	.088	.104	1.192	.235
	AGE	.007	.072	.008	.097	.923
	BL	-.007	.077	-.007	-.085	.932
	BS	-.196	.124	-.121	-1.575	.117
	INCOME	.031	.092	.026	.331	.741
	PE	.090	.110	.062	.814	.417

a. Dependent Variable: VTCB

APPENDIX 8.3 : MODEL 2 MEDIATOR (COERCIVE POWER)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : ETCB
X : TAR
M : CPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
CPW

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.3474	.1207	.5221	6.4960	3.0000	142.0000	.0004

Model	coeff	se	t	p	LLCI	ULCI
constant	1.9484	.4379	4.4498	.0000	1.0828	2.8140
TAR	.3877	.0903	4.2927	.0000	.2092	.5663
ETHNIC	.0753	.0903	.8340	.4057	-.1031	.2537
GENDER	.0828	.1298	.6377	.5247	-.1739	.3395

OUTCOME VARIABLE:
ETCB

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.5172	.2675	.4149	12.8712	4.0000	141.0000	.0000

Model	coeff	se	t	p	LLCI	ULCI
constant	1.1963	.4167	2.8711	.0047	.3726	2.0200
TAR	.3489	.0856	4.0764	.0001	.1797	.5181
CPW	.2841	.0748	3.7971	.0002	.1362	.4320
ETHNIC	.1445	.0807	1.7917	.0753	-.0149	.3040
GENDER	-.1351	.1159	-1.1654	.2458	-.3642	.0941

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y	Effect	se	t	p	LLCI	ULCI	c_cs
	.4590	.0842	5.4491	.0000	.2925	.6255	.4117

Direct effect of X on Y	Effect	se	t	p	LLCI	ULCI	c'_cs
	.3489	.0856	4.0764	.0001	.1797	.5181	.3129

Indirect effect(s) of X on Y:	Effect	BootSE	BootLLCI	BootULCI
CPW	.1101	.0503	.0315	.2284

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:
 ***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
 Y : ETCB
 X : AP
 M : CPW

Covariates:
 ETHNIC GENDER

Sample
 Size: 146

OUTCOME VARIABLE:
 CPW

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4534	.2056	.4717	12.2491	3.0000	142.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	1.6722	.3896	4.2921	.0000	.9021	2.4424
AP	.5298	.0888	5.9643	.0000	.3542	.7053
ETHNIC	.0581	.0858	.6780	.4989	-.1114	.2277
GENDER	.0392	.1238	.3162	.7523	-.2056	.2840

OUTCOME VARIABLE:
 ETCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4732	.2239	.4396	10.1700	4.0000	141.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	1.6403	.3998	4.1030	.0001	.8499	2.4306
AP	.2673	.0959	2.7874	.0060	.0777	.4568
CPW	.2863	.0810	3.5346	.0006	.1262	.4465
ETHNIC	.1311	.0829	1.5813	.1161	-.0328	.2951
GENDER	-.1463	.1196	-1.2235	.2232	-.3827	.0901

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y						
	Effect	se	t	p	LLCI	ULCI
	.4190	.0891	4.6997	.0000	.2427	.5952

Direct effect of X on Y						
	Effect	se	t	p	LLCI	ULCI
	.2673	.0959	2.7874	.0060	.0777	.4568

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
CPW	.1517	.0596	.0488	.2832

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
 95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
 5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : ETCB
X : TP
M : CPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
CPW

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4313	.1860	.4833	10.8164	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.6326	.4122	3.9606	.0001	.8177	2.4475	
TP	.4993	.0892	5.5949	.0000	.3229	.6758	
ETHNIC	.0345	.0870	.3969	.6920	-.1374	.2064	
GENDER	.0733	.1249	.5864	.5585	-.1737	.3203	

OUTCOME VARIABLE:
ETCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4345	.1888	.4595	8.2046	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.9218	.4235	4.5374	.0000	1.0845	2.7592	
TP	.1109	.0961	1.1541	.2504	-.0791	.3010	
CPW	.3473	.0818	4.2444	.0000	.1855	.5090	
ETHNIC	.1236	.0848	1.4564	.1475	-.0442	.2913	
GENDER	-.1253	.1220	-1.0272	.3061	-.3664	.1158	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c_cs
	.2844	.0921	3.0880	.0024	.1023	.4664	.2485

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.1109	.0961	1.1541	.2504	-.0791	.3010	.0970

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
CPW	.1734	.0610	.0679	.3076

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000
Number of bootstrap samples for percentile bootstrap confidence intervals:
5000
----- END MATRIX -----

APPENDIX 8.4 : MODEL 3 MEDIATOR (LEGITIMATE POWER)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TAR
M : LPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
LPW

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.3791	.1438	.7245	7.9465	3.0000	142.0000	.0001

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.5964	.5158	3.0951	.0024	.5768	2.6161	
TAR	.5185	.1064	4.8736	.0000	.3082	.7289	
ETHNIC	-.0038	.1063	-.0356	.9716	-.2140	.2064	
GENDER	-.0065	.1529	-.0423	.9663	-.3088	.2959	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5132	.2634	.5502	12.6036	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.8461	.4644	1.8221	.0706	-.0719	1.7642	
TAR	.3691	.1002	3.6849	.0003	.1711	.5672	
LPW	.2731	.0731	3.7345	.0003	.1285	.4177	
ETHNIC	.2454	.0927	2.6489	.0090	.0623	.4286	
GENDER	.0074	.1333	.0553	.9560	-.2561	.2708	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.5107	.0969	5.2733	.0000	.3193	.7022	.3989

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.3691	.1002	3.6849	.0003	.1711	.5672	.2883

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
LPW	.1416	.0517	.0458	.2485

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : AP
M : LPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
LPW

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4632	.2146	.6646	12.9303	3.0000	142.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	1.4032	.4625	3.0343	.0029	.4890	2.3174
AP	.6558	.1054	6.2205	.0000	.4474	.8642
ETHNIC	-.0262	.1018	-.2570	.7975	-.2274	.1751
GENDER	-.0577	.1470	-.3927	.6951	-.3483	.2329

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4456	.1986	.5985	8.7356	4.0000	141.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	1.6481	.4529	3.6392	.0004	.7528	2.5434
AP	.1175	.1129	1.0410	.2997	-.1056	.3406
LPW	.3367	.0796	4.2282	.0000	.1793	.4942
ETHNIC	.2344	.0966	2.4255	.0166	.0433	.4254
GENDER	.0161	.1396	.1154	.9083	-.2598	.2920

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c_cs
	.3383	.1058	3.1969	.0017	.1291	.5475	.2561

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.1175	.1129	1.0410	.2997	-.1056	.3406	.0890

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
LPW	.2208	.0660	.0967	.3526

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TP
M : LPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
LPW

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5418	.2935	.5978	19.6679	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.8335	.4584	1.8181	.0712	-.0728	1.7397	
TP	.7617	.0993	7.6745	.0000	.5655	.9579	
ETHNIC	-.0638	.0967	-.6596	.5106	-.2550	.1274	
GENDER	-.0263	.1389	-.1890	.8504	-.3009	.2484	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4587	.2104	.5897	9.3932	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.4319	.4606	3.1088	.0023	.5213	2.3425	
TP	.2100	.1173	1.7910	.0754	-.0218	.4418	
LPW	.2943	.0834	3.5304	.0006	.1295	.4590	
ETHNIC	.2225	.0962	2.3130	.0222	.0323	.4127	
GENDER	.0175	.1380	.1270	.8991	-.2553	.2904	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c_cs
	.4342	.1025	4.2363	.0000	.2316	.6367	.3305

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.2100	.1173	1.7910	.0754	-.0218	.4418	.1599

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
LPW	.2241	.0752	.0835	.3809

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TS
M : LPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
LPW

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.6211	.3857	.5198	29.7242	3.0000	142.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.1368	.3714	3.0606	.0026	.4026	1.8711
TS	.7630	.0809	9.4366	.0000	.6031	.9228
ETHNIC	-.0097	.0900	-.1077	.9144	-.1877	.1683
GENDER	-.0414	.1296	-.3193	.7500	-.2976	.2148

OUTCOME VARIABLE:
VTCB

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.5152	.2654	.5486	12.7381	4.0000	141.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.3449	.3940	3.4136	.0008	.5660	2.1238
TS	.3966	.1060	3.7434	.0003	.1872	.6061
LPW	.1747	.0862	2.0267	.0446	.0043	.3452
ETHNIC	.2375	.0925	2.5675	.0113	.0546	.4203
GENDER	-.0006	.1332	-.0044	.9965	-.2639	.2628

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_cs
.5299	.0840	6.3112	.0000	.3640	.6959	.4614

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_cs
.3966	.1060	3.7434	.0003	.1872	.6061	.3453

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI	
LPW	.1333	.0951	-.0462	.3267

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TC
M : LPW

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
LPW

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4970	.2470	.6372	15.5242	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	5.3651	.3913	13.7095	.0000	4.5915	6.1387	
TC	-.5373	.0788	-6.8171	.0000	-.6930	-.3815	
ETHNIC	-.0052	.0997	-.0524	.9583	-.2023	.1918	
GENDER	-.0537	.1438	-.3737	.7092	-.3380	.2305	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4396	.1932	.6026	8.4430	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.7407	.5801	3.0006	.0032	.5938	2.8875	
TC	.0329	.0883	.3721	.7104	-.1417	.2074	
LPW	.3902	.0816	4.7812	.0000	.2288	.5515	
ETHNIC	.2358	.0969	2.4320	.0163	.0441	.4274	
GENDER	.0355	.1399	.2537	.8001	-.2411	.3121	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c_cs	
	-.1768	.0823	-2.1472	.0335	-.3395	-.0140	-.1752

Direct effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c'_cs	
	.0329	.0883	.3721	.7104	-.1417	.2074	.0326

Indirect effect(s) of X on Y:				
Effect	BootSE	BootLLCI	BootULCI	
LPW	-.2096	.0729	-.3632	-.0792

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

APPENDIX 8.5 : MODEL 4 MEDIATOR (TRUST)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TAR
M : TRUST

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
TRUST

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.2983	.0890	.7820	4.6216	3.0000	142.0000	.0041

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.7001	.5359	3.1727	.0019	.6409	2.7594	
TAR	.3792	.1105	3.4303	.0008	.1607	.5977	
ETHNIC	-.0029	.1105	-.0263	.9790	-.2213	.2155	
GENDER	.1954	.1589	1.2296	.2209	-.1187	.5095	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5200	.2704	.5449	13.0637	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.8142	.4629	1.7589	.0808	-.1009	1.7293	
TAR	.4064	.0960	4.2320	.0000	.2165	.5962	
TRUST	.2752	.0701	3.9289	.0001	.1367	.4137	
ETHNIC	.2452	.0922	2.6591	.0087	.0629	.4275	
GENDER	-.0482	.1333	-.3613	.7184	-.3118	.2154	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.5107	.0969	5.2733	.0000	.3193	.7022	.3989

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.4064	.0960	4.2320	.0000	.2165	.5962	.3174

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TRUST	.1044	.0434	.0285	.1985

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : AP
M : TRUST

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
TRUST

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4227	.1787	.7050	10.2973	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.2218	.4763	2.5653	.0113	.2803	2.1634	
AP	.5803	.1086	5.3446	.0000	.3657	.7950	
ETHNIC	-.0203	.1048	-.1938	.8466	-.2276	.1869	
GENDER	.1443	.1514	.9532	.3421	-.1550	.4436	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4352	.1894	.6054	8.2376	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.7396	.4515	3.8530	.0002	.8470	2.6321	
AP	.1574	.1103	1.4269	.1558	-.0607	.3754	
TRUST	.3118	.0778	4.0099	.0001	.1581	.4656	
ETHNIC	.2319	.0972	2.3865	.0183	.0398	.4240	
GENDER	-.0483	.1407	-.3434	.7318	-.3266	.2299	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c_cs	
	.3383	.1058	3.1969	.0017	.1291	.5475	.2561

Direct effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c'_cs	
	.1574	.1103	1.4269	.1558	-.0607	.3754	.1191

Indirect effect(s) of X on Y:				
Effect	BootSE	BootLLCI	BootULCI	
TRUST	.1810	.0588	.0705	.3001

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
 Y : VTCB
 X : TP
 M : TRUST

Covariates:
 ETHNIC GENDER

Sample
 Size: 146

OUTCOME VARIABLE:
 TRUST

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5096	.2597	.6354	16.6075	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.6114	.4726	1.2936	.1979	-.3229	1.5457	
TP	.7033	.1023	6.8732	.0000	.5010	.9056	
ETHNIC	-.0553	.0997	-.5549	.5799	-.2524	.1418	
GENDER	.1699	.1433	1.1863	.2375	-.1132	.4531	

OUTCOME VARIABLE:
 VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4510	.2034	.5950	9.0009	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.5117	.4600	3.2860	.0013	.6022	2.4211	
TP	.2437	.1143	2.1323	.0347	.0178	.4697	
TRUST	.2707	.0812	3.3340	.0011	.1102	.4313	
ETHNIC	.2187	.0966	2.2645	.0251	.0278	.4097	
GENDER	-.0362	.1393	-.2599	.7953	-.3116	.2392	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c_cs
	.4342	.1025	4.2363	.0000	.2316	.6367	.3305

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.2437	.1143	2.1323	.0347	.0178	.4697	.1855

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TRUST	.1904	.0656	.0588	.3170

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
 95.0000
 Number of bootstrap samples for percentile bootstrap confidence intervals:
 5000
 ----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TS
M : TRUST

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
TRUST

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.6486	.4207	.4973	34.3722	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	.6155	.3633	1.6943	.0924	-.1027	1.3337	
TS	.7901	.0791	9.9909	.0000	.6338	.9464	
ETHNIC	-.0043	.0881	-.0488	.9612	-.1784	.1698	
GENDER	.1479	.1268	1.1666	.2453	-.1027	.3985	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5066	.2566	.5552	12.1676	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1.4593	.3878	3.7635	.0002	.6927	2.2259	
TS	.4218	.1090	3.8681	.0002	.2062	.6374	
TRUST	.1369	.0887	1.5435	.1250	-.0384	.3122	
ETHNIC	.2364	.0930	2.5404	.0122	.0524	.4203	
GENDER	-.0281	.1346	-.2084	.8352	-.2941	.2380	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c_cs
	.5299	.0840	6.3112	.0000	.3640	.6959	.4614

Direct effect of X on Y							
	Effect	se	t	p	LLCI	ULCI	c'_cs
	.4218	.1090	3.8681	.0002	.2062	.6374	.3672

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TRUST	.1081	.0928	-.0480	.3120

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : VTCB
X : TC
M : TRUST

Covariates:
ETHNIC GENDER

Sample
Size: 146

OUTCOME VARIABLE:
TRUST

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4449	.1980	.6884	11.6826	3.0000	142.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	4.7040	.4068	11.5640	.0000	3.8998	5.5081	
TC	-.4682	.0819	-5.7154	.0000	-.6301	-.3063	
ETHNIC	-.0020	.1036	-.0191	.9848	-.2068	.2029	
GENDER	.1490	.1495	.9967	.3206	-.1465	.4444	

OUTCOME VARIABLE:
VTCB

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.4217	.1778	.6141	7.6242	4.0000	141.0000	.0000

Model							
	coeff	se	t	p	LLCI	ULCI	
constant	2.1755	.5353	4.0638	.0001	1.1172	3.2338	
TC	-.0117	.0858	-.1363	.8918	-.1813	.1579	
TRUST	.3526	.0793	4.4485	.0000	.1959	.5093	
ETHNIC	.2344	.0979	2.3954	.0179	.0410	.4279	
GENDER	-.0380	.1416	-.2682	.7889	-.3180	.2420	

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c_cs	
-.1768	.0823	-2.1472	.0335	-.3395	-.0140	-.1752	

Direct effect of X on Y							
Effect	se	t	p	LLCI	ULCI	c'_cs	
-.0117	.0858	-.1363	.8918	-.1813	.1579	-.0116	

Indirect effect(s) of X on Y:				
	Effect	BootSE	BootLLCI	BootULCI
TRUST	-.1651	.0533	-.2766	-.0671

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

APPENDIX 9 : SUMMARY OF THE RESULTS

APPENDIX 9.1 : SUMMARY OF MULTIPLE REGRESSION AND SPSS PROCESS MACRO 4.0

MODEL	Model 1		Model 2		Model 3		Model 4	
	<i>ETCB</i>	<i>VTCB</i>	<i>ETCB</i>		<i>VTCB</i>		<i>VTCB</i>	
			<u><i>BootLLCI</i></u>	<u><i>BootULCI</i></u>	<u><i>BootLLCI</i></u>	<u><i>BootULCI</i></u>	<u><i>BootLLCI</i></u>	<u><i>BootULCI</i></u>
<u>Independent Variables</u>								
Tax Audit Rate (TAR)	.001*	.001*	.0322	.2261	.0458	.2461	.0318	.1969
Audit Probability (AP)	.076***	.776	.0519	.2853	.0913	.3515	.0758	.3051
Tax Penalty (TP)	.358	.297	.0680	.3077	.0826	.3770	.0640	.3204
Tax Service (TS)	-	.000*	-	-	-.0455	.3282	-.0485	.3196
Tax Complexity (TC)	-	.235	-	-	-.3650	-.0850	-.2742	-.0648
Owner's age	.605	.923	-	-	-	-	-	-
Business Length	.167	.932	-	-	-	-	-	-
Business Size	.486	.117	-	-	-	-	-	-
Income Source	.847	.741	-	-	-	-	-	-
Permanent Establishment	.824	.417	-	-	-	-	-	-
<u>Control Variables</u>								
Ethnicity	-	-	TAR (-.0149)	TAR (.3040)	TAR (.0623)	TAR (.4286)	TAR (.0629)	TAR
Gender	-	-	AP (-.0328)	AP (.2951)	AP (.0433)	AP (.4254)	AP (.0398)	(.4275)
			TP (-.0442)	TP (.2913)	TP (.0323)	TP (.4127)	TP (.0278)	AP
					TS (.0546)	TS (.4203)	TS (.0524)	(.4240)
					TC (.0441)	TC (.4274)	TC (.0410)	TP (.4097)
								TS (.4203)
								TC
								(.4279)
			TAR (-.3642)	TAR (.0941)	TAR (-.2561)	TAR (.2708)	TAR (-.3118)	TAR
			AP (-.3827)	AP (.0901)	AP (-.2598)	AP (.2920)	AP (-.3266)	(.4275)
			TP (-.3664)	TP (.1158)	TP (-.2553)	TP (.2904)	TP (-.3116)	AP
					TS (-.2639)	TS (.2628)	TS (-.2941)	(.2299)
					TC (-.2411)	TC (.3121)	TC (-.3180)	TP (.2392)
								TS (.2380)

MODEL	Model 1		Model 2	Model 3	Model 4	
	<i>ETCB</i>	<i>VTCB</i>	<i>ETCB</i>	<i>VTCB</i>	<i>VTCB</i>	
						TC (.2420)
Constant	1.167	.020	TAR (.0047*) AP (.0001**) TP (.0000**)	TAR (.0706) AP (.0004**) TP (.0023**) TS (.0008**) TC (.0032**)	TAR (.0808) AP (.0002**) TP (.0013**) TS (0.0002**) TC (.0001**)	
R ²	.214	.318	TAR (.2675) AP (.2239) TP (.1888)	TAR (.2634) AP (.1986) TP (.2104) TS (.2654) TC (.1932)	TAR (.2704) AP (.1894) TP (.2034) TS (.2566) TC (.1778)	
F-stat a (8,137) b (10,135)	4.655 _a	6.281 _b	TAR (12.8712) AP (10.1700) TP (8.2046)	TAR (12.6036) AP (8.7356) TP (9.3932) TS (12.7381) TC (8.4430)	TAR (13.0637) AP (8.2376) TP (9.0009) TS (12.1676) TC (7.6242)	
Sig	.000*	.000*	TAR (.0000*) AP (.0000*) TP (.0000*)	TAR (.0000*) AP (.0000*) TP (.0000*) TS (.0000*) TC (0.0000*)	TAR (.0000*) AP (.0000*) TP (.0000*) TS (.0000*) TC (.0000*)	
Total df	145	145	145	145	145	
* Correlation is significant at the 0.01 level (2-tailed)						
** Correlation is significant at the 0.05 level (2-tailed)						
*** Correlation is significant at the 0.1 level (2-tailed)						
<i>ETCB</i> is enforced tax compliance behaviour, <i>VTCB</i> is voluntary tax compliance behaviour, <i>CPW</i> is coercive power, <i>LPW</i> is legitimate power, and <i>TR</i> is trust.						

APPENDIX 9.2 : SUMMARY OF HYPOTHESES' FINDINGS

Research Objectives	Hypotheses	MODEL	RESULT	FINDINGS
TAX AUDIT RATE				
RO1: To investigate the influence of tax audit rate on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{1a}: There is a significant relationship between tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = .321 P = .001	Accept H _{1a}
RO2: To investigate the influence of tax audit rate on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{1b}: There is a significant relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = .359 P = .001	Accept H _{1b}
RO3: To investigate the mediation effect of the coercive power of the tax authority on the relationship between the tax audit rate on the e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{1c}: Coercive power mediates the relationship between tax audit rate and e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 2	R ² = 27 percent <i>bootLLCI</i> = .0322 <i>bootULCI</i> = .2261	Accept H _{1c}
RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between the tax audit rate on the e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{1d}: Legitimate power mediates the relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 3	R ² = 26 percent <i>bootLLCI</i> = .0458 <i>bootULCI</i> = .2461	Accept H _{1d}
RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the tax audit rate on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{1e}: Trust mediates the relationship between tax audit rate and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 4	R ² = 27 percent <i>bootLLCI</i> = .0318 <i>bootULCI</i> = .1969	Accept H _{1e}
AUDIT PROBABILITY				
RO1: To investigate the influence of audit probability on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{2a}: There is a significant relationship between audit probability and e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = .197 P = .076***	Accept H _{2a}
RO2: To investigate the influence of audit probability on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{2b}: There is a significant relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = -.034 P = .776***	Reject H _{2b}

Research Objectives	Hypotheses	MODEL	RESULT	FINDINGS
RO3: To investigate the mediation effect of the coercive power of the tax authority on the relationship between the audit probability on the e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{2c}: Coercive power mediates the relationship between audit probability and e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 2	R ² = 22 percent <i>bootLLCI</i> = .0519 <i>bootULCI</i> = .2853	Accept H _{2c}
RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between the audit probability on the e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{2d}: Legitimate power mediates the relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 3	R ² = 20 percent <i>bootLLCI</i> = .0913 <i>bootULCI</i> = .3515	Accept H _{2d}
RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the audit probability on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{2e}: Trust mediates the relationship between audit probability and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 4	R ² = 19 percent <i>bootLLCI</i> = .0758 <i>bootULCI</i> = .3051	Accept H _{2e}
TAX PENALTY				
RO1: To investigate the influence of tax penalty on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{3a}: There is a significant relationship between tax penalty and e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = .098 P = .358	Reject H _{3a}
RO2: To investigate the influence of tax penalty on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{3b}: There is a significant relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = .125 P = .297	Reject H _{3b}
RO3: To investigate the mediation effect of the coercive power of the tax authority on the relationship between the tax penalty on the e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{3c}: Coercive power mediates the relationship between tax penalty and e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 2	R ² = 19 percent <i>bootLLCI</i> = .0680 <i>bootULCI</i> = .3077	Accept H _{3c}
RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between the tax penalty, tax service, and tax complexity on the e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{3d}: Legitimate power mediates the relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 3	R ² = 21 percent <i>bootLLCI</i> = .0913 <i>bootULCI</i> = .3515	Accept H _{3d}

Research Objectives	Hypotheses	MODEL	RESULT	FINDINGS
RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the tax penalty on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{3c}: Trust mediates the relationship between tax penalty and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 4	R ² = 20 percent <i>bootLLCI</i> = .0640 <i>bootULCI</i> = .3204	Accept H _{3c}
TAX SERVICE				
RO2: To examine the influence of tax service on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{4a}: There is a significant relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 21 percent β = .461 P = .000	Accept H _{4a}
RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between the tax service on the e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{4b}: Legitimate power mediates the relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 3	R ² = 27 percent <i>bootLLCI</i> = -.0455 <i>bootULCI</i> = .3282	Reject H _{4b}
RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the tax service on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{4c}: Trust mediates the relationship between tax service and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 4	R ² = 26 percent <i>bootLLCI</i> = -.0485 <i>bootULCI</i> = .3196	Reject H _{4c}
TAX COMPLEXITY				
RO2: To examine the influence of tax complexity on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{5a}: There is a significant relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 19 percent β = .461 P = .000	Reject H _{5a}
RO4: To investigate the mediation effect of the legitimate power of the tax authority on the relationship between tax complexity on the e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{5b}: Legitimate power mediates the relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 3	R ² = 19 percent <i>bootLLCI</i> = -.3650 <i>bootULCI</i> = -.0850	Accept H _{5b}
RO5: To investigate the mediation effect of the trust in the tax authority on the relationship between the tax complexity on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{5c}: Trust mediates the relationship between tax complexity and e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 4	R ² = 20 percent <i>bootLLCI</i> = -.2742 <i>bootULCI</i> = -.0648	Accept H _{5c}

Research Objectives	Hypotheses	MODEL	RESULT	FINDINGS
<i>OWNER'S AGE</i>				
RO1: To investigate the influence of the owner's age on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{6a}: Owner's age has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = .034 P = .605	<i>Reject H_{6a}</i>
RO2: To investigate the influence of the owner's age on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{6b}: Owner's age has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = .007 P = .923	<i>Reject H_{6b}</i>
<i>BUSINESS LENGTH</i>				
RO1: To investigate the influence of business length on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{7a}: Business length has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = -.099 P = .167	<i>Reject H_{7a}</i>
RO2: To investigate the influence of business length on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{7b}: Business length has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = -.007 P = .932	<i>Reject H_{7b}</i>
<i>BUSINESS SIZE</i>				
RO1: To investigate the influence of business size on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{8a}: Business size has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = .080 P = .486	<i>Reject H_{8a}</i>
RO2: To investigate the influence of business size on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{8b}: Business size has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = -.196 P = .117	<i>Reject H_{8b}</i>
<i>INCOME SOURCE</i>				
RO1: To investigate the influence of income source on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{9a}: Income source has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = -.016 P = .847	<i>Reject H_{9a}</i>
RO2: To investigate the influence of income source on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{9b}: Income source has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = .031 P = .741	<i>Reject H_{9b}</i>

Research Objectives	Hypotheses	MODEL	RESULT	FINDINGS
<i>PERMANENT ESTABLISHMENT</i>				
RO1: To investigate the influence of permanent establishment on e-commerce entrepreneurs' enforced tax compliance behaviour.	H_{10a}: Permanent establishment has a significant relationship with e-commerce entrepreneurs' enforced tax compliance behaviour.	Model 1a	R ² = 21 percent β = .023 P = .824	<i>Reject H_{10a}</i>
RO2: To investigate the influence of permanent establishment on e-commerce entrepreneurs' voluntary tax compliance behaviour.	H_{10b}: Permanent establishment has a significant relationship with e-commerce entrepreneurs' voluntary tax compliance behaviour.	Model 1b	R ² = 32 percent β = .090 P = .417	<i>Reject H_{10b}</i>



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APPENDIX 10 : ROBUSTNESS TEST

Input:		Test statistic:	Std. Error:	p-value:
a	0.3871	Sobel test: 2.84282938	0.03868509	0.0044715
b	0.2841	Aroian test: 2.80046326	0.03927033	0.00510293
s _a	0.0903	Goodman test: 2.88717835	0.03809086	0.00388714
s _b	0.0748	Reset all	Calculate	

Appendix 10.1 : *TAR – CPW – ETCB (Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	0.5298	Sobel test: 3.04097513	0.04987931	0.00235813
b	0.2863	Aroian test: 3.0098416	0.05039526	0.00261384
s _a	0.0888	Goodman test: 3.07309521	0.04935797	0.00211851
s _b	0.0810	Reset all	Calculate	

Appendix 10.2 : *AP – CPW – ETCB (Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	0.4993	Sobel test: 3.38272797	0.05126244	0.0007177
b	0.3473	Aroian test: 3.34897311	0.05177912	0.00081112
s _a	0.0892	Goodman test: 3.41752451	0.0507405	0.00063193
s _b	0.0818	Reset all	Calculate	

Appendix 10.3 : *TP – CPW – ETCB (Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	0.5185	Sobel test: 2.96491973	0.04775925	0.00302762
b	0.2731	Aroian test: 2.92636741	0.04838844	0.00342946
s _a	0.1064	Goodman test: 3.005037	0.04712167	0.00265549
s _b	0.0731	Reset all	Calculate	

Appendix 10.4 : *TAR – LPW – VTCB (Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	0.6558	Sobel test: 3.49809523	0.06312231	0.00046859
b	0.3367	Aroian test: 3.46759979	0.06367744	0.00052513
s _a	0.1054	Goodman test: 3.52940967	0.06256226	0.00041649
s _b	0.0796	Reset all	Calculate	

Appendix 10.5 : *AP – LPW – VTCB (Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	0.7617	Sobel test: 3.20581936	0.06992543	0.00134679
b	0.2943	Aroian test: 3.18356938	0.07041414	0.00145471
s _a	0.0993	Goodman test: 3.22854247	0.06943329	0.00124423
s _b	0.0834	Reset all	Calculate	

Appendix 10.6 : $TP - LPW - VTCB$ (Significant)

Input:		Test statistic:	Std. Error:	p-value:
a	0.7630	Sobel test: 1.98145037	0.06727199	0.04754079
b	0.1747	Aroian test: 1.97088917	0.06763247	0.04873655
s _a	0.0809	Goodman test: 1.99218318	0.06690956	0.04635096
s _b	0.0862	Reset all	Calculate	

Appendix 10.7 : $TS - LPW - VTCB$ (Significant)

Input:		Test statistic:	Std. Error:	p-value:
a	-0.5373	Sobel test: -3.91505417	0.05355085	0.00009038
b	0.3902	Aroian test: -3.88713244	0.05393551	0.00010144
s _a	0.0788	Goodman test: -3.94358638	0.0531634	0.00008027
s _b	0.0816	Reset all	Calculate	

Appendix 10.8 : $TC - LPW - VTCB$ (Significant)

Input:		Test statistic:	Std. Error:	p-value:
a	0.3792	Sobel test: 2.58371268	0.04038988	0.00977432
b	0.2752	Aroian test: 2.53746958	0.04112595	0.01116571
s _a	0.1105	Goodman test: 2.63257979	0.03964014	0.00847391
s _b	0.0701	Reset all	Calculate	

Appendix 10.9 : $TAR - TRUST - VTCB$ (Significant)

Input:		Test statistic:	Std. Error:	p-value:
a	0.5803	Sobel test: 3.20613643	0.05643476	0.0013453
b	0.3118	Aroian test: 3.17079773	0.05706373	0.00152021
s _a	0.1086	Goodman test: 3.24268365	0.0557987	0.0011841
s _b	0.0778	Reset all	Calculate	

Appendix 10.10 : $AP - TRUST - VTCB$ (Significant)

Input:		Test statistic:	Std. Error:	p-value:
a	0.7033	Sobel test: 2.99966927	0.0634681	0.00270273
b	0.2707	Aroian test: 2.97430283	0.06400939	0.00293655
s _a	0.1023	Goodman test: 3.025696	0.06292215	0.00248062
s _b	0.0812	Reset all	Calculate	

Appendix 10.11 : *TP – TRUST – VTCB (Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	0.7901	Sobel test: 1.52530361	0.07091355	0.12718339
b	0.1369	Aroian test: 1.51789232	0.07125979	0.12904155
s _a	0.0791	Goodman test: 1.53282453	0.0705656	0.12531909
s _b	0.0887	Reset all	Calculate	

Appendix 10.12 : *TS – TRUST – VTCB (Not Significant)*

Input:		Test statistic:	Std. Error:	p-value:
a	-0.4682	Sobel test: -3.50976195	0.04703661	0.00044851
b	0.3526	Aroian test: -3.47677566	0.04748288	0.00050748
s _a	0.0819	Goodman test: -3.54370529	0.04658607	0.00039455
s _b	0.0793	Reset all	Calculate	

Figure 10.13 : *TC – TRUST – VTCB (Significant)*

Sources : Preacher, (n.d.) and UEDUFY, (n.d.)