

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will present a review of the relevant literature in this study. Section 2.2 and 2.3 will explain carbon tax and public acceptance, respectively. In the next section, this study will focus more on trust, with Section 2.4 discussing on the trust in the government, and Section 2.5 discussing on the trust theory. Next, Section 2.6 will discuss on the dimensions of trust that influence acceptance. Section 2.7 will present the conceptual framework and hypotheses development of the study. Finally, the conclusion of this chapter will be discussed in Section 2.8.

2.2 Carbon Tax

Carbon tax is a type of Pigouvian Tax or Environmental Tax introduced by A.C Pigou, one of the earliest proponents among European economists in 1920 who proposed mitigating environmental issues by using taxation. Prior to the work of Pigou (1920), the role of environmental tax has been primarily known among the research community, and many studies have examined the potential of adopting environmental tax in their countries (Heine et al., 2012; Klenert & Mattauch, 2016; Loganathan et al., 2014; Oueslati, 2014). According to his theory, it is stated that:

“It is, however, possible for the State, if it so chooses, to remove the divergence in any field by ‘extraordinary encouragement’ or ‘extraordinary restraints’ upon investment in that field. The most obvious forms, which these encouragements and restraints may assume, are, of course, those of bounties and taxes.” (Milne & Andersen, 2012; p16)

Environmental tax and carbon tax has different features. The former environmental tax refers to instruments to address negative externalities that emerge from economic activities such as environmental pollution and degradation with purpose to promote and ensure the management of environmental problems (Milne & Andersen, 2012).

Carbon tax, on the other hand, is a market-based instrument that uses fixed prices on polluters to reduce or eliminate environmental externalities (Muhammad, 2022). According to Joshi (2019a), carbon tax refers to tax enforcement on GHG emissions or carbon dioxide equivalent tax. Ghazouani et al. (2020) defined carbon tax as a form of consumption tax that can be levied on CO₂ emissions from energy usage or fossil fuels that mainly focuses on the carbon mitigation. In addition, a carbon tax can be defined as a fee imposed on fossil fuel burning to reduce the use of fossil fuels that are destroying the climate (OECD, 2001). Compared to other energy or environmental taxes, carbon tax also encourages energy conservation, the development of cleaner and less expensive energy sources, and technical innovation (Boroza, 2019; Lin & Li, 2011; Wang & Wei, 2019).

Therefore, carbon tax has been widely considered a fundamental component in mitigating climate change and other negative externalities that emerge from economic activities. Table 2.1 shows that 25 developed countries have adopted the carbon tax system, along with 10 developing countries. In comparison to the developing countries, the majority of developed countries have implemented carbon taxes as a tool to reduce carbon emissions and protect the environment (Partnership for Market Readiness, 2017; World Bank Group, 2019). Most developed countries implemented carbon tax systems because they are the primary contributors to CO₂ emissions (UNEP & UNFCCC, 2001).

Among Asian countries, only Japan and Singapore have implemented a carbon tax (Table 2.1). On 1st January 2019, Singapore implemented a carbon tax with an initial price of S\$5/tCO₂e for the period 2019-2023 (National Climate Change Secretariat, 2021). Singapore participates in the carbon tax implementation because the government is committed to aggressively lowering carbon emissions and recognises the positive impact of carbon tax on green growth opportunities and the transition to a low-carbon economy. Malaysia similarly intends to adopt a carbon tax in the future to reduce the number of carbon emissions (Economic Planning Unit, 2019). Thus, evaluating public acceptance is crucial to review public perceptions on this matter.

Table 2.1: The Implementation of Carbon Tax at the National and Sub-national Levels

No.	Year adopted	Countries	Continent	Developed/ Developing Countries	CO ₂ emission
1.	1990	Finland	Europe	Developed	Decrease
2.	1990	Poland	Europe	Developed	Decrease
3.	1991	Norway	Europe	Developed	Decrease
4.	1991	Sweden	Europe	Developed	Decrease
5.	1992	Denmark	Europe	Developed	Decrease
6.	1996	Slovenia	Europe	Developed	Decrease
7.	2000	Estonia	Europe	Developed	Decrease
8.	2004	Latvia	Europe	Developing	Decrease
9.	2008	Switzerland	Europe	Developed	Decrease
10.	2008	Liechtenstein	Europe	Developed	Decrease
11.	2008	British Columbia	North America	Developed	Decrease
12.	2010	Iceland	Europe	Developed	Decrease
13.	2010	Ireland	Europe	Developed	Decrease
14.	2011	Ukraine	Europe	Developing	Decrease
15.	2012	Japan	Asia	Developed	Decrease
16.	2013	United Kingdom	North West	Developed	Decrease
17.	2014	France	Europe	Developed	Decrease
18.	2014	Mexico	North America	Developing	Decrease
19.	2014	Spain	Europe	Developed	Decrease
20.	2015	Portugal	Europe	Developed	Decrease
21.	2017	Alberta	North America	Developed	Decrease

22.	2017	Chile	South America	Developing	Decrease
23.	2017	Zacatecas	North America	Developing	Decrease
24.	2018	Colombia	South America	Developing	Decrease
25.	2018	Argentina	South America	Developing	Decrease
26.	2019	Singapore	Asia	Developed	n.a
27.	2019	Newfoundland and Labrador	North America	Developed	n.a
28.	2019	Canada	North America	Developed	n.a
29.	2019	Prince Edward Island	North America	Developed	n.a
30.	2019	Saskatchewan	North America	Developed	n.a
31.	2019	South Africa	Africa	Developing	n.a
32.	2020	Tamaulipas	North America	Developing	n.a
33.	2020	Baja California	North America	Developing	n.a
34.	2021	Luxembourg	Western Europe	Developed	n.a
35.	2021	Netherlands	Western Europe	Developed	n.a

Source: Partnership for Market Readiness (2017) and World Bank (2021)

2.2.1 Carbon Tax in Developing Countries

In response to the worsening effects of climate change, many developed and developing countries have adopted and are expected to adopt carbon taxes. Chile, Colombia, Argentina, Mexico, and South Africa are among the developing countries that have already implemented a domestic carbon tax (United Nations, 2021).

The limited number of developing countries implementing carbon tax is because people in developing countries generally have modest environmental behaviour (Chua et al., 2020; Khan et al., 2019) and are not willing to pay more to safeguard the environment (Amoah et al., 2018; Ananno et al., 2021). As a result, they are overly reliant on fossil fuels to accomplish their economic development objectives, particularly in urban areas (Corfee-Morlot et al., 2012).

In addition, the energy sector in developing countries has been heavily regulated by the government. The governments have utilised a wide range of subsidies to respond to rising fuel prices. Ultimately, the subsidies failed to protect the actual incomes of the lowest income groups (Couharde et al., 2020). The problems of social

injustice and poverty are widespread in many developing countries, especially in the world's poorest countries. Moreover, the lack of administrative capacity and less advanced tax collection technologies have made it difficult to implement new tax systems in their countries. Because of this, the public has lack of trust in the government as a result of poorly functioning institutions (Ramos-Mejía et al., 2018).

Over time, developing countries account for a greater and growing share of total annual emissions. If the emission levels of middle-income countries continue to increase uncontrollably, the international goals for limiting global warming will fail, regardless of the actions taken by high-income countries. Therefore, developing countries should consider implementing a carbon tax to address the issue of carbon emissions. In addition, carbon tax has been shown to raise government income for a variety of goals, from debt repayment to greater expenditure on education and healthcare.

Chile introduced a carbon tax as part of a larger tax reform in 2014, which also included changes to other taxes. The reform is limited to big industrial and electricity production sources with thermal capacity larger than 50 megawatts (MW). The green tax regime went into effect on January 2017 (Partnership on Transparency, 2019). Chile's carbon tax is an excellent example of effective practise for a variety of reasons. The government's strong political commitment ensured that the carbon tax is successfully implemented. Capacity building at the national level has been facilitated through the involvement of numerous public actors in the creation of the tax system and through international assistance. Additionally, the process has been characterised by significant stakeholder engagement, as evidenced by the inclusion of the private sector in the formulation of relevant regulations and laws. The majority of tax revenue

was spent on improving education systems and green technologies (Partnership for Market Readiness, 2017).

South Africa is one of the most carbon-intensive economies, with a heavy reliance on coal resources. The subsidised coal-fired electricity has caused the country to rely on energy-intensive mining for heavy industry. In 2019, a carbon tax was introduced to reduce the amount of carbon emissions emitted. Even though the carbon tax affects national welfare, it can be balanced with other alternatives such as lower taxes on other areas and improved renewable technology (Devarajan et al., 2011). The carbon tax revenue is channeled to the National Revenue Fund, which is intended to finance public transportation and freight rail transportation. It is also used to reduce the electricity levy and to provide a tax incentive for energy efficiency as well as a tax credit for the purchase of renewable energy. The funding is also redistributed to low-income individuals in the form of free basic energy services (Partnership for Market Readiness, 2017).

With the growing popularity of carbon tax as the most effective policy measure in reducing carbon emission, Colombia has passed the law on carbon tax implementation in 2017. Currently, Colombia has a small share of GHG emission among Latin American countries. However, such a low carbon economy may not be sustainable in the future. The country shows strong macroeconomic growth and stability, and it is expected that higher income will increase the demand for fossil fuels. The carbon tax is imposed on fossil fuels, specifically gasoline, kerosene, jet fuel, diesel fuel, and fuel oil. Liquefied petroleum gas is also taxed for its carbon content, but only when sold to industrial users. The tax revenues generated would be directed to the Sustainable Colombia Fund which is then used to resolve coastal erosion, conserve water sources, and protect the ecosystem among others. Companies

can get certified as carbon-neutral when they neutralize their carbon emission, making them eligible to have tax incentives if they invest in mitigation projects (Monge, 2018).

Table 2.2 shows that the total revenue collection from carbon tax in developing countries is gradually decreasing from year 2016 to 2020. Developing countries like Chile, Colombia and South Africa collected USD165 million, USD29.320 million and USD43.314 million of carbon taxes, respectively in 2020 (World Bank, 2021b). In order to raise revenue collection, the countries may gradually increase the carbon tax rates, which would in turn increase the proportion of the GDP (OECD, 2021).

Adopting a carbon tax will assist countries in meeting their goals of reducing carbon emissions, increasing domestic revenue mobilisation, and enhancing renewable technology. Energy efficiency and renewable energy are also expected to create an enormous number of jobs than government spending on fossil fuels (Garrett-Peltier, 2017).

Table 2.2: Carbon Tax Collection in Developing Countries from Year 2016-2020

No.	Jurisdiction	Year Implemented	Carbon Tax Collection (USD million)				
			2016	2017	2018	2019	2020
i.	Argentina	2018	0	0	200.228	179.263	0.488
ii.	Chile	2017	0	144.500	165.500	165.500	165.000
iii.	Colombia	2017	0	171.530	92.628	111.245	29.320
iv.	Latvia	2004	6.354	9.740	9.068	9.060	5.000
v.	Mexico	2014	440.408	624.451	306.021	210.406	229.892
vi.	South Africa	2019	0	0	0	0	43.314
vii.	Ukraine	2011	3.244	3.709	4.019	47.692	30.848
viii.	Zacatecas	2017	0	0	0	0	0
Total			450.006	953.93	777.464	723.166	503.862

Source: World Bank (2021a)

2.2.2 Carbon Tax in Malaysia

Air pollution is one of the primary causes of increased CO₂ emissions, which has harmed the vitality of the environment and human health. A report from the Department of Statistics stated that Malaysia's level of carbon emissions has increased (MESTECC, 2018). Most of the recent studies on carbon tax in Malaysia had focused on its impact and efficacy on Malaysia's economic growth (Al-Amin et al., 2020; Babatunde et al., 2018; Jaafar et al., 2008; Joshi, 2019a; Loganathan et al., 2014; Tufail et al., 2018; Wong et al., 2018; Yahoo & Othman, 2015, 2017). Table 2.3 reveals the outcome of the study performed by previous researchers on the impact of imposing carbon tax in Malaysia for carbon emission abatement.

Table 2.3: Prior Research on Carbon Tax in Malaysia

No.	Years	Author	Objective	Findings
1	2008	Jaafar et al.	To examine the economic impact and effectiveness of carbon tax, a single-country, static Computable General Equilibrium model for Malaysia is constructed.	Negative impact on the economy and environment
2	2014	Loganathan et al.	To explore how carbon taxation and economic growth affect environmental hazards in Malaysia using time series data over the period of 1974–2010.	Negative impact on the environment
3	2015	Al-Amin et al.	To empirically examine climate change related vulnerability impacts, and remedial options as an optimal and applicable strategy by prioritizing needs in climate change mitigation over 95 years.	Positive impact on the economy
4	2015	Yahoo and Othman	To develop a computable general equilibrium model with explicit energy-emission linkages to appraise the economy-wide and welfare impacts of carbon and energy tax policies to reduce CO ₂ emissions in Malaysia.	Positive impact on the economy and environment
5	2017	Yahoo and Othman	To evaluate the economy-wide impacts of implementing two different types of CO ₂ emission abatement policies in Malaysia	Positive impact the economy and environment

			using market-based (imposing a carbon tax) and command-and-control mechanism (sectoral emission standards).	
6	2018	Babatunde et al.	To characterise the current issues related to CO ₂ emissions reduction strategies in the power sector, identify promising mitigation measures based on the experiences from other countries and the contemporary research outcomes, and note limitations and emergent policy issues.	Positive impact on the environment
7	2018	Tufail et al.	To evaluate the financial impact of adopting a carbon-tax policy on current power generation mix in Malaysia; the system was examined by three different carbon pricing rates.	Positive impact on the economy and environment
8	2018	Wong et al.	To provide a general overview of the existing and emerging carbon pricing frameworks in various pioneering political economies.	Positive impact on the economy and environment
9	2018	Joshi	To identify two key areas responsible for over half of our emissions, namely electricity generation and transport; discuss the steps taken to mitigate emissions within these sectors thus far; and highlight several key policy directions that may significantly curtail these emissions and strengthen the foundations of future climate action in the country.	Positive impact on the economy
10	2019	Joshi	To proposes a downstream carbon pricing framework for Malaysia with an initial coverage of three heavily emitting economic sectors—in electricity, transport, and oil and gas production.	Positive impact on the economy
11	2019	Joshi	To proposal for a carbon taxation policy in Malaysia	Positive impact on the economy
12	2021	Goh and Matthew	To assess residents' knowledge and attitude towards GHG. It is also to analyse the factors influencing residents' Willingness to Pay (WTP).	Positive impact on the economy and environment
13	2022	Hasnu and Muhammad	To give a brief review of literature for future studies in implementing a carbon tax policy in Malaysia.	Positive impact on the economy and environment

In 2008, an early investigation of the effectiveness of carbon taxes in reducing carbon emissions in Malaysia revealed unfavourable results (Jaafar et al., 2008; Loganathan et al., 2014). Jaafar et al. (2008) ran three simulations based on historical economic development scenarios in Malaysia and discovered a negative relationship, implying that introducing the carbon tax will reduce GDP growth, but increase the number of carbon emission reductions. The finding is also consistent with Loganathan et al. (2014) who discovered that carbon tax implementation had no meaningful effect on emission reduction in Malaysia due to the tax structure of the country.

Yahoo and Othman (2015) conducted four simulations that depict various scenarios. It has been demonstrated that when carbon taxes were implemented with a compensation plan, they had a beneficial macroeconomic effect, increasing economic growth and lowering carbon emissions. In 2017, Yahoo and Othman expanded the analysis of carbon taxes by comparing two distinct approaches of carbon emission reduction: carbon taxes and command-and-control policies. The findings indicate that carbon taxes are more successful than command-and-control policies. This indicates that establishing a carbon tax and distributing the revenue to households will have a beneficial economic impact and will motivate households and industries to adopt the carbon tax and be more environmentally responsible.

In 2018, Babatunde et al. (2018) discovered that Malaysia's energy generation sector requires the highest effort to reduce carbon emissions. This is because energy is the primary source of a large amount of pollution discharged into the environment. As a result, Malaysia must implement new climate-related policies, such as a carbon tax or an ETS. This is supported by Tufail et al. (2018) who determined that Malaysia's current generating mix contributes 136 million metric tonnes of carbon. Therefore, adopting a carbon tax becomes one of the government's plans for protecting the

environment and boosting the Malaysian economy. The study concluded that by imposing a carbon tax at a rate of USD30, Malaysia will collect USD4,156,457,340 in carbon tax revenue, enabling the country to become more sustainable in terms of economic growth, secure the generation mix, and achieve the 45% carbon emission reduction deadlock ahead of time. This is also confirmed by Al-Amin et al. (2015), who discovered that by prioritising climate change mitigation over 95 years, the government could generate RM 9,535.4 billion in carbon tax income.

Additionally, Wong et al. (2018) conducted a study to determine Malaysia's readiness to implement a carbon tax. The findings indicated that enacting a carbon tax should serve as a springboard for more comprehensive fiscal and climate policy reforms. The grounds for this include the fact that Malaysia's present political discussion and other financial difficulties are unstable, which could hamper the implementation of the proposed GST. Thus, the study recommended for a lower initial carbon tax to be explored in order to acquire public approval.

Similar to Joshi (2019a), Malaysia should impose a carbon tax as a way to reduce carbon emissions and demonstrate that the country is truly concerned about climate change. In addition, an initial price of RM35/tCO₂e is envisaged for downstream actors. Redistribution of carbon tax income will increase public support for green technology and will indirectly affect people's behaviour to meet environmental responsibilities.

A recent study by Goh and Matthew (2021) on the public's willingness to pay carbon tax using a sample consisting of Malaysian residents in Klang found that the majority of the respondents were willing to pay and have a moderate level of awareness and a favourable attitude towards GHG. Eventually, it became obvious that

a carbon tax is necessary for Malaysia in order to combat climate change and protect the environment.

As a conclusion, most of previous studies in Malaysia have focused on the efficiency and efficacy of carbon taxes policy. There is a lack of study on public trust in the government on tax policy and also study on the acceptance of the carbon tax has not be covered. Compared to the other developed countries, studies among developing countries on trust in the government and acceptance on carbon tax are limited. Therefore, study on public acceptance on carbon tax implementation in Malaysia should be conduct as a prior action before the policy taken place.

Recognizing this gap, this study aims to examine how trust in the government influences public acceptance of the carbon tax implementation in Malaysia. This study will further explain the components of trust used in this studies which are political trust, government's integrity, government's competence and government's accountability on public acceptance of carbon tax implementation in Malaysia.

2.2.3 Advantages of Carbon Tax

Carbon tax is one of the finest toolkits in mitigating CO₂ emissions as it provides a number of significant advantages including the ability to improve environmental effectiveness, economic efficiency, and revenue potential (Cottrell et al., 2017; Ghazouani et al., 2020; Hoeller & Coppel, 1992; Khastar et al., 2020; Kiuila & Markandya, 2009; Klenert & Mattauch, 2016; Oueslati, 2014; Sumner et al., 2009; Wong et al., 2018).

i. Environmental Effectiveness

The effect of GHG emission has caused severe problems to climate change. Thus, there is now an inevitable need for all countries to reduce the number of GHG emissions. Every country is a contributor to GHG emissions around the world. Malaysia has contributed to only 0.7% of the global emissions. According to Wong et al. (2019), if there is an incrementing global emission share, it could negatively impact global warming. Therefore, Malaysia has conducted a mitigation agenda to reduce 45% of GHG emission intensity of GDP by 2030 relative to the emissions intensity of GDP in 2005 (MESTECC, 2018). Implementing a carbon tax policy can reduce carbon emissions effectively in Malaysia (Wong et al., 2018).

Hoeller and Coppel (1992) and Sumner et al. (2009) agreed that putting a carbon tax into practise would reduce carbon emissions. Meanwhile, Ghazouani et al. (2020) exerted that adopting carbon tax has a positive impact on its effectiveness. A carbon tax can have a positive impact on both developed and developing countries, depending on the carbon tax rate, the scope of the carbon tax, and how the revenues are distributed. In spite of the greater ability of developed countries to put in place a carbon tax, developing countries can also implement a carbon tax with a better carbon tax policy by exploring and understanding the experience of other developed countries (Nurdianto & Resosudarmo, 2016).

ii. Economic Efficiency

Economic efficiency is one of the main targets in economic activities. In this context, the carbon tax is one of the policy that has a lower compliance cost because it is flexible to adjust in the future (Wong et al., 2018). Based on the experience of other countries, most of the tax rate was increased gradually over time to prevent carbon

leakage (Partnership for Market Readiness, 2017). Therefore, a carbon tax can generate significant revenue collection that can enhance the long-term technology innovation for controlling pollution and increasing social welfare. Implementing the carbon tax does not solely increase the revenue; instead, it aims to reduce pollution and increase the polluter's accountability to the environment. A.C Pigou highlighted externalities by making the polluters pay for each unit of the harm caused by them (Milne & Andersen, 2012).

iii. **Revenue Potential**

Klenert and Mattauch (2016) and Oueslati (2014) also identified that revenues from a carbon tax could enhance economic development and increase the country's GDP. In addition, Klenert and Mattauch (2016) found that a carbon tax can be a progressive tax as the revenue is recycled in terms of lump-sum transfer to the household. The investigation by Oueslati (2014) on revenue impact on welfare in the short term and long term revealed different impacts in both scenarios. The environmental tax could be challenging to implement in the short term as the number of welfare costs is very high. Still, welfare effects in the long term can be implemented, yet it depends on the value of the capital adjustment cost. In the same vein, Kiuila and Markandya (2009) and Zhou et al. (2011) reported that carbon tax could reduce CO₂ emissions, and a positive impact can be gained when the tax is shifted for household income.

Khastar et al. (2020) examined the impact of carbon tax in Finland with the implementation of carbon tax in each country, which resulted in a different effect on economic growth and CO₂ emission. They found that differential tax rates need to be implemented or raise the carbon tax rates to increase industrial competitiveness and

ensure the mitigation effect of the carbon tax. Thus, the carbon tax policy in Finland has been successful in reducing CO₂ emissions. However, it has an adverse impact on social welfare.

The policy implementation of the country is important in ensuring the adopted carbon tax system achieves the intended benefits in the aspects of environmental development, economy, fiscal and social. According to Cottrell et al. (2017), if a country can implement a carbon tax that contributes to these four benefits, the carbon tax can enhance economic growth and achieve sustainable development goals. Overall, there seems to be some evidence to indicate that carbon tax can give many potential benefits for the environmental sustainability and economic growth of a country.

2.3 Public Acceptance

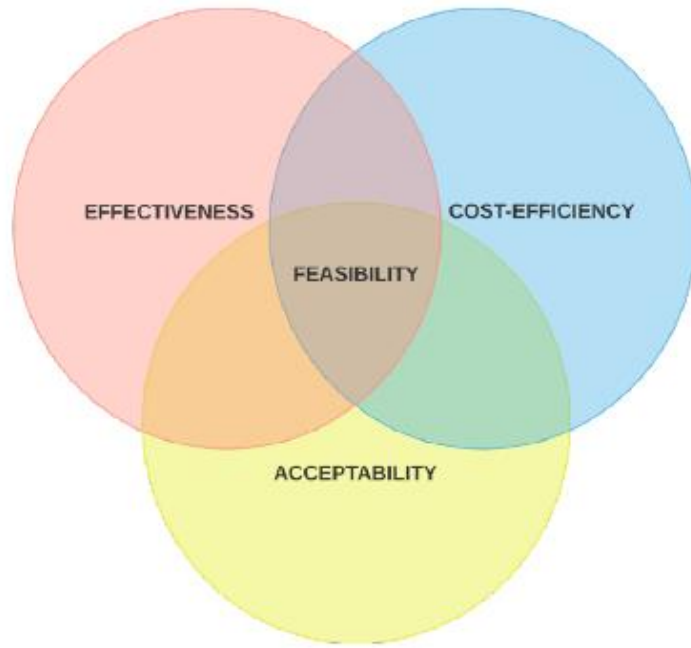
The term "public acceptability" refers to the extent to which a policy or a specific measure is supported by people who can be influenced in either direction. The willingness or reluctance of individuals to try new things is an example of public acceptance (Kalantari et al., 2018). Public acceptability is necessary for the implementation of a carbon tax because it is a key factor in determining whether a policy is favourable or unfavourable to the public before it is implemented (United Nations, 2021).

The word "acceptability" and "acceptance" give two different meanings with regards to timing. Acceptability refers to the evaluation of a policy before its implementation, while acceptance is the evaluation after the implementation of a policy (Schuitema et al., 2010). The terms "acceptability" and "acceptance" have been greatly debated where some researchers believe that acceptability refers to the

prospective judgement of measures that will be implemented in the future (Schade & Schlag, 2000). Meanwhile, acceptance has been defined as the attitudes of individuals regarding the behavioral reactions that take place after the implementation of a policy measure (Schade & Schlag, 2003).

Some of the researchers prefer to use the term “support” to describe the meaning of acceptance which refer to the public’s attitudes towards the policy (Davidovic & Harring, 2019; Jagers et al., 2018). However, other studies used the term “acceptability” or “acceptance” interchangeably with support in regards to environmental policies (Bachus et al., 2019; Baranzini & Carattini, 2017; Bristow et al., 2010; Cherry et al., 2014; Davidovic & Harring, 2019; Dreyer & Walker, 2013).

To ensure a feasible carbon tax policy, policymakers need to increase public acceptability because acceptability is connected to the effectiveness and efficiency of a carbon tax (United Nations, 2021). Once the policy achieves the required level of effectiveness, efficiency and acceptability, it is considered feasible to be implemented in the future because it has the potential of being accepted by the public (Figure 2.1) (United Nations, 2021). Therefore, it can be understood that, in order to ensure the success of a carbon tax implementation, it is necessary to assess public acceptance of the carbon tax to minimise public resistance and subsequent political and economic consequences.



Source: United Nations (2021)

Figure 2.1: Feasibility as a Function of Effectiveness, Cost-Efficiency, and Acceptability

Having public support on policy implementation is one of the crucial things that need to be considered because, without public support, it will be very challenging to achieve the objective of the policy. Evaluating public support for carbon taxes is very crucial. Finding out what aspects influence public support positively and adversely is a primary concern. As a result, it is necessary to examine the elements that influence public support for carbon taxes.

In recent years, a number of studies have been conducted to examine the factors that influence public support for carbon taxes in developed nations (Uyduranoglu & Ozturk, 2020). In Europe, Fairbrother et al. (2019) discovered that Europeans who trust their politicians will support climate change policy. It was also discovered that even people who are concerned about climate change but do not trust their politicians remain opposed to the climate change policy.

Recent studies found that carbon tax has received public pushback (Fairbrother et al., 2019; Jagers & Hammar, 2009; Kitt et al., 2021; Rhodes et al., 2017). In Australia, the citizens opposed the implementation of a carbon tax, resulting in the carbon tax surviving for only two years (2012 to 2014). The reason for carbon tax repeal is because of changes in the government, which drove the Australians to vote out the government which raised a campaign to abolish carbon tax (Partnership for Market Readiness, 2017).

Distrust towards the government and ineffective revenue recycling are the main reasons for public pushback of carbon taxes (Baranzini et al., 2014). In 2014, the report from the National Survey of Energy and Environments proved that support for carbon tax implementation strongly depends on the proposed revenue distribution (National Surveys on Energy and Environment, 2014). To gain public acceptance, the government must demonstrate that the revenue will be used to improve public welfare, such as healthcare, education, and other policy goals (United Nations, 2021).

Citizen support for carbon tax policies varies by country (Baranzini & Carattini, 2017; Harrison, 2013; Jagers & Hammar, 2009). This is due to the fact that each country has different policy designs, resulting in citizen support and opposition of the policy implemented. Therefore, a carbon tax must be well-designed and accepted by the public in order to be feasible. This is because it is not just about carbon tax policy, but also about environmental, economic, and social factors.

Despite being an effective and cost-effective policy tool for combating climate change, carbon taxation has only been implemented in a few developing countries (World Bank, 2021b). This is due to the factors such as how government and policy are made, path dependency, economic conditions and development, the quality of government, and political culture (Harring et al., 2018). The understanding of how

public acceptance emerges or fails to evolve in developing nations is still very limited. Therefore, research into public acceptability of carbon taxes is required, particularly in developing countries since it is on the agenda of many developing countries, both to raise revenues and to meet their commitments on climate change and sustainable development (United Nations, 2021).

2.4 Trust in the Government

The concept of trust has been widely identified as an essential social interaction to enable the cooperation with different parties (Kasperson et al., 1992). Trust also implies the confidence that people have in the other party to act beneficially with care, honesty, competence, and commitment to work in their best interest. As trust is comprehensive and subjective, many researchers tried to determine the meaning from diverse academics such as quarters psychology, sociology, political science, economics, and mass communication. Therefore, trust has been seen as multi-dimensional element that is developed in a different context of its phenomena (Kasperson et al., 1992; Poortinga & Pidgeon, 2003; Ryu et al., 2018).

Many researchers have figured out the definition of trust in a different aspect. A study conducted by Rotter (1980) defined trust as “expectancy held by an individual that the word, promise, oral or written statement of another individual or group can be relied upon”. Besides that, Sitkin and Roth (1993) see it as a “belief in a person’s competency” while Jones and George (1998) regarded trust as “an expression of confidence that the actions of another party can compromise”. In the study of Rousseau et al. (1998), trust is defined as a “psychological state comprising the intention to accept vulnerability based up”. The viewpoint of trust has been seen to be exercised by different parties with the expectation, confidence, and high vulnerability

that the other party will fulfil the promise made. Therefore, trust is never absolute and has a different dimension in a different context.

In the context of trust in the government, Easton (1965) identified it as actions of the government to do what is right and perceived fair. As we know, the government has the highest authority and must act on behalf of the public which relies on them. Therefore, the social interaction between the public and the government is essential for social cohesion and well-being (OECD, 2013). This is because high public trust in the government shows that the government could perform the responsibility and duties without resorting to coercion. OECD (2013) also found that a high level of trust in the government will contribute to the effectiveness and efficiency of the government's operations.

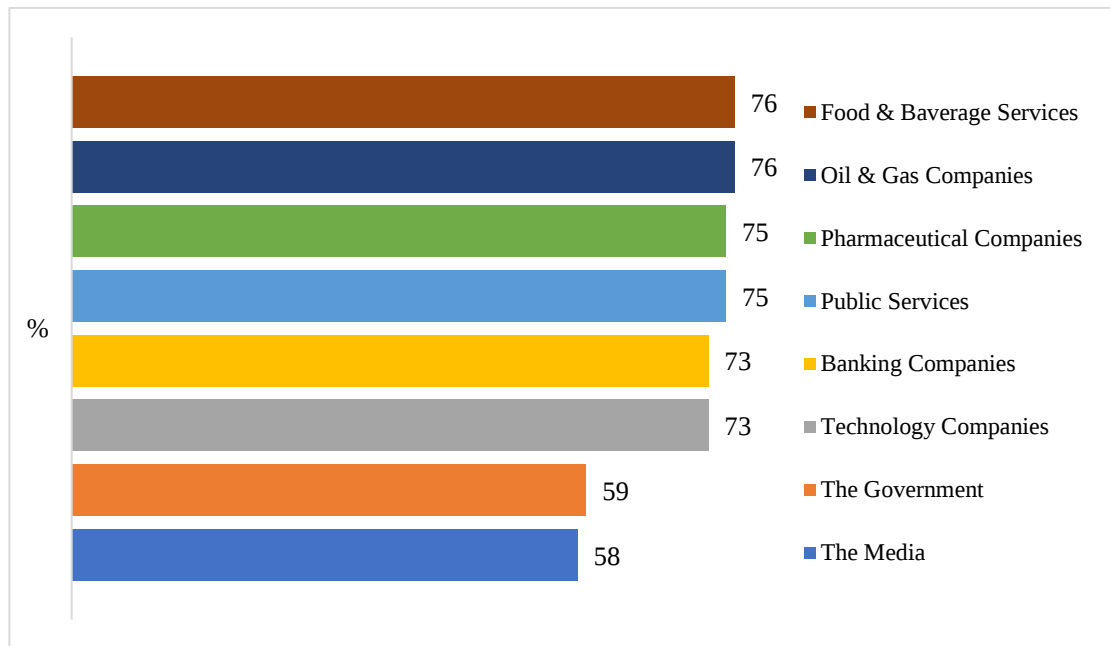
Trust can also influence people's behaviour to increase support for new policy outcomes (OECD, 2013). This is because the government has a key person that is competent and experienced in their field, whom the public can rely on. Furthermore, having trust in the government will increase compliance with rules and regulations and reduce the enforcement cost (Murphy, 2004; OECD, 2013; Sobhkhiz et al., 2020).

Taxation is one example that represents the relationship between trust and compliance. Murphy's study (2004) on the role of trust in nurturing compliance found that trust leads to compliance with the authority's rules and decisions. It is crucial to evaluate the current level of trust in the government that the public has to increase compliance, support, and acceptance.

Recently, public trust in the Malaysian government has been eroding because of the political crisis that occurred in early 2018. Malaysia is one of the countries that practice the democratic system. In the year 2018, the 14th Malaysia General Election (GE-14th) was held, which resulted in the development of a new government known

as “Pakatan Harapan”, which was previously the country’s federal opposition (The Star, 2018). Their unprecedented victory as voted by the public became the first regime change in Malaysia’s history. Therefore, many changes have occurred during Pakatan Harapan's reign, including the abolishment of the goods and services tax (GST). The implementation of GST in 2015 had increased the collection of tax revenue. However, the GST's abolishment had resulted in income losses to the government of RM 21 billion, which significantly impacts tax collection (New Straits Times, 2018).

However, another political crisis occurred in year 2021, when the Government of Pakatan Harapan collapsed and a new government took control namely the Government of “Perikatan Nasional” led by Tan Sri Dato' Haji Mahiaddin Md Yasin. The political landscape remained unstable after the change throughout 2020 and into 2021. This led to the resignation of Tan Sri Dato' Haji Mahiaddin Md Yasin and his cabinet in August 2021, after they had been in power for just 17 months (Al Jazeera, 2021). Soon after, Dato’ Sri Ismail Sabri Yaakob was named as Prime Minister (Teoh, 2021). The unstable of political issues had affected public trust in the government to lead the country (Lamiere, 2021; Strategic Comments, 2020). Figure 2.2 presents the data of organizational trust in Malaysia.



Source: Ipsos (2020)

Figure 2.2: Trust on Organizational Bodies in Malaysia in the Year 2020

Figure 2.2 shows that the government and media have a lower percentage of public trust than other organizations. The lower trust towards the government occurs because the public feels betrayed by the political crisis in Malaysia. The main reason for this crisis was because several political parties had joined forces and attempted to form a new government, known as “Perikatan Nasional”. The betrayal of the politicians who simply changed their parties has impacted the government and the public. Thus, it has affected public trust in the government, where the public becomes the victims because of the attitude of several parties that had betrayed their given mandate (G25, 2020). This is supported by the latest survey conducted by Ipsos (2020), which revealed the public's trustworthiness in the profession (Table 2.4).

Table 2.4: Percentage of Public Trust by Profession Types

Profession	Percentage (%)
Teachers	89
Doctors	88
Scientist	83
Armed Forces	82
Religious Leaders	78
Judges	75
The Police	70
Lawyers	70
TV News Readers	70
Pollsters	70
Civil Servants	70
Bankers	69
Business leaders	68
Journalists	66
Ordinary People	61
Ad Executives	61
Government Ministers	53
Politicians	44

Public trust in the government's ministers and politicians has the lowest percentage. Here, it can be said that public trust in the government is influenced by the level of trust that the public has in the politicians.

A study conducted by Fairbrother et al. (2019) found that having trust in politicians will enhance public support on carbon tax because they believe in the political actors' integrity to act on behalf of the public. Most of the previous studies had examined public acceptance of carbon taxes in other countries.

2.5 Trust Theory

The theory of trust was used in this study as previous researches had adopted this theory in empirically examining the public trust in the government. The theory of trust has been debated by many researchers from the area of social psychology and social science (Poortinga & Pidgeon, 2003). The research subject becomes popular

because trust is an essential element in social interaction between the public and other organizations (Frewer et al., 1996). Most of the researchers aim to understand factors that influence people to trust or distrust other institutions. Therefore, Poortinga and Pidgeon (2003) conducted an extensive literature review about trust, which resulted in a proposed typology of trust in government (Figure 2.2).

<i>Level of General Trust</i>	High	Acceptance	Critical trust
	Low	Distrust	Rejection
		Low	High
<i>Level of Scepticism</i>			

Source: Poortinga and Pidgeon (2003)

Figure 2.3: Typology of Trust in the Government

According to the findings of the study, a low level of scepticism and a high level of general trust will result in acceptance or full trust. In relation to this, trust is an abstract concept which means that it has a lot of meanings. Ryu et al. (2018) conducted a study on trust in the government and regulation on public acceptance of Nuclear Power Energy. This study adopted the typology of trust proposed by Poortinga and Pidgeon (2003). The result showed that it is important to build trust in the government and its regulations among the public because trust could be an essential component that influences people in making decisions. In addition, many studies had proposed various trust models with different dimensions of trust in their studies (Kasperson et al., 1992; Renn & Levine, 1991; Rousseau et al., 1998).

A study conducted by Renn and Levine (1991) found five components of trust namely perceived competence, objectivity, fairness, consistency, and faith. This

component explained the importance of trust with the institutions on what makes people believe in them. This study found that communication between the organization and the public has increased the public trust components because the public always expects the organization to work on behalf of the public. Thus, it resulted in high expectations from the public on the institutions, where the more the institution complies with public expectations, the more the public trusts them.

Furthermore, Kasperon et al. (1992) identified four major components of trust: commitment, competence, caring, and predictability. In gaining potential trust, it is crucial to communicate how it shall be achieved. This is because social distrust might appear once the promise is broken. Rousseau et al. (1998) supported this by defining trust as confident expectations from critical components of trust. In their study, three types of trust have been recognised: calculus-based trust, relational trust, and institution-based trust. Calculus-based trust refers to the rational choice that people have which is motivated by self-interest or economic incentives. Relational trust emerges from repeated interactions between two parties over time. Institution-based trust is controlled by the institution to create a context for interpersonal and inter-organizational trust (Rousseau et al., 1998).

On the other hand, Lewicki and Bunker (1996) identified three essential trust components: deterrence-based trust, knowledge-based trust, and identification-based trust. Deterrence-based trust means trusting the other parties where they hold the promise to avoid sanction for the violation. Knowledge-based trust appears when two parties know each other, and thus their behaviour is predictable. In contrast, identification based trust means a mutual understanding that is developed where the other parties can act in their best interest.

Other than that, the study conducted by Frewer et al. (1996) identified the relationship of trust between public perception and trust in the government. The study examined the two dimensions of trust: general trust and accountability. General trust consists of two core elements which are competence and integrity. This study developed the determinants of trust and distrust among organizations where accountability is shown to be the most important element in determining trust and distrust among the public. Johnson (1999) also proposed several types of trust that constitute competence, care and consensual values.

Moreover, Hartman (2000) developed a trust model that constitutes three significant trust components: integrity, competence trust, and intuitive trust. Pinto et al. (2009) adopted the model of trust proposed by Hartman (2000) and found that value similarity is the weakest predictor whilst integrity and competence are significant predictors for the study. This is also supported by Poortinga and Pidgeon (2003) who found that the value of similarity does not impact trust.

The dimension of trust has become popular for measuring public acceptance of climate policy support. Recently, the relationship between trust in the government and public acceptance of carbon tax has been widely studied by many researchers. Kitt et al. (2021) conducted a study of public trust in accepting climate policy. The study undertook a broader literature review and constructed a trust model by drawing on the essential components of trust: competence, integrity, and value similarity. The component of value similarity was found to be the weakest predictor, while the other two were found to pose a significant effect on trust in government.

Other than that, Fairbrother et al. (2019) also conducted a study to examine the influence of political trust among the public in supporting climate policy. The result of the study found that political trust has the highest impact in influencing the public to

support climate policy compared to the other factors such as attitude towards climate change and concern about the problems. This study was supported by Jagers et al. (2010), which found that political trust is one of the components that influence public acceptance of the implementation of carbon tax. In their study, three main components were determined: trust in politicians, perceived fairness, and ideology which become factors that contribute to the successfulness of policy instruments.

Therefore, this study adopts the theory of trust proposed by Poortinga and Pidgeon (2003), which showed that a high level of trust will bring a high level of acceptance. Three components of trust were adopted by Frewer et al. (1996), which are integrity, competence and accountability. Another component adopted by Fairbrother et al. (2019) is political trust. Based on past literature on trust, this current study constructed the following conceptual framework as presented in Figure 2.4.

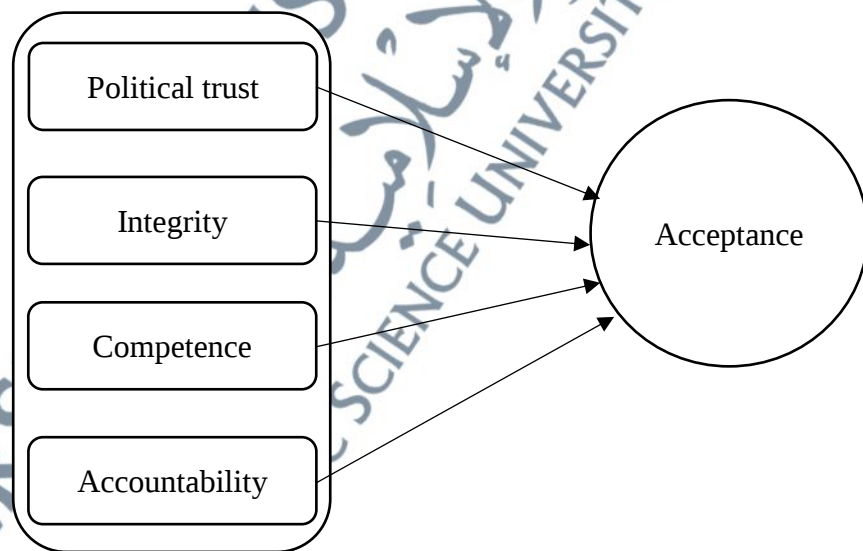


Figure 2.4: Conceptual Framework

2.6 Dimensions of Trust that Influence Acceptance

The study on trust has become one of the most popular issues among researchers on climate change. This is because support for policy instruments is needed to avoid public opposition. Recently, the introduction of a carbon tax has received a lot of public opposition around the world. Therefore, measuring the trust that people have towards the government becomes a concern in this study to examine the public trust in the government in accepting carbon tax implementation. Thus, this study used the theoretical framework proposed by Poortinga and Pidgeon (2003) by adopting the basic components of trust that have been examined by previous researches to conduct a study on how trust in the government influences the public acceptance of carbon tax implementation in Malaysia.

2.6.1 Political Trust

Political trust can be regarded as an individual's belief and willingness to accept the risk because of the optimistic expectation that they have towards the significant governing institutions that they will act on behalf of the society such as the parliament, politicians and political parties as a whole (Fairbrother et al., 2019).

According to the United Nations (2021), in order to increase public acceptance, it is crucial to develop political trust among the public. This is because it is linked to people's general beliefs about the legitimacy of the political system, which is the belief that the existing political institutions and processes are the most appropriate. Without political legitimacy, most policies are difficult to implement and sustain.

The study conducted by Harring and Jagers (2013) also found that political trust affects policy acceptance. According to the finding of the study, the higher the trust in

politicians, the more likely the public accepts the policy concerning environmental problems.

The study conducted by Davidovic (2018) proved the influence of political trust in the support for environmental tax. A strong relationship between political trust and climate policy support among the public has been recognized as a significant impact on climate policy support among the public. Furthermore, the study also found that the quality of the general trust towards the government positively influences the public support of climate policy.

However, Kulin and Sevä (2021) found that trust in the government can be divided into partial institution and impartial institution. Partial institution refers to the parliament, politicians and political parties, while impartial institutions refer to the legal system, government bureaucracy, and the police. The study found that high public trust in impartial institution influences the public concern on climate change, while trust in partial institution shows no evidence regarding to this.

Perceiving the quality of government is indeed challenging. This is due to the fact that most governments will be problematic in countries where public trust in the government and administration is low, particularly in developing countries where corruption is high and functioning institutions are weak. Therefore, deliberative practices are crucial for generating acceptability of policy decisions, particularly when they are in conflict with the stakeholders' short-term self-interests (McLaverty & Halpin, 2008).

In conclusion, political trust is an essential variable in determining public acceptance of carbon tax implementation. This variable shows how the public believes that the politicians are acting on their best interest, thus influencing their acceptance to

support the carbon tax implementation. Therefore, the following hypothesis is proposed:

H1: Public perceptions of political trust positively influence the public acceptance of the carbon tax implementation in Malaysia.

2.6.2 Integrity

In the study of trust, previous researchers have examined integrity as a factor that influences trust in the government (Frewer et al., 1996; Hartman, 2000; Johnson, 1999; Kitt et al., 2021). Integrity in this context gives the meaning of the perceptions that individuals have on the institution that they will act in a way that shows concern, care, fair and honesty toward the other party and act in their best interest without being overly influenced by special interest groups (Kitt et al., 2021). This component is an important element that creates a relationship of trust between the public and the government. When the public has trust in the government, the public becomes individuals who rely on any decisions made by the government as they perceive that the government will act in their best interest (Kasperson et al., 1992).

Renn and Levine (1991) pointed out that the government's integrity is one of the components of trust closely linked to the transparency that influences the degree of personal satisfaction in deciding to trust institutional decision-making. Frewer et al. (1996) examined the determinants of individual trust on the institution. The study ultimately identified the dimensions of general trust and accountability. According to the study, integrity is one of the general trust components which significantly influences individuals to trust and distrust the other party.

Kitt et al. (2021) conducted a study on public acceptance of different policies by constructing a trust model that includes integrity as one of the predictors to

measure trust in the government and public support on the policy. The study found that the factor of government's integrity influences the public to support carbon tax policy as they believe that the government is caring, fair and honest about environmental issues.

However, various people have different ideas on what fairness implies. Expectations that some groups will profit more than others increase the sense of unfairness, resulting in negative attitudes toward carbon tax among all parties (United Nations, 2021). Therefore, it is important to perceive fairness for policy acceptance.

In conclusion, the government's integrity is one element that needs to be used in measuring public trust in the government which influences public acceptance of the government's decision. Hence, the government's integrity becomes the variable for this study in examining the public acceptance of carbon tax implementation. Based on the reviewed literature, the following hypothesis is proposed:

H2: Public perceptions of the government's integrity positively influence the public acceptance of the carbon tax implementation in Malaysia.

2.6.3 Competence

Competence is one of the essential factors in determining trust. In other studies, competence is also known as credibility or expertise that the institution has to create social trust (McCroskey & Teven, 1999). Farr (2007) pointed out that expertise is one of the main components of credibility, consisting of two sub-components: technical competence and practical competence. According to Renn and Levine (1991), competence can be defined as the degree of technical expertise assigned to a message or a source. Social relationship is built between the individual and the institution to create trust because individuals have expectations on the institution that

they are competent in its action to perform their assigned work (Kasperson et al., 1992).

The components of competence have been determined in the study of Kasperson et al. (1992) as one of the dimensions of trust that need to be developed to gain trust among the public. This is because social distrust might arise from violations of expectations that people have towards the government directly, affecting social relations.

Furthermore, a study conducted by Kitt et al. (2021) found that competence trust is one of the factors that influence public acceptance of carbon tax implementation. The element of competence is positively significant with other policy instruments, which means that this component is one factor that influences most of the public trust towards the government in supporting any policy instrument. In addition, to gain trust, the institution needs to ensure that they are knowledgeable, skilful, and experienced enough to make decisions. Therefore, evaluating competence is crucial to determine the perception of public trust in the government.

In conclusion, the variable of government's competence is used in this study to examine the public trust towards the government in accepting the carbon tax implementation in Malaysia. Thus, the following hypothesis is proposed:

H3: Public perceptions of the government's competence positively influence the public acceptance of the carbon tax implementation in Malaysia.

2.6.4 Accountability

Accountability is one of the dimensions of trust that has been recognized by Frewer et al. (1996) in their study on determining the dimension of trust. The study found that accountability shows the most influence out of all the components of trust.

Accountability is one of the essential components in achieving the success of the institution. Based on the previous studies on tax compliance, the component of accountability would affect trust in the government and indirectly influence voluntary tax compliance (Sobhkhiz et al., 2020). In determining the relationship between trust towards the government and public acceptability of carbon tax, evaluating the government's accountability in managing the country's revenue is crucial.

Kallbekken and Sælen (2011) conducted a study on understanding the public's attitude before a new tax is imposed. The result of the study showed that trust in the government is influenced by the accountability of the government in managing revenue. By understanding how the government will distribute the revenue, it will influence the public in deciding on whether to trust or distrust the government and indirectly whether to accept the carbon tax implementation.

This finding is supported by Dresner et al. (2006) in their study on the social response to environmental tax reform, which showed that lack of trust could appear when people are not convinced that the revenue will be used as promised by the government, thus creating resistance against the policy. This study also suggested that trust could be gained by giving assurance on the use of the revenues in a transparent manner and that they will not be diverted to other purposes. On the other hand, Hsu et al. (2008) conducted a study examining the barrier of public acceptance on pollution tax and found that imposing the revenue recycling will increase public acceptance of pollution tax.

In conclusion, the component of government's accountability is one of the most important elements in measuring trust in the government and the public acceptance of carbon tax implementation. Hence, the following hypothesis is proposed:

H4: Public perceptions of the government's accountability positively influence the public acceptance of the carbon tax implementation in Malaysia.

2.7 Conceptual Framework and Hypothesis Development

The theoretical framework of this study is based on the trust theory that has been used in most prior studies (Frewer et al., 1996; Kitt et al., 2021; Poortinga & Pidgeon, 2003). This theory was used to examine how trust in the government influences public acceptance of carbon tax. The independent variables for this study are political trust, government's integrity, government's competence and government's accountability, while the dependent variable is public acceptance of carbon tax. Based on the extensive literature and proposed hypothesis explained above, the conceptual framework of this study was presented below (Figure 2.4):

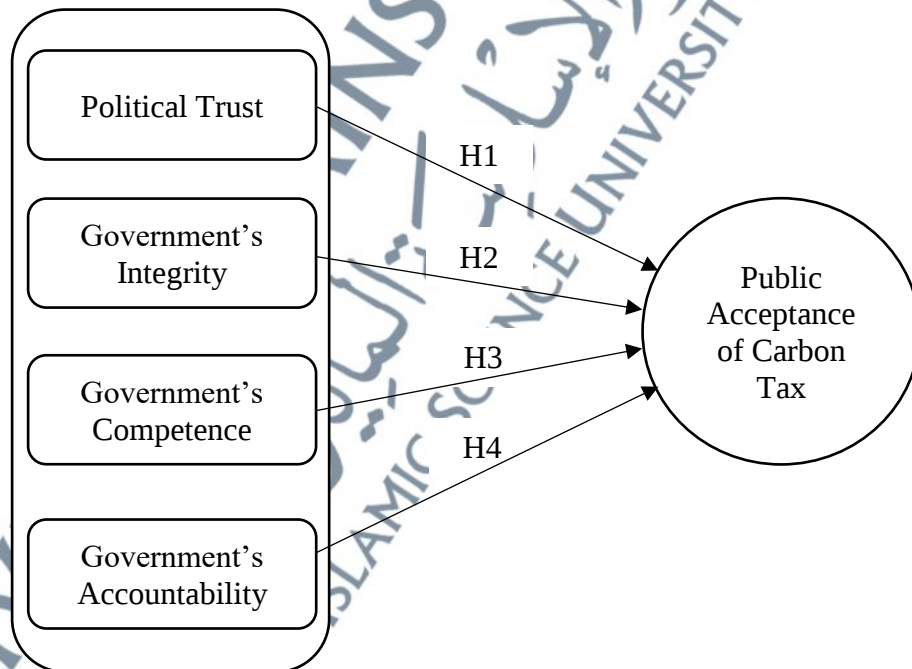


Figure 2.5: Conceptual Framework

H1: Public perceptions of political trust positively influence the public acceptance of the carbon tax implementation in Malaysia.

H2: Public perceptions of the government's integrity positively influence the public acceptance of the carbon tax implementation in Malaysia.

H3: Public perceptions of the government's competence positively influence the public acceptance of the carbon tax implementation in Malaysia.

H4: Public perceptions of the government's accountability positively influence the public acceptance of the carbon tax implementation in Malaysia.

2.8 Conclusion

This chapter provided a review of the literature on trust in the government and public acceptance on carbon tax. In the study of carbon tax, many studies on public acceptance of carbon tax were conducted in developed countries. Meanwhile, in Malaysia most of the studies have been conducted studies on the effectiveness and efficiency of the carbon tax.

Limited studies have been conducted on public trust and acceptance of carbon tax among developing countries. Concerning this, the present study will complement previous literature by identifying public trust in the government that influences acceptance of the carbon tax implementation in Malaysia. By using the components of trust as the variables, the objective of the present study is to examine how trust in the government influences public acceptance of carbon tax implementation in Malaysia. The findings from this study will contribute to the scarce on carbon tax literature.

Furthermore, this chapter provided a detailed explanation of dimension of trust, which serves as the theory for this study. The components of trust used in the studies are political trust, integrity, competence and accountability to determine the factors

influencing public acceptance of the carbon tax implementation in Malaysia. Lastly, this chapter presented the conceptual framework developed for the study.

