

EXPLORING GREEN ENTREPRENEURSHIP IN THE SHARING ECONOMY: INTENTIONS TO UTILIZE COLLABORATIVE VEHICLE PROGRAMS AMONG MALAYSIAN RESIDENTS

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Exploring Green Entrepreneurship in the Sharing Economy: Intentions to Utilize Collaborative Vehicle Programs among Malaysian Residents

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2024

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ABSTRACT

Collaborative Vehicle Programs have the potential to reduce traffic congestion, air pollution and greenhouse gas emissions. Collaborative Vehicle Programs are a type of sharing economy business that allows Malaysians to share access to vehicles. This study aims to examine how green entrepreneurship focuses on sustainable and environmentally friendly practices in shaping Malaysian residents' intentions to engage in Utilize Collaborative Vehicle Programs. This research adopted a quantitative approach, where a questionnaire was distributed to 400 respondents within the Malaysian residents via Google Form. Statistical Package for the Social Sciences (SPSS) as used to analyze the results of the data obtained. Through the data obtained, all independent variables which are cost saving, time saving convenience and environmentalism have a positive relationship with the dependent variable, intentions to Utilize Collaborative Vehicle Program. The most factor that has the biggest impact towards the intention to utilize a collaborative vehicle program is time saving.

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ABSTRAK

Program Kenderaan Kolaboratif berpotensi untuk mengurangkan kesesakan lalu lintas, pencemaran udara dan pelepasan gas rumah hijau. Program Kenderaan Kolaboratif ialah sejenis perniagaan ekonomi perkongsian yang membolehkan rakyat Malaysia berkongsi akses kepada kenderaan. Kajian ini bertujuan untuk mengkaji bagaimana keusahawanan hijau memfokuskan kepada amalan yang mampan dan mesra alam dalam membentuk hasrat penduduk Malaysia untuk melibatkan diri dalam Program Guna Kenderaan Kolaboratif. Penyelidikan ini menggunakan pendekatan kuantitatif, di mana soal selidik telah diedarkan kepada 400 responden dalam kalangan penduduk Malaysia melalui Borang Google. Statistical Package for the Social Sciences (SPSS) seperti yang digunakan untuk menganalisis hasil data yang diperolehi. Melalui data yang diperoleh, kesemua pembolehubah bebas iaitu penjimatan kos, kemudahan penjimatan masa dan alam sekitar mempunyai hubungan yang positif dengan pembolehubah bersandar, niat untuk Memanfaatkan Program Kenderaan Kolaboratif. Faktor yang paling mempunyai kesan terbesar terhadap niat untuk menggunakan program kenderaan kolaboratif ialah penjimatan masa.

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CHAPTER 1: INTRODUCTION

1.1 Background of the Study

The increasing advancement of technology has enabled the sharing economy to permeate various sectors. This can result in innovative global business models that have significant value for entrepreneurs and countries (Huang & Nan 2023). The term 'collaborative economy,' often referred to as the 'sharing economy,' is primarily associated with its capacity to facilitate peer-to-peer transactions using digital platforms and mobile communication technologies. According to Gansky (2010), the sharing economy is an idealized condition marked by a transition from owning to renting, bartering, or giving, while according to Lessig (2008), the term "sharing economy" refers to commercial activities that allow individuals to share unusual possessions, use rights, or pleasure rights.

The sharing economy has witnessed a remarkable surge in popularity over the last decade, driven by the increasing need for sustainable and eco-friendly alternatives. Within this evolving landscape, green entrepreneurship has emerged as a vital force, contributing to environmental sustainability while fostering economic growth. Green entrepreneurship, on the other hand, is a relatively recent phenomenon that emphasizes businesses' commitment to environmental sustainability while pursuing economic success. In Malaysia, the government has taken active steps to promote green initiatives and entrepreneurship, recognizing the importance of environmental conservation (Shahid et al., 2014). Green entrepreneurs often look for innovative ways to address environmental challenges, aligning their business models with sustainability goals.

Nowadays, the main mode of transport in Malaysia and various global cities involves the use of private cars. For example, the data obtained shows that the Klang Valley in Malaysia reveals that 6 million, or 83%, of the trips use private vehicles, while only 1.24 million, or 17%,

are done through public transport or car sharing services (Ibrahim et al., 2020). The increase in the use of private cars on the road will cause various environmental challenges such as air pollution, greenhouse gas (GHG) emissions, traffic congestion accidents, and health issues (Borhan et al., 2019).

Therefore, green entrepreneurship needs to play a role in influencing people to use public transport or car sharing services that exist in Malaysia in order to reduce the rate of transport on the road and improve the country's economy. Furthermore, green entrepreneurship needs to improve the transport system in big cities such as Kuala Lumpur which always face the problem of traffic congestion so that it can influence the public's desire to take advantage of the Collaborative Vehicle Program. If green entrepreneurship does not participate in creating more sustainable transport, this will lead to deforestation to build more roads to accommodate the large amount of vehicle traffic (Kwan et al., 2018). This situation will cause more environmental problems.

Collaborative Vehicle Programs are initiatives within the sharing economy that enable individuals or organizations to share access to vehicles. These programs promote efficient and sustainable use of transportation resources, reduce the environmental impact of personal vehicles, and provide cost-effective alternatives to traditional car ownership. Many Collaborative Vehicle Programs incorporate electric or hybrid vehicles into their fleets, contributing to a decrease in air pollution and greenhouse gas emissions compared to traditional gasoline-powered vehicles. By encouraging the use of cleaner and more energy-efficient modes of transportation, these programs play a crucial role in mitigating the environmental impact of the transportation sector (Turoń et al., 2022). Collaborative Vehicle Programs help reduce the demand for extensive road infrastructure and parking facilities. This can lead to cost savings for governments and municipalities, allowing resources to be allocated more efficiently for other essential services.

Five car-sharing companies are now active in Malaysia such as Moovby, Kwikcar, Kayak and Skyscanner, Gocar, and Socar (Chan et al., 2020). These companies collectively contribute to the diversification of transportation options available to Malaysians. By offering shared access to vehicles, they help address issues related to traffic congestion, environmental impact, and the cost of car ownership. Not only that, but these services also address the challenge of limited parking space in densely populated cities. By encouraging Malaysian residents to share vehicles, car-sharing companies contribute to a decreased demand for parking infrastructure, alleviating the strain on urban space and potentially reducing the need for new parking facilities. Malaysian residents can access vehicles on an as-needed basis, making transportation more flexible and affordable. Additionally, car-sharing services align with sustainability goals by promoting the efficient use of resources and reducing the number of private vehicles on the road.

This study investigates how the promotion of sustainable and eco-friendly practices in green entrepreneurship influences the willingness of Malaysian residents to participate in Collaborative Vehicle Programs. Researchers chose Malaysia as a study because Malaysia's rapid urbanization has brought various environmental challenges, with urban centers struggling with air pollution, traffic congestion and energy consumption. These challenges are most likely to cause an individual to use this program (Afroz et al., 2015). Additionally, this research can provide insights into Malaysian residents' behavior and the factors influencing individuals' intentions to use Collaborative Vehicle Programs. Understanding these factors is essential for both entrepreneurs and policymakers, as it can inform marketing strategies, business models, and regulatory decisions to promote more sustainable and eco-friendly transportation options.

In this study there are 4 independent variables namely cost saving, time saving, convenience, and environmentalism. Researchers used quantitative methods in conducting this study to obtain the data required in studying the title "Exploring Green Entrepreneurship in the

Sharing Economy: Intentions to Utilize Collaborative Vehicle Programs among Malaysian Residents". The questionnaire was prepared by researchers through Google Form and will be distributed to respondents through WhatsApp, Telegram and so on to get a total of 400 respondents. This study also uses secondary data to support the discussion in this study so that it can convince the reader. The researcher used Taro Yamane's (1967) formula in determining the number of respondents required from the Malaysian population to conduct this study.

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1.2 Problem Statement

In today's ever-evolving sharing economy, Collaborative Vehicle Programs (CVP) have emerged as a transformative force in urban transportation and are considered an efficient way to protect ecosystems around the world. According to Chen (2021) Collaborative Vehicle Programs have the potential to reduce traffic congestion, air pollution and greenhouse gas emissions. Collaborative Vehicle Programs are a type of sharing economy business that allows Malaysians to share access to vehicles. Although there are potential benefits of Collaborative Vehicle Programs in the sharing economy to promote green entrepreneurship and sustainable transportation. There is a lack of comprehensive understanding of the influence of cost savings, time savings, convenience and environmental awareness on individuals' intentions to use these services.

This study aims to explore the factors that influence the intention of Malaysian residents to use Collaborative Vehicle Program. This knowledge gap hinders the development and effective promotion of green entrepreneurial initiatives in Collaborative Vehicle Programs in the sharing economy, thus requiring a comprehensive exploration of these key factors to produce strategies for sustainable and environmentally responsible transportation solutions. According to the transport minister, Anthony Loke said that less than 20 percent of the people of this country use public transport compared to the 40 percent targeted by the government. Based on World Bank data from 2015, only 17% of passengers in Kuala Lumpur use public transport, while 62% and 89% of passengers in Singapore and Hong Kong, respectively, use public transport (World Bank, 2015). A light rail transit (LRT) user said that he did not have high hopes for Malaysia to develop a sophisticated rail network like in Europe (New Straits Times, 2022). Malaysia's infrastructure is not yet fully equipped to support large-scale Collaborative Vehicle Program. The country needs to develop a comprehensive network of charging stations, communication systems and traffic management infrastructure to enable

smooth communication and coordination between vehicles.

However, there are also some barriers to adopting Collaborative Vehicle Program. Some Malaysians may be concerned about the safety and reliability of Collaborative Vehicle Program. Others may be reluctant to give up the convenience of owning their own car. Based on Malaysia Transportation Statistics, new vehicle registrations in 2022 increased by 2.8% to 1.5 million people compared to the previous year (Malaysia Transportation Statistics, 2022). Due to some problems faced by this public transport, has caused the rate of public transport users to decrease. In terms of the environment, the use of public transport can reduce air and noise pollution. It can also reduce traffic congestion. Some public transport providers use unmaintained and dilapidated vehicles. This results in the vehicle often breaking down in the middle of the road (Sylvia Lavadinho, 2023) and causing the user's journey to be interrupted. It is also a concern for users because they feel the vehicle is not safe (Taru Saigal et al., 2021). This study will state the factors that influence the intention of Malaysian residents to use this program. The findings of the study will be used to develop recommendations to encourage the use of Collaborative Vehicle Program among Malaysian Residents.

1.3 Research Questions

The following research questions will be investigated as part of this project's purpose:

1. To what extent does the perceived economic advantage of cost-saving impact individuals' willingness to participate in Collaborative Vehicle Programs within the sharing economy?
2. To what extent do the perceived efficiency and time-saving benefits influence the likelihood of individuals choosing Collaborative Vehicle Programs in the context of the sharing economy?
3. To what extent does the perceived convenience of Collaborative Vehicle Programs shape individuals' intentions to engage in the sharing economy?
4. To what extent does the consideration of environmental sustainability influence individuals' intentions to utilize Collaborative Vehicle Programs, aligning with green entrepreneurship practices in the sharing economy?

1.4 Research Objectives

The following research objectives will be investigated by us during the project purpose:

1. To assess the impact of cost-saving considerations on individuals' intentions to utilize Collaborative Vehicle Programs within the sharing economy.
2. To determine the effect of time-saving factors on individuals' intentions to use Collaborative Vehicle Programs in the sharing economy.
3. To evaluate the role of convenience in shaping the intentions of individuals to participate in Collaborative Vehicle Programs within the sharing economy.
4. To investigate the influence of environmental consciousness and concern on individuals' intentions to utilize Collaborative Vehicle Programs as a means of promoting green entrepreneurship in the sharing economy.

1.5 Scope of the Study

This research examines how green entrepreneurship focuses on sustainable and environmentally friendly practices in shaping Malaysian residents' intentions to engage in Utilize Collaborative Vehicle Programs. In other words, investigate how green entrepreneurship influences the intention of Malaysian residents to be involved in the utilize Collaborative Vehicle Program in the sharing economy. Researchers chose Malaysia for this study because researchers found that Malaysia faces various environmental problems, especially big cities such as Kuala Lumpur that face air pollution and traffic congestion due to the number of vehicles on the road. Collaborative Vehicle Programs refer to initiatives or services within the sharing economy where individuals can share access to vehicles rather than owning them outright. These programs typically include car-sharing services, ride-sharing platforms, and other shared mobility options where the residents can rent, borrow, or share vehicles on a temporary basis. The purpose is to provide more efficient and sustainable transportation alternatives by allowing multiple individuals to use the same vehicle, which can reduce the overall number of vehicles on the road and minimize the environmental impact. Malaysia residents can access the vehicles through mobile apps or membership-based systems, making it a more flexible and cost-effective way to meet their transportation needs. The researcher used a quantitative method to make this study a success where the questionnaire used google form which will be distributed to 400 respondents from residents in Malaysia.

1.6 Significance of Study

The Collaborative Vehicle Program (CVP) has the potential to play a major role in cost savings, time savings, convenience, and the environment. Transportation is the main cause of air pollution in Malaysia. The Collaborative Vehicle Program can help reduce this air pollution problem by reducing the number of vehicles on the road and by encouraging the use of more fuel-efficient vehicles. However, there are still a few Malaysians who are not exposed to the Collaborative Vehicle Program. The purpose of the researcher conducting the study on Malaysians is to benefit from the Collaborative Vehicle Program in Malaysia. Researchers also found that most Malaysians prefer to have their own car, which can cause traffic congestion.

From an academic point of view, this study provides an understanding of the sharing of car ideas as well as the factors that influence the desire of Malaysian residents to use the Collaborative Vehicle Program from the perspective of green entrepreneurship and planned behavior. In addition, this study forms the basis for the design of future studies by academics who want to examine the intention to use car sharing from another angle.

According to our research, one group that benefits from this is practitioners in the transportation sector, especially those who oversee car-sharing companies. This study helps in their understanding of the variables that influence the propensity of Malaysians to engage in the Collaborative Vehicle Program. Additionally, practitioners can put in place strategies that enhance their business offerings to better meet the needs of Malaysian residents when it comes to the Collaborative Vehicle Program.

Furthermore, collaborating business partners will benefit from this research. Car sharing businesses usually work with other companies that have similar objectives and can profit from each other's efforts. For example, business partners may offer dedicated parking areas where car sharing service providers can leave their vehicles. It can attract additional business prospects and subtly improve the operations of certain business partners, making this

program a smooth success. In addition, Malaysian residents may find it easier to find fleet cars in parking lots, making them a potentially important location.

This research helps researchers gain a better understanding of the Collaborative Vehicle Program. The Collaborative Vehicle Program is an effort to reduce the use of cars and make the air in Malaysia cleaner and healthier. It will develop recommendations to encourage the use of Collaborative Vehicle Programs in Malaysia. Green entrepreneurship is a growing field, and there is a need for more research on how to promote green entrepreneurship in the sharing economy. A study on the intention to use Collaborative Vehicle Programs among Malaysian Residents is important because it will provide valuable insights on how to promote the use of Collaborative Vehicle Programs in Malaysia. The findings of the study can be used to develop targeted policies and programs to encourage more Malaysians residents to use the Collaborative Vehicle Programs.

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1.7 Definition of Term

1.7.1 Entrepreneur

Entrepreneurs are autonomous actors in the business world, driving economic and social change by emphasizing their ability to independently conceive and implement ideas and their capacity for innovation, encompassing the creation of novel products, production methods, organizational structures, and alternative distribution channels (Schumpeter, 1911). (Drucker, 1986) considers identifying and exploiting business opportunities as a core entrepreneurial responsibility. Entrepreneurs exert a significant influence in various facets of society, including business, religion, academia, politics, and sports.

In a broader sense, anyone has the potential to engage as an entrepreneur. The terms "intrapreneurs" and "co-entrepreneurs" describe entrepreneurs who choose to operate within a company rather than being self-employed (Wunderer, 1999). Social entrepreneurs or change-makers are individuals who merge entrepreneurial and social endeavors to instigate positive societal changes. They implement ideas in realms like education, environmental conservation, or the creation of employment opportunities for people with disabilities.

1.7.2 Entrepreneurship

While the word "entrepreneur" pertains to an individual, "entrepreneurship" encompasses the procedure of formulating an idea, recognizing a business prospect, and executing that concept collaboratively (Fueglistaller, 2004). The expression "social entrepreneurship" is employed to characterize endeavors aimed at resolving societal issues, and it partially intersects with the concept of a "social business."

1.7.3 Green Entrepreneurship

The concept of "green entrepreneurship" characterizes a distinct form of entrepreneurship that aims to create and implement solutions to environmental issues while promoting societal change to prevent environmental harm (Kirkwood & Walton, 2010). Additionally, it has been suggested that green entrepreneurship may represent a new business paradigm rather than merely a segment of entrepreneurship because green entrepreneurs are driven by objectives that extend beyond the development of environmentally friendly products and services for a specific market (Robbins et al., 2018). Environmental or green entrepreneurship can be elucidated through theories of entrepreneurship, environmental economics, and welfare economics as a component of sustainable entrepreneurship (Giuliano, 2014).

1.7.4 Sharing Economy

The sharing economy is an emerging consumption trend where access to products is gained through transactions instead of traditional ownership exchanges. This reduces product idle time during its lifecycle, benefiting the environment. The sharing economy is a means to attract environmentally conscious consumers, distinct from typical consumers in their willingness to buy and share. In recent times, the sharing economy has grown substantially and expanded to intangible products and services like accommodations, transportation, food, apparel, and professional services. Instead of owning goods, people gain the right to use them through shared consumption.

1.7.5 Collaborative Vehicle Program

A Collaborative Vehicle Program is typically a coordinated effort among multiple organizations, often from different sectors, aimed at jointly developing and implementing innovative transportation solutions. These initiatives involve pooling resources and expertise to create more efficient and sustainable transportation options.

Collaborative Vehicle Programs can cover various projects, such as electric vehicle research, shared mobility services, autonomous vehicle development, and partnerships between the public and private sectors to enhance transportation infrastructure. While the specific goals may vary, the common thread is cooperation among diverse entities to address transportation challenges and advance vehicle solutions.

1.7.6 Cost Saving

Cost savings refers to the financial benefits achieved through efficient resource management, reduced expenses, or optimization of processes (Smith, 2015). In the context of this study, cost savings is a crucial factor influencing the adoption of Collaborative Vehicle Programs. The residents are motivated to participate in such programs due to the potential economic advantages, aligning with principles of economic sustainability and resource efficiency.

1.7.7 Time Saving

Time saving involves the reduction of time required to accomplish a particular task or activity (Jones, 2018). In the context of Collaborative Vehicle Programs, Malaysian residents may be attracted to the efficiency and convenience of shared transportation, leading to time savings compared to traditional modes of transportation. This aspect resonates with the broader theme of optimizing time, a valuable resource for individuals in today's fast-paced society.

1.7.8 Convenience

Convenience relates to the ease and suitability of a service or product (Brown & Johnson, 2019). In the context of Collaborative Vehicle Programs, convenience is a key driver of adoption. Malaysian residents are likely to choose these programs if they offer a convenient alternative to traditional transportation, aligning with the broader trends

in the sharing economy that prioritize user-friendly, accessible, and hassle-free services.

1.7.9 Environmentalism

Environmentalism involves a commitment to environmental conservation and sustainable practices (Green & White, 2020). In the context of this study, environmentalism is a significant dimension of green entrepreneurship and Collaborative Vehicle Programs. The residents' intentions to participate may be influenced by their environmental consciousness, as these programs often promote eco-friendly transportation options, contributing to reduced carbon footprints and supporting sustainable mobility practices.

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1.8 Organization of the Proposal

This study's primary objective is to investigate and understand the factors that influence the intentions of Malaysian residents to participate in Collaborative Vehicle Programs within the sharing economy. Specifically, the research aims to explore how green entrepreneurship, which typically focuses on environmentally sustainable and socially responsible business practices, influences the willingness of individuals in Malaysian residents to use shared or collaborative vehicle services.

Chapter 1: In this chapter is begin about the background of the study which is include a bunch of knowledge about what is sharing economy and Collaborative Vehicle Program. There is also two problem statement stated in this chapter which is the lack of understanding about independent variables and the barriers in adopting Collaborative Vehicle Program. Followed by four research question and research objective. This chapter also explain about the scope and the significance of the study so our reader knows what is the crucial thing in this research. Lastly, researchers also explain about the definition of term that related with the study such as entrepreneur, entrepreneurship, green entrepreneurship, sharing economy, Collaborative Vehicle Program, and term about independent and dependent variables.

Chapter 2: The second chapter is an in-depth exploration of the research topic. It begins with an introduction, setting the stage for the review. It delves into the underpinning theory, where relevant theories related to green entrepreneurship and the sharing economy are discussed. The chapter then reviews previous studies that are pertinent to the research, summarizing key findings and identifying gaps in the literature such as the Collaborative Vehicle Program and others. It proceeds to formulate hypotheses based on the theoretical and empirical insights gathered from the literature. The researchers have found four hypotheses to investigate the relationship between independent variables and dependent variables. A conceptual framework is presented to visually illustrate the relationships between key

variables. Finally, the chapter concludes by summarizing the main points and highlighting the significance of the reviewed literature to the research. This chapter serves as a critical foundation for the subsequent research analysis and discussion.

Chapter 3: The third part of the study outlines is the approach and methodology used to conduct the study. It commences the chapter is begin with an introduction, setting the context for the research methods employed. It then describes the research design, elaborating on whether it is qualitative, quantitative, or mixed methods. Researchers agree to choose quantitative data collection method in this research. The researchers also explain why the method is essential and have been chosen in this study. Next, the chapter details about the data collection methods utilized, which is the primary and the secondary data. It specifies the study population and justifies the chosen sample size, which is the researchers agree to utilize Taro Yamane's (1967) Formula in this study. The sampling techniques also employed in this chapter. Furthermore, it discusses the development of research instruments, explains how data will be gathered, and outlines the measurement of the variables. The procedure for data analysis is elucidated, whether it involves statistical methods, such as descriptive analysis, reliability analysis, and multiple regression analysis. Finally, the chapter concludes with a summary, emphasizing the appropriateness and rigor of the chosen research methods for addressing the research questions. This chapter serves as a crucial guide to the practical aspects of the research and lays the foundation for data collection and analysis.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

A literature review examines earlier research that has been written up in books, scholarly articles, and any other sources pertinent to a specific problem, field of study, or theory (Labaree, 2009). It then provides a description, summary, and critical evaluation of these works in relation to the research problem under investigation. A literature review is crucial for researchers as it synthesizes existing knowledge in the field, helping identify gaps, trends, and relevant theories. It informs the research's conceptual framework, methodology, and hypotheses. Besides, it also serves as the foundation for sound research and ensures that the study's objectives are well-informed and relevant.

Intentions to utilize Collaborative Vehicle Programs among Malaysian are dependent variables in this study. There are several factors that will be measured in intentions to utilize Collaborative Vehicle Programs that will be explained about independent variables such as cost saving, time saving, convenience and environmentalism. The public intends to utilize Collaborative Vehicle Programs because the cost of travel is lower and easier compared to the use of traditional taxis. In using this program, people may also have fun through having new friends and new knowledge.

The Collaborative Vehicle Programs offer significant cost-saving opportunities. By sharing access to vehicles through platforms like GoCar, Moovby, and Socar, individuals can avoid the high costs associated with personal vehicle ownership, including fuel, maintenance, insurance, and depreciation (Bert et al., 2016). Car-sharing and ride-sharing also eliminate the need for substantial upfront investments in a car. Furthermore, these programs provide affordable, on-demand transportation for short trips and urban commutes, reducing the financial burden of owning and maintaining a private vehicle. Besides, these services offer a convenient and time-saving alternative to traditional car ownership. People can access vehicles

on-demand, reducing the time spent searching for parking, maintaining a personal vehicle, or waiting for public transportation (Stach, 2011).

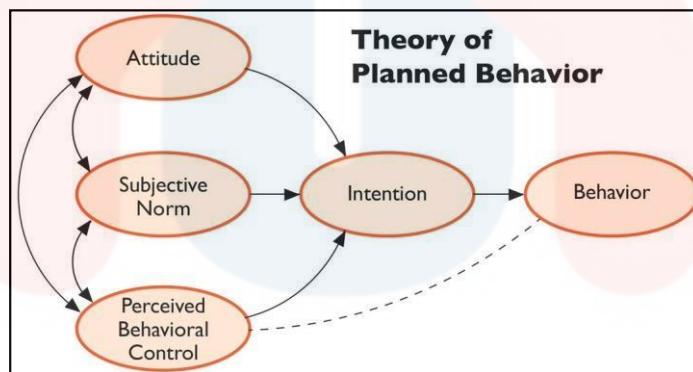
Additionally, the Collaborative Vehicle Programs often provide seamless booking through mobile apps, eliminating the need for time-consuming administrative processes. This time efficiency not only enhances daily commutes but also supports Malaysia's broader goals of reducing traffic congestion and improving overall urban mobility.

Moreover, Collaborative Vehicle Programs offer unparalleled convenience to someone seeking efficient and flexible transportation solutions (Joo, 2017). These programs, such as GoCar and Socar, provide the freedom to access vehicles at a moment's notice, reducing the hassles associated with car ownership. Through user-friendly mobile apps, individuals can easily locate, reserve, and unlock vehicles, simplifying the entire process. The convenience of point-to-point vehicle access and hourly rentals allows for cost-effective and hassle-free urban mobility. Not only that, but environmental considerations also play a significant role in shaping the intention to utilize Collaborative Vehicle Programs. As sustainability becomes a growing concern, many of these programs integrate eco-friendly options, such as electric or hybrid vehicles, appealing to environmentally conscious individuals seeking greener transportation alternatives.

In this chapter, researchers will discuss the theory used in conducting this study, previous studies, hypotheses, statements, and conceptual framework. Not only that, this chapter will also involve a comprehensive examination of journals and past research articles, and the findings from this review will be a road map for conducting this study. With this, researchers can find out the factors that influence the intention to use the Collaborative Vehicle Program among Malaysian residents and the relationship between the dependent variable and the independent variable.

2.2 Theory of Planned Behavior (TPB)

The present study employs the Theory of Planned Behavior (TPB) as a theoretical framework to investigate the intentions of Malaysians to utilize Collaborative Vehicle Programs within the context of green entrepreneurship and the sharing economy. The theory of planned behavior is one of the most commonly used ideas to explain pro-environmental behaviors. TPB has been found to be beneficial in describing numerous eco-friendly behaviors (Alphonsa & Surendra Kumar, 2022), as well as in explaining eco-friendly intents to employ Collaborative Vehicle Programs in Malaysia. The TPB model, originally formulated by Ajzen in 1985, has been adapted to fit the specific context of this research. Figure 2.1 illustrates the key components of the TPB model as applied in this study.



Source: The Communication Initiative Network, 2014

Figure 2.1: Theory of Planned Behavior Model

As illustrated in Figure 2.1, the TPB model consists of three primary constructs: attitudes, subjective norms, and perceived behavioral control. In the context of exploring intentions to utilize Collaborative Vehicle Programs among Malaysian Residents within the sharing economy, these constructs are essential in understanding the factors influencing the residents' behavior.

2.2.1 Attitude

In TPB, attitudes refer to individuals' positive or negative evaluations of performing a behavior. The environmentalism aspect of our study, representing a positive attitude toward eco-friendly practices, directly aligns with the attitude component in TPB. Individuals with a favorable attitude toward environmentalism are likely to have positive attitudes toward utilizing Collaborative Vehicle Programs, contributing to higher intentions to engage in such behavior. Individuals' attitudes towards the convenience of car sharing services are likely to be influenced by their perceptions of the program's ease of use, accessibility, and reliability.

2.2.2 Subjective Norms

Subjective norms in TPB capture the perceived social pressure or influence from others regarding the behavior in question. The cost-saving, time-saving, and convenience aspects of our study are reflective of social norms and influences. If individuals perceive that their peers, family, or social circles endorse the benefits of Collaborative Vehicle Programs in terms of cost, time, and convenience, it positively influences their subjective norms, thereby affecting their intentions to adopt such programs.

2.2.3 Perceived Behavioral Control

Perceived behavioral control in TPB refers to an individual's perception of the ease or difficulty of performing the behavior. The cost-saving, time-saving, and convenience aspects directly tie into this concept. If individuals perceive that utilizing Collaborative Vehicle Programs is within their control and aligns with their cost and time-saving preferences, it contributes positively to their perceived behavioral control, influencing their intentions to utilize these programs. In addition, an individual's

perceived behavioral control over their ability to reduce their environmental impact through collaborative vehicle use may be influenced by their perceptions of the program's availability, affordability, and ease of integration into their lifestyle.

2.2.4 Intentions

Intentions, the ultimate dependent variable in our study, are a central focus of TPB. The theory posits that stronger intentions are indicative of a higher likelihood of engaging in the behavior. In our study, intentions to utilize Collaborative Vehicle Programs are shaped by attitudes, subjective norms, and perceived behavioral control influenced by cost saving, time saving, convenience, and environmental considerations. In the context of a Collaborative Vehicle Program, individuals' intentions to save money on transportation costs may be influenced by their perceptions of the program's benefits, their beliefs about the social acceptability of using collaborative vehicles, and their confidence in their ability to adopt collaborative vehicle practices.

In summary, the Theory of Planned Behavior provides a robust framework for understanding the intricate connections between our independent variables (cost saving, time saving, convenience, and environmentalism) and the dependent variable (intentions to utilize Collaborative Vehicle Programs). By incorporating the TPB, our study can systematically analyze the psychological factors influencing individuals' decisions to adopt sustainable transportation options in the context of the Malaysian sharing economy.

2.3 Previous Studies

2.3.1 Collaborative Vehicle Programs in the Sharing Economy

Collaborative Vehicle Programs have gained prominence in the sharing economy, presenting a shift in individual transportation choices. The Theory of Planned Behavior (TPB) is applicable in understanding how individuals' intentions shape their participation in Collaborative Vehicle Programs. (Ajzen, 1991) emphasizes that intention is influenced by attitudes towards behavior and beliefs about its benefits. This study explores to what extent perceived economic advantages, efficiency, and convenience impact the intentions of individuals to engage in Collaborative Vehicle Programs, employing quantitative analysis methods.

(Owens & Driffill, 2008) research highlights the relationship between sustainable attitudes and behavior, indicating that intention plays a crucial role. However, the study acknowledges limitations tied to limited environmental awareness and knowledge. This underscores the importance of external influences, such as workplace and institutional efforts, in raising environmental consciousness. Similarly, (Vuorio et al., 2018) emphasize the role of intention in rational decision-making for environmentally beneficial behavior.

2.3.2 Innovation in Collaborative Vehicle Programs

Innovation as defined adds value to products. In the context of Collaborative Vehicle Programs, green innovation plays a critical role in minimizing environmental impact (Ziegler & Nogareda, 2009). (Demirel & Kesidou, 2011) associate green innovation with products devoid of harmful substances, contributing to climate change mitigation. This study delves into the link between green innovation, environmental care, and its impact on individuals' preferences for Collaborative Vehicle Programs, utilizing quantitative analysis. The adopting green practices can lead to heightened environmental care (Zhu & Sarkis, 2004). Green innovation, as a transformative approach, aligns with eco-friendly practices and contributes to business performance (Calza et al., 2017; Pujari, 2006). This study explores the role of green innovation in influencing individuals' intentions to opt for Collaborative Vehicle Programs within the sharing economy.

2.3.3 Environmental Awareness and Collaborative Vehicle Programs

The current global environmental challenges (Ogiemwonyi, 2022; Watts, 2019), emphasize the need for heightened environmental awareness. Community knowledge about environmental issues, referred to as green environmental awareness, influences individuals' choices, particularly in adopting sustainable practices. This study investigates the impact of environmental awareness on individuals' intentions to participate in Collaborative Vehicle Program (Ahmed et al., 2021).

Green environmental awareness encompasses a conscious effort in purchasing and using green facilities (Moisander, 2007). The significance of community knowledge in understanding environmental issues, influencing individuals to choose green products. The study explores how heightened environmental awareness contributes to shaping intentions for Collaborative Vehicle Program participation,

utilizing quantitative analysis.

2.3.4 Behavioral Intentions in Collaborative Vehicle Programs

Behavioral intentions play a pivotal role in fostering environmentally friendly actions within society. Green behavior, defined as a plan or motivation to reduce environmental pollution and protect human health (Adrita, 2020), influences individuals' decisions in the context of Collaborative Vehicle Programs. This study explores the relationship between green behavioral intentions and the utilization of Collaborative Vehicle Programs within the sharing economy, drawing insights from (Yadav, 2017; Qazi et al., 2020).

Limited research suggests that concerns about environmental pollution drive society toward green behavior (Qazi et al., 2020). The study investigates how individuals' green behavioral intentions, manifested through actions like purchasing green products, contribute to the adoption of Collaborative Vehicle Programs. Behavioral change, (Dabija, 2018), is considered crucial for environmental preservation and community health. The research aims to quantify the impact of green behavioral intentions on the participation in Collaborative Vehicle Programs.

2.3.5 Value of Collaborative Vehicle Programs in Environmental Conservation

Collaborative Vehicle Programs contribute to environmental conservation by providing an alternative to individual vehicle ownership. This study delves into the value of Collaborative Vehicle Programs, considering their impact on the environment and individuals' preferences. Green product value, as defined by Chowdhury and Alamgir (2021), includes aspects such as product design, materials, and technology that benefit the environment. The research investigates how the perceived value of Collaborative Vehicle Programs influences individuals' decisions (Yaacob & Zakaria, 2011; Chen & Chang, 2013).

Buyers of green products prioritize goods concerned with environmental protection (Yaacob & Zakaria, 2011). The study explores how the perceived value of Collaborative Vehicle Programs, aligned with green principles, shapes individuals' intentions. Understanding the value attributed to Collaborative Vehicle Programs, in terms of environmental sustainability, contributes to the broader discourse on green transportation choices.

In conclusion, the previous studies reviewed provide a comprehensive foundation for understanding the key factors influencing individuals' intentions to participate in Collaborative Vehicle Programs within the sharing economy. Drawing on theories such as the Theory of Planned Behavior and insights from green innovation, environmental awareness, and green behavioral intentions, these studies highlight the intricate interplay between economic, environmental, and societal factors. The literature underscores the significance of intention in driving environmentally conscious behavior, emphasizing the need for heightened environmental awareness, innovative practices, and perceived value in shaping individuals' decisions. These insights contribute valuable context and theoretical grounding to the current research, which aims to quantitatively analyze the impact of perceived economic advantage, efficiency, convenience, and environmental sustainability on individuals' intentions to engage in Collaborative Vehicle Programs.

2.4 Hypotheses Statement

This research aims to study "Exploring Green Entrepreneurship in the Sharing Economy: Intentions to Utilize Collaborative Vehicle Programs among Malaysian Residents" That means researchers want to study the factors that influence Malaysian residents to utilize Collaborative Vehicle Programs. Therefore, this study wants to investigate the relationship between independent variable and dependent variable. In light of the literature review and the research question, the hypothesis for this study is structured as follows:

H₁: There is a significant relationship between cost saving and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.

H₂: There is a significant relationship between time savings and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.

H₃: There is a significant relationship between convenience and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.

H₄: There is a significant relationship between environmentalism and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.

2.5 Conceptual Framework

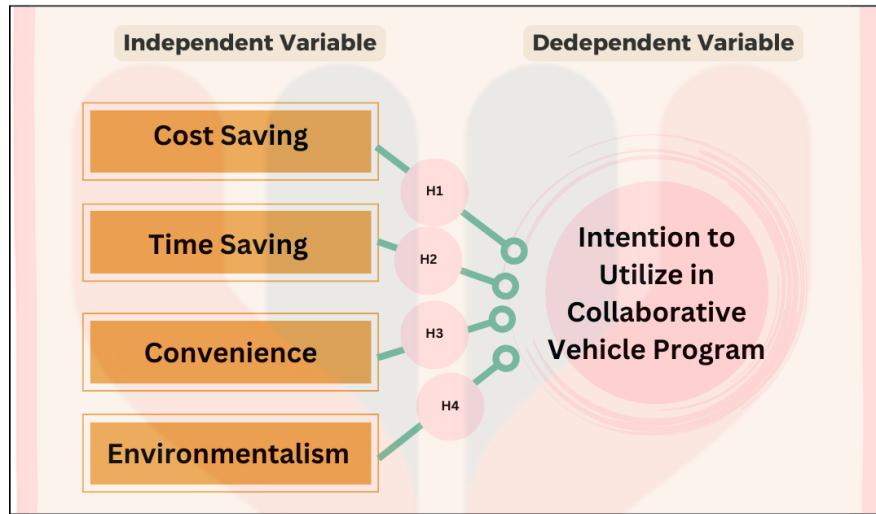


Figure 2.2: Conceptual Framework Model

Based on the study goals, the literature was selected to provide a framework for answering the research questions. Figure 2.2 shows that the conceptual framework is key to the success of this project. The conceptual framework refers to the researcher's knowledge of the link between numerous research variables. As a consequence, the conceptual framework may be used to identify the variables required for the investigation. The figure depicts how relationships between dependent and independent variables are related to each other. Intentions to Utilize Collaborative Vehicle Program is a dependent variable (DV). The four independent variables (IV) that have been tested in this study are cost-saving, time-saving, convenience, and environmentalism. The concept model's objective is to promote the Collaborative Vehicle Program (CVP) to Malaysian residents.

2.6 Summary/Conclusion

The brief summary of this chapter focuses on the independent variables by providing a comprehensive overview of the research topic. The introduction sets the stage by highlighting the significance of green entrepreneurship and the sharing economy. The underpinning theory section explores relevant theoretical frameworks, emphasizing the key concepts and models that inform the study. Previous studies are reviewed, synthesizing existing research findings while identifying gaps in the literature. Hypotheses are formulated based on the insights from the literature, laying the foundation for empirical investigation. A conceptual framework visually represents the relationships between key variables, facilitating a deeper understanding of the research context. In summary, this chapter serves as a critical bridge between existing knowledge and the research's objectives, providing a solid theoretical and empirical foundation for the subsequent analysis and discussion.

CHAPTER 3: RESEARCH METHODS

3.1 Introduction

This chapter discusses research design, methodological selection, data gathering, and analysis. This chapter also indicates where the study should be conducted and the questionnaire design, sample size, and data analysis plan.

3.2 Research Design

Research design refers to the overall strategy or plan that outlines how the study will be conducted, data will be collected, and results will be analyzed. It's a crucial component, as it lays the foundation for the entire research project. A well-constructed research design ensures that the study is systematic, structured, and capable of addressing the research questions or objectives effectively. There are two types of research design, namely qualitative and quantitative. Qualitative research design explores in-depth understanding of human experiences and behavior through non-numerical data and thematic analysis, while quantitative research design collects numerical data, uses statistical analysis to quantify relationships, and tests hypotheses or research questions.

In conducting this research, researchers used a quantitative research design to obtain data. One of the reasons researchers choose to use quantitative methods is because researchers collect data through questionnaires. Questionnaires are a common tool in quantitative research, as they allow for the collection of structured, numerical data (Ahmad et al., 2019). Besides, quantitative research is often more efficient when dealing with large-scale studies involving large numbers of populations or data points. Not only that, according to Pritha Bhandari (2020), quantitative research produces verifiable and reliable outcome data with generalizability to a wider population.

3.3 Data Collection Methods

The process of data collection is a pivotal element in any research study, as it serves as the primary means by which researchers gather the information needed to address their research questions and hypotheses. In this chapter, the researchers outline the data collection methods for this study, which aims to investigate the intentions and preferences of Malaysian residents regarding the Collaborative Vehicle Program in the context of green entrepreneurship and the sharing economy. Data collection methods can be categorized into several types based on their characteristics and the nature of the data the researchers collect. In this research, the data collection methods used were primary data and secondary data.

3.3.1 Primary Data

The researchers have chosen to employ a quantitative data collection method as a primary data collection method. That will be utilizing a questionnaire in Google Forms as a fundamental tool for gathering insights from the target audience. The present study adopted the logic of a quantitative approach, and primary data were gathered through an online questionnaire because of its flexibility (Allan et al., 2022). The questionnaire will be conducted online by Google Form platform and hosted automatically via a web address or Uniform Resource Locator (URL). The questionnaire will be distributed to a diverse group of Malaysian residents. To ensure a comprehensive data collection process, the researchers plan to leverage various social media platforms, such as WhatsApp, Telegram, Twitter, Facebook, and Instagram, to disseminate the questionnaire widely and reach a diverse participant pool. The involvement of social media voluntary no one has been forced to answer the questionnaires for the purpose of the cross-sectional study. The questionnaire will include a cover letter that provides an overview of the study. The users of social media will receive assurance that the data collected for research purposes will be handled in a

legal and ethical manner, guaranteeing their privacy and confidentiality.

3.3.2 Secondary Data

Secondary research is a research method that uses data that was collected by someone else (George. T, 2023). In other words, whenever the researchers conduct research using data that already exists, they are conducting secondary research. This study also utilized secondary data, which comes from existing data such as the internet, journals, articles, and previous studies related to the research topic. Secondary data is essential and valuable for various reasons in the analysis and decision-making of this research. Accessing existing data allows us to skip the data collection phase, enabling us to focus on analysis and interpretation more quickly. All the secondary data that addressed related topics about green entrepreneurship, Collaborative Vehicle Programs, and sharing economy will be compiled in one file to improve the information from the primary data. All the sources for this study were acquired from the Universiti Malaysia Kelantan (UMK) library, My Athens UMK, ScienceDirect, Emerald, Scopus, Google Scholar, and ProQuest. The resources determine the feasibility and potential directions of this study before committing to primary data collection.

3.4 Study Population

A population is defined as a group of individuals who possess at least one distinctive characteristic that distinguishes them from individuals outside the group (Khan et al., 2006). In a broader sense, the term population encompasses the complete set of individuals under scrutiny for a particular research topic (Sekaran, 2003). In this study, the researcher's target population is Malaysia. According to Worldometer elaboration of latest United Nations data, Malaysia 2023 population estimated at 34,308,525 at mid-year.

3.5 Sample size

In determining the sample size for this research study, the Taro Yamane formula was employed. Taro Yamane elucidates this formula in his seminal work, *Statistics: An Introductory Analysis* (2nd ed., 1967), a foundational text in statistical analysis. This book offers valuable insights into various statistical methods, and the Taro Yamane formula specifically addresses the calculation of sample sizes, providing researchers with a practical tool for ensuring robust study designs. By utilizing this formula, the research aims to achieve a statistically sound sample size, contributing to the methodological rigor of the investigation.

The diagram features a small cartoon illustration of a man holding a pointer stick next to the text "YAMANE (1967)". Below this, the formula is presented in a box:

$$n = \frac{N}{1 + N(e)^2}$$

with the following definitions:

- n=Sample Size
- N=Population Size
- e=Margin of error

Source: An Introductory Analysis, 1967
Figure 3.1: Taro Yamane's (1967) Formula

This formula works based on the projected number of respondents that are assumed to be within the research population. According to the Worldometer elaboration of the latest United Nations data, the Malaysian population in 2023 is estimated at 34,308,525 at mid-year. Based on the formula in Equation 3.1, the sample size to be measured in this study was 400 respondents. The calculation of this study sample size is shown in Equation 3.1 below.

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{34308525}{1 + 34308525 (0.05)^2}$$

$$n = \frac{34308525}{1 + \frac{85771.31}{34308525}} \\ n = \frac{34308525}{85772.31}$$

$$n \approx 399.73$$

The n number will be rounding up to the nearest whole number since we can't have a fraction of a person in a sample, and the estimated sample size is approximately 400. So, we would need a sample size of 400 for a population of 34,308,525 with a 5% (0.05) level of precision or margin of error using Taro Yamane's formula.

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3.6 Sampling Techniques

Sampling techniques are methods used in statistics and research to select a subset of individuals or items from a larger population for the purpose of making inferences about that population. In choosing a sampling method, the researcher needs to identify the objectives of the study and the characteristics of the population to be studied because different sampling methods have their advantages and disadvantages, so that the method used is appropriate for the study being studied. There are two types of sampling techniques namely probability and non-probability. Convenience sampling is a non-probability sampling method often used in research investigations due to its simplicity and convenience of execution. Convenience sampling may be a beneficial strategy for investigating green entrepreneurship in the sharing economy, particularly with regards to the intents of Malaysian residents to utilise collaborative vehicle programs.

The decision to use a non-probability sampling methodology was based on Michael's (2011) assertion that probability sampling does not include random selection from a sample of the target population. Instead, it relies on various methods to determine which elements should be included in the sample. The method of convenience sampling, which is a sort of non-probability sampling, was used. Convenience sampling involves selecting respondents from the target population based on practical characteristics such as accessibility, time availability, geographical closeness, or willingness to participate. In order to implement this approach, a questionnaire was prepared in Google Form and distributed to potential respondents through online platforms such as WhatsApp, Telegram and so other social media platform.

3.7 Research Instrument Development

The research will utilize a comprehensive questionnaire divided into seven sections. The questionnaire has been adapted and refined to accommodate variations in respondents' backgrounds.

3.7.1 Questionnaire

The questionnaire method offers several advantages. Firstly, it provides extensive coverage, making it a suitable choice when dealing with a geographically dispersed sample population compared to alternatives like surveys and observations. Additionally, it offers speed and efficiency, as questionnaire responses can be obtained promptly without the need for extensive personal contact or prolonged data collection efforts. Lastly, questionnaires are straightforward to design, create, and administer, making them more user-friendly compared to surveys and not requiring significant technical expertise or skills. The questionnaire is based on our research objectives. Questionnaires also come with the information needed to give them more clearly about the question objectives. The following Table 3.1 is the question construct, definition and the numbers of item included in the questionnaire.

Table 3.1: The Question Construct, Definition and the Numbers of Items

CONSTRUCTS	DEFINITION	NUMBER OF ITEMS
Intentions to Utilize Collaborative Vehicle Program	The degree of willingness to continuously use car sharing	5
Cost Savings	The degree of cost through car sharing.	5
Time Savings	The degree of time saving through car sharing.	5
Convenience	The degree of being convenient by car sharing.	5
Environmentalism	The degree of environmental benefit or impact reduction through car sharing.	5

In this study, the researchers used adapt and adopt method to build the question. The researchers use an adaptation method, which is adaption is modifying an existing questionnaire or survey instrument to better suit the specific needs or context of a particular study. The researchers refer to the question from three different sources, which is from (Yoon Y.C, 2019), (Jaehun.J, 2017) and (Huiping. H, Ganlin.N, 2023). The questionnaire has three sections, which include sections A, B and C. In Section A, researchers will place the demographic profile of the respondents. For section 2, researcher questions the respondent about our dependent variables which is their intention when utilize the Collaborative Vehicle Programs. Last section is section C, researchers will investigate the four independent variables, such as cost savings, time savings, convenience, and environmentalism, which influence Malaysians' intentions to utilize Collaborative Vehicle Programs. The following table 3.2 is a Questionnaire for section A, Table 3.3 is a questionnaire for section B, and Table 3.4 is a questionnaire for Section C.

Table 3.2: Questionnaire for section A – Demographic Profile

Attributes	Distribution
Gender	Male Female
Age	Under 18 years old 18 - 24 years old 25 – 34 years old 35 – 44 years old 45 – 54 years old
Race	Malay Chinese Indian Others
State	Perlis Kedah h Pulau Pinang Perak Selangor Negeri Sembilan Melaka Johor Pahang Terengganu Kelantan Sabah Sarawak
Residential Area	Urban Sub-Urban Rural Resident

Employment Status	Employed Self-employed Unemployed Student Retired
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Table 3.3: Questionnaire for Section B – Dependent Variables

Construct	Item	Sources
DV: Intention to Utilize Collaborative Vehicle Program (IU)	IU1: I am familiar with the concept of Collaborative Vehicle Programs	(Yoon-Young Chun,2019)
	IU2: I am highly motivated to explore. and use Collaborative Vehicle Programs as part of my transportation	(Yoon-Young Chun,2019)
	IU3: I plan to incorporate Collaborative Vehicle Program into my regular transportation routines, such as for daily commuting or errands	(Yoon-Young Chun,2019)
	IU4: I have access to my own vehicle, yet I am still enthusiastic about consistently using Collaborative Vehicle Program services	(Yoon-Young Chun,2019)
	IU5: I perceive Collaborative Vehicle Programs as a cost-effective and practical alternative to owning a personal vehicle, and I intend to explore them further.	(Yoon-Young Chun,2019)

Table 3.4: Questionnaire for Section C – Independent Variables

Construct	Item	Sources
IV1: Cost-Savings	CS1: Using Collaborative Vehicle Programs in the sharing economy is a much cheaper transportation option compared to owning a personal vehicle	(Jaehun Joo, 2017)
	CS2: The idea of savings money through Collaborative Vehicle Programs is a primary motivator for me to consider using them as a transportation solution	(Jaehun Joo, 2017)
	CS3: I am willing to go out of my way or change my travel plans to save money by using Collaborative Vehicle Programs	(Jaehun Joo, 2017)
	CS4: I regularly track and calculate the cost savings I achieve by using Collaborative Vehicle Programs compared to traditional vehicle ownership	(Jaehun Joo, 2017)
	CS5: I believe that Collaborative Vehicle Programs can help me reduce my overall transportations expenses	(Jaehun Joo, 2017)
IV2: Time-Savings	TV1: Using Collaborative Vehicle Programs in the sharing economy is a much cheaper transportation option compared to owning a personal vehicle	(Jaehun Joo, 2017)
	TV2: The idea of savings money through Collaborative Vehicle Programs is a primary motivator for me to consider using them as a transportation solution	(Jaehun Joo, 2017)
	TV3: I am willing to go out of my way or change my travel plans to save money by using Collaborative Vehicle Programs	(Jaehun Joo, 2017)

	TV4: I regularly track and calculate the cost savings I achieve by using Collaborative Vehicle Programs compared to traditional vehicle ownership	(Jaehun Joo, 2017)
	TV5: I believe that Collaborative Vehicle Programs can help me reduce my overall transportations expenses	(Jaehun Joo, 2017)
IV3: Convenience	C1: Collaborative Vehicle Programs are a convenient way for me to access transportation when I need it.	(Jaehun Joo, 2017)
	C2: I find the booking and reservation process for Collaborative Vehicle Programs to be hassle-free and user-friendly.	(Jaehun Joo, 2017)
	C3: The availability of collaborative vehicles in my area makes it easy for me to choose this transportation option when necessary.	(Jaehun Joo, 2017)
	C4: I consider the flexibility of Collaborative Vehicle Programs, such as being able to pick up and drop off vehicles at various locations, to be a major convenience.	(Jaehun Joo, 2017)
	C5: The convenience of not needing to worry about vehicle insurance and related paperwork in Collaborative Vehicle Programs is a significant advantage.	(Jaehun Joo, 2017)

IV4: Environmentalism	E1: I am more inclined to use Collaborative Vehicle Programs because they are considered a more environmentally friendly transportation option.	(Huiping Hua, Ganlin Nan, 2023)
	E2: Environmental concerns and the desire to reduce my carbon footprint are important factors when I choose transportation methods.	(Huiping Hua, Ganlin Nan, 2023)
	E3: The awareness of Collaborative Vehicle Programs' potential to decrease traffic congestion and lower carbon emissions positively influences my transportation choices.	(Huiping Hua, Ganlin Nan, 2023)
	E4: I would be willing to pay a slightly higher price for using Collaborative Vehicle Programs if it means supporting a more eco-friendly transportation option.	(Huiping Hua, Ganlin Nan, 2023)
	E5: I consider the reduction of urban traffic and congestion as a positive environmental impact of Collaborative Vehicle Programs.	(Huiping Hua, Ganlin Nan, 2023)

3.8 Measurement of the Variables

The process of assigning a number or symbol to represent the value of a variable is called measurement of a variable. This is done to alter the variables and enable statistical analysis of them. For assigning a scale to a measurement, each measurement scale has its own set of criteria. The magnitude of the variables being measured has a significant impact on the kinds of data analysis techniques that may be used and the conclusions that can be drawn from the data. According to Pritha Bhandari (2020), researchers will gather and analyze data in order to assist in the development of statistical inference tests for each variable on the scale.

A nominal scale is used for quantitative variables, which means that numbers are only employed to classify or identify objects within the subject of the discussion. This is the most basic and least expensive sort of measuring. Age, gender, and academic programs are all evaluated using a nominal scale. This scale is based on the distribution of questionnaires to target respondents in order to analyze their responses.

Ordinal scales are used for closed questionnaires that give respondents several answers to choose from. These measurements are simple to use and allow researchers to simply compare data from different respondents. The ordinal scale extends the nominal scale by providing a number to the object to specify the location of the attribute to be searched. The Likert scale is one of the measurement techniques that is frequently utilized in this investigation. This level of measurement assigns numbers or symbols to categories that may be rated, although the difference between each category is not always equal. Therefore, the ordinal scale helps the researcher to determine the percentage of respondents who consider the benefits of the Collaborative Vehicle Program in Malaysia.

3.9 Procedure for Data Analysis

Data analysis is a crucial component of research methodology. According to Jim Crawley (2020), research data analysis is a process used by researchers to reduce data to a story and interpret it to derive insights. The data analysis process helps reduce a large chunk of data into smaller fragments. In research methodology employing quantitative methods and utilizing Google Forms for questionnaire data collection, the data analysis procedure involves importing the collected data into Statistical Package for the Social Sciences (SPSS) software. Subsequently, the analysis entails three primary stages: descriptive analysis to provide a comprehensive summary of the dataset, reliability analysis to assess the internal consistency of survey items or constructs, and multiple regression analysis to examine the relationship between a dependent variable and two or more independent variables. This sequential approach ensures a thorough examination of the data, offering insights into central tendencies, data quality, and the strength and direction of associations among variables, ultimately supporting the research objectives.

3.9.1 Descriptive Analysis

Descriptive analysis in SPSS is a crucial initial step in quantitative data analysis that serves to unveil the fundamental characteristics of a dataset. It encompasses the computation and presentation of key statistical measures like the mean, median, mode, standard deviation, and variance, offering insights into the dataset's central tendencies and variability. Moreover, it includes the construction of frequency distributions and visual representations like histograms and bar charts, providing a clear picture of how data is distributed across various values or categories. Additionally, measures of skewness and kurtosis help to assess the data's symmetry and peakedness, allowing analysts to understand its overall shape. By offering this comprehensive overview, descriptive analysis equips researchers and data analysts with a solid

foundation for further statistical tests and a better understanding of the data's essential features. In this study, the method of data analysis is essential to categorize and elucidate the demographic data of respondents. This analysis will encompass variables such as gender, age, race, state, residential area, and their employment status.

3.9.2 Reliability Analysis

A reliability test in SPSS is an essential statistical analysis used to evaluate the internal consistency of a set of related items that will be found in questionnaires or surveys. It helps researchers assess the reliability of a scale used to measure a particular construct. SPSS calculates Cronbach's alpha, a statistic that ranges from 0 to 1, with higher values indicating better internal consistency. In this research, we designed surveys to assess the inclination of Malaysian residents to utilize the Collaborative Vehicle Programs in the sharing economy. The questionnaire employs a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree." The scale's Cronbach's Alpha will be computed based on the sample size to ensure the questionnaire items measure the same construct, thus enabling the generation of a reliable Likert scale.

Table 3.5: Scale of Cronbach's Alpha

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Sources: Adopted from Statistics How To, 2012

3.9.3 Pearson Correlation Coefficient

The Pearson correlation coefficient, also known as Pearson's or simply the correlation coefficient measure of the strength and directions of the linear relationship between two continuous variables. It is used to test statistical hypotheses. A correlation coefficient of 1 indicates a perfect positive linear relationship, which means that the two variables decrease together. A correlation coefficient of 0 indicates no linear between the two variables (Turney, S, 2022)

Table 3.6: Meaning Pearson Correlation Coefficient Value

Pearson Correlation Coefficient Value (R)	Strength of Correlation	Direction
Greater than 0.5	Strong	Positive
Between 0.3 and 0.5	Moderate	Positive
Between 0 and 0.3	Weak	Positive
0	None	None
Between 0 and -0.3	Weak	Negative
Between -0 and -0.5	Moderate	Negative
Less than -0.5	Strong	Negative

Sources: Adopted from Shaun Turney, 2022

3.9.4 Multiple regression analysis

Multiple regression analysis is a statistical technique commonly used in quantitative research to examine the relationship between a dependent variable and two or more independent variables. According to Jacob Cohen (2002), multiple regression is a versatile and powerful statistical method that can be used to model the effects of multiple independent variables on a dependent variable. In many research scenarios, multiple factors may influence the dependent variable. Multiple regression allows us to assess the unique contribution of each independent variable while controlling for the effects of other variables.

In this study, researchers will analyze more than one independent variables. Subsequently, this method is more valuable to analyze the relationship between independent variables and dependent variables. For example, this research will explore green entrepreneurship in the sharing economy, in which cost-savings, convenience, time- savings, and environmentalism represent independent variables where it going to attempt one dependent variable which is the intention to utilize Collaborative Vehicle Programs on Malaysian residents. Among these independent variables, the most significant factor will be selected and analyzed as the result. The selected factors will be shown in multiple regression analysis method to obtain a more precise and valuable analysis. The explanation will be simplified of how multiple regression works with the analysis formula method that adapted from Bevans (2020).

Formula of Multiple Regression Analysis:

$$y = Q_0 + Q_1 x_1 + Q_2 x_2 + Q_3 x_3 + Q_4 x_4$$

Table 3.7: The Meaning of Symbol for Multiple Regression Analysis

Symbol	Meaning
y	Dependent variables
β_0	Value of Y when value of $x_1, x_2, x_3, x_4 = 0$
$\beta_1, \beta_2, \beta_3, \beta_4$	Slope of regression line
x_1, x_2, x_3, x_4	Value of independent variable

Source: Adaption from Bevans (2020)

3.10 Conclusion

This chapter begins with an introduction and then discusses the research design used in this study. The demographics and sample of the study have been stated before explaining the research method used to conduct this research. Data will be collected through surveys or questionnaires. A quantitative approach was used to conduct a questionnaire study, where the questionnaires produced through 'Google Form' were revealed to the respondents throughout the research process. When the data is collected, it is analyzed, explained, and the results are shown. In this study as well, there is a discussion about sampling framework, sampling method, population, sample size, instrument and data collection. In addition, there are many green entrepreneurial effects on the Collaborative Vehicle Programs for residents in Malaysia. The researcher only carried out four relationships between independent variable components (Cost Saving, Time Saving, Convenience, and Environmentalism) and dependent variable (Intentions to Utilize Collaborative Vehicle Program). Therefore, it may affect the accuracy of the results.

CHAPTER 4: DATA ANALYSIS & FINDING

4.1 Introduction

The purpose of this chapter is to evaluate the data collected from the 400 questionnaires that we have distributed. The questionnaire to all Malaysians Residents from all over the states in Malaysia. The data acquired was analyzed and processed using the Statistical Package for Social Science (SPSS) version 26. This chapter begins with preliminary analyses of pilot test data by examining the reliability test. Then, we analyze the demographic profiles of respondents based on the collected data. After that, the descriptive analysis was assessed using tables to indicate responder demographics, such as gender, age, race, state, residential area, and employment status. Next, followed by descriptive analysis, reliability testing, normality testing, hypothesis testing, Pearson Correlation Coefficient analysis, multiple regression analysis, and a summary or conclusion.

4.2 Preliminary Analysis

A preliminary analysis is the initial exploration and examination of data or information to get a basic understanding of its key characteristics and potential insights. (Johanson & Brooks, 2010) states that a minimum of 30 participants is required for validity test. Therefore, a pilot test was conducted on 30 respondents and then distributed to another 370 respondents to reach 400 respondents through Google Forms. Cronbach's Alpha score was used to test how helpful the questionnaire was by finding 30 respondents who wanted to fill out the survey.

Table 4.1: Rules of Thumb about Cronbach's Alpha Coefficient Size Table

CRONBACH ALPHA COEFFICIENT	STRENGTH OF ASSOCIATION
<0.60	Poor
0.60 to <0.70	Moderate
0.70 to <0.80	Good
0.80 to <0.90	Very Good
> 0.90	Excellent

Sources: Hair et al., (2003)

Table 4.2: Result of Pilot Test

Variables	Cronbach's Alpha	Number of Item (N)
Intentions to Utilize Collaborative Vehicle Program (DV)	.903	5
Cost Saving (IV1)	.944	5
Time Saving (IV2)	.942	5
Convenience (IV3)	.940	5
Environmentalism (IV4)	.928	5

Sources: Developed from research

Cronbach's alpha, often referred to as Cronbach's alpha coefficient, is a metric that assesses the internal consistency or reliability of a scale or test. This coefficient is often used in the domain of psychometrics, a subfield of psychology concerned with the quantification of psychological characteristics and capabilities. The reliability of a test or scale is determined by

Cronbach's alpha, which measures the degree of item correlation. To rephrase, it assesses the degree to which the elements on a scale measure the same concept or attribute. Greater internal consistency is indicated by higher values of the coefficient, which may take on values between 0 and 1. Table 4.2 shows the reliability of data analysis for both dependent and independent variables for this research on Intentions to Utilize Collaborative Vehicle Programs Among Malaysian Residents.

The accuracy of this data is ensured when Cronbach's Alpha exceeds 0.9. The table above shows that the dependent variable for Intentions to Utilize Collaborative Vehicle Program is 0.903, showing a very encouraging result. For the independent variables, Cost Saving with a correlation coefficient of 0.944, Time Saving with a correlation coefficient of 0.942, Convenience with a correlation coefficient of 0.940, and Environmentalism with a correlation coefficient of 0.928. This shows that each attribute produces a remarkable result for each independent variable. All variables have values greater than 0.9.

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4.3 Demographic Profile of Respondents

4.3.1 Gender

Table 4.3: Gender group of respondents

Gender					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Male	133	33.3	33.3	33.3
	Female	267	66.8	66.8	100.0
	Total	400	100.0	100.0	

In the context of the research titled "Exploring Green Entrepreneurship in the Sharing Economy: Intentions to Utilize Collaborative Vehicle Programs among Malaysian Residents," the gender demographics data, meticulously derived from a questionnaire distributed to 400 respondents in Malaysia and analyzed using SPSS, constitutes a foundational element for understanding the socio-economic landscape of potential participants. Table 4.3 provides a comprehensive breakdown, indicating that out of the total sample, 33.3% identified as male, while a substantial majority of 66.8% identified as female. The inclusion of valid percentages ensures the reliability of the dataset, considering only meaningful responses, and the cumulative percentages underscore the complete coverage of the sample. The total frequencies and percentages emphasize the representativeness of the dataset in reflecting the gender composition of the Malaysian population under study. As researchers, these insights are crucial for contextualizing findings within the broader societal landscape and informing subsequent analyses pertaining to the exploration of green entrepreneurship and collaborative vehicle programs among Malaysian residents. This demographic overview lays a solid groundwork for

researchers to delve deeper into understanding how gender dynamics might influence intentions and engagement in sustainable practices within the sharing economy.

4.3.2 Age

Table 4.4: Age group of respondents

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 18 years old	1	.3	.3	.3
	18 - 24	235	58.8	58.8	59.0
	25 - 34	79	19.8	19.8	78.8
	35 - 44	43	10.8	10.8	89.5
	45 - 54	37	9.3	9.3	98.8
	55 years old and above	5	1.3	1.3	100.0
	Total	400	100.0	100.0	

Based on table 4.4 above that show the total age group of respondents. Questionnaires were distributed to 400 respondents from different age groups via Google Form in this research. Researchers have divided into 6 age groups in this research: under 18 years old, 18-24 years old, 25-34 years old, 35-44 years old, 45-54 years old, 55 years old and above. The highest age group involved in this questionnaire is 18-24 years old which is 235 respondents equal to 58.80%. The second highest group involved in this questionnaire is 25-34 years old which is 79 respondents equal to 19.80% and the third is the age group 35-44 years old which is 43 respondents equal to 10.80% followed by the age group 45-54 which is 37 respondents equivalent to 9.30%. There are 2 age groups with the least number of respondents which is

under 18 years old with only 1 respondent equal to 0.30% followed by the age group of 55 years old and above which is 5 respondents equal to 1.30%.

4.3.3 Race

Table 4.5: Race group of respondents

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	238	59.5	59.5	59.5
	Chinese	93	23.3	23.3	82.8
	Indian	42	10.5	10.5	93.3
	Others	27	6.8	6.8	100.0
	Total	400	100.0	100.0	

Table 4.3 shows the total respondents by race. There were 400 respondents who contributed to this questionnaire. Malay recorded the highest number of respondents which was 238 (59.5%) and followed by Chinese, which was 93 (23.3%). The number of Indian respondents was 42 (10.5%) and other races recorded the lowest number of respondents which was 27 (6.8%).

4.3.4 State

Table 4.6: State group of respondents

State					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Perlis	8	2.0	2.0	2.0
	Kedah	25	6.3	6.3	8.3
	Pulau Pinang	26	6.5	6.5	14.8
	Perak	35	8.8	8.8	23.5
	Selangor	36	9.0	9.0	32.5
	Negeri Sembilan	17	4.3	4.3	36.8
	Melaka	13	3.3	3.3	40.0
	Johor	37	9.3	9.3	49.3
	Pahang	27	6.8	6.8	56.0
	Terengganu	20	5.0	5.0	61.0
	Kelantan	118	29.5	29.5	90.5
	Sabah	5	1.3	1.3	91.8
	Sarawak	8	2.0	2.0	93.8
	Kuala Lumpur	25	6.3	6.3	100.0
Total		400	100.0	100.0	

Sources: Developed from research.

Referring to table 4.4 above, it shows the number of respondents based on their state. We can analyze how the overall 100% respondents are distributed across different states. In this study, the researcher has categorized into 14 states found in Malaysia. The table shows that the states of Kelantan (118 people), Johor (37 people) and Selangor (36 people) have the most respondents, with percentages of 29.5%, 9.3% and 9.0% respectively. In addition, Kuala Lumpur also has a noteworthy percentage of respondents (6.3%). This may be due to its position as the capital city and the concentration of its population and businesses. Besides Kelantan which has the highest number of respondents, while Perlis has the lowest respondents which is 2.0% of 8 people. This may be because Perlis is associated with its status as the smallest state in Malaysia in terms of population and geographical size. This table provides a useful insight into the distribution of respondents across the states in Malaysia. By analyzing percentages and considering potential factors such as population, regional trends and survey specifics, researchers can gain a better understanding of the data and its implications.

4.3.5 Residential Area

Table 4.7: Residential Area group of respondents.

Residential area					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Urban	194	48.5	48.5	48.5
	Sub-urban	123	30.8	30.8	79.3
	Rural resident	83	20.8	20.8	100.0
	Total	400	100.0	100.0	

Sources: Developed from research

The demographic data pertaining to residential areas, meticulously gathered through a questionnaire distributed to 400 respondents in Malaysia and analyzed using SPSS, provides a nuanced understanding of the geographical distribution of potential participants. Table 4.1 presents a comprehensive breakdown of respondents across urban, sub-urban, and rural areas. Notably, 48.5% of the sample resides in urban areas, 30.8% in sub-urban locales, and 20.8% in rural settings. The inclusion of valid percentages ensures a robust representation of the dataset, filtering out irrelevant or incomplete responses. The cumulative percentages underscore the coverage of the entire sample, with urban, sub-urban, and rural residents contributing to 48.5%, 79.3%, and 100.0%, respectively. The total frequencies and percentages reinforce the representativeness of the dataset, illustrating the diverse residential backgrounds of the Malaysian respondents under study.

4.3.6 Employment Status

Table 4.8: Employment status of respondents

Employment status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	148	37.0	37.0	37.0
	Self-employed	25	6.3	6.3	43.3
	Unemployed	16	4.0	4.0	47.3
	Student	207	51.7	51.7	99.0
	Retired	4	1.0	1.0	100.0
	Total	400	100.0	100.0	

Sources: Developed from Research

Based on table 4.6 and figure 4.6 above that shows the employment status of the respondents. The researcher has distributed the questionnaire to 400 respondents among Malaysian residents through Google Forms. The researcher has divided the employment status into 5 categories in this research which is employed, self-employed, unemployed, student, and retired. The number of respondents with the highest employment status is student which is 207 respondents equal to 51.70% followed by employed status which 148 respondents equal to 37% then followed by a self-employed status which is 25 respondents equal to 6.3%. Next followed by the unemployed status which is 16 respondents equal to 4%. From this study, the least number of respondents is retired, which is only 4 respondents equal to 1% only.

4.4 Descriptive Analysis

Descriptive analysis is used in this study to disclose the ordinary pattern of response, summarize and describe the characteristics of the respondents. In this section, the frequency of the respondents' demographic and some questions regarding the cost saving, time saving,

convenience and environmentalism, and the mean and the standard deviation for independent and dependent study will be deeply discussed.

In this section, descriptive statistics were tested on about 20 items based on their variable with the mean and standard deviation. Typically, the mean score is used to record respondents' opinions on the variable of cost saving, time saving, convenience and environmentalism while the dependent variable of study is intention to utilize in collaborative vehicle programs.

In addition, the standard deviation is to determine the spread of measurement from average. The low standard deviation indicated that the most measurements are close average. Besides that, the high standard deviation shows that the data collection is further away from the mean of the study. Next, the following part shows the mean and standard deviation of study independent variables and dependent variables. The average mean of independent variables is nearly 4.0. This shows that respondents were concerned about cost saving, time saving, convenience, and environmentalism. Table 4.9 shows the summary of descriptive statistics:

Table 4.9: Summary of Descriptive Statistics

VARIABLE	MEAN	STD. DEVIATION
Cost Saving (IV1)	3.9750	.78442
Time Saving (IV2)	3.9240	.80626
Convenience (IV3)	4.0285	.75532
Environmentalism (IV4)	4.0440	.75225
Intention to Utilize in Collaborative Vehicle Program (DV)	3.8520	.79591

Sources: Developed from research.

4.4.1 Cost Saving (IV1)

Table 4.10: Descriptive Statistics of Cost Saving (IV1)

Descriptive Statistics			
Cost Saving	N	Mean	Std. Deviation
CS1: .Using Collaborative Vehicle Program in the sharing economy is a much cheaper transportation option compared to owning a personal vehicle	400	4.03	.912
CS2: The idea of saving money through the use of the Collaborative Vehicle Program was the main motivator for me to consider using it as my transportation solution	400	3.92	.887
CS3: I am willing to change my travel plans to save money by using Collaborative Vehicle Program	400	3.99	.916

CS4: I regularly calculate the cost savings I achieve by using Collaborative Vehicle Program compared to traditional vehicle ownership	400	3.91	.928
CS5: I believe that the Collaborative Vehicle Program can help me reduce my overall transportation expenses.	400	4.02	.878
Valid N (listwise)	400		

Sources: Developed from research

Table 4.10 illustrates the descriptive statistics for responses on the independent variable which is cost saving. Cost saving recorded the highest mean in question 1 (CS1), which is 4.03. This could be summaries that the respondents strongly agree with the statement of “Using Collaborative Vehicle Program in the sharing economy is a much cheaper transportation option compared to owning a personal vehicle.” Besides that, the lower mean of this variable is 3.91, recorded in question 4 (CS4). Since the mean score is in range 3.00 - 4.00, it could be stated as the community agreed that the Collaborative Vehicle Program in the sharing economy provides significant cost savings compared to traditional vehicle ownership.

Meanwhile, question 2 (CS2), question 3 (CS3) and question 5 (CS5) recorded the mean score of 3.92, 3.99 and 4.02 respectively. This shows that the respondents agreed with the effectiveness and trustworthiness of the Collaborative Vehicle Program in the sharing economy across various aspects, indicating a consistent positive perception. The average mean for cost saving is 3.97. All the respondents agreed that cost savings is a significant factor influencing their intention to utilize Collaborative Vehicle Programs in the sharing economy.

4.4.2 Time Saving (IV2)

Table 4.11: Descriptive Statistics for Time Saving (IV2)

Descriptive Statistics			
Time Saving	N	Mean	Std. Deviation
TS1: Collaborative Vehicle Programs in the sharing economy help me save a significant amount of time compared to owning a personal vehicle	400	3.91	.957
TS2: The ability to quickly access collaborative vehicles in my area is an essential feature for me when considering transportation options	400	3.93	.931
TS3: I prioritize collaborative vehicle options that allow me to reduce delays in my daily schedule	400	3.95	.910
TS4: Using Collaborative Vehicle Programs often enables me to reach my destination more quickly than other transportation methods	400	3.88	.939
TS5: I believe that using Collaborative Vehicle Programs allows me to better manage my schedule	400	3.95	.901
Valid N (listwise)	400		

Sources: Developed from research

Table 4.11 displays the mean and standard deviation for descriptive analysis for time saving. According to the data in the table above, the highest mean value is in question 3 (TS3)

and question 5 (TS5) which is 3.95. This shows that the respondents agree that Collaborative Vehicle Programs can reduce delays in the daily schedule and can manage the schedule better. In addition, the lowest mean value for this category is question 4 (TS4) where respondents do not really agree that the use of Collaborative Vehicle Programs allows to reach the destination faster than other transportation methods. This table shows that the standard deviation is less than 1, indicating that it is a more reliable value.

4.4.3 Convenience (IV3)

Table 4.12: Descriptive Statistics for Convenience (IV3)

Descriptive Statistics			
Convenience	N	Mean	Std. Deviation
C1: Collaborative Vehicle Programs are a convenient way for me to access transportation when I need it	400	4.00	.918
C2: I find the booking process for Collaborative Vehicle Programs is user-friendly	400	4.00	.861
C3: The availability of collaborative vehicles in my area makes it easy for me to choose this transportation option when necessary	400	3.97	.862
C4: I consider the flexibility of Collaborative Vehicle Programs, such as being able to pick up and drop off vehicles at various locations, to be a major convenience	400	4.05	.821
C5: The convenience of not needing to worry about vehicle insurance in Collaborative Vehicle Programs is a significant advantage	400	4.11	.877
Valid N (listwise)			

Based on table 4.12 descriptive statistics for environmentalism the mean score for question 1 (C1) is ($M=4.0$, $SD=0.918$), showing that the use of collaborative vehicles convenient way for them to access transportation when they need it. The mean score of question

2 (C2) is ($M=4.00$, $SD=0.861$), showing that the collaborative vehicle is convenience because the booking process for Collaborative Vehicle Programs is user-friendly. The mean score of question 3 (C3) is ($M=3.97$, $SD=0.862$), this shows that the availability of collaborative vehicles in their area makes it easy for respondent to choose this transportation option when necessary. Furthermore, question 4 (C4) has a mean score ($M=4.05$, $SD=0.821$), this shows that respondents are consider the flexibility of Collaborative Vehicle Programs, such as being able to pick up and drop off vehicles at various locations, to be a major factor of why CVP is convenience. Lastly, the mean score for question 5 (C5) is ($M=4.11$, $SD=0.877$), this shows the convenience of not needing to worry about vehicle insurance in Collaborative Vehicle Programs is a significant advantage for respondents' opinion. Therefore, it is a factor that influences respondents to be involved in the Collaborative Vehicle Program. To summarize, based on all the statements above, it clearly shows that question 5, "The convenience of not needing to worry about vehicle insurance in Collaborative Vehicle Programs is a significant advantage", has the highest mean score of 4.11. In contrast, question 4 "The availability of collaborative vehicles in my area makes it easy for me to choose this transportation option when necessary" that has the lowest mean score of 3.97.

4.4.4 Environmentalism (IV4)

Table 4.13: Descriptive Statistics for Environmentalism (IV4)

Descriptive Statistics			
Environmentalism	N	Mean	Std. Deviation
E1: I am more inclined to use Collaborative Vehicle Programs because they are considered a more environmentally friendly transportation option	400	4.06	.869
E2: The desire to reduce my carbon footprint in environmental context are the important factors why I choose Collaborative Vehicle Programs	400	4.06	.853
E3: The awareness of Collaborative Vehicle Program is potential to decrease traffic congestion emissions positively influences my transportation choices	400	4.06	.826
E4: I would be willing to pay a slightly higher price for using Collaborative Vehicle Programs if it means supporting a more eco-friendly transportation option	400	3.95	.918
E5: I consider the reduction of urban traffic and congestion as a positive environmental impact of Collaborative Vehicle Programs	400	4.08	.831
Valid N (listwise)	400		

Sources: Developed from Research

Based on table 4.13 descriptive statistics for environmentalism the mean score for question 1 (E1) is ($M=4.06$, $SD=0.869$), showing that the use of collaborative vehicles will influence respondents to be involved in the Collaborative Vehicle Program because it is considered a more environmentally friendly transport option. The mean score of question 2 (E2) is ($M=4.06$, $SD=0.853$), showing that the desire to reduce the carbon footprint in the context of the environment is a factor that influences respondents to be involved in the

Collaborative Vehicle Program. The mean score of question 3 (E3) is ($M=4.06$, $SD=0.826$), this shows that respondents are involved in the Collaborative Vehicle Program because it is to reduce traffic congestion positively. Furthermore, question 4 (E4) has a mean score ($M=3.95$, $SD=0.918$), this shows that respondents are willing to pay a higher price to support a more environmentally friendly transport option which is one of the factors of respondents being involved in the Collaborative Vehicle Program. Last but not least, the mean score for question 5 (E5) is ($M=4.08$, $SD=0.831$), this shows that respondents consider the reduction of traffic in the city as a positive environmental impact from Collaborative Vehicle Programs. Therefore, it is a factor that influences respondents to be involved in the Collaborative Vehicle Program. To summarize, based on all the statements above, it clearly shows that question 5, I consider the reduction of urban traffic and congestion as a positive environmental impact of Collaborative Vehicle Programs, has the highest mean score of 4.08. In contrast, question 4 I would be willing to pay a slightly higher price for using Collaborative Vehicle Programs if it means supporting a more eco-friendly transportation option that has the lowest mean score of 3.95.

4.4.5 Intention to utilize Collaborative Vehicle Program (DV)

Table 4.14: Descriptive Analysis of Intention to Utilize Collaborative Vehicle Program (DV).

Descriptive Statistics			
Intention to utilize Collaborative Vehicle Program	N	Mean	Std. Deviation
IUCVP1: I am familiar with the concept of Collaborative Vehicle Programs	400	3.77	.992
IUCVP2: I am highly motivated to use Collaborative Vehicle Programs as part of my transportation choices	400	3.89	.886
IUCVP3: I plan to incorporate Collaborative Vehicle Programs into my regular transportation routines, such as for daily commuting or errands	400	3.83	.947
IUCVP4: I have access to my own vehicle, yet I am still enthusiastic about consistently using Collaborative Vehicle Program services	400	3.83	.939
IUCVP5: I perceive Collaborative Vehicle Program as a effective cost alternative than owning a personal vehicle	400	3.94	.905
Valid N (listwise)	400		

Sources: Developed from research

Table 4.14 shows the mean and standard deviation of the dependent variable of this study. For question 5 (IUCVP 5) recorded the highest mean which is 3.94 followed by question 2 (IUCVP 2) is 3.89. Question 1 (IUCVP 1) recorded the lowest mean which is 3.77 meanwhile, question 3 (IUVCR 3) and question 4 (IUCVP 4) recorded the mean of 3.83 and 3.83 respectively. In a nutshell, this research can be summarized that the respondents strongly agree

with all the statements which were asked in the section of DV in which the intention to utilize Collaborative Vehicle Program was satisfied with cost saving, time saving, convenience, and environmentalism.

4.5 Validity & Reliability Test

The researcher used SPSS to conduct validity and reliability tests. Validity and reliability tests are crucial for assessing the quality of research measures. Validity examines whether a measurement tool accurately captures the intended construct, ensuring the data's relevance while reliability assesses the consistency and stability of results over time. To ensure the accuracy and consistency of the study's overall findings, Cronbach's Alpha was employed to assess the validity and reliability of the results. Table 4.13 shows the Cronbach' Alpha Coefficient scale.

Table 4.15: The Cronbach' Alpha Coefficient scale

CRONBACH ALPHA COEFFICIENT	STRENGTH OF ASSOCIATION
< 0.60	Poor
0.60 to <0.70	Moderate
0.70 to < 0.80	Good
0.80 to < 0.90	Very Good
> 0.90	Excellent

Sources: Hair et al., (2003)

4.5.1 Intention to Utilize Collaborative Vehicle Program

Table 4.16: Reliability Statistics for Intention to Utilize Collaborative Vehicle Program

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.905	0.906	5

Table 4.17: Scale Statistic for Utilize Collaborative Vehicle Program

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
19.26	15.837	3.980	5

Table 4.16 showed the reliability statistics for the dependent variable of this study, intention to Utilize Collaborative Vehicle Program. Cronbach's alpha for the dependent variable is 0.905 which indicates an excellent and has association. Then in the next column, the Cronbach's alpha based on standardized items value is 0.906 which is also excellent. Furthermore, table 4.17 shows the scale statistic for Utilize Collaborative Vehicle Program. The mean of this variable is 19.26, variance 15.837, standard deviation 3.980, and number of items or questions is 5.

4.5.2 Cost Saving

Table 4.18: Reliability Statistics for Cost Saving

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.918	0.918	5

Table 4.19: Scale Statistic for Cost Saving

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
19.88	15.383	3.922	5

Table 4.18 showed the reliability statistics for cost saving. Cost saving is the first independent variable in this study. The Cronbach's alpha for this independent variable is 0.918 and Cronbach's alpha based on standardized items is also 0.918 which indicates an excellent and has association. Besides, table 4.19 shows the scale statistic for cost saving. The mean of this independent variable is 19.88, variance 15.383, standard deviation 3.933, and number of items or questions is 5.

4.5.3 Time Saving

Table 4.20: Reliability Statistics for Time Saving

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.919	0.919	5

Table 4.21: Scale Statistic for Time Saving

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
19.62	16.251	4.031	5

Table 4.20 showed the reliability statistics for time saving. Time saving is the second independent variable in this study. The Cronbach's alpha for this second independent variable is 0.919 and Cronbach's alpha based on standardized items is also 0.91 which indicates an excellent and has association. Besides, table 4.21 shows the scale statistic for time saving. The mean of this independent variable is 19.62, variance 16.251, standard deviation 4.031, and number of items or questions is 5.

4.5.4 Convenience

Table 4.22: Reliability Statistics for Convenience

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.920	0.920	5

Table 4.23: Scale Statistic for Convenience

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
20.14	14.263	3.777	5

Table 4.22 showed the reliability statistics for convenience. Convenience is the third independent variable in this study. In this dependent variable, the value of Cronbach's alpha and Cronbach's alpha based on standardized items is the same 0.920 and considered excellent. This shows that the association is very strong because the value of Cronbach's alpha and Cronbach's alpha based on standardized items is more than 0.90. Besides, table 4.23 shows the scale statistic for convenience. The mean of convenience is 20.14, variance 14.263, standard deviation 3.777, and number of items or questions is 5.

4.5.5 Environmentalism

Table 4.24: Reliability Statistics for Environmentalism

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.923	0.924	5

Table 4.25 Scale Statistic for Environmentalism

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
20.22	14.147	3.761	5

Table 4.24 showed the reliability statistics for environmentalism. Environmentalism is the last independent variable in this study. The Cronbach's alpha for the last independent variable is 0.923 and Cronbach's alpha based on standardized items is 0.924 which indicates an excellent and very strong association because more than 0.90. Besides, table 4.25 shows the scale statistic for environmentalism. The mean of this independent variable is 20.22, variance 14.147, standard deviation 3.761, and number of items or questions is 5.

In conclusion, the researcher obtained an excellent Cronbach's Alpha in all variables. Cronbach's alpha excels in validity and reliability tests, it generally indicates that the measurement instrument or scale used in the study is reliable and internally consistent. This indicates that the tool consistently measures what it is intended to measure and produces stable and reliable results. It is a positive indicator of the quality of the study instrument.

4.6 Normality Test

Table 4.24 displays the results of normality tests conducted on the acquired data. Both the Kolmogorov-Smirnov and Shapiro-Wilk tests were utilized to assess normality. The obtained p-values for all variables are uniformly 0.000, falling below the significance threshold of 0.05. Consequently, the null hypotheses are rejected, indicating a departure from normal distribution in the research data.

Table 4.26: The Results of Normality Tests

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Intentions to Utilize Collaborative Vehicle Program (DV)	0.153	400	0.000	0.922	400	0.000
Cost Savings (IV1)	0.144	400	0.000	0.931	400	0.000
Time Savings (IV2)	0.150	400	0.000	0.971	400	0.000
Convenience (IV3)	0.138	400	0.000	0.908	400	0.000
Environmentalism (IV4)	0.114	400	0.000	0.049	400	0.000

4.7 Hypotheses Testing

4.7.1 Pearson Correlation Analysis

Table 4.27: Pearson Correlation Results

Correlations						
		MEAN_DV	MEAN_CS	MEAN_TS	MEAN_C	MEAN_E
MEAN_DV	Pearson Correlation	1	.777**	.783**	.775**	.769**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	400	400	400	400	400
MEAN_CS	Pearson Correlation	.777**	1	.848**	.840**	.843**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	400	400	400	400	400
MEAN_TS	Pearson Correlation	.783**	.848**	1	.863**	.823**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	400	400	400	400	400
MEAN_C	Pearson Correlation	.775**	.840**	.863**	1	.861**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	400	400	400	400	400
MEAN_E	Pearson Correlation	.769**	.843**	.823**	.861**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	400	400	400	400	400

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.28: Summary Status of Hypothesis

Hypothesis	Results	Pearson Correlation	Status	Conclusion
H1 There is a significant relationship between cost saving and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.	p < 0.01	0.777	Accepted	Strong positive correlation
H2 There is a significant relationship between time savings and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.	p < 0.01	0.783	Accepted	Strong positive correlation
H3 There is a significant relationship between convenience and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.	p < 0.01	0.775	Accepted	Strong positive correlation
H4 There is a significant relationship between environmentalism and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.	p < 0.01	0.769	Accepted	Strong positive correlation

The table 4.28 shows the relationship between cost savings and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents. The result of the correlation coefficient is $p<0.01$, $r = 0.777$, indicating that there is a strong positive correlation between cost savings and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents since $p<0.05$. Correlation analysis supports that there is a significant relationship between cost savings and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents. In conclusion, hypothesis, 1 is accepted.

Next, there is a significant relationship between time savings and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents. The results of the correlation coefficient show ($p<0.01$, 0.783), which indicates that there is a strong positive correlation between variables since $p<0.01$. Correlation analysis supports that there is a significant relationship between time saving and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents. In conclusion, hypothesis 2 is also accepted.

Furthermore, there is a strong correlation between convenience and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents. Because there is a very positive correlation between convenience and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents, the result of the correlation coefficient shows ($p<0.01$, $r = 0.775$). Correlation studies confirm that there is a strong relationship between convenience and intentions to utilize the Collaborative Vehicle Program among Malaysian Residents. So, hypothesis 3 is accepted.

In addition, according to the relationship between environmentalism and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents, there is a significant relationship between the two variables as shown by the results ($p<0.01$, $r = 0.769$). The results

of the correlation coefficient show a highly positive correlation of the variable since $p < 0.05$, but this is weaker. Although still positive and statistically significant, it shows a less significant tendency for this variable. Correlation studies confirm that there is a significant relationship between environmentalism and intentions to Utilize Collaborative Vehicle Program among Malaysian Residents. As a result, hypothesis 4 is accepted.

4.7.2 Multiple Regression Analysis

Table 4.29: Multiple linear regression Analysis

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t		Sig.
	B	Std. Error	Beta			
1	(Constant)	.271	.128		2.121	.035
	Cost Saving (IV1)	.239	.063	.236	3.779	.000
	Time Saving (IV2)	.270	.063	.273	4.297	.000
	Convenience (IV3)	.176	.071	.167	2.475	.014
	Environment alism (IV4)	.213	.066	.202	3.221	.001
a. Dependent Variable: Intention to Utilize in Collaborative Vehicle Program (DV)						

Source: Developed from research

The results of the multiple regression analysis showed that, with a 95 percent confidence level of $p < 0.05$, the following examined variables were very significant. The independent variables were positively correlated with intention to utilize in Collaborative Vehicle Program, according to the beta value (unstandardized coefficients) of cost saving ($B =$

0.239), time saving ($B= 0.270$), convenience ($B= 0.176$), and environmentalism ($B= 0.213$). The time saving was revealed to be the biggest factor influencing intention to utilize this sharing economy program.



4.8 Summary / Conclusion

In this chapter, the study examines in detail the entire research analysis, which includes preliminary analysis, demographic profile of respondents, descriptive analysis, reliability test, normality test and also multiple linear regression analysis. In this survey, 400 Malaysian residents residing in different states participated. Questionnaire forms were created in Google form and distributed through WhatsApp, Telegram, Facebook and other social media to collect respondent data. After data collection, researchers used the Statistical Package for Social Sciences (SPSS) to analyze the data and determine how the independent and dependent variables related to each other. Based on the findings of the reliability analysis and correlation analysis, which examined the link between the independent and dependent variables using Pearson Correlation, researchers concluded that the variables were acceptable. Researchers discovered that there is a highly positive correlation between all independent variables which is cost saving, time saving, convenience and environmentalism using Pearson Correlation. A discussion of further findings is presented in Chapter 5.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Introduction

In this chapter, there is a detailed discussion about the findings of the study presented in chapter 4. The findings of this study are discussed in the conclusion to examine the extent to which the results are based on the stated hypothesis, address the research questions and meet the objectives of the study. In addition, there are implications and recommendations to increase the benefits of the Collaborative Vehicle Program with continuous improvement in important aspects among the Malaysian population. Furthermore, this chapter provides recommendations for future studies and references. In summary, this chapter will discuss the findings from the previous chapter, which consists of six parts: main findings, discussion, implications, limitations, recommendations, and conclusions of the study.

5.2 Key Findings

In the quantitative investigation focused on exploring green entrepreneurship in the Sharing Economy and assessing the Intentions to Utilize Collaborative Vehicle Programs among Malaysian Residents, the study has successfully achieved all its specific objectives. A comprehensive analysis of the overall results was conducted utilizing SPSS software, based on the data collected through a structured questionnaire administered to the respondents. Chapter 4 provides a detailed exposition of the methods employed for result determination, with a specific focus on reliability analysis. The outcomes of this analysis reveal that the reliability test coefficients fall within the standard range of 0 to 1. The findings demonstrate that all measurement tests conducted on the variables exhibit Cronbach's Alpha Coefficients surpassing $\alpha \geq 0.9$. This indicates a high level of internal consistency and reliability in the study's measurement instruments, reinforcing the credibility and robustness of the research findings.

Next, SPSS software systematically classified across various demographic variables including gender, age, race, state, employment status, and residential area. The research findings, derived from the administered questionnaire, elucidate noteworthy trends within the sample. Notably, the majority of respondents are female, constituting 66.8% of the total, while males account for 33.3%. In terms of racial composition, the predominant group is Malay, comprising 59.5%, with other races constituting the remaining portion. The age distribution reveals that the largest demographic cohort falls within the 18 – 24 years old category, encompassing 58.8% of the respondents. Across Malaysian states, Kelantan emerges as the predominant location with 118 respondents (59.8%). Regarding employment status, students represent the highest proportion at 51.70%, whereas the least represented group is retirees, constituting only 1% of the respondents. Examining residential areas, the majority of respondents, totaling 48.5%, reside in urban areas, followed by 30.8% in sub-urban areas, and 20.8% in rural areas. This nuanced demographic analysis provides a comprehensive understanding of the diverse characteristics of the respondent pool, laying a solid foundation for subsequent in-depth explorations and interpretations within the context of the research.

The study's findings underscore a consistently positive correlation between independent variables and the intentions to utilize Collaborative Vehicle Programs among Malaysian Residents. The results emphasize that time savings wield a particularly pronounced influence on these intentions. The hypotheses, scrutinized through Pearson's Correlation methods, reveal a substantial and positive correlation between the time savings and intentions to utilize Collaborative Vehicle Program among Malaysian Resident. The highest Pearson's correlation coefficient, recorded at $r = 0.783$ ($N = 400$, $p < .001$), attests to the strength of this relationship. In conclusion, the comprehensive outcomes of this study effectively address the second objective and hypothesis, affirming that a substantial majority of respondents acknowledge the pivotal role of time savings in influencing their intentions to utilize Collaborative Vehicle

Programs among Malaysian Residents. This nuanced understanding contributes valuable insights to the broader discourse on the factors influencing collaborative and sustainable transportation choices.

Table 5.1 provides a comprehensive summary of the study's outcomes pertaining to the objectives aimed at examining the relationships between key factors such as cost savings, time savings, convenience, and environmentalism in relation to the intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.

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Table 5.1: Summary of The Study's Outcomes

Research Objectives	Hypothesis	Results	Pearson'	Status	Decision
RO1: To access the impact of cost-savings consideration on individuals' intentions to utilize Collaborative Vehicle Program	H1: There is significant relationship between cost saving and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents	P=0.000 (p<0.01)	0.777	Accepted	Highly Positive Correlation
RO2: To determine the effects of time savings factors on individuals' intentions to use Collaborative Vehicle Programs in the sharing economy	H2: There is a significant relationship between time savings and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents.	P=0.000 (p<0.01)	0.783	Accepted	Highly Positive Correlation

RO3: To evaluate the role of convenience in shaping the intentions of individuals to participate in Collaborative Vehicle Programs within the sharing economy.	H3: There is significant relationship between convenience and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents	P=0.000 (p<0.01)	0.775	Accepted	Highly Positive Correlation
RO4: To investigate the influence of environmental consciousness and concern on individuals' intentions to utilize Collaborative Vehicle Programs as a means of promoting green entrepreneurship in the sharing economy	H4: There is a significant relationship between environmentalism and intentions to utilize Collaborative Vehicle Programs among Malaysian Residents	P=0.000 (p<0.01)	0.769	Accepted	Highly Positive Correlation

5.3 Discussion

5.3.1 Hypothesis 1: The positive relationship between cost saving and intentions to Utilize Collaborative Vehicle Program among Malaysia Residents

From the table of 5.1, there was a highly positive correlation between cost saving and intention to Utilize Collaborative Vehicle Programs among Malaysia Residents. The results of Pearson correlation analysis show that Pearson correlation value is $r= 0.777$ while p value 0.000 which is less than significance level. Therefore, an alternative hypothesis is accepted in this study. Based on the research question 1, the study can conclude that there is a positive and significant relationship between cost saving and intention to Utilize Collaborative Vehicle Programs among Malaysia Residents. This study supported by Fukuda et al (2005), cost perception had a strong influence on attractiveness of car sharing in Thailand. This shows that the cost saving factor not only affects Malaysia residents using car sharing services but also in Thailand. According to Wagner et al (1998) he said that car sharing can be profitable for users who sometimes use a car for short trips and it can provide users with monetary advantages compared to expenses of private car ownership (Litman et al., 2000).

5.3.2 Hypothesis 2: The positive relationship between time saving and intention to utilize Collaborative Vehicle Program among Malaysia Residents

From the table of 5.1, there was a highly positive correlation between time saving and intention to Utilize Collaborative Vehicle Programs among Malaysia residents. The results of Pearson correlation analysis show that Pearson correlation value is $r= 0.783$ while p value is 0.00 which is less than significance level. Therefore, an alternative hypothesis is accepted in this study. Based on the research question 2, the study can conclude that there is a positive and significant relationship between time saving and intention to Utilize Collaborative Vehicle Programs among Malaysia Residents. Car sharing or collaborative vehicle users not only reduce air pollution but also save users' time. According to De Luca and Di Pace (2015), parking space too limited in the area will cause users to spend more time searching for parking, by utilizing this car-sharing service allows users to save time as they no longer need to search for parking.

5.3.3 Hypothesis 3: The positive relationship between convenience and intention to utilize Collaborative Vehicle Program among Malaysian Residents

The table 5.1 shows, hypothesis 3 (H3) has the positive relationship result between convenience and intention to utilize Collaborative Vehicle Program among Malaysian Residents. There was a highly positive correlation between convenience and intention to Utilize Collaborative Vehicle Programs among Malaysia residents. The results show that Pearson correlation value is $r= 0.775$ while p value is 0.00 which is less than significance level. Therefore, an alternative hypothesis is accepted in this study. Based on the research question 3, the study can conclude that there is a positive and significant relationship between convenience and intention to Utilize Collaborative Vehicle Programs among Malaysia Residents. Car sharing or collaborative vehicle users not only reduce air pollution but convenience for them use the service. Smartphones lowered transactional costs associated with carsharing, making the service more convenient and affordable (Michiko Namazu, 2017).

5.3.4 Hypothesis 4: The positive relationship between convenience and intention to utilize Collaborative Vehicle Program among Malaysian Residents

The table 5.1 shows, hypothesis 4 (H2) has the positive relationship result between environmentalism and intention to utilize Collaborative Vehicle Program among Malaysian Residents. There was a highly positive correlation between environmentalism and intention to Utilize Collaborative Vehicle Programs among Malaysia residents. The results show that Pearson correlation value is $r= 0.769$ while p value is 0.00 which is less than significance level. Therefore, an alternative hypothesis is accepted in this study. Based on the research question 4, the study can conclude that there is a positive and significant relationship between environmentalism and intention to Utilize Collaborative Vehicle Programs among Malaysia Residents. In principle,

carsharing offers reduced car ownership, reduced congestion, reduced GHG emissions, and the potential to increase transportation equity (Rainy Lempert, 2019)

5.4 Implications of the Study

The study on Intentions to Utilize Collaborative Vehicle Programs Among Malaysian Residents delves into the multifaceted implications of residents' inclinations towards participating in collaborative vehicle programs. At its core, this research explores the influence of various independent variables such as cost savings, time savings, convenience, and environmentalism on Malaysian residents' intentions to embrace collaborative vehicle programs.

One primary implication lies in the economic realm, where the findings regarding cost savings can have far-reaching effects. It is possible that the automotive industry may see alterations in consumer behaviour if there is a significant tendency among residents to engage in collaborative vehicle programs. If residents demonstrate a strong intention to utilize collaborative vehicle programs as a means of reducing transportation costs, this could signal a shift in consumer behavior. The automotive industry may witness changes in traditional car ownership patterns as individuals seek more economical alternatives, impacting both vehicle manufacturers and related service providers.

Time savings emerge as another significant independent variable with noteworthy implications. If residents express a preference for collaborative vehicle programs due to the potential time savings compared to traditional transportation modes, this suggests a societal demand for efficient and time-effective mobility solutions. Policymakers and service providers could use this insight to design and implement systems that prioritize streamlined transportation experiences. Next, convenience, as an independent variable, plays a pivotal role in shaping the intentions of Malaysian residents towards collaborative vehicle programs. The

study's implications in this regard extend to urban planning and service design. If convenience proves to be a driving factor, urban planners may need to consider optimizing infrastructure and service locations to enhance accessibility and ease of use, fostering a more convenient transportation ecosystem.

Environmentalism, as a critical independent variable, carries implications for sustainability and public welfare. If intentions to utilize collaborative vehicle programs are positively correlated with environmental concerns, this reinforces the potential for these programs to contribute to a reduction in carbon emissions and alleviate environmental pressures associated with traditional commuting methods. The ramifications of this extend beyond personal decisions to shared environmental accountability, promoting the adoption of more environmentally-friendly transportation methods. This finding may inform policies and initiatives that promote eco-friendly transportation alternatives.

In conclusion, the study on Intentions to Utilize Collaborative Vehicle Programs Among Malaysian Residents uncovers a spectrum of implications tied to independent variables such as cost savings, time savings, convenience, and environmentalism. These implications span economic shifts, urban planning considerations, service design enhancements, and environmental sustainability efforts. Understanding the interplay between these variables provides a comprehensive picture that can guide policymakers, urban planners, and service providers in fostering a transportation landscape aligned with the preferences and intentions of Malaysian residents.

5.5 Limitations of the Study

This research project has been carried out successfully. However, there are still some limitations that researchers need to overcome during our research project. The limitation indirectly has little impact on us to complete the project because it will give some interference to get results at the end of our research project.

Among the limitations that exist during the study is the breadth of the research scope and time. The scope of this research is focused on Malaysian residents. Although the target number of respondents was successfully reached, it required some time to make sure that the necessary number of respondents was correct and sufficient.

The sincerity of the respondents is also one of the limitations of the study that needs to be faced. The response from the residents of Malaysia may also be influenced by external factors such as wanting to complete the survey form as soon as possible. This is relevant because some survey participants will respond quickly and incorrectly without carefully reading the survey questions. Respondents will also find it difficult to understand the intent of the questions asked. Indirectly, this can make the data we obtain less accurate and irrelevant.

Finally, researchers also need to be aware of the limitations of this study because this may also have some impact on our research project. Despite all the limitations of the study mentioned above, this study has expanded the body of knowledge in green entrepreneurship and sharing economy.

5.6 Recommendation/Suggestions for Future Research

In conducting a study, researchers faced various challenges in completing this study. Through this study, researchers would like to suggest some recommendations and alternatives for future researchers. First recommendation for future research is increase the independent variable in their study so that they can know more factors that influence someone to utilize in the program and, get more information and broader knowledge in producing the research being studied. Not only that, researchers in the future can also find articles related to the research topic to obtain independent variables and make references in support of the research being conducted so that it is more trusted by readers.

The second recommendation for future research is respondents must have sufficient understanding of the chosen topic. This is because if the respondents do not have knowledge about the research topic, the respondents will answer the questionnaire inaccurately. Therefore, the researcher should find respondents who have basic knowledge about the research topic because respondents who have a basic knowledge will provide more valuable opinions to the researcher that can help the researcher obtain accurate results than those who do not have basic knowledge. These respondents' responses will also yield more trustworthy outcomes.

In addition, the data collection method is done using Google Forms. As a result, due to not all respondents are committed to answering the questionnaire, data obtained may not be very accurate. Therefore, the researcher would like to give a third recommendation to future researchers, which is to distribute questionnaires form face to face. In this way, the researcher can explain the questions in the questionnaire to the respondents more clearly, this can improve the respondents' understanding. As a result, the researcher will obtain good results to complete this study. Moreover, the researcher needs to create a simple questionnaire

to facilitate the respondents to understand each question because difficult questions can lead to difficult data interpretation.



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5.7 Overall Conclusion of the Study

This research has been carried out to give a proper analysis of the variables influencing the impact of cost saving, time saving, convenience and environmentalism towards the intention to utilize the Collaborative Vehicle Program in Malaysia. According to the analysis findings, all the independent variables included in this study are cost saving, time saving, convenience and environmentalism towards the intention to utilize the Collaborative Vehicle Program in Malaysia.

The result of this study also showed a positive relationship between the dependent variable and independent variables. However, the current study produced a few theoretical advances since it demonstrated that Malaysian intention to utilize this program might vary based on the cost, time, and convenience, which would result in a range of behaviors. Therefore, this study describes four independent variables which, cost saving, time saving, convenience and environmentalism that can influence the Malaysian intention to utilize in Collaborative Vehicle Program.

The most factor that has the biggest impact toward the intention to utilize a collaborative vehicle program is time saving. This is because by using the shared vehicle, it can cut off the possibility of traffic jams. Moreover, when it has a good rating, it can persuade people to try a product or service. So, the result of this study is important for further understanding in intention to utilize the Collaborative Vehicle Program and the effectiveness of the sharing economy. The questionnaire has been distributed to 400 respondents and researchers successfully collected all 400 questionnaires. As a conclusion, all four research objectives were successfully achieved in this study.

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APPENDIX A – DRAFT QUESTIONNAIRE

Section A: Demographic Profile

Instruction: You are required to place a tick at the appropriate answer.

1. Gender

	Male
	Female

2. Age

	Under 18 years old
	18 - 24 years old
	25 – 34 years old
	35 – 44 years old
	45 – 54 years old
	Under 18 years old
	18 - 24 years old
	25 – 34 years old

3. Race

	Malay
	Indian
	Chinese
	Other

1. State

	Perlis
	Kedah
	Pulau Pinang
	Perak
	Selangor
	Negeri Sembilan
	Melaka
	Johor
	Pahang
	Terengganu
	Kelantan
	Sabah
	Sarawak

2. Residential Area

	Urban
	Sub-Urban
	Rural Resident

3. Employment status

	Employed
	Self-employed
	Unemployed
	Student
	Retired

Section B: Dependent Variables

Instruction: This section will measure the intentions to Utilize Collaborative Vehicle Program among Malaysian Residents Please mark your answer based on the scale from 1 to 5.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

DV: Intentions to Utilize Collaborative Vehicle Program

No.	Statement	1	2	3	4	5
1.	I am familiar with the concept of Collaborative Vehicle Programs					
2.	I am highly motivated to explore and use Collaborative Vehicle Programs as part of my transportation					
3	I plan to incorporate Collaborative Vehicle Program into my regular transportation routines, such as for daily commuting or errands					
4	I have access to my own vehicle, yet I am still enthusiastic about consistently using Collaborative Vehicle Program services					
5	I perceive Collaborative Vehicle Programs as a cost-effective and practical alternative to owning a personal vehicle, and I intend to explore them further.					

Section C: Independent Variables

Instruction: This section will measure the relationship between Malaysian residents' intentions to Utilize Collaborative Vehicle Program with the factor such as cost saving, time savings, convenience and environmentalism. Please mark your answer based on the scale from 1 to 5.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

IV1: Cost-Savings

No.	Statement	1	2	3	4	5
1.	Using Collaborative Vehicle Programs in the sharing economy is a much cheaper transportation option compared to owning a personal vehicles					
2.	The idea of savings money through Collaborative Vehicle Programs is a primary motivator for me to consider using them as a transportation solution					
3	I am willing to go out of my way or change my travel plans to save money by using Collaborative Vehicle Programs					
4	I regularly track and calculate the cost savings I achieve by using Collaborative Vehicle Programs compared to traditional vehicle ownership					
5	I believe that Collaborative Vehicle Programs can help me reduce my overall transportations expenses					

IV2: Time-Savings

No.	Statement	1	2	3	4	5
1.	Collaborative Vehicle Programs in the sharing economy help me save a significant amount of time compared to owning a personal vehicle.					
2.	The ability to quickly access collaborative vehicles in my area is an essential feature for me when considering transportation options.					
3	I prioritize collaborative vehicle options that allow me to reduce delays in my daily schedule.					
4	Using Collaborative Vehicle Programs often enables me to reach my destination more quickly than other transportation methods.					
5	I believe that using Collaborative Vehicle Programs allows me to better manage my schedule.					

IV3: Convenience

No.	Statement	1	2	3	4	5
1.	Collaborative Vehicle Programs are a convenient way for me to access transportation when I need it.					
2.	I find the booking and reservation process for Collaborative Vehicle Programs to be hassle-free and user-friendly.					
3	The availability of collaborative vehicles in my area makes it easy for me to choose this transportation option when necessary.					
4	I consider the flexibility of Collaborative Vehicle Programs, such as being able to pick up and drop off vehicles at various locations, to be a major convenience.					
5	The convenience of not needing to worry about vehicle insurance and related paperwork in Collaborative Vehicle Programs is a significant advantage.					

IV4: Environmentalism

No.	Statement	1	2	3	4	5
1.	I am more inclined to use Collaborative Vehicle Programs because they are considered a more environmentally friendly transportation option.					
2.	Environmental concerns and the desire to reduce my carbon footprint are important factors when I choose transportation methods.					
3	The awareness of Collaborative Vehicle Programs' potential to decrease traffic congestion and lower carbon emissions positively influences my transportation choices.					
4	I would be willing to pay a slightly higher price for using Collaborative Vehicle Programs if it means supporting a more eco-friendly transportation option.					
5	I consider the reduction of urban traffic and congestion as a positive environmental impact of Collaborative Vehicle Programs.					

APPENDIX B – GANTT CHART

Monthly Research Activities	OCT	NOV	DIS	JAN
PPTA 1 and PPTA 2 briefing				
CHAPTER 1: INTRODUCTION				
Starting up and progressing with chapter 1				
Submission and do correction of chapter 1				
CHAPTER 2: LITERATURE REVIEW				
Starting up and progressing with chapter 2				
Submission and do correction of chapter 2				
CHAPTER 3: RESEARCH & METHODOLOGY				
Starting up and progressing with chapter 3				
Submission of first draft chapter 1, 2, 3				
Do correction on the chapter 1, 2, 3				
QUESTIONNAIRE				
Build questionnaire based on IV and DV				
Submission of questionnaire first draft				
SUBMISSION OF PPTA 1				
PRESENTATION FOR FINAL YEAR RESEARCH PROJECT 1				
Do correction on the chapter 1, 2, 3				
FINAL SUBMISSION OF PPTA 1				
Correcting and distribute the questionnaire				
Collected the first 30 data for pilot test and correction after pilot testing				
Distribution of the questionnaire and collect data				
CHAPTER 4: DATA ANALYSIS AND FINDINGS				
Using SPSS for analysis				
Starting up and progressing with chapter 4				
CHAPTER 5: DISCUSSION AND CONCLUSION				
Starting up and progressing with chapter 5				
Research paper, Colloquium Poster presentation, Physical Presentation				
FINAL SUBMISSION FULL PPTA 2				