INCORPORATE ENVIRONMENTAL, SOCIAL AND GOVERNANCE INITIATIVES IN COMMERCIAL PROPERTY VALUATION: A CASE STUDY OF KLANG VALLEY, MALAYSIA

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DECLARATION

I hereby declare that:

1.This Research Project is the end result of my own work and that due acknowledgement has been given in the references to all sources of information be they printed, electronic, or personal.

2.No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

3.The word count of this research report is 18261.

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Lastly, I would like to thank my family and friends for their understanding, patience, and encouragement throughout this research journey. Their unwavering support has been a constant source of motivation for me.

Thank you all.

DEDICATION

This research is dedicated to my beloved family, whose unwavering support and encouragement have been my guiding light and strength throughout this challenging journey.

To my father and mother, your love, guidance, and unwavering belief in me have been the foundation upon which I have built my aspirations and achievements. Your sacrifices and selflessness have always inspired me to persevere and strive for excellence.

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ABSTRACT

In recent years, there has been a growing recognition of the importance of Environmental, Social, and Governance (ESG) factors in the valuation of commercial properties. These factors, which encompass a wide range of issues such as energy efficiency, carbon emissions, social impact, and corporate governance, are increasingly being considered by investors, regulators, and society at large.

However, despite the increasing emphasis on ESG considerations, incorporating these factors into commercial property valuation presents several challenges. These challenges can range from data availability and quality issues to the lack of standardized methodologies and frameworks for valuing ESG initiatives.

This research seeks to explore the challenges faced by property valuers in incorporating ESG initiatives into commercial property valuation. By examining these challenges, this study aims to contribute to the growing body of knowledge on the valuation of sustainable buildings and to provide insights that can help property valuers, investors, and policymakers navigate the complexities of incorporating ESG factors into commercial property valuation.

Through a qualitative approach, specifically Grounded Theory (GT), this research aims to identify the challenges faced by valuers in considering ESG factors in commercial property valuation in Malaysia and Poland. By adopting a flexible and open-minded approach, this study seeks to uncover the underlying issues and complexities that may not be apparent in a more structured research design.

It is my hope that this research will not only contribute to the academic literature but also provide practical insights that can help improve the integration of ESG factors into commercial property valuation practices.

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LIST OF ABBREVIATION

ESG	Environmental, Social & Governance
GBI	Green Building Index
LEED	Leadership in Energy and Environmental Design
BREEAM	Building Research Establishment Environmental Assessment Methodology
RICS	Royal Institute of Chartered Surveyors
BOVAEAP	The Board of Valuers, Appraisers, Estate Agents and Property Managers
RISM	Royal Institute of Surveyors Malaysia
MVS	Malaysian Valuation Standard
IVSC	International Valuation Standard Council

CHAPTER 1

INTRODUCTION

1.1 Research Background

In recent years, there has been a noticeable shift in the business landscape towards recognizing the significance of Environmental, Social, and Governance (ESG) factors. This paradigm shift reflects a broader global trend towards sustainability, which is increasingly becoming a focal point in discussions across various sectors. The commercial real estate industry is not immune to these changes and is experiencing a similar transformation (IVSC, 2021).

ESG (Environmental, Social, and Governance) factors play a significant role in the real estate industry, shaping investment decisions, property development practices, and asset management strategies. Here's a detailed elaboration on each component of ESG in real estate.

Environmental considerations in real estate focus on the impact of properties on the natural environment and climate change. The ESG attributes in real estate are energy efficiency, water efficiency, waste management, and carbon footprint. Real estate developers and investors are increasingly incorporating green building practices, such as LEED certification or BREEAM, to reduce environmental impacts and enhance sustainability (Robinson & McIntosh, 2022).

Social aspects of ESG in real estate encompass the impact of properties on communities and society at large. This includes factors such as health and well-being, social equity, diversity and inclusion, and community engagement. Real estate developers are paying more attention to creating inclusive and healthy spaces that contribute positively to the well-being of occupants and the surrounding community (Robinson & McIntosh, 2022).

Governance in real estate refers to the systems and processes that govern the management and operation of properties. This includes factors such as transparency,

accountability, ethics, and compliance with regulations. Good governance practices are essential for ensuring that real estate investments are managed responsibly and in alignment with stakeholders' interests (Robinson & McIntosh, 2022).

The integration of ESG initiatives in commercial property valuation represents a significant development in the real estate sector. It offers various opportunities for stakeholders, including investors, developers, and valuers, to enhance the sustainability and long-term value of their properties. However, this integration also poses several challenges, particularly in terms of accurately valuing ESG initiatives and incorporating them into traditional valuation practices.

This research aims to delve into these challenges and explore the complexities involved in incorporating ESG initiatives into the commercial property valuation process. By doing so, it seeks to provide valuable insights into the evolving dynamics of the real estate industry and contribute to the development of more sustainable and resilient valuation practices. Overall, this research is timely and relevant, given the increasing importance of sustainability in the real estate sector. It has the potential to inform industry practices, guide policy development, and shape future research in this critical area.

1.2 Problem Statement

In the new decade, there is an increasing global awareness and investment in Environmental, Social, and Governance (ESG) initiatives in real estate (Newell, Nanda & Moss, 2023; IVSC, 2021). This change is indicative of a greater understanding of the significance of sustainability and ethical corporate conduct in the real estate sector. However, despite this global trend, the commercial property valuation practices in Malaysia and Poland have yet to fully incorporate these elements (Jasimin & Ali, 2015; Abdullah, Mohd, Pin, & Ahmad, 2018; Kucharska-Stasiak & Olbińska, 2018). This lag in adoption may be attributed to various factors, including a lack of awareness, limited availability of data, and the absence of clear guidelines or standards for valuing ESG attributes in these countries.

In developed countries, there is evidence highlighting the economic benefits of green buildings and the establishment of international guidelines for valuing sustainability attributes (Cioraa, Maier & Anghel, 2016; Leskinen, Vimpari & Junnila, 2020). These countries have made significant strides in incorporating ESG elements into property valuation practices, driven by factors such as regulatory requirements, investor demand, and a growing recognition of the long-term value of sustainable buildings. However, the challenges faced by valuers in Malaysia in integrating ESG elements into commercial property valuation remain unclear.

The lack of clarity surrounding these challenges underscores the need for further research and understanding in this area. Addressing these challenges is crucial for Malaysia and other developing countries to fully realize the potential benefits of incorporating ESG elements into property valuation practices. This includes enhancing valuers' knowledge and skills in assessing sustainability attributes, improving data availability and quality, and developing clear guidelines and standards for valuing ESG elements in commercial property.

This qualitative study, using grounded theory, aims to identify and develop a framework of challenges that valuers encounter when considering ESG initiatives in commercial property valuation in Malaysia. By understanding these challenges, this research seeks to contribute to the advancement of ESG integration in commercial property valuation practices in developing economies.

1.3 Research Questions:

The study will be guided by the following research questions:

- What are the challenges faced by property valuers when valuing ESG initiatives in commercial building?
- What strategies or methods do property valuation professionals employ to address or overcome these challenges?

1.4 Research Objectives:

The main objectives of this research are as follows:

- To investigate the challenges associated with the integration of ESG initiatives in commercial property valuation
- To explore potential strategies or approaches that professionals use to mitigate these challenges.

1.5 Significant of Study

This research will contribute to the existing body of knowledge by addressing the challenges faced in the incorporation of ESG factors into the commercial property valuation process. The findings will provide insights into the practical difficulties that can influence property valuations and decision-making in the real estate industry. Additionally, the study

may uncover effective strategies used by professionals to mitigate these challenges, which could inform best practices in property valuation.

Overall, valuation is essential in the real estate industry for various reason, and its significance is increased in light of the ESG (Environmental, Social, and Governance) revolution. First, it plays a pivotal role in investment decision-making, enabling investors and stakeholders to assess the financial viability of real estate assets. By providing insights into a property's value, valuation helps stakeholders make informed choices about buying, selling, or holding assets, thereby influencing the allocation of capital within the industry. It may incentivize the development of ESG-compliance buildings.

Second, valuation is crucial for risk management, as it allows stakeholders to evaluate and mitigate financial risks associated with real estate investments. Understanding the value of a property helps in assessing the potential impact of market fluctuations, economic downturns, and other risks, enabling stakeholders to make strategic decisions to protect their investments.

Third, valuation is essential for financial reporting purposes, providing a basis for determining the value of real estate assets for balance sheets, financial statements, and regulatory compliance. Accurate valuation ensures transparency and accountability in financial reporting, helping stakeholders make sound financial decisions.

In the context of ESG transformation, valuation takes on added significance. ESG factors such as energy efficiency, carbon emissions, social impact, and governance practices are increasingly important considerations in real estate valuation. Valuers must incorporate these factors into their assessments to ensure that the value of sustainable real estate assets is accurately reflected. This approach not only helps in promoting sustainability but also enhances market perception and demand for properties with strong ESG performance.

1.6 Outline of the Research

There is total of five chapters in this research report. The first chapter of this research acts as an introduction to the study by giving a thorough summary of the research background, placing the study in context, laying out the research objectives, and defining the scope of the investigation. This chapter provides a clear grasp of the goal and significance of the study on primary challenges of professional valuers in valuing new property development in Klang Valley by laying the groundwork for the research. This chapter also prepares the reader for the

upcoming chapters. The second chapter presents a thorough analysis of the existing literature with a focus on the challenges encountered in valuing ESG initiatives in commercial valuation.

Subsequently, the third chapter will describe the study's methodology, research design, and overall plan. The study employs a qualitative research methodology and takes an exploratory approach. The challenges and impact of property valuation in new property development, can be thoroughly explored and analysed using a qualitative approach. The semi-structured one-on-one interview has been selected as the main data collection technique for this study. This strategy enables rich discussion and insightful understanding of the experiences and viewpoints of participants.

Key participants will be interviewed during the semi-structured interviews, entailing registered valuers and other experienced probationary valuers. The interviews will be steered by pre-planned questions based on themes, but with room for exploration to elicit more in-depth responses. This method allows for participant input to create a thorough understanding of the research topic while ensuring consistency and systematic data collection. To analyse and interpret the interview transcripts, thematic analysis will be used to find recurrent themes and patterns in the data. This will help to create a rich and nuanced understanding of the cost differences and associated factors in the construction of green office buildings.

Next, the fourth chapter outlines the research findings and discussion from thematic analysis. The data gathered from interviews and other sources is examined to explore potential strategies or approaches that professionals use to mitigate the challenges in valuing new property development. Through a systematic analysis of qualitative data, the chapter provides insights into the challenges and recommendations to incorporate ESG initiatives in commercial property valuation.

The final chapter five, a succinct summary of the key findings from the research is given. The study's limitations are acknowledged, providing information about possible areas for additional research and development. The industry is given recommendations based on the findings, providing helpful advice on fostering the adoption of green office buildings and addressing the cost disparities. The chapter's final remarks emphasize the importance of the study's findings and their potential effects on Malaysia's real estate development industry especially the green office building.

CHAPTER 2

LITERATURE REVIEW

2.1 Environmental, Social and Governance

2.1.1 Definition of Environmental, Social and Governance (ESG)

ESG stands for environmental, social and governance. In 2004, the Swiss Federal Department of Foreign Affairs and the United Nations released a report titled "Who Cares Wins,", which is widely recognized as the initial mainstream reference to ESG (Environmental, Social, and Governance). The objective of this report was to incorporate ESG factors into investment decisions, with an initial emphasis on the financial market. It aimed to capture the interest of financial advisors and asset managers, urging them to give due consideration to ESG considerations (Who Cares Wins, 2004).

According to Morrison (2021), investors use environmental, social, and governance (ESG) metrics to assess the sustainability and risk of their investments. Environmental factors include issues related to global warming, energy consumption, and pollution. Social factors encompass how a company treats its employees, health and safety practices, and community engagement. Governance factors involve business ethics, board composition and independence, executive pay practices, and accounting standards.

2.1.2 ESG regulatory framework

ESG regulations are government initiatives for ESG-related actions, reporting, and disclosures. It is a framework for assessing an investment's and company's ethical implications and sustainability. With the government’s initiative, the ESG regulatory framework is developing and implementing around the world. In 2021, the European Union required ESG reporting for finance and investment market participants through “The Sustainable Finance Disclosure Regulation” (SFDR) (European Commission, n.d.). In 2022, the SEC of US proposed to require public companies to provide climate disclosures (SEC, n.d.). In Malaysia, Bursa Malaysia has issued a notice on mandatory enhanced sustainability reporting requirements for listed companies on the Main Market and ACE Market since 2022. Following

by end of December, Bursa Malaysia launched its ESG Reporting Platform, marking a significant advancement in mandatory environmental, social, and governance (ESG) reporting (Bursa Malaysia, 2023).

The growing focus on sustainability has prompted numerous countries to implement regulatory frameworks related to Environmental, Social, and Governance (ESG) considerations. These frameworks are designed to govern and shape financial investments by evaluating the ESG performance of companies. In fact, more than 18 trillion US dollar is held in investment funds that prioritised ESG considerations (Gelles, 2023).

2.2 ESG and Real Estate

2.2.1 How ESG affect Real Estate Development

ESG factors are increasingly influential in the decision-making processes of real estate investors, especially concerning climate risk management, resilience, zero carbon goals, and water, energy, and waste management. Consequently, these factors significantly affect the investment value of real estate assets (Newell, Nanda & Moss, 2023).

According to *Perspectives Paper: ESG and Real Estate Valuation* published by IVSC (2021), it explored the quantification of Environmental, Social, and Governance (ESG) factors within valuations of real estate assets, reflecting the evolving understanding of how ESG impacts real estate markets. As ESG developed, future capital flows are expected to be increasingly directed toward sustainable real estate as capital markets are increasingly recognizing ESG in their decisions.

Investment in sustainability in real estate is constrained by a lack of evidence linking sustainability to property market value. Although evidence is growing and being analyzed, it is not yet reflected in valuations. Valuers is the key in reporting asset values, but they fail to consider sustainability in valuations (Scherrenberg et al., 2024).

2.2.2 Consequence of non-ESG valuation: Carbon Bubble

According to Marshall (2023), lenders, auditors, and investors are increasingly complaining that real estate valuers are taking too long to include environmental, social, and governance (ESG) considerations in their work. Valuers in the majority of markets, however, still lack the information and proof necessary to accurately assess and account for ESG risk.

There is concern that a carbon bubble may develop if these ESG considerations are not taken into account when valuing properties This effectively implies that property values do not

account for the costs and rewards of decarbonization, nor do they account for other transitory risks like failing to achieve market standards or expectations for ESG performance or non-compliance with impending regulations. If this carbon bubble is allowed to expand too much and be noticed too late, there is a risk that it may cause abrupt price changes and market shock.

A valuer's concern is that if values do not sufficiently account for the physical and transitional hazards related to ESG and climate change, they may lose their credibility.

Insufficient evidence of market participants taking comparable risks prevents the valuer, even when they are aware of sustainability problems, from taking them into account in a valuation based on market value or fair value.

Lenders' capacity to underwrite risks associated with ESG is so hampered. Despite their capital investment, real estate owners who are raising the ESG credentials of their properties' valuers won't see a corresponding increase in value. They may become reluctant to make changes or fully integrate sustainability into their pricing strategies as a result, which results in a dearth of market data.

2.2.3 Brown Discount

Globally, the international investors are aware of the risks and opportunities arised in the transition to green buildings. Non-compliance to ESG considerations will result in depreciation of building value, known as “brown discount”. Investors need to response quickly to evaluate and mitigate exposure to "brown discounting" in their real estate portfolios. Simultaneously, they should capitalize on the advantages of "green premiums." These moves provide an effective ESG strategy in the real estate sector.

According to a Deepki survey conducted in 2021 among 250 European pension funds, 40% of participants reported experiencing depreciation of between 21% and 30% as a result of brown discounts on commercial property assets. These discounts indicate low ESG compliance and deferred maintenance risk, which may necessitate further capital expenditure for improvements. A further 21% of assets saw a depreciation of 11–20%, while 18% experienced a depreciation of up to 31–40%.

According to the report, over the next three years, brown discounting's influence is expected to grow dramatically. 62% of European pension funds predict further harm; 37% estimate asset devaluations of another 31–40%, and 24% anticipate reductions of 21–30%.

2.2.4 Green Premium

A review empirical research of over 70 peer-reviewed studies has shown that green certificates positively affect the cash flows and values of professionally managed income-generating commercial investment properties. Properties with green certificates were found to have higher rental levels, higher occupancy rates and lower operating costs compared to non-certified properties. These improvements in cash flow indicators, together with reduced risk and the positive perception associated with green credentials, contributed to the increased values and improved sales prices of these properties (Leskinen, Vimpari, & Junnila, 2020).

According to Ormond (2021), research from Knight Frank covering prime real estate in London, Sydney and Melbourne found an 8–18% sales price premium for green certified buildings rated by BREEAM or NABERS, compared with conventional building.

There is a meta-analysis conducted on 42 studies that examine the relationship between energy-efficiency and property prices in US and other countries. Green building experience positive impacts on their prices in both the rental and sales markets. The rental premium is 6% and sales premium is 7.6% (Dalton & Fuerst, 2018).

In a study by Su & Li (2020), Green Building have premium market price. For green certification, LEED has a positive impact of 9.94% on price per square foot, while Energy Star certification has an impact of 5.76% on price per square foot.

According to Halim (2012), in Malaysia, green office buildings command higher rental rates, ranging from RM0.50 to RM2.25 per square foot, and experience higher rental growth, ranging from RM0.50 to RM1.00 per square foot, compared to conventional buildings. Green office buildings also offer advantages in terms of operating cost savings compared to conventional buildings. However, the potential increase in sales prices and valuation has not been conclusively demonstrated, as the green office building market is still emerging.

2.3 ESG in Real Estate: Green Building Certification System

In recent times, various countries have witnessed an increasing adoption of government-mandated environmental rating systems. In real estate industry, there has been a rise in the prominent certification pathways for buildings, exemplified by BREEAM in the UK, Green Star in Australia and LEED in the US (Dalton & Fuerst, 2018).

The Green Building Index (GBI) is Malaysia's recognized green rating tool for buildings, aimed at promoting sustainability in the built environment. In 2008, Malaysian Institute of Architects (PAM), set up the Green Building Index to provide a localised Green Building rating tool for Malaysia's real estate industry (Green Building Index, n.d.).

GreenRE was established by Malaysia's Real Estate and Housing Developers Association (REHDA) in 2013 to advocate for sustainability within the Malaysian property sector. The organization pursues its objectives through three primary methods: green building certification and rating, training and awareness programs on green building practices, and research and development initiatives. As a green building certification body, GreenRE rating tools are aligned to WGBC's Quality Assurance Guide for Green Building Rating Tools.

According to Warren-Myers (2022), it is essential to recognize that the primary responsibility of a valuer is to assess the market value, rather than attempting to influence market behaviour or determine what the market should pay. Their role is to accurately reflect the value of the asset within the current market conditions, which is why the definition of market value revolves around the concept of a hypothetical sale scenario involving a willing buyer and willing seller. Therefore, valuers must take into account how sustainability factors influence the decision-making of market participants and validate their assessments using market evidence.

2.4 Valuation Body, RICS & BOVAEAP

The Royal Institution of Chartered Surveyors (RICS) is an internationally recognized professional organization that sets and enforces standards and regulations related to the built environment. In December 2021, RICS had issued the third edition, *Sustainability and ESG in commercial property valuation and strategic advice*, a global Guidance Note. It provides a guidance to global RICS valuation members for valuing commercial property, non-domestic real estate which utilized for business operations and leased or purchased in the market. It reflects the sustainability and ESG factors in commercial property valuation by considering the valuation methods, potential risks and market factors (RICS, 2021).

The latest publish of RICS, "the future of real estate valuations: the impact of ESG", highlights the increasing importance of sustainability, resilience and ESG factors in property valuation. It recommends valuers to consider ESG regulatory and legislative framework, and to aware of certification, rating and benchmarking systems. ESG factors play a crucial role in

evaluating properties, as in leasing and finance, which may influence their market value, risk profile and cash flow (Scherrenberg et al., 2024)

Valuation is one of the professional services recognised in Malaysia. It is governed by a statutory body, BOVAEAP. Under the direction of the Malaysian Ministry of Finance, the Board of Valuers, Appraisers, Estate Agents, and Property Managers (BOVAEAP) was established in 1981. The Valuers, Appraisers, Estate Agents and Property Managers Act 1981 (Act 242) governs the establishment and functioning of this Board (BOVAEAP, n.d.). In the Act, it defined a Valuer as a person who is a registered valuer or a registered appraiser with the Board of Valuers, Appraisers and Estate Agents Malaysia. Valuers provide the services in term of property values and professional advice on real estate valuation of land, buildings, plants and machineries, and business in Malaysia.

The Board has issued the 6th Edition of the Malaysian Valuation Standards (MVS) in December 2018. The standard provides a mandatory guideline for the valuers in Malaysia.

According to Abdullah, Mohd, Pin, & Ahmad (2018), Valuers are professionals who specialize in evaluating and providing advice on the value of real estate. This profession is integral to the real estate development process, as valuers assess not only the value but also the feasibility of proposed developments. The establishment of a recognized "green premium" would likely incentivize increased construction of green buildings.

Valuers need to assess how green building design and construction impact a property's value. Their role is to determine if a building with sustainable features holds greater value in its market compared to a traditional building. Appraisers should inquire whether the market acknowledges the value of sustainability in a building (Pitts & Jackson, 2008).

To create reliable valuations for green buildings, appraisers need to assess each market properly. Accurately completed green fields in reputable databases are necessary for market measurement. Prices paid for properties are set by the market, and appraisers base their values on those stated market prices (Adomatis, 2015).

2.5 Valuation Methods & ESG

In the 6th Edition of the Malaysian Valuation Standards (MVS), it has outlined the three valuation approaches that are consistent with the International Valuation Standards Council and most major valuation standard globally. The approaches are the Comparison Approach, the Cost Approach, and the Income Approach (LPPEH, 2019).

2.5.1 Comparison Approach

The comparison approach, also known as the sales comparison approach or market approach, is a method used in real estate valuation to estimate the value of a property by comparing it to similar properties that have been recently sold. This approach relies on the principle of substitution, which suggests that a buyer will pay no more for a property than the cost of acquiring a similar property with similar utility (Cupal, 2014).

Comparison Approach is challenging in valuing ESG in real estate. At this early stage of market recognition and adoption of ESG practices, there is a lack of full transparency regarding ESG characteristics for buildings. This lack of transparency makes it challenging to find comparable market transactions reflecting full ESG adoption, which in turn affects the application of the Sales Comparison Approach (IVSC, 2021).

When valuing a green building, the Valuer compares it to other green buildings, adjusting for differences in features. This method can also be used for assessing the rental value of green buildings. However, finding comparable properties can be challenging, and adjustments must be made to reflect differences in green features (Pitts and Jackson, 2008; Wan Ismail & Abdul Majid, 2014).

2.5.2 Cost Approach

According to Liberto (2021), the cost approach is based on the principle of substitution, which suggests that a buyer would not pay more for a property than the cost of acquiring a similar property with similar utility. In the cost approach, the value of a property is estimated by calculating the cost of reproducing or replacing the property, taking into account depreciation. The cost of reproduction refers to the cost of building an exact replica of the property, while the cost of replacement refers to the cost of building a similar property with the same utility but using modern materials and construction methods.

The Cost Approach is challenging to apply to green building valuation due to limited information about the costs associated with green features. This method also struggles with determining accrued depreciation (Pitts and Jackson, 2008; Wan Ismail & Abdul Majid, 2014).

2.5.3 Income Approach

The income approach, also known as the income capitalization approach, is a method to estimate the value of a property based on its income-generating potential. This approach is

commonly used for valuing commercial properties such as office buildings, shopping centers, and apartment complexes. The income approach relies on the principle that the value of a property is directly related to the income it can generate. The basic idea is that an investor would be willing to pay a certain price for a property based on the income it is expected to generate in the future (Munari & Oriani, 2011).

According to IVSC. (2021), the Income Approach, which includes consideration of rental income, vacancy, operating expenses, and the Discounted Cash Flow (DCF) method, which allows for the transparent projection of expected trends in income and expenses, are discussed as methods that can help valuers account for ESG factors in real estate valuations.

The income capitalization approach offers a structured method for valuing a green commercial building. Green features can lead to lower operating expenses, including energy, maintenance, water, legal, and insurance costs, thus boosting net operating income. The impact of green design on market rent and vacancies is more debated. Green buildings may rent or sell faster and at higher rates than conventional ones, potentially influencing capitalization rates (Pitts & Jackson, 2008).

Income method is an appropriate valuation method to be used in valuing green building, as DCF method would captured the value changes in cash flow forecast. The income method directly considers rental, operating costs, and capitalization and discount rates influenced by green features (Wan Ismail & Abdul Majid, 2014).

The risk premium in the capitalization and/or discount rates, as well as the cash flow variables, are the primary valuation-input factors in the DCF analysis. The primary input variables for valuation, namely risk premium and cash flow, are dependent on multiple sub-analyses. These sub-analyses include the assessment of sustainable building features, the property's potential for risk avoidance due to sustainability features, and the risks associated with location, subject features, and market conditions (Wan Ismail & Abdul Majid, 2014).

Both investor-specific inputs and information received from the market are used to determine the valuation input parameters that determine value. "For a value calculation, investors will often have previously established suitable discount rates, or target rates. Consequently, the valuer assumes an advising function, assisting investors in determining a suitable discount rate that both represents the investor's expectations, interests, and preferred level of risk and pays the investor for the risks assumed. Because of this, the valuer has to be completely aware of the potential for sustainable buildings to reduce risk and, conversely, of

the increased hazards connected to conventional or unsustainable structures (Lorenz & Lutzkendorf, 2008).

According to Lorenz & Lutzkendorf (2011) & Lorenz & Lutzkendorf (2008), adjusting single valuation variables in the income approach is considered the most effective and consistent method for incorporating sustainability into the valuation process. These variables include gross or net rents, risk premiums in discount and capitalization rates, maintenance costs, capital expenditures, lease terms, growth rates, marketing costs, marketing time frames, and depreciation. The primary valuation variables in these methods are the risk premium used to calculate capitalization and/or discount rates, as well as the property's cash flow and net income.

These adjustments should be clearly explained and justified in the valuation report. However, this approach is also the most complex and labor-intensive for individual practitioners. It requires identifying cause-and-effect relationships between sustainability-related building characteristics and valuation variables. Additionally, the strength of these relationships must be determined through sustainability sub-analyses and analyses of local conditions, market responses, actions, developments, and the broader market environment. To implement the approach, it required informational database and the "manual preconditions" for the adjustment of single valuation-input parameters (Lorenz & Lutzkendorf, 2011).

The valuer should take into account the following input variables in the DCF for a property with sustainability aspects: potential gross income, vacancy and collection loss, operational expenses, capitalization rate, and discount rate.

In real estate industry, the ESG regulatory framework will influence investment approaches as they may affect the potential rental and capital growth, and susceptibility to obsolescence. Some investors, occupiers and lenders may have to comply with ESG requirements in order to transact (RICS, 2021).

2.6 Challenges to incorporate sustainability in Valuation in Malaysia

Limited Knowledge & Skill

One major obstacle to integrating green elements into the valuation process is the lack of knowledge and expertise to accurately report on them. There is a need for valuers to have the capacity, expertise, and experience to include sustainability in the valuation process (Abdullah, Mohd, Pin, & Ahmad, 2018).

According to an early survey, just 5% of Malaysian valuers have excellent knowledge of green building, while 90% have either fundamental or poor understanding. 80% of the respondents are unaware of the different green building input criteria or how to modify them to accurately account for the value of sustainability characteristics throughout the assessment process (Jasimin & Mohd, 2015).

According to Wan Ismail & Abdul Majid (2014), many valuation professionals in Malaysia lack exposure to and experience in valuing green buildings, and there is limited data available regarding green building rental or sale comparable in the market. These factors contribute to a lack of skills, experience, and data in valuing green buildings.

Another study has found that the valuer's challenges to include sustainability factors into valuation practice include lack of expertise on sustainability and lack of education and training (Hossain et al., 2023).

Lack of Awareness in "green" valuation

The lack of existing sustainability-related valuation practice heuristics (as rated by 85% of respondents) is another aspect that adds to the final barrier to adding green characteristics into the process. This was due to the fact that the valuers used the same market evidence and assessed the green property similarly to the conventional building. 80% of the respondents are unaware of the different green building input criteria or how to modify them to accurately account for the value of sustainability characteristics throughout the assessment process. (Jasimin & Mohd, 2015).

UK valuer is lack of data collection on sustainability attributes as they do not perceive a difference between prices for the sustainability attributes in real estate(Hossain et al., 2023).

Lack of Standardisation in Valuing ESG features

According to a study, 65% of respondents agree that there is a lack of a conceptual and standardized approach to valuing green buildings, and 55% of respondents feel that there are insufficiently defined phrases that are pertinent to valuation professionals (Jasimin & Mohd, 2015).

According to (Su & Li, 2020) Sustainability assessment in property valuation, Quantify the effects of sustainable variables on property value. No available sustainable data or criteria and standard information exchange methods.

Rating tools primarily focusing on environmental and social perspectives, rather than a holistic view of sustainability (Abdullah, Mohd, Pin, & Ahmad, 2018).

Lack of Market Evidence

In the Polish real estate market, developers, property owners, tenants, and valuers have limited awareness of the advantages of sustainable buildings. Furthermore, there is a lack of solid market evidence demonstrating these benefits. This low awareness and lack of empirical evidence pose challenges in incorporating sustainability into the valuation process. The valuation concept is based on the idea that sustainability benefits will only be reflected in property values when the market provides concrete evidence of these benefits (Kucharska-Stasiak & Olbińska, 2018).

According to a local research on integration of sustainable factor in the valuation process, 80% of the respondents strongly believe that there is currently no difference in the way green building are valued, and they would base their decision on the same market data. The primary cause is the absence of documentation on lease and sales agreements for green commercial office buildings in Malaysia. However, in the next two to five years, 90% of respondents think that green buildings would produce a better market value than they do currently. (Jasimin & Mohd, 2015).

According to Hossain et al. (2023), the challenges faced by valuers to build sustainability factors into valuation practice include lack of market evidence.

Similarly, when valuing residential green buildings, many Malaysian valuers do not consider green features as a significant factor influencing the property value. This is often due to a lack of empirical evidence or data supporting the impact of sustainability on real estate development, making it challenging for valuers to incorporate sustainability into their assessments (Abdullah, Mohd, Pin, & Ahmad, 2018).

Green investment properties often have limited market transactions, making it challenging to find comparable properties (Pitts & Jackson, 2008).

Valuers rely on market data to determine a property's worth, hence an absence of data implies that the value contributions of green features are not supported. Put another way, while valuing green buildings, valuers have issues with market data, particularly in markets where no green buildings have been traded. Databases are years behind the green building movement (Adomatis, 2015).

Lack of Sustainability Data support

When it comes to the process of property valuation, 55% of respondents agree and strongly agree that information on the energy efficiency (energy performance certifications) of buildings is available in Malaysia, particularly in Kuala Lumpur. But not all property owners are comfortable disclosing financial information about their properties (Jasimin & Mohd, 2015).

Owners and developers are hesitant to share financial data related to green properties (Pitts & Jackson, 2008).

The lack of detailed property performance data hinders the use of advanced valuation methods to provide a more scientific basis for rate adjustments (Lorenz & Lutzkendorf, 2008).

Private databases make appraising green buildings difficult. Databases of every property that has been graded are available from many of the green certification organizations, however the majority of those organizations see this data as confidential and not intended for public use (Adomatis, 2015).

Assessing and comparing sustainability attributes of Comparable

Valuers face challenges in incorporating sustainability from the outset, starting with how to effectively assess and compare sustainability attributes across different buildings. This assessment must then be reflected in the various variables that valuers consider, such as gross or net rents, occupancy/vacancy rates, outgoings, rental growth, capitalization rates, and terminal yields, among others (Abdullah, Mohd, Pin, & Ahmad, 2018).

The complexity of sustainability assessment and comparison often presents significant challenges, as it goes beyond simply assigning a single numerical value or star rating (Warren-Myers, 2022).

Valuers face challenges in determining which property is more environmentally friendly than another in valuations. The lack of a realistic benchmark is cited as a major obstacle to incorporating sustainability into valuations. One valuer mentioned the difficulty in providing a definitive answer, as each case is unique and assessed on its own merits. In some instances, no change is suggested, but adjustments could be considered if a property's environmental performance is exceptionally poor (Hossain et al., 2023).

A building can have various green design features, even without official certification. Adjustments in valuation need to consider these differences, similar to adjustments made for other property characteristics (Pitts & Jackson, 2008).

Assessing the impact of sustainability towards the valuation variables

One of the challenges for individual valuer is how to clearly state these assumptions and how to recognize, assess, and value new factors that influence value (e.g., the brand value of a sustainable building certificate) that were previously not considered by valuation professionals. In particular, for local and regional property sub-markets, quantitative studies are necessary to minimize the numerical range for valuation-input variables across various property kinds and geographic locations. They are also necessary to enhance our comprehension of cause-and-effect interactions.

Reflecting sustainability attributes in variables such as gross or net rents, occupancy/vacancy, outgoings, rental growth, capitalization rates, and terminal yields.

Valuers also face challenges in effectively communicating property-specific risks to clients. The valuer's ability to articulate these risks and their impact on capitalization or discount rates is crucial for ensuring the credibility, transparency, and usefulness of the valuation report (Lorenz & Lutzkendorf, 2008).

Require extra work

A complex valuation exercise deserves a competent valuer, a sufficient amount of time for research and development, and a compensating fee with the time involved in the assignment (Adomatis, 2015).

The requirement to compile a new list of information for valuation purposes that includes both traditional characteristics and variables as well as sustainability issues (Abdullah, Mohd, Pin, & Ahmad, 2018).

2.7 Proposed Framework

Grounded Theory

According to Khan (2014), grounded theory is a qualitative research method that emphasises theory building from data rather than testing existing theories or hypotheses. It is a conceptual approach that focuses on collecting and analyzing data to construct theories based on observed patterns, rather than starting with a hypothesis and testing it against the data. Grounded theory is grounded in an inductive approach, which derives theories from observations, rather than a deductive approach, which starts with a hypothesis and tests it against the data.

2.8.1 Challenges to incorporate ESG elements in Valuation in Malaysia

With the grounded theory as a framework, this research intends to analyse and construct the theory of challenges to incorporate ESG elements in commercial property valuation in Malaysia. After conducting literature review, it is observed that the challenges can be classified under three themes, "personal, valuation process and valuation method".

Personal

1. **Limited Knowledge & Skill**: Valuers face a significant barrier in incorporating green factors into the valuation process due to limited knowledge and skills. A preliminary study in Malaysia found that 90% of valuers have partial and limited knowledge of green buildings, and 80% do not know how to adjust input parameters to reflect sustainability benefits correctly (Jasimin & Mohd, 2015). This lack of expertise contributes to the difficulty in valuing green buildings (Hossain et al., 2023).

2. **Lack of Awareness in "Green" Valuation**: Another barrier is the lack of awareness and current heuristics in valuation practice regarding sustainability. Many valuers value green properties similarly to conventional buildings, using the same market evidence. Additionally, UK valuers lack data collection on sustainability attributes, as they do not perceive a pricing differential for these attributes (Hossain et al., 2023).

Valuation Process

3. **Lack of Standardisation in Valuing ESG Features**: There is a lack of standardized and conceptual approach to valuing green buildings, along with a lack of well-defined terms relevant to valuation professionals. Sustainability assessment tools primarily focus on environmental and social perspectives rather than a holistic view, further complicating the valuation process ((Abdullah, Mohd, Pin, & Ahmad, 2018; Su & Li, 2020).

4. **Lack of Market Evidence**: Valuers face challenges in valuing green buildings due to limited market transactions and a lack of solid market evidence demonstrating the benefits of sustainable buildings. This lack of evidence makes it challenging to find comparable properties and incorporate sustainability into valuations effectively (Adomatis, 2015; Jasimin & Mohd, 2015; Kucharska-Stasiak & Olbińska, 2018; Pitts & Jackson, 2008).

5. **Lack of Sustainability Data Support**: There is a lack of detailed property performance data and reluctance from property owners to share financial data related to green properties. This hinders the use of advanced valuation methods and poses challenges in valuing green buildings accurately (Adomatis, 2015; Lorenz & Lutzkendorf, 2008; Pitts & Jackson, 2008).

6. **Difficulties in Assessing and Comparing Sustainability Attributes of Comparable**: Valuers struggle to assess and compare sustainability attributes across different buildings and reflect these assessments in valuation variables. The complexity of sustainability assessment often presents significant challenges in valuing green buildings (Abdullah, Mohd, Pin, & Ahmad, 2018; Warren-Myers, 2022).

7. **Difficulties in Assessing the Impact of Sustainability Towards the Valuation Variables**: Valuers face challenges in assessing the impact of sustainability on valuation variables such as gross or net rents, occupancy/vacancy rates, and capitalization rates. They also struggle to effectively communicate property-specific risks to clients, which is crucial for ensuring the credibility of valuation reports (Lorenz & Lutzkendorf, 2008).

8. **Extra Work Required**: Valuing green buildings requires extra work, including competent appraisers, sufficient time for research and development, and a fee commensurate with the complexity of the assignment. Valuers must compile a new list of information for valuation purposes that includes both traditional characteristics and sustainability issues (Abdullah, Mohd, Pin, & Ahmad, 2018; Adomatis, 2015).

CHAPTER 3

METHODOLOGY

Chapter 3 of the research paper will discuss the study's methodology, covering elements like research design, data collection method, sampling design, research instrument, constructs measurements, data processing, and data analysis. This methodology consists of five stages, starting with a literature review, followed by questionnaire development, data collection, analysis, and presentation of results.

3.1 Research design

The framework that describes the study methodology used to look into an issue and how to get findings is known as the research design. It includes producing qualitative interview data through formal and automated data analysis. Aberdeen (2013) states that the goal of the study design is to avoid using unrelated evidence to address the research question. A Research design is a procedural approach to solve a research problem.

Qualitative research collects the views, behaviors, and experiences of people. Rather of addressing how many or how much, it addresses hows and whys. One of the advantages of qualitative research is its capacity to clarify human behavior patterns and processes, which can be challenging to measure. Experiences, attitudes, and actions are examples of phenomena that can be challenging to precisely quantify; in contrast, a qualitative method enables participants to describe how, why, or what they were thinking, feeling, and experiencing at a particular moment or during an event of interest (Tenny, Brannan & Brannan, 2023).

Since the study emphasizes the opinions and thoughts of valuers rather than numerical analysis, a quantitative research methodology would have been impractical. Additionally, the chosen qualitative approach is effective for studying individuals as it allows the researcher to gain a natural perspective on phenomena within a specific context. This research will use the qualitative research method to identify the challenges to incorporate ESG initiatives in

commercial property valuation in Klang Valley. Data will be collected through interviews with various respondents in the valuation industry in Greater Kuala Lumpur.

Grounded Theory (GT) is chosen for this study because the research area is under-studied and lacks current literature. GT does not use pre-formulated hypotheses or themes, instead relying on the data itself. Researchers must begin the study without any predetermined theoretical assumptions and allow theories and concepts to emerge naturally from the data. Success in GT research requires an open mind and creativity (Bernard, Wutich & Ryan, 2017).

According to Khan (2014), Grounded Theory is the "generation of a theoretical model through the experience of observing a study population and developing a comparative analysis of their speech and behavior." Grounded theory research is inductive, which makes it suitable for studies that attempt to examine social interactions or experiences. This is in contrast to quantitative research, which is deductive and tests or validates an existing theory. Grounded theory essentially aims to explain, for instance, how and why an event transpires or why individuals could act in a particular manner. A researcher employing the Grounded Theory method can then create a theory to describe the phenomenon of interest by studying the population.

In this study, a semi-structured interview comprising thirty-two questions was developed to interview valuers in Klang Valley, Malaysia. This approach allowed the researcher to gather qualitative data for further examination from an academic perspective, thereby contributing to addressing the earlier research questions (Bernard, Wutich & Ryan, 2017). Additionally, the interview questions are derived from the research questions to ensure that each research objective was addressed, while also allowing for flexibility. Prior to the actual interview sessions, the questions underwent expert review and ethical clearance by the university's board, and a pre-test was conducted to ensure their appropriateness.

The study population for the research included both registered valuers (V) and probationary valuers (PV) in the valuation field in the Klang Valley. To select participants for the interviews, the researchers adopted a purposive sampling strategy. Purposive sampling involves selecting participants based on specific criteria that are relevant to the research question and objectives. In this case, the researchers likely sought out valuers who had experience or knowledge relevant to the challenges of incorporating ESG factors in property valuation.

By using purposive sampling, the researchers were able to identify and recruit qualified professionals who could provide valuable insights into the research topic. This approach ensured that the interviews were conducted with individuals who had the necessary expertise and experience to contribute meaningfully to the study.

3.2 Data Collection Method

Data collection is a crucial step in the research process, involving the gathering and analysis of multiple sources of information to address the research question. It is a systematic process that involves identifying relevant data sources, collecting data using appropriate methods, and analyzing the data to derive meaningful insights. (Paradis, O'Brien, Nimmon, Bandiera, & Martimianakis, 2016).

3.2.1 Primary Data Collection

Primary data refers to information that is collected directly by the researchers from the source, which can include individuals, groups, or a panel of respondents who are specifically selected for the research. In this stage, interviews are conducted with targeted respondents who are registered valuers and other experienced probationary valuers in Greater Kuala Lumpur. Each interview was expected to last 30 minutes. Detailed information about the respondents will be recorded and can be referenced in Chapter 4. The interviews were audio-recorded for academic purposes only and will be transcribed into text after the interviews.

3.2.2 Questionnaire Design

First, the section A is focus on the Respondent Background and Profile. The respondents are asked for their position, professional qualification, years of experience and area of expertise. In Section B, the questionnaire is designed according to the challenges mentioned in the literature review. The challenges are transformed into 10 questions as below. In the other studies, the challenges to incorporate ESG initiatives in property valuation are Limited Knowledge & Skill, Lack of Awareness in “Green” Valuation, Lack of Standardisation in Valuing ESG Features, Lack of Market Evidence, Lack of Sustainability Data Support, Difficulties in Assessing and Comparing Sustainability Attributes of Comparable, Difficulties in Assessing the Impact of Sustainability Towards the Valuation Variables and Extra Work Required.

There are 2 additional questions in Section C, focusing on the recommendations to overcome the challenges to incorporate environmental, social and governance (ESG) initiatives in commercial property valuation.

The questionnaire has been assessed and approved by three scholars: Sr Dr Chin Hon Choong, Sr Dr Elia Syarafina Binti Abdul Shakur and Prof. Sr. Dr. Anuar bin Alias. The questionnaire has been submitted for Ethical Clearance to the University (UTAR).

Section A: Respondent Background & Profile

1. What is your current position?

2. What is your latest professional qualification?

3. How many years of working experience?

4. What is your area of expertise?

Section B: Challenges to Incorporate Environmental, Social and Governance (ESG) Initiatives in Commercial Property Valuation

1. What is the common approach adopted to incorporate ESG/Green initiatives in commercial property valuation?

2. What are the ESG/Green initiatives addressed and valued in the valuation process? (Energy efficiency, Occupants Health & Convenience, Compliance to Guideline, good property management)

3. Evaluate your personal knowledge and skills in incorporating ESG/Green elements into commercial property valuation.

4. What obstacles do you encounter when learning and implementing "green" valuation practices? Furthermore, do you face any difficulties in adhering to or adopting guidelines such as those provided by RICS or IVSC?

5. What obstacles have you encountered in obtaining relevant information or data related to ESG/Green initiatives during the valuation process?

6. What are the additional works required to incorporate ESG/Green elements into your valuation reports?

7. How do you assess the impact of sustainability on the valuation variables of commercial properties? (rental income, vacancy, operating expense, risk, terminal value)

8. Can you describe any difficulties you encounter in comparing the sustainability attributes of comparable properties? How do you do benchmarking?

9. Have you encountered any challenges in accessing market evidence to support the valuation of ESG/Green features?

10. Are there any additional specific challenges you encounter when assessing value of ESG/Green initiatives in commercial property valuation?

Section C: Recommendations in Strategies Use to Adopt the Challenges to Incorporate Environmental, Social and Governance (ESG) Initiatives in Commercial Property Valuation

1. What are the recommendations for private valuers?

2. What are the recommendations for institutional organisations? (BOVAEAP, RISM)

3.3 Thematic Analysis

Thematic Analysis is a qualitative method that explores data to identify themes or patterns. It examines diverse subjects to reveal underlying meanings and is suitable for studies seeking interpretation. This analysis adds a systematic approach to data analysis, linking themes with the overall content for accuracy and depth, thereby enhancing the research's significance. It helps researchers understand issues comprehensively by exploring relationships between concepts and comparing them with replicated data. Thematic Analysis also enables the comparison of various concepts and opinions over time, offering multiple interpretation options (Alhojailan, 2012).

In the thematic analysis, the process including comparing data fragments associated with a specific theme to identify shared characteristics. Incidents or events were categorized according to relevant themes, and then these instances within the theme were compared. The objective was to establish a coherent narrative by developing logical themes and their associated characteristics, which were illustrated by subthemes (Tuckett, 2005).

Braun and Clarke's (2006) six-phase guide for conducting thematic analysis provides a systematic approach to analysing qualitative data.

1. Becoming Familiar with the Data: This initial phase involves immersing yourself in the data to gain a thorough understanding of its content. This can include reading and re-reading transcripts, notes, or other data sources.

2. Generating Initial Codes: In this phase, you start coding the data by identifying and labeling relevant pieces of information. These codes are usually short, descriptive labels that capture key concepts or ideas.

3. Searching for Themes: After coding the data, you begin to identify potential themes by grouping similar codes together. Themes are patterns of meaning or topics that emerge from the data.

4. Reviewing Themes: This phase involves reviewing and refining the identified themes. You may need to go back to the data to ensure that the themes accurately capture the content and context of the data.

5. Defining and Naming Themes: Once the themes are finalized, they are defined and named to clearly describe the content they represent. This step helps to ensure that the themes are meaningful and relevant to the research question.

6. Writing-Up: The final phase involves writing up the results of the analysis. This includes describing the themes, providing examples from the data to support each theme, and discussing the implications of the findings.

In this research, the framework is adopted with flexibility.

CHAPTER 4

FINDING AND DISCUSSION

4.1 Respondent Background and Profile

This section provides a detailed overview of the participants' profiles and backgrounds involved in the study, emphasizing their importance in providing context for understanding the viewpoints and insights shared during the interviews. The section establishes the credibility and relevance of their contributions by analyzing their professional experiences, positions, and areas of expertise.

Table 4.1: Respondents' Background and Profile

No	Designation	Professional Qualification	Area of Expertise	Years of Experience
R1	Chief Executive Officer	Registered Valuer	Corporate Valuation	30
R2	Senior Vice President	Probationary Valuer	Corporate Valuation	9
R3	Deputy Head	Registered Valuer	Corporate Valuation	12
R4	Manager	Probationary Valuer	Corporate Valuation	8
R5	Executive Director	Registered Valuer	Corporate Valuation	18
R6	Executive Director	Registered Valuer	Corporate Valuation	18
R7	Deputy Head	Probationary Valuer	Corporate Valuation	20
R8	Assistant Manager	Probationary Valuer	Corporate Valuation	12

Source: Developed for the research

Table 4.1 shows the respondents' background participated in the interview. In general, the respondents have possessed qualification certified by the Board of Valuers, Appraisers, Estate Agents and Property Managers (BOVAEAP). Half of them are Registered Valuer (V) while half of them are probationary valuer (PV).

The respondents are having at least 8 years and up to 30 years of experience in valuation industry. On top of that, as purposive sampling was adopted in this study, whereby each

respondent is intentionally chosen with specific criteria, which they can provide rich, detailed, and relevant information to the study. To take note, the interview process stopped at the eighth respondents because the data was saturated.

The following section presents the findings of a thematic analysis based on interview responses, including main themes and themes. It establishes a foundation for further exploration and connection to existing literature. After the session, there are discussions based on the finding.

4.2 Main Themes and Themes

4.2.1 Main Theme 1: Challenges to incorporate ESG initiatives in commercial property valuation

Theme	Valuation Methodology			
Code	*Q1: What is the common approach adopted to incorporate ESG/Green initiatives in commercial property valuation?*	Freq	%	Respond
VM1	The methodology to value any property is treated equally regardless of green or conventional building	4	50	R4, R5, R7, R8
VM2	comparison approach if there is sufficient data.	5	62.5	R3, R4 R5, R7, R8
VM3	income approach for income-generating properties	8	100	R1, R2, R3, R4, R5, R6, R7, R8

Valuation Methodology:

VM1: The methodology to value any property is treated equally regardless of green or conventional building. This code has a frequency of 4 (50%) and is associated with respondents R4, R5, R7, and R8.

VM2: The comparison approach is used if there is sufficient data. This code has a frequency of 5 (62.5%) and is associated with respondents R3, R4, R5, R7, and R8.

VM3: The income approach is used for income-generating properties. This code has a frequency of 8 (100%) and is associated with respondents R1, R2, R3, R4, R5, R6, R7, and R8.

Theme	ESG/Green Initiatives Addressed and Valued			
Code	*Q2: What are the ESG/Green initiatives addressed and valued in the valuation process? (Energy efficiency, Occupants Health & Convenience, Compliance to Guideline, good property management)*	Freq	%	Respond
GI1	Depends on drivers of the approach	1	12.5	R5
GI2	the specification of the property – whether its physical and technical specifications, materials or energy efficiency specifications.	4	50	R1, R4 R5, R7
GI3	For investment, just focus on revenue, outgoing and building performance	7	87.5	R1, R2, R3, R5, R6, R7, R8
GI4	Overall, the rental revenue will reflect any ESG/Green initiatives	4	50	R1, R5, R6, R7
GI5	Overall, the outgoing will reflect any ESG/Green initiatives	4	50	R3, R5, R6, R7

ESG/Green Initiatives Addressed and Valued:

GI1: The initiatives addressed and valued depend on the drivers of the approach. This code has a frequency of 1 (12.5%) and is associated with respondent R5.

GI2: The initiatives addressed and valued are the specifications of the property, including its physical and technical specifications, materials, or energy efficiency specifications. This code has a frequency of 4 (50%) and is associated with respondents R1, R4, R5, and R7.

GI3: For investment method, the only focus is in revenue, outgoing, and building performance. This code has a frequency of 7 (87.5%) and is associated with respondents R1, R2, R3, R5, R6, R7, and R8.

GI4: The rental revenue will reflect any ESG/Green initiatives. This code has a frequency of 4 (50%) and is associated with respondents R1, R5, R6, and R7.

GI5: The outgoing will reflect any ESG/Green initiatives. This code has a frequency of 4 (50%) and is associated with respondents R3, R5, R6, and R7.

Theme	Knowledge and Skills in Incorporating ESG/Green Elements:			
Code	*Q3: Evaluate your personal knowledge and skills in incorporating ESG/Green elements into commercial property valuation.*	Freq	%	Respond
KS1	Slightly know about ESG	2	25	R3, R8
KS2	In the middle	2	25	R2, R7
KS3	Knows about ESG, but not the expert	4	50	R1, R4, R5, R6

Knowledge and Skills in Incorporating ESG/Green Elements:

KS1: Respondents have a slight knowledge about ESG. This code has a frequency of 2 (25%) and is associated with respondents R3 and R8.

KS2: Respondents are in the middle in terms of their knowledge and skills in incorporating ESG/Green elements. This code has a frequency of 2 (25%) and is associated with respondents R2 and R7.

KS3: Respondents know about ESG but do not consider themselves experts. This code has a frequency of 4 (50%) and is associated with respondents R1, R4, R5, and R6.

Theme	Obstacles Encountered in Learning and Implementing Green Valuation Practices			
Code	*Q4: What obstacles do you encounter when learning and implementing "green" valuation practices? Furthermore, do you face any difficulties in adhering to or adopting guidelines such as those provided by RICS or IVSC?*			Respond
LI1	There are no obstacles to learn and implement valuation practices to incorporate ESG/Green initiative	8	100	R1, R2, R3, R4, R5, R6, R7, R8
LI2	We mainly based on Malaysian Valuation Standard (MVS)	3	37.5	R6, R7, R8
LI3	We do not think there is any obstacles to adopt the additional guidelines in future	4	50	R4, R6, R7, R8

Obstacles Encountered in Learning and Implementing Green Valuation Practices:

LI1: Respondents indicated that there are no obstacles to learning and implementing valuation practices to incorporate ESG/Green initiatives. This code has a frequency of 8 (100%) and is associated with all respondents (R1, R2, R3, R4, R5, R6, R7, R8).

LI2: Respondents mainly base their practices on the Malaysian Valuation Standard (MVS). This code has a frequency of 3 (37.5%) and is associated with respondents R6, R7, and R8.

LI3: Respondents do not think there are any obstacles to adopting additional guidelines in the future. This code has a frequency of 4 (50%) and is associated with respondents R4, R6, R7, and R8.

Theme	Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives			
Code	*Q5: What obstacles have you encountered in obtaining relevant information or data related to ESG/Green initiatives during the valuation process?*	Freq	%	Respond
DR1	Difficulties in data availability	5	62.5	R1, R4, R6, R7, R8
DR2	Not many transactions in the market	4	50	R1, R4, R6, R7
DR3	No standard metrics to guide the collection and compilation of data	1	12.5	R1
DR4	Not easy to compile the data	3	37.5	R3, R5, R6
DR5	Comparable Financial data is not accessible as it is private and confidential	3	37.5	R6, R7, R8
DR6	Difficult to obtain data related to Social & Governance Initiatives. Often neglected.	3	37.5	R1, R5, R6
DR7	Client only provide brief description on the components	1	12.5	R7

Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives:

DR1: Difficulties in data availability. This code has a frequency of 5 (62.5%) and is associated with respondents R1, R4, R6, R7, and R8.

DR2: Not many transactions in the market. This code has a frequency of 4 (50%) and is associated with respondents R1, R4, R6, and R7.

DR3: No standard metrics to guide the collection and compilation of data. This code has a frequency of 1 (12.5%) and is associated with respondent R1.

DR4: Not easy to compile the data. This code has a frequency of 3 (37.5%) and is associated with respondents R3, R5, and R6.

DR5: Comparable financial data is not accessible as it is private and confidential. This code has a frequency of 3 (37.5%) and is associated with respondents R6, R7, and R8.

DR6: Difficult to obtain data related to Social & Governance Initiatives, which are often neglected. This code has a frequency of 3 (37.5%) and is associated with respondents R1, R5, and R6.

DR7: Clients only provide a brief description of the components. This code has a frequency of 1 (12.5%) and is associated with respondent R7.

Theme	Additional Works Required to Incorporate ESG/Green Elements			
Code	*Q6: What are the additional works required to incorporate ESG/Green elements into your valuation reports?*	Freq	%	Respond
AW1	No extra work required, follow the standard valuation procedure with the description on green certification and building specification	6	75	R2, R3, R4, R6, R7, R8
AW2	Beside financial data, collect the other aspect of data. Sometimes through interview with building manager	2	25	R1, R5
AW3	Conduct quantitative or qualitative assessment on the ESG/Green initiatives.	2	25	R1, R5

Additional Works Required to Incorporate ESG/Green Elements:

AW1: No extra work required; follow the standard valuation procedure with a description of green certification and building specification. This code has a frequency of 6 (75%) and is associated with respondents R2, R3, R4, R6, R7, and R8.

AW2: Besides financial data, collect other aspects of data, sometimes through interviews with building managers. This code has a frequency of 2 (25%) and is associated with respondents R1 and R5.

AW3: Conduct quantitative or qualitative assessments on the ESG/Green initiatives. This code has a frequency of 2 (25%) and is associated with respondents R1 and R5.

Theme	Assessment of the Impact of Sustainability on Valuation Variables			
Code	*Q7: How do you assess the impact of sustainability on the valuation variables of commercial properties? (rental income, vacancy, operating expense, risk, terminal value)*	Freq	%	Respond
IS1	The impact of sustainability is reflected to the rental income	8	100	R1, R2, R3, R4, R5, R6, R7, R8
IS2	The impact of sustainability is reflected to the outgoing	8	100	R1, R2, R3, R4, R5, R6, R7, R8
IS3	The rental and outgoing already reflected the impact. There is no adjustment in market yield.	4	50	R2, R3, R7, R8
IS4	Assess the market expected return for the green building to determine the yield	4	50	R3, R4, R5, R6
IS5	Assess the willingness to pay for green building to determine the yield	4	50	R3, R5, R6, R8

Assessment of the Impact of Sustainability on Valuation Variables:

IS1: The impact of sustainability is reflected in the rental income. This code has a frequency of 8 (100%) and is associated with all respondents (R1, R2, R3, R4, R5, R6, R7, R8).

IS2: The impact of sustainability is reflected in the outgoing (operating expenses). This code also has a frequency of 8 (100%) and is associated with all respondents.

IS3: The rental and outgoing already reflect the impact of sustainability, so there is no adjustment in market yield. This code has a frequency of 4 (50%) and is associated with respondents R2, R3, R7, and R8.

IS4: To assess the impact, one should assess the market's expected return for the green building to determine the yield. This code has a frequency of 4 (50%) and is associated with respondents R3, R4, R5, and R6.

IS5: Assess the willingness to pay for a green building to determine the yield. This code also has a frequency of 4 (50%) and is associated with respondents R3, R5, R6, and R8.

Theme	Challenges in Comparing Sustainability Attributes of Comparable Properties			
Code	*Q8: Can you describe any difficulties you encounter in comparing the sustainability attributes of comparable properties? How do you do benchmarking?*	Freq	%	Respond
CS1	No availability of comparable data	4	50	R1, R4, R6, R7
CS2	No difficulties. Just make relevant adjustment subject to valuer's justification	3	37.5	R4, R5, R8
CS3	There are many other significant factors, such as location, tenure…. The sustainability factors are insignificant	2	25	R4, R6, R7
CS4	It is difficult to compare because each component is very difference	2	25	R1, R7
CS5	It is difficult adjust for each difference	2	25	R1, R7

Challenges in Comparing Sustainability Attributes of Comparable Properties:

CS1: Difficulty due to the unavailability of comparable data. This code has a frequency of 4 (50%) and is associated with respondents R1, R4, R6, and R7.

CS2: No difficulties; adjustments are made subject to the valuer's justification. This code has a frequency of 3 (37.5%) and is associated with respondents R4, R5, and R8.

CS3: Other significant factors, such as location and tenure, make sustainability factors insignificant. This code has a frequency of 2 (25%) and is associated with respondents R4, R6, and R7.

CS4: Difficulty in comparison due to significant differences in each component. This code has a frequency of 2 (25%) and is associated with respondents R1 and R7.

CS5: Difficulty in adjusting for each difference. This code has a frequency of 2 (25%) and is associated with respondents R1 and R7.

Theme	Challenges in Accessing Market Evidence			
Code	*Q9: Have you encountered any challenges in accessing market evidence to support the valuation of ESG/Green features?*	Freq	%	Respond
ME1	No	5	62.5	R2, R3, R5, R7, R8
ME2	Yes, lack of market transactions	3	37.5	R4, R6, R8

Challenges in Accessing Market Evidence:

ME1: Respondents have not encountered any challenges in accessing market evidence. This code has a frequency of 5 (62.5%) and is associated with respondents R2, R3, R5, R7, and R8.

ME2: Respondents have encountered challenges due to the lack of market transactions. This code has a frequency of 3 (37.5%) and is associated with respondents R4, R6, and R8.

Theme	Additional Specific Challenges in Assessing Value of ESG/Green Initiatives			
Code	*Q10: Are there any additional specific challenges you encounter when assessing value of ESG/Green initiatives in commercial property valuation?*	Freq	%	Respond
SC1	Difficulties in data availability	5	62.5	R1, R2, R4, R6, R7
SC2	Difficult to quantify the effect of green component on market value	3	37.5	R1, R3, R7
SC3	Not knowledgeable, experienced or specialised	3	37.5	R1, R3, R4
SC4	No Challenges in Investment Method	3	37.5	R5, R6, R7
SC5	No clear guideline or metrics of ESG	2	25	R1, R6
SC6	There is no significant difference between green & conventional building	2	25	R4, R8
SC7	Do not know what data to capture to incorporate ESG initiatives	1	12.5	R8
SC8	Most valuers only focus on revenue and outgoing, neglecting the other aspect of data such as carbon footprint, energy efficiency.	1	12.5	R1
SC9	Short term oriented rather than long term oriented	1	12.5	R1
SC10	Client demand for higher market value, but everything is based on revenue and outgoing of the green building	1	12.5	R3

Additional Specific Challenges in Assessing Value of ESG/Green Initiatives:

SC1: Difficulties in data availability. This code has a frequency of 5 (62.5%) and is associated with respondents R1, R2, R4, R6, and R7.

SC2: Difficult to quantify the effect of the green component on market value. This code has a frequency of 3 (37.5%) and is associated with respondents R1, R3, and R7.

SC3: Not knowledgeable, experienced, or specialized in ESG/Green initiatives. This code has a frequency of 3 (37.5%) and is associated with respondents R1, R3, and R4.

SC4: No challenges in the investment method. This code has a frequency of 3 (37.5%) and is associated with respondents R5, R6, and R7.
SC5: Lack of clear guidelines or metrics for ESG. This code has a frequency of 2 (25%) and is associated with respondents R1 and R6.
SC6: Perceived lack of significant difference between green and conventional buildings. This code has a frequency of 2 (25%) and is associated with respondents R4 and R8.
SC7: Uncertainty about what data to capture to incorporate ESG initiatives. This code has a frequency of 1 (12.5%) and is associated with respondent R8.
SC8: Valuers often focus only on revenue and outgoing, neglecting other aspects of data such as carbon footprint and energy efficiency. This code has a frequency of 1 (12.5%) and is associated with respondent R1.
SC9: Short-term orientation rather than long-term orientation. This code has a frequency of 1 (12.5%) and is associated with respondent R1.
SC10: Client demand for higher market value, but valuation is based on revenue and outgoing of the green building. This code has a frequency of 1 (12.5%) and is associated with R3.

4.2.2 Main Theme 2: Recommendations to overcome the problem to incorporate ESG initiatives in commercial property valuation

Theme	Recommendations for Private Valuers			
Code	*Q1: What are the recommendations for private valuers?*	Freq	%	Respond
RV1	Adopting the RICS or IVSC guidelines	3	37.5	R1, R2, R6
RV2	Attend seminar, conference, talk or industrial training	2	25	R1, R7
RV3	Adopt the correct methodology, analyse the component properly	1	12.5	R5
RV4	Appoint professional to assist in valuation	1	12.5	R8
RV5	No suggestion	2	25	R3, R4

Recommendations for Private Valuers:

RV1: Adopting the RICS or IVSC guidelines. This code has a frequency of 3 (37.5%) and is associated with respondents R1, R2, and R6.

RV2: Attend seminars, conferences, talks, or industrial training. This code has a frequency of 2 (25%) and is associated with respondents R1 and R7.

RV3: Adopt the correct methodology and analyze the components properly. This code has a frequency of 1 (12.5%) and is associated with respondent R5.

RV4: Appoint a professional to assist in valuation. This code has a frequency of 1 (12.5%) and is associated with respondent R8.

Theme	Recommendations for Institutional Organizations			
Code	*Q2: What are the recommendations for institutional organisations? (BOVAEAP, RISM*	Freq	%	Respond
RI1	JPPH capture more information on the sale transaction	5	62.5	R2, R3, R6, R7, R8
RI2	Provide practice note or guidance on valuation of ESG	4	50	R1, R2, R5, R8
RI3	Introduce the international guideline in Malaysia	2	25	R2, R6
RI4	Universities to include it in syllabus	1	12.5	R1
RI5	No suggestion	1	12.5	R4

Recommendations for Institutional Organizations:

RI1: JPPH (Jabatan Penilaian dan Perkhidmatan Harta) should capture more information on the sale transaction. This code has a frequency of 5 (62.5%) and is associated with respondents R2, R3, R6, R7, and R8.

RI2: Provide practice notes or guidance on the valuation of ESG (Environmental, Social, and Governance) initiatives. This code has a frequency of 4 (50%) and is associated with respondents R1, R2, R5, and R8.

RI3: Introduce international guidelines in Malaysia. This code has a frequency of 2 (25%) and is associated with respondents R2 and R6.

RI4: Universities should include ESG valuation in their syllabus. This code has a frequency of 1 (12.5%) and is associated with respondent R1.
RI5: No specific suggestion. This code has a frequency of 1 (12.5%) and is associated with respondent R4.

4.3 Discussion

4.3.1 Challenges and Reasoning

The objective of the study is to identify the challenges to incorporate ESG initiatives in commercial property valuation. The relevant themes are Valuation Methodology; ESG/Green Initiatives Addressed and Valued; Knowledge and Skills in Incorporating ESG/Green Elements; Obstacles Encountered in Learning and Implementing Green Valuation Practices; Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives; Additional Works Required to Incorporate ESG/Green Elements; Assessment of the Impact of Sustainability on Valuation Variables; Challenges in Comparing Sustainability Attributes of Comparable Properties; Challenges in Accessing Market Evidence; Additional Specific Challenges in Assessing Value of ESG/Green Initiatives.

Among all the challenges, the most challenging part is the availability of data. It is coded as DR1, DR2, SC1, CS1 and other relevant codes in various themes. It is due to the lack of market transactions in the market. There are few ESG or Green building transacted as they are new. Second, it is due to the DR7, the client sometimes only provides brief description on the key green components. It is because there is no proper documentation and system to record the sustainability related data such as energy efficiency, water efficiency. The absence of such data leads to the two themes, Challenges in comparing sustainability attributes of comparable properties and assessment of the impact of sustainability on valuation variables.

Apart from that, the main reason for many challenges are the absence of standard guideline or metrics in Malaysia. According to R1, “when you talk about ESG, of course in Malaysia it's not fully implemented such as green leases you know and there's also a lot of ambiguity in terms of the metrics that we need. There should be a standard metrics for everybody to actually adopt but there's none at the moment in Malaysia and I think somebody will have to work on that.” It results in many problems.

The problem can be observed in the response coded as AW1, respondents said there is no extra work required, follow the standard valuation procedure with the description on green certification and building specification. Similarly raised in SC7, the respondent does not know what data to capture to incorporate ESG initiatives. Overall, there is no guidance note to guide the valuation process and data collection to incorporate ESG initiatives in commercial property valuation.

4.3.2 Investment Method

Across different codes in different themes, there is a significant contextual relationship between them. It was mentioned in VM3, the valuation methodology for income-generating properties is income approach. In GI3, GI4 and GI5, the ESG/Green Initiatives addressed and valued are related to investment method, under the income approach. For investment method, valuers just focus on the revenue, outgoing and building performance of an investment properties. Half of the respondents agree that the rental and outgoing will reflect the ESG/Green initiatives.

In the theme of Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives, the difficulties in data availability is the general code, while the inaccessibility of comparable private and confidential financial data is specifically related to investment method. The financial data refers to the revenue and outgoing in the profit and loss account. These data are private and confidential; thus, the valuer will have to made assumption with their experience and company's database.

In Assessment of the Impact of Sustainability on Valuation Variables, all the respondents mentioned that the impact of sustainability already reflected in the revenue and outgoing. Some respondents even admit that there is no need to analyse the impact of sustainability features, such as solar panel, rainwater harvesting and waste management. The cost saving is factored into the net outgoing.

Beside rental and outgoing, the rate of capitalisation is one of the three components in investment method. There is a disparity of opinion between the respondents. Half of the respondents will not adjust the capitalization rate. They claimed that the impact of sustainability attributes already reflected in rental and outgoing, thus there is no necessary to adjust and to avoid double counting on the impact. On the other hand, there are also half of the respondents will adjust according to the expected rate of return or the willingness to pay for

the green building. Nevertheless, one or two respondents mentioned that there is no significant evidence to support the higher expected rate of return or the higher willingness to pay for green building; therefore, there is still no adjustment after observing the market trend.

In code ME1, majority of respondents have not encountered any challenges in accessing market evidence. It is mentioned by R7, "usually investment method will cover all these things." Another mentioned by R3, "everything come back to profit and loss account of the building." However, there are different opinion from the respondents. Some argue that there is inadequate market transaction to act as a solid evidence to the valuation of ESG initiatives.

At last, the code SC4 stated that there are no challenges to incorporate ESG initiatives in the investment method by a few respondents. In the contrast, there are still several challenges; difficult to quantify the effect of green component on market value; not knowledgeable, experienced or specialized; no clear guideline or metrics of ESG; no significant difference between green & conventional building; do not know what data to capture to incorporate ESG initiatives; only focus on revenue and outgoing, neglecting the other aspect of data such as carbon footprint, energy efficiency; short term oriented rather than long term oriented; and client expectation.

4.3.3 Highlights from expert

Besides the themes and codes related to income approach and investment method, there is a noticeable difference between the respondents. There are three particular respondents, as registered valuers and more than 18 years of working experience, refer as R1, R5 and R6. They are highly aware and knowledgeable in incorporating ESG initiatives in commercial property valuation. This study will highlight their interview transcript and discuss with the relevant theme and code.

In the theme, ESG/Green Initiatives Addressed and Valued, the majority will focus on rental and outgoing in investment method. However, there is another code stated the specifications of the property, including its physical and technical specifications, materials, or energy efficiency specifications.

According to R1, valuers need to assess the building specifications. "There is an issue to identify what green initiatives exactly will affect the value of property. If you're looking at energy efficiency, how are you going to assess the energy efficiency apart from the operating

expenses? … A lot of people are talking about reducing the carbon footprint. How do you translate into value?"

There is another respondent, R4, mentioned, "we have to look into everything under the specification of the property – whether its physical and technical specifications, materials or energy efficiency specifications. Anything that affect value should be take into account, but they are valued as a whole. It is common for green buildings to adopt a higher specification in building specifications, materials and fit-outs could be of better quality. The design of the building would affect the use of the property and the net lettable area. Overall, it comes down to the specification and practicality of the building. The green certification has only minimal impact on the value, but the actual features and performance contribute to the value."

In the code DR6, R1, R5 and R6 mentioned the difficulties to obtain data related to Social & Governance Initiatives. In valuation of ESG in real estate, many times valuer will only focus on "Environmental" aspect.

According to R5, "I think ESG or so-called green initiatives, a lot of people are actually scratching the surface. there are way more things to do about ESG and green initiatives than just say a green certified building or GBI. And there are way more than just physical initiatives or physical improvements. For example, AHU installed the UV infrared or whatever, rainwater harvesting or solar panels. Those are physical improvements that you see leading and also as part of green initiatives. For ESG, they are way more than that, because ESG stands for environmental, social, and governance. Diversity, equality, and inclusivity comes in play as well. DEI forms part of the S, the social part. This plays a very important role in ESG. A lot of people miss this part out. Also, handicapped accessibility. This also is very important. Then the final part, G, governance. Governance is also very important. You shouldn't look purely on green initiatives on the physical part. All this also, you must put equal importance. Governance, for example, do you have anti-bribery in place? Do you have all the SOPs in place? What's the security system? What's the security SOPs? or what's your service provider, SOPs, how you get your service providers on board. Do you work them properly? All these plays part of ESG is not purely on green initiatives. It comes as a whole. It is challenging and people are only looking at the E part, which is the green part. But a lot of people are missing on the S and the G."

In contrary, there are responses such as no necessary to obtain Social & Governance initiatives as the rental and outgoing will reflect the impact of initiatives, specifically mentioned by R3 and R8. According to R3, “when valuing an office building, the most important part, again, we refer to the subject property, profit and loss account. That is the most crucial thing. And then. With ESG or without EEG, everything reflected in the P&L.”

Similarly, according to R8, “SG are not valued in valuation. Depends on approach. For income approach, we just focus on rental, outgoing. We do not need to know who managed. It is already reflected. For comparison approach, SG can be or cannot be valued. There may be a slight adjustment on the market value. If no, I would not say it’s wrong.”

4.3.4 Recommendation

The collection of interviews’ answers has provided a wide range of recommendations to overcome the problems to incorporate ESG initiatives in commercial property valuation. For the recommendations for private valuers, the suggestions are to adopt RICS or IVSC guidelines and to attend seminar, conference, talk or industrial training. It has addressed the challenges mentioned in other code, such as SC3 and SC5. The valuers are not knowledgeable, experienced or specialized and there is no clear guideline or metrics for ESG.

For the recommendations for institutional organisation, most valuers urge the responsible body, such as JPPH to capture more information on the sale transaction. Furthermore, valuers hope the body like BOVAEAP or RISM to provide practice note or guidance on valuation of ESG. It is coherent with the challenges mentioned in other code, such as SC1, DR1 and SC5. There are difficulties in data availability and no clear guideline or metrics for ESG.

4.4 Conclusion

In the chapter 4, it has presented the qualitative study of the research. To achieve the research objectives, the author has interviewed 8 respondents with corporate valuation background. The respondents’ background and profile are presented in the first section.

In the second section, a thematic analysis was conducted based on the transcripts from the Chapter 3. To test the reliability of the analysis, the supervisor of the research was involved in the process. The author has identified and coded from the transcript until no codes were

identified. The code was analysed and group into the emerging themes. The themes are arranged to match the research objectives of the study.

The emerging themes are Valuation Methodology; ESG/Green Initiatives Addressed and Valued; Knowledge and Skills in Incorporating ESG/Green Elements; Obstacles Encountered in Learning and Implementing Green Valuation Practices; Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives; Additional Works Required to Incorporate ESG/Green Elements; Assessment of the Impact of Sustainability on Valuation Variables; Challenges in Comparing Sustainability Attributes of Comparable Properties; Challenges in Accessing Market Evidence; Additional Specific Challenges in Assessing Value of ESG/Green Initiatives; Recommendations for Private Valuers; Recommendations for Institutional Organisation.

There are analysis of themes and codes with contextual relationship identified by the author. There are the Challenges and Reasoning, Investment Method, Highlights for Expert and Recommendation.

In the Challenges and Reasoning, it identifies data availability as a key challenge, attributed to the limited market transactions involving ESG buildings and the lack of standard guidelines or metrics in the country. These challenges impact the ability to compare sustainability attributes and assess their impact on property value.

In terms of valuation methodology, the study emphasis on the income approach, where valuers focus on revenue, outgoings, and building performance. Besides, experienced valuers note the importance of assessing building specifications beyond financial aspects and highlight challenges in obtaining data related to social and governance initiatives. They advocate for a holistic approach to ESG, considering social and governance factors alongside environmental aspects. However, there are differing opinions on the necessity of separately valuing social and governance aspects.

The study also suggests that private valuers should adopt international guidelines and undergo training to enhance their skills. Institutional organizations are encouraged to capture more information on sale transactions and provide guidance on valuing ESG initiatives. These recommendations aim to address challenges related to data availability and the lack of standardization in ESG valuation practices.

CHAPTER 5

CONCLUSION AND IMPLICATION

5.0 Introduction

The final chapter summarizes and highlights the major findings in relation to the research questions and objectives of the study in an effort to bring it to a close. The significance, worth, and contribution of the findings will also be suggested. Furthermore, implications will be presented that may be important in theoretical or practical contexts. Along with proposing suggestions for following research, the chapter will also assess the research's limitation.

5.1 Achievement of Research Objective

The research has focused on the challenges to incorporate ESG initiatives in commercial property valuation, which is getting more important and attention from the real estate investor. The author gathered the insights from a group of specialists in corporate valuation. The findings have provided a comprehension of the challenges and recommendations.

The two research objectives are to investigate the challenges associated with the integration of ESG initiatives in commercial property valuation, and to explore potential strategies or approaches that professionals use to mitigate these challenges.

The first objective is addressed in the study as all participants have shared their challenges faced when incorporating ESG initiatives in commercial property valuation. This finding is consistent with the literature review. The challenges are ESG/Green Initiatives Addressed and Valued; Knowledge and Skills in Incorporating ESG/Green Elements; Obstacles Encountered in Learning and Implementing Green Valuation Practices; Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives; Additional Works Required to Incorporate ESG/Green Elements; Assessment of the Impact of Sustainability on Valuation Variables; Challenges in Comparing Sustainability Attributes of Comparable Properties;

Challenges in Accessing Market Evidence; Additional Specific Challenges in Assessing Value of ESG/Green Initiatives.

The second objective is also addressed with the suggestions from the respondents. For the recommendations for private valuers, the suggestions are to adopt RICS or IVSC guidelines and to attend seminar, conference, talk or industrial training. For the recommendations for institutional organisation, most valuers urge the responsible body, such as JPPH to capture more information on the sale transaction. Furthermore, valuers hope the body like BOVAEAP or RISM to provide practice note or guidance on valuation of ESG. The details are listed in Chapter 4.

5.2 Research implication

The study identifies the challenges and recommendations to incorporate ESG initiatives in commercial property valuation. By identifying and highlighting the challenges faced by property valuers in incorporating ESG factors, the study can drive improvements in industry practices. The study's findings can inform policymakers and regulators about the complexities of valuing ESG initiatives in real estate. This may lead to the development of regulations or incentives that encourage the adoption of ESG practices in property valuation. For example, regulators may consider requiring disclosures of ESG-related information in property valuations to increase transparency and accountability in the real estate sector. A standardized guidelines or frameworks will help valuers consistently and effectively integrate ESG considerations into their valuation processes. These improvements can enhance the credibility and reliability of property valuations, benefiting both the industry and its stakeholders.

Next, investors increasingly consider ESG factors when making investment decisions. The study can provide valuable insights into the challenges and considerations involved in valuing ESG initiatives, helping investors make more informed decisions. This can lead to increased investment in sustainable real estate assets, driving demand for properties with strong ESG performance and encouraging the adoption of sustainable practices in the industry.

Besides, real estate companies and developers can use the study's findings to enhance their sustainability efforts. By understanding the challenges in valuing ESG initiatives, they can identify areas for improvement and implement strategies to enhance the sustainability performance of their properties. This can help companies align with global sustainability goals and enhance their reputation as responsible corporate citizens.

At last, the study can contribute to academic research by providing a deeper understanding of the complexities involved in valuing ESG initiatives in real estate. This can stimulate further research in this area, leading to the development of new theories, methodologies, and best practices. This can ultimately enhance the body of knowledge in the field of sustainable real estate valuation, benefiting both academia and industry practitioners.

Overall, a study on challenges to incorporate ESG factors in property valuation can have far-reaching implications for the real estate industry, investors, policymakers, and academia. By addressing these challenges, the industry can move towards more sustainable practices, benefitting both the environment and society as a whole.

5.3 Limitations of the Study

Firstly, this study mainly focuses on the challenges to incorporate ESG initiatives for commercial property valuation. There are two major limitations for the study.

First, the respondents are mainly discussing on the “environmental” aspect in the valuation practice. Majority of them are unable to address the “social” and “governance” aspect in the commercial property valuation. Focusing primarily on the environmental aspect may provide an incomplete picture of the challenges and considerations involved in valuing ESG initiatives in commercial property. The social and governance aspects are equally important in understanding the overall impact and value of a property, and their omission may limit the study's ability to provide comprehensive insights.

By not addressing the social and governance aspects, the study may miss opportunities to highlight the value and importance of the “S” and “G” in property valuation. This could limit the study's ability to influence industry practices and promote the adoption of ESG principles in valuation.

The second limitation of the study is that, although it focuses on commercial property valuation, the main discussed property type in the study is office buildings. This narrow focus on a specific subtype of commercial property may limit the generalizability of the study's findings to other types of commercial properties, such as retail, industrial, or mixed-use properties.

Office buildings have unique characteristics and considerations in terms of ESG (Environmental, Social, and Governance) factors compared to other types of commercial properties. For example, the environmental impact of an office building may be more focused

on energy efficiency and indoor air quality, while a retail property may prioritize factors like waste management and sustainable sourcing practices.

By focusing predominantly on office buildings, the study may overlook the nuances and complexities of valuing ESG initiatives in other types of commercial properties. This limitation may restrict the applicability of the study's findings and recommendations to a broader range of commercial properties, potentially missing important insights that could benefit the real estate industry as a whole.

5.4 Recommendations for Future Research

The limitation underscores the need for further research and exploration of the social and governance aspects in property valuation. Given the focus on the environmental aspect in the study, future research should also prioritize the inclusion of the social and governance aspects of ESG in property valuation. This would provide a more balanced and comprehensive understanding of the challenges and considerations involved in valuing ESG initiatives in real estate.

Furthermore, the future research may aim to include a broader range of property types beyond office buildings. This could include retail, industrial, residential, and mixed-use properties to provide a more comprehensive understanding of how ESG factors are valued and integrated into valuation practices across different segments of the real estate market. Particularly residential market, there is a need to push the green conversion and development in residential Highrise building in urban area. Most importantly, residential market has the largest number and share in the real estate market. Majority of valuers are dealing with residential property valuation. Thus, the impact is greater and wider across the market.

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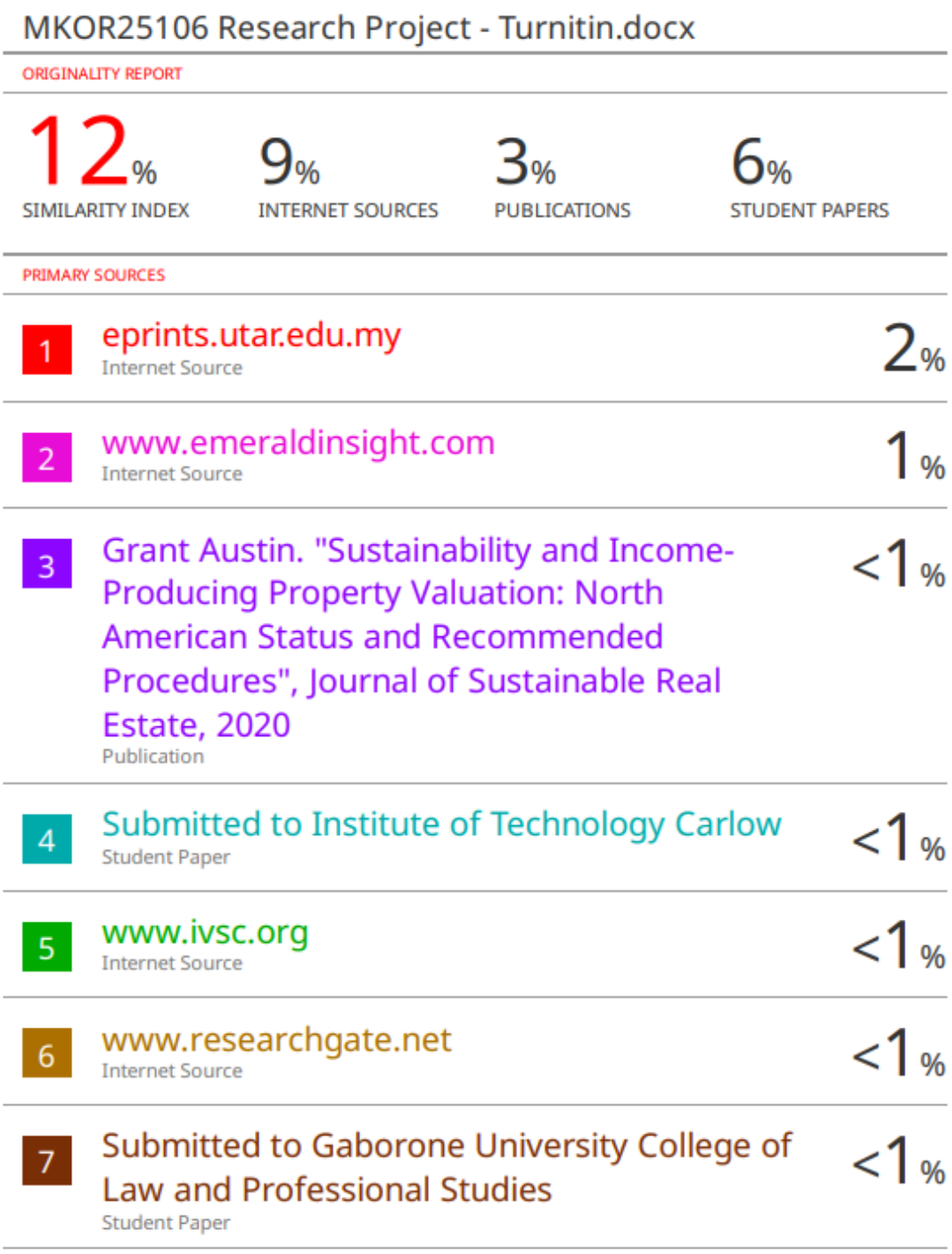
CHAPTER 7 APPENDIX

Appendix A Turnitin Report



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Appendix B Interview Questionnaire

Section A: Respondent Background

Position:

Year of Experience working:

Area of Expertise:

Section B: Challenges to Incorporate Environmental, Social and Governance (ESG) Initiatives in Commercial Property Valuation

1. What is the common approach adopted to incorporate ESG/Green initiatives in commercial property valuation?

2. What are the ESG/Green initiatives addressed and valued in the valuation process? (Energy efficiency, Occupants Health & Convenience, Compliance to Guideline, good property management)

3. Evaluate your personal knowledge and skills in incorporating ESG/Green elements into commercial property valuation.

4. What obstacles do you encounter when learning and implementing "green" valuation practices? Furthermore, do you face any difficulties in adhering to or adopting guidelines such as those provided by RICS or IVSC?

5. What obstacles have you encountered in obtaining relevant information or data related to ESG/Green initiatives during the valuation process?

6. What are the additional works required to incorporate ESG/Green elements into your valuation reports?

7. How do you assess the impact of sustainability on the valuation variables of commercial properties? (rental income, vacancy, operating expense, risk, terminal value)

8. Can you describe any difficulties you encounter in comparing the sustainability attributes of comparable properties? How do you do benchmarking?

9. Have you encountered any challenges in accessing market evidence to support the valuation of ESG/Green features?

10. Are there any additional specific challenges you encounter when assessing value of ESG/Green initiatives in commercial property valuation?

Section C: Recommendations in Strategies Use to Adopt the Challenges to Incorporate Environmental, Social and Governance (ESG)/Green Initiatives in Valuation in Malaysia

1. What are the recommendations for private valuers?

2. What are the recommendations for institutional organisations? (BOVAEAP, RISM)

Appendix C Thematic Analysis

Theme	Valuation Methodology			
Code	*Q1: What is the common approach adopted to incorporate ESG/Green initiatives in commercial property valuation?*	Freq	%	Respond
VM1	The methodology to value any property is treated equally regardless of green or conventional building	4	50	R4, R5, R7, R8
VM2	comparison approach if there is sufficient data.	5	62.5	R3, R4 R5, R7, R8
VM3	income approach for income-generating properties	8	100	R1, R2, R3, R4, R5, R6, R7, R8

Theme	ESG/Green Initiatives Addressed and Valued			
Code	*Q2: What are the ESG/Green initiatives addressed and valued in the valuation process? (Energy efficiency, Occupants Health & Convenience, Compliance to Guideline, good property management)*	Freq	%	Respond
GI1	Depends on drivers of the approach	1	12.5	R5
GI2	the specification of the property – whether its physical and technical specifications, materials or energy efficiency specifications.	4	50	R1, R4 R5, R7
GI3	For investment, just focus on revenue, outgoing and building performance	7	87.5	R1, R2, R3, R5, R6, R7, R8
GI4	Overall, the rental revenue will reflect any ESG/Green initiatives	4	50	R1, R5, R6, R7

GI5	Overall, the outgoing will reflect any ESG/Green initiatives	4	50	R3, R5, R6, R7

Theme	Knowledge and Skills in Incorporating ESG/Green Elements:			
Code	*Q3: Evaluate your personal knowledge and skills in incorporating ESG/Green elements into commercial property valuation.*	Freq	%	Respond
KS1	Slightly know about ESG	2	25	R3, R8
KS2	In the middle	2	25	R2, R7
KS3	Knows about ESG, but not the expert	4	50	R1, R4, R5, R6

Theme	Obstacles Encountered in Learning and Implementing Green Valuation Practices			
Code	*Q4: What obstacles do you encounter when learning and implementing "green" valuation practices? Furthermore, do you face any difficulties in adhering to or adopting guidelines such as those provided by RICS or IVSC?*			Respond
LI1	There are no obstacles to learn and implement valuation practices to incorporate ESG/Green initiative	8	100	R1, R2, R3, R4, R5, R6, R7, R8
LI2	We mainly based on Malaysian Valuation Standard (MVS)	3	37.5	R6, R7, R8
LI3	We do not think there is any obstacles to adopt the additional guidelines in future	4	50	R4, R6, R7, R8

Theme	Obstacles in Obtaining Relevant Information or Data Related to ESG/Green Initiatives			
Code	*Q5: What obstacles have you encountered in obtaining relevant information or data related to ESG/Green initiatives during the valuation process?*	Freq	%	Respond

DR1	Difficulties in data availability	5	62.5	R1, R4, R6, R7, R8
DR2	Not many transactions in the market	4	50	R1, R4, R6, R7
DR3	No standard metrics to guide the collection and compilation of data	1	12.5	R1
DR4	Not easy to compile the data	3	37.5	R3, R5, R6
DR5	Comparable Financial data is not accessible as it is private and confidential	3	37.5	R6, R7, R8
DR6	Difficult to obtain data related to Social & Governance Initiatives. Often neglected.	3	37.5	R1, R5, R6
DR7	Client only provide brief description on the components	1	12.5	R7

Theme	Additional Works Required to Incorporate ESG/Green Elements			
Code	*Q6: What are the additional works required to incorporate ESG/Green elements into your valuation reports?*	Freq	%	Respond
AW1	No extra work required, follow the standard valuation procedure with the description on green certification and building specification	6	75	R2, R3, R4, R6, R7, R8
AW2	Beside financial data, collect the other aspect of data. Sometimes through interview with building manager	2	25	R1, R5
AW3	Conduct quantitative or qualitative assessment on the ESG/Green initiatives.	2	25	R1, R5

Theme	Assessment of the Impact of Sustainability on Valuation Variables			

Code	*Q7: How do you assess the impact of sustainability on the valuation variables of commercial properties? (rental income, vacancy, operating expense, risk, terminal value)*	Freq	%	Respond
IS1	The impact of sustainability is reflected to the rental income	8	100	R1, R2, R3, R4, R5, R6, R7, R8
IS2	The impact of sustainability is reflected to the outgoing	8	100	R1, R2, R3, R4, R5, R6, R7, R8
IS3	The rental and outgoing already reflected the impact. There is no adjustment in market yield.	4	50	R2, R3, R7, R8
IS4	Assess the market expected return for the green building to determine the yield	4	50	R3, R4, R5, R6
IS5	Assess the willingness to pay for green building to determine the yield	4	50	R3, R5, R6, R8

Theme	Challenges in Comparing Sustainability Attributes of Comparable Properties			
Code	*Q8: Can you describe any difficulties you encounter in comparing the sustainability attributes of comparable properties? How do you do benchmarking?*	Freq	%	Respond
CS1	No availability of comparable data	4	50	R1, R4, R6, R7
CS2	No difficulties. Just make relevant adjustment subject to valuer's justification	3	37.5	R4, R5, R8
CS3	There are many other significant factors, such as location, tenure…. The sustainability factors are insignificant	2	25	R4, R6, R7
CS4	It is difficult to compare because each component is very difference	2	25	R1, R7
CS5	It is difficult adjust for each difference	2	25	R1, R7

Theme	Challenges in Accessing Market Evidence			
Code	*Q9: Have you encountered any challenges in accessing market evidence to support the valuation of ESG/Green features?*	Freq	%	Respond
ME1	No	5	62.5	R2, R3, R5, R7, R8
ME2	Yes, lack of market transactions	3	37.5	R4, R6, R8

Theme	Additional Specific Challenges in Assessing Value of ESG/Green Initiatives			
Code	*Q10: Are there any additional specific challenges you encounter when assessing value of ESG/Green initiatives in commercial property valuation?*	Freq	%	Respond
SC1	Difficulties in data availability	5	62.5	R1, R2, R4, R6, R7
SC2	Difficult to quantify the effect of green component on market value	3	37.5	R1, R3, R7
SC3	Not knowledgeable, experienced or specialised	3	37.5	R1, R3, R4
SC4	No Challenges in Investment Method	3	37.5	R5, R6, R7
SC5	No clear guideline or metrics of ESG	2	25	R1, R6
SC6	There is no significant difference between green & conventional building	2	25	R4, R8
SC7	Do not know what data to capture to incorporate ESG initiatives	1	12.5	R8

SC8	Most valuers only focus on revenue and outgoing, neglecting the other aspect of data such as carbon footprint, energy efficiency.	1	12.5	R1
SC9	Short term oriented rather than long term oriented	1	12.5	R1
SC10	Client demand for higher market value, but everything is based on revenue and outgoing of the green building	1	12.5	R3

Theme	Recommendations for Private Valuers			
Code	*Q1: What are the recommendations for private valuers?*	Freq	%	Respond
RV1	Adopting the RICS or IVSC guidelines	3	37.5	R1, R2, R6
RV2	Attend seminar, conference, talk or industrial training	2	25	R1, R7
RV3	Adopt the correct methodology, analyse the component properly	1	12.5	R5
RV4	Appoint professional to assist in valuation	1	12.5	R8
RV5	No suggestion	2	25	R3, R4

Theme	Recommendations for Institutional Organizations			
Code	*Q2: What are the recommendations for institutional organisations? (BOVAEAP, RISM*	Freq	%	Respond
RI1	JPPH capture more information on the sale transaction	5	62.5	R2, R3, R6, R7, R8
RI2	Provide practice note or guidance on valuation of ESG	4	50	R1, R2, R5, R8
RI3	Introduce the international guideline in Malaysia	2	25	R2, R6
RI4	Universities to include it in syllabus	1	12.5	R1
RI5	No suggestion	1	12.5	R4