

# The Impact of ESG Components on Market Value Changes in Commercial Property Valuation: Challenges and Insights from Sri Lankan Valuers

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**Article history:** Received: 27 December 2024 Received in revised form: 27 April 2025

Accepted: 2 May 2025 Published online: 30 June 2025

DOI: <https://doi.org/10.11113/intrest.v19n1.407>

## Abstract

The study empirically verifies whether ESG components play a significant role in impacting the market value of commercial properties in the context of Sri Lanka along with identifying the issues and challenges associated with the ESG application in commercial property valuation. The study employed both qualitative and quantitative research approaches that involved scaled questionnaires and structured interviews with preset samples. The findings from quantitative analysis reveal the highest mean value is recorded in the environment component (3.72), while the correlation is positive with overall ESG and significant on all three ESG components. The issue of limited concern of ESG by the small-scale commercial properties and the challenge in quantifying ESG components present as the major challenges that the valuers face was highlighted in the content analysis. This research contributes to the literature on the relationship between the perspective of the ESG consideration by the valuers and market value and the challenges and issues faced by professionals in the valuation of commercial properties in Sri Lanka. The study draws the attention of responsible authorities to consider developing a framework to consider ESG in property valuation.

**Keywords:** Commercial property, ESG, Market value, Sustainability, Valuers' perception

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## 1.0 INTRODUCTION

The global standards for property valuation declared by the Royal Institute of Chartered Surveyors (RICS) (2021a) defined valuation as "an opinion of the value of an asset or liability on a stated basis at a specified date unless limitations are agreed upon in the terms of engagement this will be provided after an inspection and any further inquiries that are appropriate having regard to the nature of the asset and the purpose of the valuation." The guidance note introduced by RICS in 2021 indicates the requirements relating to sustainability in commercial property, which is known as investment property in the market. Thus, valuing such property, there may be plant and machinery included that should consider the environment, social, and governance considerations (ESG) as the sustainability factor to be concerned about in the property valuation context. The Red Book for global standards of valuation states that valuers should be aware of sustainability features and the implications these could have on property values. Sustainability covers a broader range of environmental, economic, and social factors defined as three dimensions in the global UN Sustainable Development Goals. RICS (2021a) pointed out that this range of factors sometimes refers to the investment context as environmental, social, and governance (ESG). By considering that the valuer assesses the subject property through inspection and gathers necessary information to determine the property value through their expertise in the standards and framework. To adhere to that process, the valuer needs to have up-to-date knowledge to facilitate the clients' demands. Hartenberger (2008) elaborates on this adaptation of up-to-date knowledge as a consideration of 'sustainability issues' in property valuation. The paper pointed out that the 'building characteristics defined in traditional valuation methods and practices are now termed sustainability issues. This indicates the fact that even in the past scholars had the concern about ESG in different terms to address the sustainability in property valuation. In line with Hartenberger's (2008) discussion, later, Warren-Myers (2013) had an interest in identifying whether valuers have adequate knowledge of sustainability, what variables they consider as 'sustainable features,' and what level of influence there is. Traditionalists believed that only financial values motivate activities of entrepreneurship, yet the paradigm shifted to incorporate social and environmental values for further development of business activities (Anand et al., 2021). Notably, there are continuous discussions on the potential of sustainability orientation of properties to enhance the market values (RICS, 2024). Sustainable investing describes the practice of investors considering ESG when making investments (Mansouri & Momtaz, 2022).

In the present context of the property valuation framework, it prominently sees the recognition of the environmental, social, and governance factors as a new subject domain that significantly augments the value of the property. ESGs are the increasingly used criteria that serve as a framework for assessing a company's sustainability and ethical practices that impact its financial performance, attractiveness to investors, and overall operations (RICS, 2021a). Further, ESG shows how it allows valuers to predict a business's future success without using historical financial data and other comparative data. Through analyzing the ESG factors further, valuers can assess the commercial property's risk tolerance by corresponding to its property value (RICS, 2024). As ESG is a relatively prominent phenomenon in property valuation, consequently, the little literature relating to ESG made the subject gap exist in the extent to which the ESG-driven opportunities enhance the economic advantages of properties and in what capacities they can significantly augment the value of a property, extending the valuers' role to attain the ESG orientation.

Since ESG has become the main concept in the context of assessing the sustainability of the corporate world (RICS, 2024), valuers are also concerned about this factor when performing their professional duty in the Sri Lankan context. The Institute of Valuers in Sri Lanka (IVSL) plays a pivotal role as the primary authority for valuation in the country. Sri Lanka is rich in natural resources and incorporates the values of sustainability in many plans. Machmuddah and Wardhani (2020) found that Sri Lanka is most concerned about ESG aspects in corporate sector operations among the 22 countries assessed. Moreover, environmental and social performance have received higher ratings in the corporate sector in Sri Lanka. The study emphasizes that Sri Lankan enterprises are increasingly committed to ESG reporting, supported and controlled by the government. The study in the Sri Lankan context further acknowledged the overall positive relationship between ESG performance and the individual and collective effects on the market value of the selected companies listed in the Colombo Stock Exchange (CSE). Consequently, the above findings certify the trend in Sri Lanka being aligned with the global requirements to promote ESG in economic benefits. Thus, it stresses the point that concentrating on ESG is becoming important in the commercial property valuation process in Sri Lanka (Viduranga & Fernando, 2022). Yet there is no evidence of a formal study that has outlined whether ESG is promoted in the process of commercial property valuation or whether valuers consider ESG to make any changes to the market value of commercial property in Sri Lanka, which has been disclosed by the Institute of Valuers Sri Lanka (IVSL). Therefore, to cover this empirical gap, a proper study is required. Thus, this study focuses on two objectives: (i) to analyze the association between the ESG components and market value changes in the practice of valuers. (ii) to uncover the challenges faced by valuers in the application of ESG elements in commercial property valuation in Sri Lanka through the perspectives of professional valuers.

## ■ 2.0 LITERATURE REVIEW

### 2.1 Introduction to ESG

The incorporation of environmental, social, and governance (ESG) considerations into investment processes and decision-making is a common understanding of responsible investing. Although they are typically outside the purview of financial analysis, ESG considerations encompass a wide range of topics that may be pertinent to finance. The ESG concept originated in the year 2005 by Ivo Knoepfel through the landmark study of "Who Cares Wins," which gained interest from the International Finance Corporation (IFC) and the Swiss Government later (Kell, 2018). The foundation for the development of ESG was set up in 2006 when the New York Stock Exchange established the Principles for Responsible Investment (PRI), and the following year witnessed the launch of the Sustainable Stock Exchange Initiative (SSEI). Presently, the primary function of the PRI is to serve as the principal organization that promotes the integration of ESG factors into analysis and decision-making processes. This is achieved through the development of tools, guidance, and engagement initiatives that assist in making informed investment decisions (Kell, 2018).

The Sustainable Stock Exchange Initiative (SSEI) is a joint program led by the United Nations Conference on Trade and Development (UNCTAD), UN Global Compact, United Nations Environment Programme Finance Initiative (UNEP FI), and Principles for Responsible Investment (PRI). The goal is to improve stock exchanges and securities market authorities' ability to promote responsible investment in sustainable development and improve business performance in environmental, social, and governance aspects (Sustainable Stock Exchanges, 2019). Consequently, ESG has gained international recognition and is crucial for businesses to implement in unstable environments to ensure growth and corporate citizenship.

Considering the importance of the ESG concept, environment, social, and governance are three central factors in measuring the sustainability and ethical impact of investments, which will be the core for ESG investments involving the company's long-term sustainability (Zhang et al., 2022). During a global economic downturn such as the COVID-19 pandemic, interest rates decreased, resulting in a reduced cost of capital. This, in turn, increased the present value of future cash flows and bolstered the overall value of the business. Under such conditions, the ESG framework was a significant factor in determining the actual value of a company (Prall, 2021a). International Financial Reporting Standards is launching an ESG project to elicit feedback on the need for globally approved standards that evaluate their support for engaging in the development of these standards. A consultation paper has been released to gather stakeholder input towards this objective (Maurer & Broughton, 2020). Furthermore, to enhance the comparability, applicability, and reliability of such non-financial information, the European Financial Reporting Advisory Group (EFRAG) has established a task group concerned with formulating non-financial reporting standards to increase company reporting quality, uniformity, and coherence, which are essential to building sustainable financial markets (XBRL, 2020).

As Sri Lanka is a developing country, adhering to ESG factors and conducting the country's operations will be very important. As Ahmed and Suphachalasai (2014) mentioned, Sri Lanka will reduce its GDP by 2% by 2050 due to not taking the proper measures to overcome climate change, which is also one of the aspects of the ESG factor. Therefore, valuing ESG better-performing entities with a higher value than other ESG non-performing entities by following standard criteria will facilitate the promotion of the ESG performance of the

companies in Sri Lanka. Hence, it's the duty of the valuer to be concerned with the ESG criteria when valuing commercial property for the respective purpose.

Even though ESG is a relatively new idea in the Sri Lankan context, some laws can be identified as supporting it because environmental concern is significantly considered by the national governance in Sri Lanka. "Minister shall determine by order published in the Gazette the activities in respect of which a license is required to be obtained under this Act, being activities which involve or result in disclosing, depositing, or emitting waste into the environment causing pollution," according to the National Environment Act No. 47, 1980, which addresses environmental protection. Additionally, when assessing commercial property in Sri Lanka, the license may have concerns about other tests such as the Initial Environment Examination Report (IEE) and Environment Impact Assessment Report (EIA). This has created the background for valuers to be concerned about whether the respective property complies with such regulatory requirements in the valuation process.

## 2.2 Importance of the ESG in Commercial Property Valuation

The state of the real estate market is taken into consideration when determining market value. It mainly represents the expectations of potential buyers and sellers of real estate, accounting for elements like property quality. In contrast to a building with a high green rating, buyers and sellers are likely to agree on a reduced selling price if the building's green rating has declined (Kats & Capital E, 2003). Research limitations in recognizing the full characteristics of green building emphasize the need to identify proper methods. Focusing on constraints regarding the broad area of analysis, which does not cover only economic effects, there are limitations in research on identifying the benefits of green concepts in buildings (Ciora et al., 2016). Therefore, this fact emphasizes that a valuer needs to follow ESG components in the structured valuation process to ascertain a property's market value. RICS (2021a) further emphasizes that valuers should have a working knowledge of the various ways that sustainability and ESG can impact the value of the property. This may be due to physical risk being obsolete or may be transition risk with legal restrictions.

An interesting feature in the property valuation with respect to sustainability features is the concentration of incorporating ESG in property valuation, focusing on terms such as 'sustainability issues and 'sustainability variables or tools that are probably considered by a valuer has been assessed by collecting primary data through surveyors in different periods (Hartenberger, 2008; Lützkendorf & Lorenz, 2011; Warren-Myers, 2013; 2016; Warren-Myers et al., 2018). Describing the results of the survey, Warren-Myers et al. (2018) mentioned that 80% of valuers understand that sustainability in the built industry means environmentally friendly buildings with reduced footprints and long lifespans. Half of the valuers replied that they wrote a note on the sustainability features in the reporting. Among the findings, Warren-Myers et al. (2018) added that many valuers opined that the difficulty involved in the calculation of sustainability is where the comparable does not focus on incorporating sustainable aspects. The quantifying difficulty confirmed by a recent study conducted by Jayasiri and Wickramaarachchi (2024) in Sri Lanka on how valuers consider green features in property valuation identified that there are recognized financial benefits in the application of green features that are declared by the Green Building Council in the process of constructions however, to quantify these benefits in estimating the market value, there is no proper framework or guidance declared. Palm (2025) discusses a similar idea that sustainability is not directly integrated in reporting. However, his study unveils that all the respondents tend to consider sustainability data that they are familiar with, such as environmental certifications, energy declarations, and certifications. The first two are then included in the valuer's assessment and valuation report. The RICS guidance note recommended hiring the expert service in case the valuer is unaware of any matter related to estimations. Michl et al. (2016) emphasize that sustainability factors are more likely to impact calculations for investment value than market value estimates. The study highlights the significance of sustainability in determining market value and worth.

The concept of sustainable development, which includes economic considerations, has sparked a fresh approach to construction and the creation of sustainable buildings. A study conducted in Poland discovered that property valuation that takes into account environmental, ethical, and moral factors is essential in promoting sustainable buildings and green investment strategies (Kucharska-Stasiak & Olbińska, 2018). Nguyen et al. (2024), trying to identify whether ESG factors truly enhance real estate companies' valuation, discovered that the firms with better ESG ratings demonstrate exceptional stock market success and a noteworthy ability to rebound from a crisis like the COVID-19 pandemic. Further, they identified that by incorporating sustainability and responsibility into their operations, businesses may reduce risk, perform better over the long run, and benefit society and the environment.

Homebuyers and non-local buyers are more willing to pay a premium for sustainability in property management than real estate speculators and local buyers. Additional evidence suggests that ESG practices play a more significant role in affecting property value through lower risk or a higher rental income growth rate (Shen et al., 2024). This shows the importance of the way that housing prices increase with the social and governance performance of property management companies.

The study by Koczar et al. (2023) stated that utilizing the enterprise value indicator as a metric to assess a company's sustainability, considering its financial state and management's capacity to generate value for both shareholders and stakeholders. An increase in the value of a firm can be indicative of improved operational efficiency, adoption of innovative technology, expansion of the client base, and diversification of commercial activities. Also, it proposes that ESG aspects should be considered when evaluating the worth of a corporation, including modifying cash flows and discount rates to accurately reflect associated risks. Further, Koczar et al. (2023) demonstrate the practicality of computing a discount for lack of marketability (illiquidity) rather than liquidity and suggest the utilization of Mandelbaum factors for ESG coefficients. Therefore, the practical applications in addressing company cost management issues that are relevant to sustainable development and the economy are acknowledged by Koczar et al. (2023).

Given that ESG disclosures are mostly concerned with non-financial factors, some people may contend that they have no direct bearing on the entity's financial performance. This kind of reasoning contradicts the reality that a company's long-term sustainability and financial health are determined by a wide range of criteria that are included in ESG. Consequently, the analysis must transcend precise revenue estimates (which consider quantity and pricing) and instead focus on strategies that enable a company to generate value when evaluating its value over a longer time horizon, like the medium to long term. Therefore, ESG has become a framework that capital investors can use to

evaluate this important factor, and it will promote sustainable investment selections and enhance investors' comprehension of the company's worth (Parnell, 2022; Giese et al., 2019; Suretno et al., 2022).

According to Barker et al. (2020), businesses should have a plan that addresses regulatory changes and climatic problems. Additionally, tailor social policies and standards to attract and retain customers and employees, and the company's governance architecture should be resilient to potential future challenges. While these elements may not immediately affect the company's financial accounts, they can foretell its future success. Giese et al. (2019) found that companies that include ESG information have improved valuation and performance. Reduced unsystematic risk factors, such as enhanced profitability and reduced exposure to severe hazards, and improved systematic risk factors, such as lower cost of capital and better valuation multiples, lead to this outcome.

Similar studies, conducted by Yoon et al. (2018) and Miralles-Quirós et al. (2018) on the market value of companies listed in Korea and Brazil, it is evident that there is a positive correlation between the Environmental, Social, and Governance (ESG) performance and the market value of companies worldwide. Therefore, by implementing ESG principles, businesses can increase profitability, reduce risk, minimize the cost of capital, and increase value multiple times.

### 2.3 Application of ESG in Different Valuation Approaches

ESG factors are expected to gain significance in the future, necessitating a standardized approach to incorporating them into valuation. Regulations are evolving towards a homogenous ESG measurement framework, enabling practitioners to better capture and quantify ESG considerations. This aligns financial incentives, encourages companies to adopt sustainable practices, and balances short-term financial goals (Woo & Tan, 2022). Therefore, it is the duty of a valuer to identify the ESG components which significantly affect the market value of the property because, with the concern of market dynamics and the trends affecting buying behavior, there is a high tendency for the buyers and seller behavior to the amount of money that they pay for the commercial property based on the ESG performance of the commercial property (Adair et al., 1996; Mallinson & French, 2000).

Kats and Capital (2003) show that the money saved on operating costs over time can cover the extra cost of construction on sustainability improvements. This indicates that buyers are increasingly concerned about environmental, social, and governance (ESG) factors to ensure that the premium that they pay is worth enough compared to the future performance of the property derived from the sustainability features.

Furthermore, Fuerst (2008) has shown that there is an increase in rent payment by the tenants for the respective property with the adherence to the sustainability features.

Followed by the global concerns of ESG, the International Valuation Standards Council Perspective Papers have mentioned the way the valuers can incorporate ESG in the valuation process. Accordingly, there are three valuation approaches: market, income, and cost approaches, as follows:

#### 2.3.1 Market Approach

When valuing a property using the market approach, it is necessary to first identify comparable in the same industry that have similar characteristics (Prall, 2021b). For instance, if the subject property is a hotel, it is necessary to evaluate and assess the ESG performance of hotels in the same industry before assessing the ESG criteria of the subject property. The market variables, such as the EBITA multiple, etc., must then be properly adjusted for the subject firm, considering its performance in comparison to other businesses of a similar kind. When a valuer is hired, they should learn about the size, possible hazards, future growth, business compatibility, and other relevant details pertaining to comparable organizations. They should also assess the subject company's attributes and performance. The following action involves modifying the subject entity's market input based on its relevant performance relative to similar businesses (Prall, 2021a).

#### 2.3.2 Income Approach

Based on the subject of entity's performance, the income method and the market approach are comparable in terms of comparison. This attempt to predict the property's future performance may raise explicit concerns, which could make estimating the property's value more difficult. An additional adjustment that might be made in this case is that the required adjustments are being made to reflect the company's ESG performance to the projected future cash flow during the valuation process. Comprehending the subject company profile in detail and evaluating the performance of other companies within the same industry are the best ways to accomplish this (Prall, 2021a). According to the study by Cornell & Damodaran (2020), ESG actions must enhance cash flow or lower risk to increase corporate value, because being good may lower value for some firms. Being good improves a company's operating performance (increases cash flows) and is weakly supported, while being terrible can make funding more expensive.

#### 2.3.3 Cost Approach

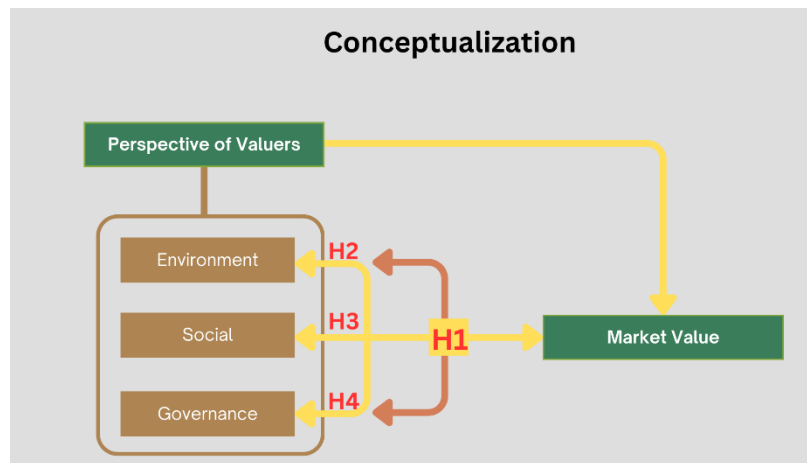
In the cost approach, the valuer derives the value of the property by how much of the cost that might be spent to build a similar building and deducts the accumulated depreciation and the other expenses for obsolescence to derive the current value of the building. Here the valuation can be done by considering the cost that needs to be incurred for an ESG-compliant building (Aronsohn, 2021). So, in here it considers the value change that needs to be considered due to the added value of the enhanced ESG components up to some extent. In some instances, minor adjustments are made to obsolescence value, accumulated depreciation the value change based on the ESG factor performance higher the performance rate the value which is deducted as obsolescence also get reduce and enhance the value which is derived by the cost approach to the property (International Valuation Standards Council, 2024).

### ■3.0 METHODOLOGY

The research utilizes a mixed approach, combining quantitative and qualitative methods, catering to the study objectives. The quantitative analysis aims to quantify the significance of ESG in determining market value, using numerical evidence. In contrast, the qualitative analysis explores valuers' experiences, identifying issues and challenges in applying ESG in commercial property valuation.

#### 3.1 Research Approach and Design

According to Lorenz and Lützkendorf, 2008, “the rationale for integrating sustainability aspects into property valuation theory and practice originates from two basic sources, namely, I. the role of valuations within the economy and society II. from the basic goal and tool of any property valuation undertaken. According to Tanaka (n.d.), “To back the sustainability the ESG mechanism aims to decrease the number and scale of the failures”. This shows that the valuers tend to be concerned with ESG aspects when they concern sustainability aspects by incorporating to the market value of the respective property. Consequently, the respective study focuses on the impact of ESG performance of commercial property in determining market value by the valuers. Accordingly, the conceptualization of the study is as follows:



**Figure 1** Conceptualization

As shown in the conceptualization model presented in Figure 1, the independent variables of the study were environmental, social, and governance components, and they are assessed via the metrics mentioned in Table 1. The dependent variable was the impact on the market value of the commercial properties. The above conceptualization has been derived based on the facts revealed from the literature that discussed there is a value addition of ESG to the commercial properties (Rastogi & Singh, 2023; Moro-Visconti, 2022). Correlation analysis has been conducted to analyze the impact of ESG consideration by the valuers on the market value of commercial property. Accordingly, the hypothesis tested in the correlation analysis of the study can be listed as follows:

- H1: There is a positive relationship between the overall ESG components and the market value changes in the commercial properties.
- H2: There is a positive relationship between the environmental component and the market value changes in the commercial properties.
- H3: There is a positive relationship between the social component and the market value changes in the commercial properties.
- H4: There is a positive relationship between the governance component and the market value changes in the commercial properties.

#### 3.2 Population and Sample

The population of both analyses is registered professional valuers who are fellow, graduates, and associates, of the Institute of Valuers Sri Lanka (IVSL) and the Royal Institute of Chartered Surveyors (RICS). A sample of 30 members having experience equal to or above 10 years were selected. The convenience sampling technique was adopted to select the sample for the quantitative analysis because the valuers are spread across the country and face to face access is difficult. Thus, the valuers who are working at the government valuation department of Sri Lanka during the time of survey, in two city areas named Gampaha and Colombo, were contacted. The total population in this context is around 75 members. Hence the valuers with manageable access were selected due to the questionnaires being distributed physically. For the in-depth insights in the qualitative analysis, the 05 most senior members qualified as FRICS or FIVSL were selected using the purposive sampling technique.

#### 3.3 Data Collection

To get the valuers' consideration on ESG and the market value that they have derived for the commercial properties' questionnaire, it was specifically prepared under the following sections for the quantitative analysis:

Section 1: Data on demographic profile, such as level of education, experience, and professional qualification in the field of valuation. Frequency distribution is used to present the demographic aspects in the analysis.



Section 2: This was comprised of five-point Likert scale questions (statements) to collect the level of ESG consideration by the valuers in the commercial property valuation. These questions were based on all the metrics mentioned in the IVSC Consultation Agenda Paper (IVSC, 2020) under three different headings. The operationalization is given in Appendix B. Accordingly, the Likert Scale questions were based on each subcategory under the environment, social, and governance factors, emphasizing the fact that each subfactor should be considered for the valuation. As per the scale which is given by the valuers, their opinion was scored to identify the level that they consider each ESG factor. The Likert-scale data were analyzed using mean value to see the central tendency of the data, and secondly, the correlation technique was used to analyze the relationship.

Section 3: This section is devoted to collecting data on the changes in market value for the purpose of market value. Thus, the valuers were directly questioned whether they had made any value changes with respect to the ESG performance of the commercial property using a five-point Likert scale question (Statement) as follows:

- Do you do any value additions or deductions to the market value you derived for the commercial properties based on the ESG performance of the commercial property during the last five-year period? This data is used under the correlation analysis as the dependent variable.

For the qualitative analysis, face-to-face interviews were conducted among the selected 5 most senior valuers based on two open-ended questions as follows:

- What are the issues and challenges that the valuers face in the application of ESG in commercial property valuation? To identify the most significant issues and challenges that the valuers face in the application of ESG in commercial property valuation.

- What solutions have they implemented and suggested to overcome the issues and challenges that they have mentioned above? To identify the methods that they have used and suggestions to overcome those issues and challenges. To analyze the qualitative data, a fishbone analysis and a thematic analysis were used.

The Cronbach's Alpha test results conducted to test the reliability of data show as 0.822 for the ESG components, respectively. The values are above 0.7 and validate the fact that the data comply with reliability requirements and hence qualify for further analysis.

KMO, Bartlett's test of sphericity, and Average Variance Explained have been conducted to test the validity of the data set.

The KMO test results for ESG components indicated the respective values as 0.658, which is above the value of 0.5, illustrating that the data are in line with the KMO test.

In Bartlett's Test of Sphericity values for the ESG components were 0.000 for all three variables which is lesser than the significant level of 0.05 which implies that the data is compliant with Bartlett's Test Sphericity.

For the Average Variable Explained, the values 0.66, 0.86, and 0.95, respectively, were obtained for the ESG components, which were greater than the value 0.5, and it complies with the Average Variable Explained test.

Prall (2021b) and Aronsohn (2021) interpret how to apply ESG in the three valuation approaches of income, cost, and market approaches and discuss challenges that could be faced in the application of ESG in the valuation process. To get a comprehensive understanding of these issues and challenges that the valuers face in the Sri Lankan context, the interview schedule in the qualitative analysis was prepared by considering this matter.

## ■4.0 RESULTS OF QUANTITATIVE ANALYSIS

### 4.1 Background Information of the Respondents

The level of experience and professional qualification that the population possesses is a key factor in this level of study. According to Table 1, when considering the years of experience that the valuers possess in the sample considered in the research analysis, 96% of the valuers have more than 10 years of experience in the practice field of commercial property valuation, and this fact enhances the credibility of the research analysis.

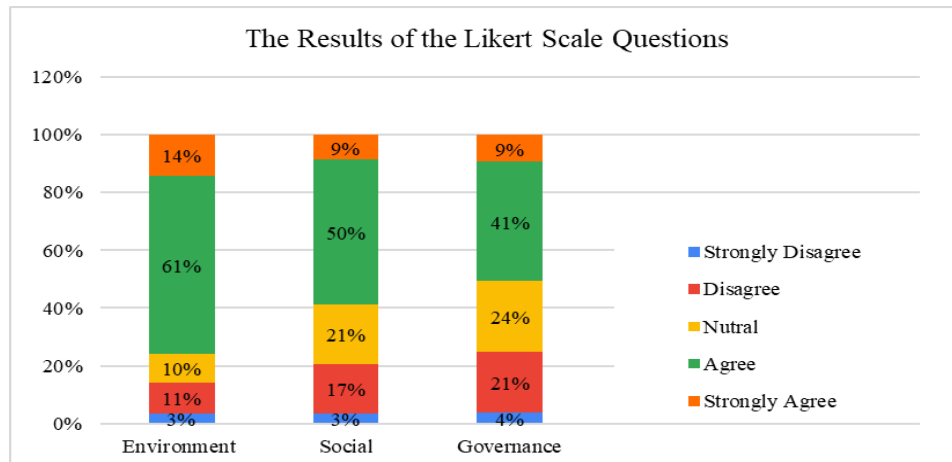
When considering the valuation qualification to practice as a valuer in the field of property valuation, 25 valuers hold "FIVSL", "IVSL", and "AIVSL" qualifications that are needed to practice as a valuer in Sri Lanka. Not only that, 5 valuers hold FRICS and MRICS qualifications that are needed to practice as valuers to practice locally as well as internationally.

**Table 1** Demographic description

Demographic Description	%
<b>Number of Years of Experience of the Respondents</b>	
10 years	34
11-20 years	63
21-30 years	3
<b>Valuation Qualification of the Respondents</b>	
FIVSL	3
IVSL	77
AIVSL	3
FRICS	7
MRICS	10

#### 4.2 Mean Comparison Analysis of the ESG Components

Figure 2 represents the results of the Likert scale questionnaire, and accordingly, it denotes the frequency of agreement (agree and above), thus 75% on environmental, 59% on social, and 50% on governance components. Results indicate that a considerable number of valuers are in agreement to consider ESG in deriving the market value.



**Figure 2** Results of the Likert scale questionnaire

Further, the analysis of mean value in Table 2 supports and justifies the Figure 2 results showing the level of agreement of the valuers. Consequently, the mean values of all components are above 3 and represent that the level of agreement is positive (agree=4 or strongly agree=5; the comprehensive mean value of each subcomponent under ESG is shown in the Annexure). The result shows that the valuers considered primarily the environment component, next to the social, and in last place, the government components. Thus, the results motivate us to identify the significant level of association with the market value changes of the commercial properties.

**Table 2** Mean value components obtained through Likert-scale questionnaire

Component	Mean Value	Standard Deviation
Environment	3.73	0.868
Social	3.53	0.730
Governance	3.23	0.774

#### 4.3 Inferential Analysis of Influence on the Market Value of Concerning ESG in Commercial Property Valuation

To analyze the relationship between the market value changes and ESG components by the valuers, the results of the Five-Point Likert Scale directed the question that was raised by valuers on whether they do any changes to the market value of the property in accordance with the importance of ESG factors as the dependent variable. The normality distribution test shows the significance level of the Shapiro-Wilk is 0.000, which is below the significance level of 0.05, and concludes the fact that the data is non-normally distributed.

Therefore, the non-parametric correlation test of Spearman Rank correlation was conducted to identify the significance level of the relationship between the ESG components and the market value changes as per the above hypotheses.

**Table 3** Spearman Rank correlation test results

Components	Correlation coefficient
<b>Environment</b>	Correlation coefficient 0.637
	Sig. (2-tailed) 0.000***
<b>Social</b>	Correlation coefficient 0.429
	Sig. (2-tailed) 0.081*
<b>Governance</b>	Correlation coefficient 0.337
	Sig. (2-tailed) 0.074*
<b>ESG Average</b>	Correlation coefficient 0.443
	Sig. (2-tailed) 0.014*

\*\*\*significant @1%

The results presented in Table 3 reject all four null hypotheses and support the alternative hypotheses. Exploring results separately reveals that there is a positive and significant (p-value 0.000) moderate relationship (0.637) between the environmental component and the market value changes. Considering social and governance components, there is a positive and significant (p-value 0.081, 0.074) correlation

with market value changes. The average value of ESG also has a positive and significant (p-value 0.014) relationship with market value changes. Hence, it is evident that the valuers are highly concerned about the environmental component when deriving the market value of commercial property. In addition, they consider all three components in deriving the market value of commercial properties.

## ■5.0 RESULTS OF QUALITATIVE ANALYSIS

This section presents the results of the in-depth interviews conducted with five experts. Table 4 lists the demographic details of the interviewed valuers.

**Table 4** Spearman Rank correlation test results

	Res#1	Res#2	Res#3	Res#4	Res#5
Number of Years of Experience	30	19	21	17	25
Professional Qualification	FRICS & FIVSL	FRICS	FIVSL	FRICS & FIVSL	FRICS

The following details show the summarized view of the responses interviewed.

**Res#1:** "...the main issue in relation to the ESG factors is we cannot quantify those things in the valuation to an exact figure for ESG in the valuation methods and approaches..... Hence, no valuation report specifically mention the ESG factors and the value additions. As this is a novel concept, there is no proper mechanism to disclose this in the reports where the clients could identify the fact that the valuer has been concerned about the ESG factor. However, this concept is currently used and concern by the high-level business clients when doing the valuation..."

"...to disclose ESG factors according to my knowledge, valuers need to question the ESG performance of the respective commercial property that they value from the client. To address the ESG factors and do the valuation, a valuer needs to have updated knowledge about the current scenarios in the local and world context... The information that the valuers collected concerns ESG, and do the valuation valuer need to find out the audited financial reports..."

**Res#2:** "...the greatest challenge in relation to this is to identify the factors and quantify ESG. Small-scale commercial properties do not consider that much of the level of application of ESG..."

"...quantifying the ESG factors could be overcome if the valuation is done based on the DCF method, but valuers are still seeking a method to quantify these ESG factors. Valuers must do more research and identify how much the market would pay for the ESG factors and should do the valuation by reflecting ESG. If there is a value for ESG, valuers should reflect it in the valuation. By doing some qualitative disclosures in the valuation report, this problem of quantifying ESG can be overcome to some extent. Need to have proper regulatory requirements to convenience and enhance the application of ESG in small-scale commercial properties..."

**Res#3:** "...because of some acquisitions done by the government, ESG governing institutes have created a conflict of interest when certifying the respective commercial property.... Only branded companies, also known as high-end commercial, are willing to apply the ESG concept other types of properties, such as small- and medium-scale commercial properties, are not willing to apply ESG.... The nonavailability of proof to justify the reason behind the value change of the commercial property with application of ESG factors..."

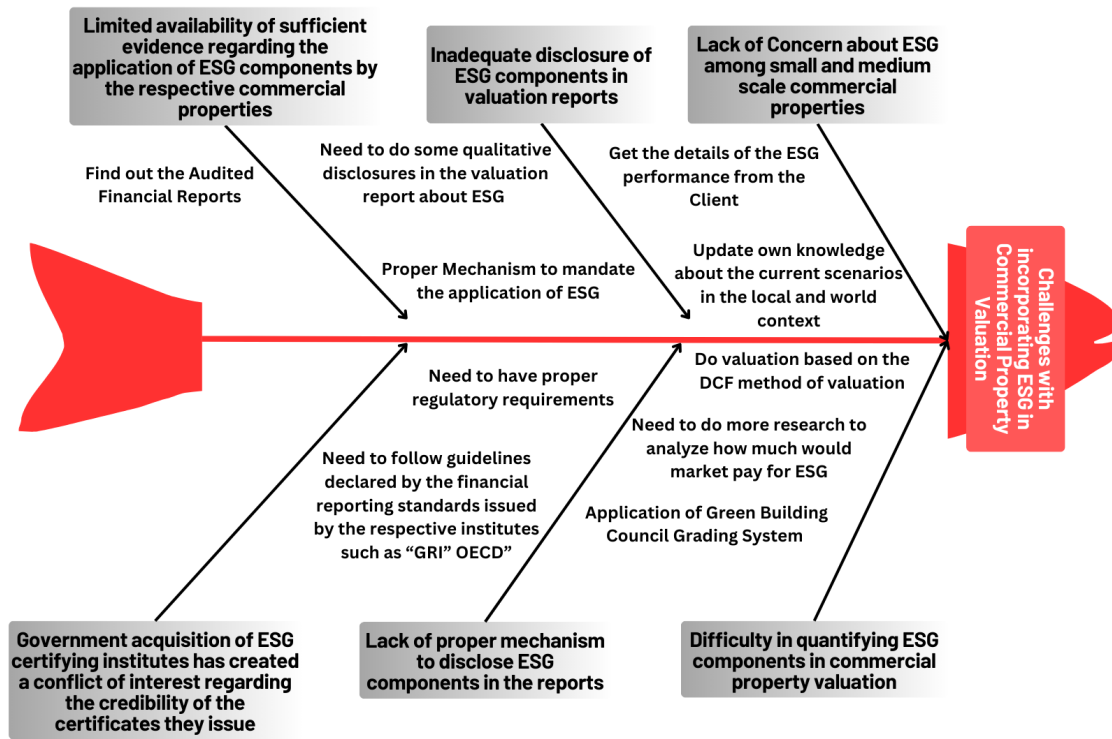
"...especially in valuing commercial properties need to follow the guidelines declared by the financial reporting standards issued by the respective institute GRI & OECD.... The respective quality assurance institutes like Green Building Council have to certify with required level application of ESG factors to the respective property by adhering to a respective grading system. According to that grading system valuers should determine the value that should be given to the respective property. Need to have a proper mechanism to mandate of application of ESG real estate industry via rules & regulations which ensures the enhancement of the knowledge of the respective stakeholders of the commercial real estate properties..."

**Res#4 :** ... The main issue that I have when valuing the commercial property quantifying the ESG component separately but..... also I have noticed when I am taking ESG into account that small-scale enterprises do not consider ESG in their business and explicitly they are not available to do value additions according to the knowledge that I have gathered and the self-experience of concern of ESG I try to identify the places that the value can be enhanced to the property.....

**Res#5:** ...as this is a novel concept, many businesses do not consider ESG in implementation, as there is no regulatory requirement for it. However, I do continuous research to identify ESG allocation, which I can do by identifying the ESG features of the commercial properties in respective to their comparable of them and also, I mostly try to use the DCF method of valuation, where I could do percentage adjustments by doing some qualitative disclosures for the ESG components... but there is no proper mechanism do it, and there might be inadequate disclosures in the report as a result of ....

Figure 3 presents the summarized results of the previous discussion.





**Figure 3** Fishbone diagram on challenges with incorporating ESG in commercial property valuation

In this research, we used the fishbone diagram (Figure 3) to represent the insights of valuers in a summative format. The fishbone diagram also called an Ishikawa or cause-and-effect diagram, helps organize and present complex information. It breaks down valuers' responses into key categories, showing the different aspects of the challenges and respective potential solutions that represent current measures and suggestions. This visual tool makes it easier to understand the interconnected factors affecting decision-making in property valuation and provides a detailed view of the root causes and potential solutions, helping to further discussions on integrating ESG considerations.

Further to conclude challenges faced by valuers, a content analysis was conducted and depicted in Table 5.

**Table 5** Content analysis concerning challenges in the application of ESG

Challenges	RE1	RE2	RE3	RE4	RE5	Total
I&C1: Limited concern about ESG among small and medium-scale commercial properties	☑	☑	☑	☑	☑	5
I&C2: Difficulty in quantifying ESG components in Commercial Property Valuation	☑	☑	☐	☑	☐	3
I&C3: Inadequate disclosure of ESG components in Valuation Reports	☑	☐	☐	☐	☑	2
I&C4: Lack of a proper mechanism to disclose ESG components in the reports	☑	☐	☐	☐	☑	2
I&C5: Limited comparable evidence regarding the application of ESG components with respect to commercial properties	☐	☐	☑	☑	☐	2
I&C6: Government acquisition of ESG-certifying institutes has created a conflict of interest regarding the credibility of the certificates they issue.	☐	☐	☑	☐	☐	1

According to the results in Table 5, all five valuers believed that the crucial challenge is the limited concern about ESG among small and medium-scale commercial properties. In addition, similar importance is shown as the difficulty in quantifying ESG in the market value. Another conflict situation though present as the lowest challenge is the government acquisition of ESG certifying institutes has created a conflict of interest regarding the credibility of the certificates they issue.

## 6.0 DISCUSSION

The result of the quantitative analysis shows that all three components have mean values above three, indicating the level of agreement of valuers to consider ESG is acceptable and exists a positive and significant relationship between the ESG components and the changes in market value. This demonstrates that valuers make certain changes to the market value they derive in commercial properties considering the ESG components. Much of the early research related to ESG and property valuation has been considered not directly as ESG but as 'sustainability features. In this context we find that our results are in line with the findings of Warren-Myers (2013) results as the article said

that ‘all appeared to have some level of positive influence on value’, according to the perception of valuers on the eight sustainability characteristics considered in the paper as sustainability features (energy efficiency, water conservation, low emission, indoor environmental quality etc.) listed and tested in that research. We identified that these sustainability characteristics are found in the ESG components. The same findings were further supported by the results presented by the same author in 2018 quoted ‘minimal level of details on sustainability included in the report written by valuers Warren-Myers (2018). Further to note that, Gawęda (2022) concludes as on the strong correlation between ESG and market values of properties.

Next, the results of the qualitative analysis explore the challenges faced by valuers in the actual application of ESG in commercial property valuation. The limited focus on ESG factors in small-scale properties has been identified as a major concern. This issue is primarily supported by two key facts. Firstly, promoting sustainable characteristics in buildings incurs significant costs in Sri Lanka. Secondly, there is limited knowledge among clients in Sri Lanka about the importance and benefits of ESG, which results in a lack of emphasis on these factors by small-scale commercial properties. Further, difficulty in quantifying the ESG components and inadequate comparability in the market are some other challenges. Similar to this study Warren-Myers (2013) have highlighted the fact that there is problem of assessing sustainability features in property valuation. Lorenz and Lützkendorf (2008), has highlighted the fact that there is a problem of identifying comparable for the application of ESG when the valuation is conducted based on the “Sales comparison method of valuation”.

A recent Sri Lankan study by Jayasiri and Wickramaarachchi (2024) conducted on identifying how valuers consider green features in property valuation also supports the same view, where they mentioned that the valuer's awareness and knowledge of green features is at a moderate level, and most of the valuers do not consider green features in property valuation due to the lack of proper guidelines and framework. Our results in this study are in line with the findings of Michl et al. (2016), who stated a ‘lack of knowledge of the guidance, paucity of data’ and Warren-Myers (2018), who stated a ‘limited knowledge, reluctance to consider sustainability in the valuation process, poor verification or investigation of sustainability considerations, client instructions did not direct valuers to consider sustainability, lack of data and limited tools for detailed analysis substantially limits the incorporation of sustainability in property valuation.’

The theory highlighted in Warren-Myers (2013) and Lorenz and Lützkendorf (2008) highlighted that valuers tend to interpret sustainability components in the reports. The qualitative study of this research also emphasizes the same fact that the valuers “need to do some qualitative disclosures in the valuation report about ESG.” Furthermore, this study has given more insights into the above theory that the valuers tend to do value changes with consideration of ESG components in the Sri Lankan context, which shows the milestone of evolution of the application of ESG in the local context.

## 7.0 CONCLUSION

Turning to the importance of ESG and applications, a considerable number of studies have been done in the business and investment field, indicating the incorporation of ESG leads to higher performance and higher firm values. These outcomes confirm that the incorporation of ESG into buildings increases the financial and economic benefits. Thus, the valuer must show these benefits in the market value. RICS guidance and standards from time to time have emphasized the importance of adding ESG or sustainability variables into property valuation. However, the RICS guidance note of 2021 highlights that recent years have seen significant advancements in international valuation standards. These improvements emphasize incorporating sustainable development factors into valuation studies, procedures, and the overall business and real estate valuation process. Aligned to this statement, the quantitative findings of this study derived from the primary objective, it is possible to conclude that many valuers in Sri Lanka are positive on ESG and adjust concerning ESG in estimating the market value of commercial properties. This is demonstrated by positive and significant correlation results between all three ESG components and market value changes made by valuers. The valuers are more concerned about the environmental component compared to the other two components. The findings on the second objective reveal that valuers face major challenges in applying ESG to estimate market value, including limited knowledge, limited capacity to quantify ESG variables, and inadequate comparability in the market. The solution presented by valuers to overcome some of the issues summarized in the Ishikawa diagram indicates promoting valuation under the DCF method, discussing with the client ESG variables and performance, following the guidelines depicted by the Green Building Council in Sri Lanka, and conducting more research on methods to quantify the ESG components. Hence it draws the attention of responsible authorities to develop methodological frameworks to minimize the above challenges.

This research justifies the trend of adherence to the ESG by the valuer's community in Sri Lanka and builds a background for developing a framework to regulate the ESG application in the valuation process for the standardized procedure in commercial property valuation.

## Acknowledgement

The authors wish to thank the professional valuers who supported the collection of data and acknowledge the assistance given by the Centre for Real Estate Studies, Department of Estate Management and Valuation, University of Sri Jayewardenepura, Sri Lanka.

## Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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## APPENDIX A

### Likert Scale Scores of the ESG Components

Likert Scale Scores					
Environment	3.73	Social	3.53	Governance	3.23
Air and Water Pollution	3.70	Community Relations	3.53	Audit committee structure	3.27
Biodiversity	3.57	Conflicts	3.33	Board diversity and structure	3.13
Climate change and carbon emissions	3.67	Customer Satisfaction	3.73	Bribery and corruption	3.17
Deforestation	3.50	Data Protection and Privacy	3.47	Corporate governance	3.33
Resource efficiency	3.88	Development of Human Capital (health & education)	3.33	Executive remuneration	3.03
Waste Management	3.97	Employee engagement	3.33	Institutional strength	3.17
Water scarcity	3.80	Gender and Diversity	2.93	Donations and Political Lobbying	3.07
		Health & Safety	3.90	Rule of Law	3.81
		Human Rights	3.10	Transparency	3.67
		Working Conditions	3.77	Whistle-blower schemes	3.33



## APPENDIX B

### Operationalization of the Variables

ID	Concept (Variables)	Metrics	Measurements (Likert Scale Statements)
E1	Environment	Air and Water Pollution	Air and Water Pollution happening through the commercial property operation needs to be considered when valuing the commercial property.
E2	Environment	Biodiversity	Damage happens to biodiversity needs to be considered when valuing commercial property
E3	Environment	Climate change and carbon emissions	Climate change and carbon emissions that happen via commercial property operations need to be considered when valuing commercial property.
E4	Environment	Deforestation	Deforestation happens due to the operation of commercial property and needs to be considered when valuing commercial property.
E5	Environment	Resource efficiency	Resource efficiency of the commercial property needs to be considered when valuing the commercial property.
E6	Environment	Waste Management	Having a proper Waste Management system needs to be considered when valuing commercial property.
E7	Environment	Water Scarcity	Having a proper water management system needs to be considered when valuing commercial property.
S1	Social	Community relations	Proper community relations in commercial property operations need to be considered when valuing commercial property.
S2	Social	Conflict	Conflict management methods need to be considered when valuing commercial property.
S3	Social	Customer satisfaction	Customer satisfaction derived from commercial property needs to be considered when valuing commercial property.
S4	Social	Data protection and privacy	Data protection and privacy mechanisms followed by commercial property need to be considered when valuing commercial property.
S5	Social	Development of human capital	Proper development of human capital needs to be considered when valuing commercial property
S6	Social	Employee engagement	Proper employee engagement needs to be considered when valuing commercial property.
S7	Social	Gender and diversity	Gender and diversity concerns in the operation need to be considered when valuing the commercial property.
S8	Social	Health and Safety	Health and safety need to be considered when valuing commercial property.
S9	Social	Human rights	Human rights in commercial property operations need to be considered when valuing commercial property.
S10	Social	Working condition	Having good work conditions need to be considered when valuing commercial property.
G1	Governance	Audit committee structure	Having a well-organized audit committee structure needs to be considered when valuing commercial property.
G2	Governance	Board diversity and structure	Having a diversified and structured board needs to be considered when valuing commercial property.
G3	Governance	Bribery and Corruption	Having a controlled environment for bribery and corruption need to be considered when valuing commercial property.
G4	Governance	Corporate Governance	Existence of the Corporate governance in commercial property needs to be considered when valuing the commercial property.
G5	Governance	Executive Remuneration	Having a proper executive remuneration mechanism need to be considered when valuing commercial property.
G6	Governance	Institutional Strength	Institutional strength needs to be considered when valuing commercial property.
G7	Governance	Donations and political lobbying	Having a proper mechanism for donations and politics need to be considered when valuing the commercial property.
G8	Governance	Rule of law	Following the rule of law in commercial property operation need to be considered when valuing commercial property.
G9	Governance	Transparency	Having a transparent commercial property operation need to be considered when valuing the commercial property.
G10	Governance	Whistle-blower schemes	Having Whistle-blower schemes in the operation of the commercial property need to be considered when valuing the commercial property.

(Source: Compiled on the basis of IVSC, 2020)