THE EFFECT OF ASSURANCE PROVIDER, LEVEL OF ASSURANCE AND PERSONAL CHARACTERISTICS ON INVESTMENT DECISION MAKING IN SOCIALLY RESPONSIBLE INVESTING

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FACULTY OF BUSINESS AND ECONOMICS
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THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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ABSTRACT

Assurance report for non-financial information such as sustainability reporting is no longer guaranteed on their quality which led to differences in individual investors' investment decision making in socially responsible investing (SRI). This is much due to the report's relative novelty and unregulated nature of practice reported by the company. While professional accountant plays a major role in assurance market, other professional also contribute to the proportion. Hence, this doctoral research endeavor extends the literature on type of assuror and the level of assurance by examining how they influence individual investment decision-making when they attempt to achieve the best environmental goals of their invested fund through evaluation of environmental reporting assurance options. An experimental research model proposed for this study in comparison of the most credible source of information by leveraging the premise of Source Credibility Theory. The goal of the study is to determine from individual investors point of view, which professional affiliation provide the significant difference between type of assuror and the level of assurance when they use them to make decision-making. The study also investigates the role of personal characteristics by using Big Five Inventory (BFI) measurement as possible moderator in the above relationships. The experiment was conducted on 315 participants recruited from investment class from Klang Valley. The data analysis was conducted by using Two-Way ANOVA for group comparisons in a factorial design approach, while the moderated-moderation effect was tested through Hayes Process Macro in SPSS (model 1 and 3). The findings show that there is a significant difference in the impact of different types of assurors and levels of assurance on individual investors' investment decisions in SRI. The difference remains significant

in presence of different personality characteristic. This research also reveals that the relationship between the type of assuror and an individual's investment decision in SRI is moderated by both the level of assurance and the personality characteristics of the investor. This study further examines whether a significant moderated-moderation relationship exists in an integrated model with the type of assuror and individual investment decision in SRI. The findings of this experimental research suggest that type of assuror influence individual investment decision making when level of assurance and personality characteristics are combined to evaluate investment options.

Keywords: type of assuror, level of assurance, personality characteristics, socially responsible investing

KESAN PENYEDIA JAMINAN, TAHAP JAMINAN DAN CIRI-CIRI PERIBADI TERHADAP PEMBUATAN KEPUTUSAN PELABURAN DALAM PELABURAN TANGGUNGJAWAB SOSIAL

ABSTRAK

Laporan jaminan untuk maklumat bukan kewangan seperti pelaporan kemampanan tidak lagi dijamin kualitinya yang membawa kepada perbezaan dalam membuat keputusan pelaburan pelabur individu dalam pelaburan tanggungjawab sosial (SRI). Ini disebabkan oleh kebaharuan relatif laporan itu dan sifat amalan tidak terkawal yang dilaporkan oleh syarikat. Walaupun akauntan profesional memainkan peranan utama dalam pasaran jaminan, profesional lain turut menyumbang kepada bahagian tersebut. Oleh itu, usaha penyelidikan kedoktoran ini meluaskan literatur tentang jenis assuror dan tahap jaminan dengan mengkaji bagaimana mereka mempengaruhi pembuatan keputusan pelabur-pelabur individu untuk membuat keputusan pelaburan bagi mencapai matlamat yang terbaik bagi pelaburan tanggungjawab sosial (SRI). Model penyelidikan secara eksperimen telah diguna pakai dalam kajian ini yang membuat perbandingan sumber maklumat yang paling boleh dipercayai dengan memanfaatkan teori 'Source Credibility Theory.' Objektif kajian adalah untuk menentukan gabungan professional yang mana memberikan perbezaan yang ketara untuk membuat keputusan pelaburan dalam SRI serta tahap *'assurance'* yang diberikan dalam pelaporan kemampanan tersebut. Kajian ini juga menyiasat peranan ciri-ciri peribadi pelabur-pelabur dengan menggunakan ukuran Big Five Inventory (BFI) sebagai pengukur yang mungkin dalam hubungan di atas. Eksperimen telah dijalankan ke atas 315 peserta yang diambil dari kelas pelaburan seluruh Lembah Klang. Analisis data dijalankan dengan menggunakan ANOVA Dua Hala untuk perbandingan kumpulan dalam pendekatan 'Two factorial design', manakala *'moderated-moderation effect'* telah diuji melalui Hayes Process Macro dalam SPSS (model 1 dan 3). Keputusan menunjukkan terdapat perbezaan yang signifikan pada jenis

assuror dan tahap jaminan terhadap pelabur -pelabur individu untuk membuat keputusan pelaburan dalam SRI. Perbezaannya tetap ketara dengan kehadiran ciri-ciri personaliti yang berbeza. Kajian ini juga mendapati bahawa hubungan antara jenis assuror dan keputusan pelaburan individu dalam SRI disederhanakan oleh tahap jaminan dan ciri personaliti. Kajian ini selanjutnya mengkaji sama ada hubungan sederhana-kesederhanaan yang signifikan wujud dalam model bersepadu dengan jenis assuror dan keputusan pelaburan individu dalam SRI. Penemuan penyelidikan eksperimen ini mencadangkan bahawa jenis *'assuror'* mempengaruhi pembuatan keputusan pelaburan individu apabila tahap jaminan dan ciri personaliti digabungkan untuk menilai pilihan pelaburan.

Kata kunci: jenis assuror, tahap jaminan, ciri personaliti, pelaburan tanggungjawab sosial

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LIST OF SYMBOLS AND ABBREVIATIONS

<	:	Less than
ACCA	:	Association of Chartered Certified Accountant
AICPA	:	American Institute of Certified Public Accountants
ANOVA	:	Analysis of Variance
b	:	Beta
BFI	:	Big Five Inventory
CDFI	:	Community Development Financial Institution
CDP	:	Carbon Disclosure Project
CDS	:	Central Depository System
CDSB	:	Climate Disclosure Standards Board
CERES	:	Coalition for Environmentally Responsible Economies
df	:	Degree of Freedom
DJSI	:	Dow Jones Sustainability Index
DV	:	Dependant Variables
ESG	:	environmental, social, and governance
FRC	:	Financial Reporting Council
GHG	:	Green House Gas
GISR	:	Global Initiative for Sustainability Ratings
GRI	:	Global Reporting Initiative
HLPF	:	Level Political Forum on Sustainable Development
IAASB	:	International Auditing and Assurance Standard Board
IIRC	:	International Integrated Reporting Council
ISAE 3000	:	International Standards on Audit Engagement
ISEA	:	The Institute of Social and Ethical Accountability

IV	:	Independent Variables
LOA	:	Level of Assurance
MDG	:	Millenium Development Goal
p	:	Probability Level
SASB	:	Sustainability Accounting Standards Board
SDG	:	Sustainability Development Goal
SE	:	Standard Error
Sig.	:	Statistical Significant
SPSS	:	Statistical Package for Social Science
SRI	:	Social Responsibility Investing
TOA	:	Type of Assuror
UNEP	:	United Nations Environment Program
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
VNR	:	Voluntary National Reviews
WBCSD	:	World Business Council for Sustainable Development

LIST OF APPENDICES

CHAPTER 1 : INTRODUCTION

1.1 Introduction

This chapter explains the background of the study and thereafter, presents and elaborate discussion on the basic research problem that led to the pursuit of this experimental research. The significance of the research questions and the research objective, which serve as the basis of the study, is discussed in the following section. The next section elaborates about the research contribution which includes theoretical and practical point of view. Further, this chapter elucidates on the scope of the study and this chapter end with the summary on structure of the thesis paper.

1.2 Background

The primary objective of this study is to empirically determine the influence of different types of assurors, different levels of assurance, and different personality traits on the investment decisions of individual investors in socially responsible investment (SRI). This study contributes to show insights to the individual investors on the avenue of type of assuror, level of assurance with the enhancement of psychological aspect when making their investment decision in SRI. SRI is an investment process that takes into consideration economic, environmental, social issues. The report that details SRI contains investments (Eurosif, 2012). Traditional reporting has concentrated on financial information reported by professional accountant.

Current development on the SRI enhances the reporting by including non-financial information such as social performance of a company. Increasing numbers of companies are disclosing information about their non-financial performance in addition to their traditional financial reporting, proving this point (Reimsbach et al., 2018). Non-financial factors, such as social and environmental concerns, have become increasingly important

to investors in the last two decades (Wagemans et al., 2013). This information is important for investors not only because it helps them to decide where to put their money when they invest, but also because it is part of an investment strategy that looks at more than just risk and return when choosing investments (Bauer & Smeets, 2015).

While research on individual investment decision making in SRI is rather limited, the perception towards the provider of the report and the level of assurance is also not much debated from the perspective of various types of assurance providers and the level of assurance in the market (Wieriks, 2013). Traditionally, assurance providers concentrated on financial information, where there is only one type of assuror: certified public accountants (Pflugrath et al., 2011). Alongside with the increase of trends in reporting of non-financial information, due to its diversity of subject matter and assurance approaches, the new profession such as engineering and specialist consultant emerges in the assurance market their expertise in the subject matter makes them becoming among the key player in the field (KPMG, 2015).

It is claimed that the new profession can bring their expertise into the assurance process because they understand complex organisational processes and use risk-based analysis. As the provision of assurance in non-financial information continue to grow, not much is known about how individual investors perceived the report that provided by different assurance provider that affect their decision-making process (Hodge et al., 2009). This study investigates whether type of assuror effect on individual investors investment decision making in SRI. According to the International Standard of Assurance Engagements 3000 (ISAE 3000), there are two common types of assurance that are advocated to the report. The first type of assurance is called a “reasonable assurance” engagement, and its primary goal is to communicate a high level of assurance. However, this type of assurance does not provide absolute assurance because of the limitations of

internal control. In addition, when referring to a moderate level of assurance, the phrase "limited assurance engagement" is used because it is phrased in the negative. In addition, specialists in the field have proposed a form of assurance known as "hybrid" assurance, which is a combination of reasonable assurance and limited assurance (Wieriks, 2013). According to research conducted by KPMG in 2013, the majority of businesses choose to have a limited level of assurance rather than a reasonable one, while only ten percent opt for a reasonable level of assurance. An additional 8 percent of businesses go with what is known as "hybrid" assurance, which is a combination of the two levels. Finally, 10 percent of report provide by the assuror is general report that do not express any opinion (KPMG, 2015). This multiple level of assurance available for SRI disclosures does not support whether individuals' investors perceive disclosures by certain type of assurance with level of assurance to be more credible than the other (Hasan et al., 2003; Hodge et al., 2009; Wieriks, 2013). Therefore, the purpose of this study is to investigate whether or not the level of assurance influences the investment decisions made by individual investors in SRI.

Retail investors are another term for individual investors. Given the influence that they have on the performance of the company, their perception is, in some way, disregarded and not taken into consideration. Previous research conducted by Graves and Waddock (1994) found that institutional investors, as opposed to individual investors, were better able to comprehend and act on information regarding socially responsible corporate practises. For the most part, the SRI market has been characterised by the predominance of institutional investors. Despite this, there is a continuing rise in interest among retail investors in SRI; the relative proportion of retail SRI investments in Canada, Europe, and the United States increased from 13 percent in 2014 to 26 percent at the beginning of 2016 respectively (Global Sustainable Review, 2016). Even with such growth of this category of investors, the perceptions of individual investors towards investment decision

making in relation to SRI has not been given much focus by prior research. This is probably since this type of investor may lack the degree of sophistication that regulators assume they possessed (Cohen et al., 2011).

In addition to selecting the optimal combination of the type of assurance provider and the level of assurance to improve investment decision making, previous research indicates that an individual's sense of social concern and responsibility may be influenced by the characteristics of his or her personality. This is the case regardless of whether or not the individual makes an effort to select the optimal combination (Harland et al., 2007). Personality can have an effect on an individual's sense of social concern, which is relevant given the close connection between SRI and responsible investment. Because of the shorter amount of time required, the well-established and widely used instruments are the 44-item Big Five Inventory (BFI) by John and Srivastava, (1999). This choice was made because of the shorter amount of time that is required to complete each of these instruments, which takes approximately 5, 10, and 15 minutes, respectively (Gosling et al., 2003). This study investigates the ways in which certain personality traits are more likely to influence individuals' decision-making processes regarding socially responsible investing (SRI).

This study was based on a questionnaire that was modified from one that was developed by Brown-Liburd et al., (2018) and Gangi et al., (2016). This study conducted by having all the participants into a few different experimental groups. The type of assurance provider (a professional accountant, an engineering or a specialist consultant), the level of assurance (reasonable, limited, hybrid, or unspecified opinion), and the personality trait were the variables that were manipulated in this study. Conscientiousness, openness, extraversion, agreeableness, and neuroticism are the personality traits identified by the BFI. The dependent variable was geared towards the

change of decision making regarding the investment level after sustainability reporting which highlighted the key performance indicators was reviewed.

The main goals of this study are threefold.:

(1) to investigate whether the type of assurance provider (professional accountant, engineering consultant, and specialist consultant) has a significant impact on the report users' confidence in the credibility of information in the sustainability report and consequently impact their investment decision-making;
(2) to examine if report users' trust in sustainability reports and their investment decisions are significantly impacted by the level of assurance they have in those reports (reasonable, limited, hybrid, and unspecified).;
(3) to investigate if the relationship between the type of assurance provider and the level of assurance in making SRI investment decisions is moderated by personal characteristics.

1.3 Problem Statement

Reliable information is information that can have effect on decision making (Hodge et al., 2009). To be able to make economic decision, information evaluated need to have certain quality characteristics. Traditionally, firms disseminate their information through that generated according to their reporting period. More recently, with the enhancement of technology in the internet setting, more firms are now taken further steps by disclosing their corporate information, in particular sustainability information through their website. This forward-looking approach is giving the added advantage to the firms in terms of immediate and timely feedback especially for investors who needs real-time information (Lodhia, 2018). This new way of communication creates highly interactive platform

which for firms and their stakeholders open a rapid dialogue on prominent issues including sustainability (Lodhia & Stone, 2017).

For investors, their source of information among others is from company's annual report. Company answers this call by assuring their reporting disclosure to enhance the credibility, traditionally assured from professional accountant for financial information. As sustainability reporting experienced remarkable growth in the past few decades (Kamperman, 2016), this report too created demand for the report to be assured. It has been established that this report takes into account social, economic, and environmental concerns all at the same time. The growing recognition of the importance of reporting by companies and their stakeholders can be attributed to this increase in reporting. This is demonstrated by the fact that 73 percent of all companies that were observed produced a sustainability report (KPMG, 2015). In enhancing the credibility of the reports, company may hire an assurance provider to verify the report. From 2015, data shows that largest companies of 41 countries increasingly hire assurance providers (KPMG, 2015) especially firms with extensive stakeholders' groups. This indicates that, hiring assurance provider for sustainability reporting had become a common practice (Kamperman, 2016).

The absence of a generally accepted standard to guide practitioners is the main source of concern in the assurance process of sustainability reports. The voluntary and unregulated practise of sustainability reporting has raised concerns about the information's reliability and credibility, and has been widely criticised in the literature (Boiral et al., 2018). To address this issue, the assurance market has adopted external independent verification with third-party assurance on sustainability reporting as standard practise over the last decade (KPMG, 2020). An increase from 29 percent in 2002 to 59 percent in 2013 (KPMG, 2013), with a significant rise to 71 percent by 2020 (KPMG, 2020).

The assurance provider type, scope and level of assurance, and standard use in the assurance engagement are the four types of factors that contribute to assurance practises. Standards serve as norms and prescriptions to guide engagement performance. Because there was no agreement on what constituted best practise, several assurance standards that overlapped emerged (Farooq & De Villiers, 2017).

Different actors, such as the Global Reporting Initiative (GRI), the International Accounting Standards Board (IAASB), Accountancy Europe, and AccountAbility, have become active participants in the standard-setting arena. Non-financial reporting, such as sustainability reports, is legally unstandardized, in contrast to financial reporting reports. While financial information consistency checks are performed, it differs from sustainability assurance engagement in that the statutory is not required to provide an assurance opinion on the non-financial information disclosed (Sonnerfeldt & Pontoppidan, 2020).

There are national and international standards and frameworks in place to ensure the disclosure of financial and non-financial information. The International Standard for Assurance Engagements (ISAE 3000) issued by The International Auditing and Assurance Standards Board (IAASB) and the AA1000 AccountAbility Standard (AA1000 AS) are the standard frameworks most used by assurance providers (AccountAbility, 2020). Both are the most well-known international standards used by assurance companies worldwide (Fuhrmann et al., 2017). Each assurance engagement yields a unique assurance statement. The assurance provider provides documentation on the assurance process, implying that the engagement is intended to improve assurance quality.

The ISAE 3000 standard is used for assurance engagements other than auditing. This standard applies to all assurance engagements other than historical financial information

undertaken by a practising professional accountant. The ISAE 3000 assurance statement focuses primarily on the procedural details of the assurance process (Fuhrmann et al., 2017). The adoption of these various standards has been linked to differences in assurance engagement. During an assurance engagement, the scope and level of assurance must be agreed upon. The practitioner and the engaging party must agree on the terms of the engagement. The agreed-upon terms of the engagement must be specified in sufficient detail in an engagement letter or other appropriate form of written agreement and confirmation, either by law or regulation (IAASB, 2013). The scope of the assurance engagement specifies which parts of the report are covered (e.g., the entire report or sections) (IAASB, 2013).

In contrast to the broad scope of ISAE 3000, AA1000 AS focuses specifically on assessing, attesting to, and strengthening the credibility and quality of an organization's sustainability reporting, as well as its underlying processes, systems, and competencies. The standard is founded on the principles of inclusivity of people's opinions that have an impact on them, materiality on sustainability topics, and responsiveness in the manner of organisations' actions that affect ecosystems (AccountAbility, 2020). The scope of the assurance engagement should include the reporting boundary. The boundary used for financial reporting when determining the scope of an engagement includes significant effects relating to other stakeholders outside of financial reporting. The level of assurance reflects the degree of assurance held by the assurance provider regarding the accuracy of the report (IAASB, 2013). There are two levels of assurance for both standards: reasonable and limited assurance levels. A more thorough investigation and body of evidence are needed for a reasonable/high assurance than for a limited/moderate assurance. The ISAE 3000 contains requirements on limited and reasonable assurance. It should be noted that the assurance provider also used the terms "positive" and "negative" assurance when communicating the report's conclusion (IAASB, 2013).

In terms of the AA1000 AS, high and moderate levels of assurance are required. Both standards include a risk assessment process and a test procedure to back up an assertion regarding the engagement's subject matter. The AA1000 AS offers two different types of assurance engagements, in contrast to the ISAE 3000. In order to ensure how an organisation manages sustainability performance, a type 1 engagement assesses the degree of the organization's adherence to all AA1000 AccountAbility Principles (AA1000AP) (AccountAbility, 2020).

However, it does not guarantee the accuracy and integrity of the information that has been reported. A type 2 engagement goes beyond a type 1 engagement by assessing the organization's compliance with AA1000AP and the accuracy of the information provided (AccountAbility, 2020). In addition to the levels of assurance offered by ISAE 3000 and AA1000 AS, it is reported that there are additional levels of assurance available, including hybrid assurance (Wieriks, 2013), which combines reasonable and limited assurance, and finally, unspecified assurance (Rivière-Giordano et al., 2018). Despite the emergence and growth of standards, research shows that they are less precise than those for financial auditing and offer little direction for practise (Sonnerfeldt & Pontoppidan, 2020). In addition to the above, there are elements such as uncertainties are negotiated at practise sites, according to earlier research that concentrated on the backstage of assurance engagement.

Furthermore, the extent required for an assurance engagement to be considered is unclear (Farooq & De Villiers, 2019), and assurance providers rely heavily on their professional judgement to determine materiality (Moroney & Trotman, 2016). Furthermore, there are differences in the definitions of materiality used by assurance providers for both standards. Regarding information materiality in relation to assurance engagement, as addressed in ISAE 3000 revised edition in 2020:

'The determination of materiality involves the exercise of professional judgment and is impacted by both quantitative and qualitative factors. It is also affected by perceptions of the financial or other information needs of users'

While AA1000AS stated materiality as:

'Decision makers should identify and be clear about the sustainability topics that matter.'

The use of professional judgement in determining materiality has been identified as a significant concern (Edgley et al., 2015). As such, the summary of the inconsistencies leads to:

i) Assurance for the report is no longer guaranteed their quality which leads to mixed preciseness of investors towards the reports
ii) A wide range of assurance quality results in investors making varying decisions.

Due to the unregulated nature of the practise and the fact that it is still relatively new, there is a significant amount of variation between assurance providers. Following the unregulated requirement, the assurance market, the professional accountant do not hold monopoly over this assurance service and operate alongside a heterogeneous body of other providers – engineering and specialist consultant. While the former has invested heavily in training their professionals on sustainability issues in order to provide high-quality assurance statements (Hodge et al., 2009), other assurance providers (sustainability consultants) have a higher level of subject matter expertise (Simnett et al., 2009). As a result, the preceding arguments lead to the research question.

RQ1: Is there any impact of type of assurance provider and level of assurance on individual investors' investment decision making in SRI?

Recent year has seen an expansion of traditional auditing functions, with the profession drawing on its skills and reputation to provide assurance services on a wide range of subject matters related to environmental performance at various levels of assurance (Hsueh, 2018). There are different levels of assurance: reasonable and limited (AccountAbility, 2008; IFAC, 2013). Third-party confirmations, observations, and inspections (IFAC, 2013) in a positive form are required for reasonable assurance under stricter standard requirements to collect additional information (IFAC, 2013). (Hasan et al., 2003; Schelluch & Gay, 2006). The thoroughness of this procedure is expected to improve the report's credibility, transparency, and completeness. The trustworthiness of such information can be confirmed by the use of positive language. Since positive form indicates that the assurors have confidence in the assured information's accuracy, that the assurors have assumed greater responsibility, and that the assured information is effective in all relevant respects or free of material misstatement (Mock et al., 2007; Hasan et al., 2003; Schelluch & Gay, 2006). The method requires less time was spent on analytical procedures and questions from internal stakeholders, such as employees, due to the lack of assurance. The statement indicates ‘nothing has come to our attention or we have not found any significant errors’ (IFAC, 2013). To determine whether this communication had a positive effect on the user's level of assurance, the IFAC study did not examine this issue.

The body of published work discussed whether at this juncture, investors can differentiate between reasonable and limited assurance given in the SRI report. Hodge et al., (2009) and identify potential expectation gap exist when evaluating perceptions of assurance level. However, the most important condition that requires careful consideration was brought to light by Cohen and Simnett (2015) on the topic of "Hybrid Assurance," which specifically covers both limited assurance on some disclosures and reasonable assurance on others. This condition calls for specific consideration (GRI,

2014). This new level of assurance is a developing phenomenon for which there is insufficient in-depth research in the body of accounting literature. Additionally, there are relative number of other forms of opinion in the report as 'Not Specified' opinion. This type of report contributes to 12 percent in 2012 however decline to 5 percent in 2013 (GRI, 2014).

While the prepares of the assurance level are familiar with the assurance level provided (i.e: Professional Accountant, Engineering Consultant, and Specialist Consultant), the comprehension on the information in the report to the individual investors are not easily understood. According to the findings of a study, audit firms have an average confidence level of 60 percent in moderate assurance engagements and 80 percent in high assurance engagements (Hasan et al., 2005). According to the findings, a widespread belief exists even among audit firms that users do not understand the level of assurance. As a result, confusion may contribute to an expectation gap between the level of assurance assumed by users and the level of assurance provided by the company. The discourse resented in the preceding paragraph paints a picture of the challenge faced by the individual investors regarding the usage of the level of assurance. The problem appears to be strongly tied with variety of assurance level presented in the report and how they associate with their investment decision making connected to SRI.

There are a few studies, especially studies using experimental research, that were carried out to investigate the effect of environmental information has on individual investors' investment decision making with the influence of level of assurance (Hasan et al., 2003; Rikhardsson & Holm, 2008). According to the findings of the aforementioned studies, clear and concise communication of the main message in assurance is crucial. Report is crucial for the users, in particular, individual investors as more often than note, the only method of retrieving information often in the form of assurance report. In

particular, they found that different level of assurance provides different result on the decision-making process. It is pertinent that providers of assurance clearly distinguish and communicate the specific assurance level provided in order to avoid confusion or misunderstanding as a result of inaccurate information about the extent of assurance, which could cause investors to overestimate (or underestimate) the rating given to the company in which they are interested in making an investment.

Despite the broad agreement among researchers, several studies suggest that level of assurance are locked in an intense debate on the impact of level of assurance can bring to the investor when making their investment decision. Prior research suggests that, level of assurance does discriminate for investors when the level of assurance is low. Indeed, as reported by Rivière-Giordano et al., (2018), investors indicate a preference for environmental reporting that provides no assurance statements rather than a low level of assurance. Investors believe that providing no assurance is preferable as compared to providing a low level of assurance.

As a result of what has been discussed up until this point, it is increasingly clear that the level of assurance and the ways in which it impacts the investment decisions made by individual investors require further explanation and clarification. As a result, the foundation of this doctoral research is on the premise that the level of assurance will have an impact on decision makers, whereby the investors will make different decision about investment option based on different Level of Assurance being presented to them. The ongoing debate among Level of Assurance scholars is not only limited to the relevance of the level of assurance, but also extended to include the difference level within the assurance.

The literature reveals that there are contradictory findings regarding whether the differences in the level of assurance are significant (Steinmeier & Stich, 2019). While

some studies imply that there is a material difference between the level of assurance on investment decision making (Steinmeier & Stich, 2019; Low & Boo, 2012), other researchers came to the conclusion that there were no significant differences seen between levels of assurance with investors investment decision making (Hasan et al., 2003). Hence, the significance of the impact of level of assurance on individual investment decision making in SRI calls for a closer examination. On a closer note, it is clear that there appear to be variation level of assurance's impact on investment decisions in SRI depending on how investors perceive the level provided in the report. For instance, level of assurance accompanied by extended scope (Steinmeier & Stich, 2019), and contrasting statement (Low & Boo, 2012) as narrative in the assurance report provide significant impact on investment decision making.

Therefore, as the second research gap, this study seeks to determine a more nuanced understanding of how different level of assurance (reasonable, limited, hybrid, not specified opinion) impact individual investment decision making in SRI. Furthermore, the study brings into the picture the challenge faced by individual investors to really comprehend the report presented to them. As the strategy of investing inevitably involved risk, analyzing the report allows them to fully enhanced their utilization of fund allocation and consequently focus their attention in maximizing the wealth. As discussed earlier, with the varying level of assurance provided, it is important to establish the extent to how investors perceive the assurance report in relation to the different category of level of assurance provided. The assessment is then tested whether it influenced their decision-making process.

These studies' conflicting results could mean that different assurance providers' quality is affected less by the sort of assurance provider they are compared to other professional abilities. Given the challenges involved in verifying the wide range of topics that make

up sustainability information, assurance providers must be well-equipped to carry out assurance engagements successfully (Cohen & Simnett, 2015). The social sciences community is aware that people's perspectives influence how seriously they take environmental information when making decisions (Hawcroft & Milfont, 2010). Some people's personalities lend themselves to more inquisitive and sceptical questioning (Heinstrom, 2010). Without reliable data, they can't prevent searching.

According to Nyhus and Webley (2001), certain personality are considerably more likely to be in control of their financial circumstances and, as a result, have a greater willingness as well as an enhanced ability to save money. This indicates that responsible investors rely less on luck and/or superstitions and instead are meticulous in their knowledge of the various investing options available to them. This research hypothesizes that individual investors will be more receptive to engineering professionals who prepare a report that is accompanied by a reasonable and hybrid level of assurance if the investors have a greater willingness to consider qualitative criteria, be farsighted, and take risks.

When it comes to deciding about an investment, opinion can have an effect on perceptions; nevertheless, a report that is compiled by appropriate sources and presented in a constructive and reasonable manner will further improve the decision-making process. In addition, the findings of this research indicate that individual investors of such a character have the perception that the opinion of reasonable assurance and the preparation of the report by a non-professional accountant will significantly increase the report's credibility. This perception is influenced by the belief that a high-quality report comes with the perception that the report's credibility will increase. Therefore, the second question arises from the above gap to propose Level Assurance as moderator between type of assurance provider and individual investors' investment decision making in SRI.

RQ2: Is there any effect of high/low personality characteristics on the relationship between type of assuror and individual investor's investment decision making in SRI?

As previously discussed, individual investors are expected to carefully evaluate the information presented to them before their decision making. In this context individuals' personality is considered important in influencing their investment decision making. It is well-documented that one's character personalities have a significant impact and interfere investment decision in SRI (Faheem Ghafanzar et al., 2017; Sadi et al., 2011). Apart from a risk-taking attitude (Hunter & Kemp, 2004), the need for agreement to promote efficient sustainable actions is an important part of a specific investment strategy (Faheem Ghafanzar et al., 2017), and it is largely dependent on an individual's personality. Individual features like emotional volatility, awareness in decision making, consistency are personal characteristics that influence investment decisions as well as the capacity to implement right and wrong judgments. This tendency to respond and react in an environmentally responsible way, on the other hand, has not been dealt within the scenario when credible information is presented to them. As discussed earlier, credible information is crucial upon investment decision making and investors act upon given information is rather important to study.

The descriptive outcome, including a person's gender, level of education, and socioeconomic status has always been the intrinsic evidence, despite the lack of research into the sort of assuror and level of assurance for personality. Research on the psychology of SRI users and their level of assurance in the information shows that the information consumer follows a distinct pattern of decision-making based on their individual preferences. Hsueh (2018), for example, remarked on the effectiveness of information credibility as a means of communicating among family companies. According with study, an expert consultant will generate a more trustworthy report than an accountant. Both

types of assuror necessitated extensive analysis on the part of individual investors, and it is the latter's conscience that determines the nature and extent of the data they require to make an informed choice. One of the most significant factors in determining the trustworthiness of information is the credibility of the source. A vote of confidence from any source is seen as positive by investors. The goal is to show, indirectly, that investors with this type of character need more data to feel comfortable with a decision. Investors who prioritise maximising their odds of success in business deals embody this mindset (Epstein & Schneider, 2008) It makes sense to look into how forthright, amiable, and conscientious people interact with the SRI process in order to gain insight into how the Type of Assuror and level of assurance effect the investment decisions of individual investors. A higher level of assurance from any assuror increases the likelihood that an investor will adjust their choices in light of fresh facts.

Based on descriptive statistics, previous studies found that an individual's preferences dictate the optimal investing strategy. The high-quality reports that investors rely on are the result of extensive experience and a dedication to detail. Given the novelty of SRI, these providers and guarantees are particularly appealing to investors. An investor's attitude toward choosing the right level of security for their portfolio is reflected in these preferences. The investigation into the particular investor's character is prompted by these inclinations. People who score high on the conscientiousness personality trait are more likely to put money into their businesses, and this is reflected in their preferences for engineers and specialty consultants over accountants. Investors highly seek to maximize their return from the investment they are tend to make.

This brings up the question of the need to determine the aspects that normally drive the investment behaviour of individual investors. Each of the factors is then further divided into their own personality facets using BFI measurement, specifically Openness,

Conscientiousness, Extraversion, Agreeableness, and Neuroticism to measure individual investors personal characteristics towards the integration of level of assurance, type of assuror on investment decision making in SRI. The third research question that arises from the gap is to propose Personality Characteristics as the second moderator for the relationship between Type of Assurance Provider and Level of Assurance on individual investors' investment decision making in SRI. Therefore, third question arises from the above gap to propose level assurance as and personality as moderator between type of assurance provider and individual investors' investment decision making in SRI.

RQ3: Is there any effect of level of assurance and high/low personality characteristics in the relationship between type of assuror and individual investor's investment decision making in SRI?

1.4 Research Gap

The extant literature on type of assuror, level of assurance and personality characteristic in the context of individual investor's investment decision making shows that there is variety of type of assuror (professional accountant, engineering, and specialist consultant), level of assurance (reasonable, limited, hybrid and not specified) with different type of personality characteristics that influence individual investment decision making in SRI. The study appears to have several inconsistencies that may have gone unnoticed in previous empirical studies. Because assurance providers and levels of assurance have yet to agree on which type and level of assurance are superior, it is impossible to say which one is better. Whether or not the two factors are significantly different for each other when investors utilise them to make their final investment allocation decision remains unclear.

Additionally, the literature seems to have overlooked the necessity of also incorporating individual criteria of the agent of the investment, individual, in an attempting to arrive at conclusion on whether, personal characteristics has significantly joint impact on the relationship between type of assuror, level of assurance on individual investor's deciding whether to invest. Therefore, the ***first research gap*** of this study proposes to address the experimentally examination of whether there is a difference of different type of assuror on individual investors investment decision making in SRI. Most of studies incorporate rather two profession, professional accountant in comparison with specialist or engineering firms. This study provides three profession professional accountant, Specialist Consultant and engineering consultant considering the impact of different affiliation of type of assurance provider to individual investor's investment decision making. In the area of SRI assurance, it has been argued that different expertise and skills would give a great amount of information flows into the report especially the breadth and depth of the procedure undertaken by the certain type of assurance procession.

In line with the arguments from the preceding paragraph, adequate knowledge among the assurance provider is essential for better alignment on the report that will be prepared by them. Nevertheless, relatively existing empirical studies attempt to investigates two common level of assurance report which is reasonable and limited assurance and, in some instances, not specified opinion. As a result, the ***second research gap*** that this study aims to fill is to evaluate the role of 'hybrid' level of assurance as a possible impact to the investing decision making of individual investors in SRI.

The studies provided considerable insight into the effect of personality characteristics on decision-making to a certain extent. When it comes to making financial decisions, both financial and non-financial aspects have a significant influence (Hong & Kostovetsky,

2009), especially in SRI research (Gutsche et al., 2019; Gutsche & Ziegler, 2019). Earlier findings of evidence based research in the field is claimed to be based either on indirect methods like financial analysis analysis or on surveys, according to what has been said in the literature. In contrast to the former, which does not make it possible to differentiate between relevant factors or even the type of investor, the later approaches may be susceptible to hypothetical bias (Gutsche & Ziegler, 2019).

Other earlier research have ignored potentially crucial characteristics, including socioeconomic preference or personality traits, that have been deemed relevant for many other profitability and financial decisions. As such, the ***third research gap*** of this study proposed the personality characteristics using Big Five personality traits as the moderator to enhance the understanding of the impact on the association among type of assuror and level of assurance on individual investor's investment decision making in SRI.

The relationship stated in the preceding paragraphs have been proposed in isolation. However, there is possibility that an integrated framework connecting all the constructs (Type of assuror, Level of Assurance, Personality Characteristics) emerges. A careful examination of the literature reveals that, as far as this study is able to determine, there is no study thus far proposes the integrated model. Hence, the ***fourth research gap*** this proposed for this research is that the relationship among type of assurance provider and individual investor's investment decision making in SRI is moderated by level of assurance as the first moderator and personality characteristics as the second moderator. Therefore, the fourth research gap proposed is to test a moderated-moderation model integrating all the constructs together.

The ***final research gap*** is the methodological gap, where majority of the experimental studies conducted in the extant literature on investor's decision-making outcomes used students as surrogates for individual investors as participants in the experiments. The

current study proposes to conduct the experiment on real-world individual investors who apply their technic and skills in doing their investment strategy. The result of such study is expected to be more robust and reliable.

Table 1.1: Summary of all five gaps identified in the body of knowledge on assurance area and individual investor's investment decision making in SRI.

No.	Research Gap
1	There is an absence of a finer-grained understanding on whether the affiliation in terms of both the assurance provider and the assurance level are more superior than the other. There is still ambiguity whether both factors are significantly different for each other when investors use them to achieve their ultimate investment allocation decision. Further, the literature seems to have overlooked the necessity of also incorporating individual criteria of the agent of the investment, individual, in an attempting to arrive at conclusion on whether, personal characteristics has significantly joint impact on the relationship between type of assuror, level of assurance on individual investor's investment decision making
2	Whether 'hybrid' level of assurance as possible impact to the individual investor's investment decision making in SRI.
3	Integrating physiological approach in social sciences study by incorporating constructs of personality characteristics as the moderator to enhance the understanding of the impact on the interaction between the type of assuror and the level of assurance on individual investor's investment decision making in SRI
4	Proposing integrated framework that probably lacking from previous research. This integrated framework links all the constructs (Type of assuror, Level of Assurance, Personality Characteristics) emerge. Hence, moderated-moderation model may be having significance impact that has not yet been investigated so far.
5	Literature indicates that majority of investors used students as surrogates for individual investors as participants in the experiments. The current study proposes to conduct the experiment on real-world individual investors who apply their technic and skills in doing their investment strategy. This might be a contribution to the body of knowledge in the form of a methodological innovation.

1.5 Research Objectives

To make sound decisions, it is critical to consider the perspective of the assurance provider including the level of assurance provided in the report. Although testing for both

characteristics is necessary, the personality of individual investors is also an important parameter in evaluating the investment decisions that will be made. In light of the discussion that was presented in the sections that came before it, **Table 1.2** provides a summary of the research questions that were generated earlier (based on gaps in the existing literature) along with the research objectives that correspond to those questions.

Table 1.2: Research Questions and Objectives.

No.	Research Questions	Research Objectives
1	Is there any significance difference for assurance statement prepared by engineering/specialist consultant when assurance statement of SRI is accompanied by reasonable/hybrid level rather than limited/unspecified on individual investors investment decision making?	To investigate whether is there any significance difference for assurance statement prepared by engineering /specialist consultant accompanied with level of assurance (reasonable/hybrid level or limited/unspecified) on individual investors' investment decision making in SRI.
2a	Do higher or lower personality openness will moderate the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI?	To investigate whether individual investors who has higher or lower personality openness moderates the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI
2b	Do higher or lower personality conscientiousness will moderate the relationship between type of assuror (engineering/specialist consultant or accountant) and individual investors investment decision making in SRI?	To investigate whether individual investors who has higher or lower personality conscientiousness moderates the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI

Table 1.2, continued.

No.	Research Questions	Research Objectives
2c	Do higher or lower personality agreeableness will moderate the relationship between type of assuror (engineering/specialist consultant or accountant) and individual investors investment decision making in SRI?	To investigate whether individual investors who has higher or lower personality agreeableness moderates the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI
3a	Is there any significant moderating effect of level of assurance (reasonable/hybrid) and high personality openness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (reasonable/hybrid) and high personality openness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI
3b	Is there any significant moderating effect of level of assurance (limited/unspecified) and low personality openness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI?	To investigate if there is a moderating effect of level of assurance (limited/unspecified) and low personality openness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI
4a	Is there any significant moderating effect of level of assurance (reasonable/hybrid) and high personality conscientiousness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (reasonable/hybrid) and high personality conscientiousness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI

Table 1.2, continued.

No.	Research Questions	Research Objectives
4b	Is there any significant moderating effect of level of assurance (limited/unspecified) and low personality conscientiousness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (limited/unspecified) and low personality conscientiousness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI
5a	Is there any significant moderating effect of level of assurance (reasonable/hybrid) and high personality agreeableness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (reasonable/hybrid) and high personality agreeableness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI
5b	Is there any significant moderating effect of level of assurance (limited/unspecified) and low personality agreeableness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (limited/unspecified) and low personality agreeableness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI

1.6 Research Motivations and Contribution

Many individual investors are beginning to recognize that their investments can play an important role in promoting ecologically sustainable development as social values shift (F. Aktar, 2019), most investors have sought sustainability perspectives from their investments. The idea of reaping environmental benefits from investment is widely accepted, because ecology and economy have long been considered positively correlated between environmental and financial performance (Emily, 2015). Integrated financial and environmental outcomes can be accomplished through sustainable development and sustainable business practises. As growing numbers of company incorporating

sustainability information in their report, type of information also diverse in terms of variety of information needed for verification. Assurance on sustainability information requires new area of expertise other than traditional financial verification approach. With this new requirement, investors require expertise to verify the report in order to ensure their reliability and thus enhance credibility of the report. Therefore, the type of assuror that is not a professional accountant, such as an engineering/specialist consultant, plays a significant role in measuring the effects that an individual investor's decision making has on SRI investments. The discussion of the importance of expert profession in providing assurance report would not be complete without considering the fact there are few levels of assurance offered by the assurance providers. Researchers have begun to offer insight into differences between these levels of assurance (Hassan et al., 2019; Low & Boo, 2012; Steinmeier & Stich, 2017; Martinez-Ferrero & Garcia-Sanchez, 2018).

One of the primary reasons for conducting this research is an ongoing debate within type of assuror with the interaction of level of assurance allowing the individual investors to choose which combination is the best fit their investment preferences and eventually maximize their wealth. Majority outcome of studies on type of assuror and level of assurance on individual investment decision making focusing on how user perceived their confidence towards a report's credibility (Hodge et al., 2003, Pflughrath et al., 2011; Martinez-Ferrero & Garcia-Sanchez, 2018). Other result provide descriptive findings on the sustainability environment (Junior, 2013), using valuation of company performance (Kampermann, 2016), assessing investment desire in SRI (Emily, 2015). Studies on the kind of assurance given by the provider, in addition to the level of assurance considering personal characteristics of the individual investors rather few in number. For this, the obvious option is to conduct experimental research, which this study undertakes.

1.6.1 Theoretical Contribution

This study attempts to offer various significant theoretical contributions to the relevant body of knowledge assurance literature and individual investors investment decision making.

Incorporation of psychology viewpoint into accounting perspective

The paper provides a different perspective from other field of work especially borrowing from phycological studies to consider personality characteristic of human behavior. Personality traits are properly considered when predicting environmental investment strategies, and a simple yet effective conceptual framework is presented for an easy understanding of how an individual investor's personality affects their investment decision. On the option of selecting the best report that according to the individual investors point of view represent the optimal investment strategy this research considered widely used Big Five personality inventory (John & Srivastava (1999) as measure in assessing the individual personal characteristics towards their attitude in investment decision making. A nuanced understanding of this finding is expected to add on assurance literature by attempting to bring more clarity to the theoretical linkages presented in the previous studies.

The purpose of this study is to gain a better understanding of the source credibility theory at the individual level perspective. This theory states that the successful of communication is when the information content send by the provider is convinced when it is received by the recipient (Hovland et al., 1953). It refers to the value that can be attained through communication between the two parties. Perlov (2010) argues that, three characteristics that should have for an information to be considered credible are expertise, trustworthiness, and goodwill. It is considered as part of the company's stakeholder

management strategy; sustainability reporting is used to communicate with stakeholders and respond to their needs (Ullmann, 1985). Sustainability reporting over the years had remain voluntary and unregulated (Shen et al., 2017). This has caused company the discretion of what and how to report and had given considerable doubt on the way the information being reported (Coram et al., 2009). If the investors perceived that report has lack of credibility due to the provider is not expert on the assurance presented in the report. This will lead to a perception on lack of credibility in the report, which will in turn lead to a lack of trust in the capabilities or intentions of the company that is reporting it (Dando & Swift, 2003). As a consequence of this, stakeholders are left with very little faith in the veracity of the claims made by the company in the report. The voluntary nature of sustainability reporting further reinforces this credibility gap as reality can even differ from what the reporting firms discloses in a report. This is because selective disclosure or omission of certain aspects of social and environmental performance can raise concerns between stakeholders about the reporting company's potential credibility gap (Perloff, 2010). Hence, with the intention of closing the gap between the perceived information credibility by individual investors and information prepared by the company, company is hoped to provide the level best of combination of assurance to ensure the credibility of the report to achieve their intended purposes.

Investment decision- making in SRI on individual perspective

Prior literature on investment decision theory has been focusing on the organization perspective, with very little focus on the individual investors' level (Cohen et al., 2011). Over the years, much of study was focused on maximizing investor's wealth despite the emerging assertions by alternative approach which proposes that investors may not only be motivated purely by financial factors, but also by their ethical and social beliefs (Gangi et al., 2016). In order to enhance the credibility of the SR, firm seek to engage with

external assurance in which investors need to choose which is the most credible resources to make the investment decision making.

Additionally, most experimental studies that investigate assurance field and outcome on investment decision making have utilized students as surrogates for real world investors as experimental participants. The current study proposes to conduct the experiment on real professional investors that involved in investing activities in Malaysia. The use of investors with practical experience in investment decision making considered as an important contribution to the body of knowledge.

Proposed Type of assuror, Level of Assurance other than traditional profession

With the inclusion of other type of assurance provider – engineering/specialist consultant and combination of four level of assurance – reasonable, limited, hybrid and unspecified, it helps an individual to give attention to the most preferred combination to assist in their investment decision making. This process keeps an individual from being overwhelmed with information that are irrelevant and thus help them to make the utmost decision. By exploring the other possibility type of assuror and level of assurance, together with individual personal characteristics at the extent to which these variables interact, it is equally important to understand how individual investors perspective influenced their investment decision making in SRI.

Proposed to Incorporate Personal Characteristics into the framework of assurance study

Finally, to extend the theory about our understanding of assurance and individual investment decision making, this study proposed moderated-moderation model (Hayes, 2013). This model explains the moderation role of level of assurance on the relationship between type of assuror and individual investors' deciding whether to invest in SRI when

personal characteristics is integrated as the second moderator. In summation, this study is expected to reveal how individual investor decision making is manifest from different choices based on type and degree of assurance on their personal characteristics.

1.6.2 Practical Contribution

Company point of view

This study aims to investigate the individual traits that embodied investment decision making as well as the connection between the different types of assurance providers and the level of assurance. This is in the expectation of assisting companies in determining which party should be involved in the process of offering assurance services by a third party on their SR. This is attributed to the reason that it has a significant impact on report users' perceptions of the credibility of information contained in such reports as well as their confidence in sustainability reports (Hodge et al., 2009).

Additionally, choosing the exact assuror on the SRI report may benefit companies in improving the credibility perceived by external stakeholders. It is possible for managers to have a company's voluntary disclosure, such as sustainability reporting, endorsed by an external and independent third party to increase the chances of persuading investors with the communicated information. This can help the company's stakeholder management, as investors are more likely to engage with firms that they perceive to be trustworthy. It is common for reporting companies to place a higher value on assurance services when they face a serious credibility gap. This could give assurance provider the opportunity to charge higher premiums (Niemi, 2005). However, in order to increase their credibility, assurance provider need to pay careful attention to maintaining their prestige as independent parties who are professional and trustworthy.

Further, it is important from the managerial point of view to show that their SR is being assured and investors value the report (Shen et al., 2017). Moreover, this study utilized experimental approach. Field experiments, that are used in numerous fields of study, can be an effective method for better understanding behavior as a function of corporate sustainability. This method, among others, is said to benefit because it provides real-life situations and can be easily implemented at the managerial level since this provides information about the magnitude of the efficacy of different guidelines or techniques in real life situations (Delmas and Aragon-Correa, 2016).

SRI as a social welfare in society

A new standard for investing can also be found with the help of SRI, which not only improves people's living conditions but also increases social welfare in the community. Financial planners and financial institutions dealing in various investment schemes need to be aware of the different personality traits of potential customers in order to better understand their financial decision-making style. In addition to that, the findings of this study highlight the significance of SRI for people living in developing countries such as in the Malaysian context.

In addition, this research examines the moderating effects of personality to ascertain how it impacts a person's relationship with their financial decision-making, with the goal of getting a greater understanding of potential investors and achieving financial goals that are in line with SRI. It is hoped that this research will, in a roundabout way, provide additional empirical evidence on the factors that determine environmental and social behaviour, in addition to decisions pertaining to finances.

1.7 Scope of Study

This study focuses on the individual investors as the role played for this type of investors are considered significant in equities on the Asian continent (WFE Enhancing Emerging Market Retail Trading Report, 2017). Retail investors made up about 32 percent of the market value in 2020, which was a five-fold increase over 2019 (Nasihin A. et al., 2020). This study will employ experimental design using quantitative approach by studying the impact of the different types of assurance providers and the different levels of assurance in addition to the effect of personality traits towards individual investors' decision making in SRI. In this study, a statistical method that makes use of primary data will be utilised. The individual level, which specifically refers to individual investors, will serve as the analysing unit for the data. This study will use active investors rather than students as proxy as what was used in the previous studies (Cheng M. et al., 2015). This study perceives real-life investors have the experience to inference how they would respond to important decisions that they are making.

1.8 Organization of Thesis

This thesis is divided into six chapters, with a brief summary of each chapter provided below.

Chapter 1: Introduction

This chapter starts with a background scenario and the context of this study. The next section delves into the problem statement that explains the rationale and importance of undertaking such an exhaustive study on type of assuror, level of assurance and personality traits on individual investors investment decision making in SRI. Thereafter, the chapter summarizes the research gaps and the subsequent research objectives and

questions that form the foundation of this study. The next section explains the contributions that this study expects to make to theory and practice. Finally, the chapter ends with a synopsis of the structure that the thesis consists of.

Chapter 2: Literature Review

The chapter commences with an introduction to the literature and proceeds to discuss individual investor's investment decision-making in SRI, which is the dependent variable within the framework of this study's research model. The section that follows expands on the formation of type of assuror and level of assurance. The subsequent section presents a discourse on personality traits and how it converges with type of assuror and level of assurance in individual investor's investment decision-making in SRI. Finally, the chapter presents elaboration on the research gaps in the literature.

Chapter 3: Research Framework and Hypotheses Development

This chapter presents the build-up to the theoretical framework by presenting a detailed discourse on the Source Credibility Theory, and how they come together to build the research model. The subsequent discussions draw on the empirical studies in the literature to propose hypotheses for each of the links in the model. The next section delves into how Level of Assurance fits into the model as a potential first moderator between Type of Assuror and individual investor's investment decision-making in SRI. The subsequent section covers hypotheses for the moderating effect of personality traits.

Chapter 4: Research Design and Methodology

This chapter starts with a discussion on research paradigms and the selection of the appropriate paradigm for this study. Thereafter, the chapter explains the design of this experimental study, followed by how the constructs in the model are measured. The

subsequent section deals with development process of the experimental study. Thereafter, the chapter discusses the selection of study participants. Finally, the chapter elaborates on the proposed method of data analysis and the justification for using such a procedure.

Chapter 5: Data Analysis and Results

This chapter discusses how the data was analyzed and the results were obtained. The first part discusses response rate and how the data was prepared for analysis. Next part describes the characteristics of the data, such as normality of distribution and the common method bias is presented. The subsequent section presents demographic information and descriptive statistics. Next, the discussion moves on to testing the hypotheses by demonstrating results on the relationships and statistical significance between the associations presented in the model. Finally, the chapter ends with a summary of the hypotheses tested.

Chapter 6: Discussions, Implications and Conclusion

This chapter discusses the results found in Chapter 5 and relates it to the original research objectives stipulated in Chapter 1. Thereafter, the chapter focuses on the significance of the findings in terms of theory and practice. The next part presents the limitations of this study followed by a section on future research directions. Finally, the chapter ends with a conclusion of the research topi

CHAPTER 2 : LITERATURE REVIEW

2.1 Introduction

This chapter provides an overview of the existing discourse in the literature on SRI investment decision-making and looks at how this phenomenon impacted by the different type of assuror. With the aim of discovering what is known in order to address the research objectives mentioned in the previous chapter, this chapter provides an overview of the current discourse in the field. The chapter attempts to present the discourse related to the different type of assuror and how they relate to individual investor's investment decision-making in SRI that are aimed at fully utiliziling their investment fund allocation. The are elaborately discussed along with a summary of the current debates in the empirical literature on the constructs in the research framework.

The chapter further explains personal characteristics and how it links with type of assuror and individual investor's investment decision making in SRI. Thereafter, the chapter elaborates on the role of level of assurance, and how the variable fits into the relationship between type of assuror and individual investor's making decisions about investments in SRI. The penultimate section of this chapter highlights the theoretical lenses deployed in developing the research model of this research. Finally, the chapter ends with the identification of the research gaps that form the foundation of this doctoral study.

Individual investment decision making depends on type of assurance provider and level of assurance (Rivière-Giordano et al., 2018). For an information to be useful, it must have the ability to make difference in decision making. In doing investing, investors should carefully evaluate information. Common techniques used by investors when assessing the potential investment is by applying technical and fundamental analysis.

Both methods were found to be compatible with one another, with the former focusing more on analysing the chart than the latter, which is a method used for analysing the financial statements of the company in question; however, both methods were found to be useful (Shaharudin Jakpar et al., 2018). This study will concentrate on how individual investors make use of the information contained in financial statements using fundamental anaylsis in order to get the most out of the money they have invested.

The fundamental technique refers to analysing information based on the company's financial and non-financial information reports. Additional reports, such as sustainability reporting, include data on the economic, social issues, and the environment. The company's reporting has been adjusted to reflect the growing interest of investors. However, some aspects of sustainability reporting, such as gas emissions reporting (GHG), are relatively specialized area of expertise and require assurance from an industry expert. With sustainability reporting, it is up to the corporation to decide whether to disclose or exclude information that is unfavorable to them. In this circumstance, it is essential for investors to have a thorough understanding of the current situation in order to make an informed investment decision based on the information they are receiving.

Source credibility study has found that low-credibility sources have their messages disregarded in various ways or lead decision makers to exert more effort in reaching a choice. As a result, trustworthy resources should originate from assurance that is sufficiently credible for investors to believe. It is believed that having credible resources benefits the company in terms of improving transparency, which aids in improving image and reputation, communication with stakeholders. Reporting practise becoming a current trend, assisting in the structuring of the report documentation, setting examples for others, attracting customers, and winning awards (Darus et al., 2014). Most of the advantage of having report assured by third party assurance as being reported by previous research are,

it engenders greater credibility in a report than when no such assurance is provided (Junior et al., 2014), increase user's confidence level and increases non-professional investors' willingness to invest (Cheng et al., 2015). Knowing the numerous benefits of assurance on the accuracy of information presented, the organisation has decided to hire a professional third-party assurance with varying levels of opinion in the report.

The scholar's focus had shifted to a comparison of traditional assurance providers with those who had just entered the market. Several studies have been conducted utilising various types of assurors in providing assurance to SR reports. It was claimed that 65 percent of assurors in 22 nations were from the accounting profession, with the rest coming from alternative assurance providers outside the profession (GRI, 2014). This trend has continued ten years later, with big accounting firms dominating the 250 largest companies by revenue N100 (4900 enterprises in 49 countries) in 2015 (KPMG, 2015). With the advancement of new technology and the expansion of businesses into more specific areas that include the sustainability agenda, investors' decision-making has switched to the sustainability area. In this subjective arena, there was also a demand for assurance that went beyond financial information.

According to previous study, different professional affiliations improve the credibility of the report and influence the decision-making of investors, and the type of assurance practitioner has an impact on users' trust and their assessments of the report's credibility. Since the early 2000s, for example, Hodge et al., (2003) have compared the result of professional accountants and specialist consultants as competitors in the provision assurance regarding the reporting of sustainability. In their conclusion, they argue that the former has a more influence that is significant on the process of making investment decisions than the latter. In a similar vein, Fernandez-Feijoo et al., (2016) asserted that largest accounting firm produce a report of greater quality in terms of structure and

method when compared to smaller firms. It was found by Hodge et al., (2009) that participants preferred a third-party independent of accountants is best suited to provide environmental information assurance, which was in contrast to the findings of Hasan et al., (2003). This may be a result of the fact that their study was conducted in the late 1990s, when public perception of the accounting profession was likely at an all-time low as a result of the large corporate failures that occurred in the years preceding their study.

As a result, it's possible that the accounting profession's role in providing assurance may have been negatively impacted by this. In addition, Hodge et al., (2009) state that there is not a convincing body of evidence to suggest that auditors have a higher level of credibility than other service providers. This will be examined in further detail in the following subtopic. While the type of assuror has a significant influence on the choice of investment made by an investor, the level of assurance provided in SRI reporting has an impact on the users' confidence as well as their opinions regarding the SR's trustworthiness (Hodge et al., 2009). While the majority of research indicates that the majority of firms prefer reasonable (positive) to limited (negative) opinions, there is also evidence that businesses provide 'hybrid' opinions that combine reasonable (positive) and limited (negative) opinions (KPMG, 2013) and unspecified opinions (KPMG, 2013). In their research, Mock et al., (2007) classified assurance statements into one of three categories: positive assurance, negative assurance, and hybrid or mixed assurance, while Fonseca (2010) asserts that positive statements foster greater trust. The statement relies heavily on conclusions or opinions.

When it comes to establishing a foundation of trust in the reported data, the nature of the opinion and the degree to which it addresses the criteria and scope are of the utmost importance. It has been stated that ‘positively worded remarks are more valuable to external stakeholders than negatively worded statements’(CorporateRegister.com, 2008).

Positive findings were obtained in most statements in the ICMM group (89 percent). One statement (11 percent) contained exclusively negative opinions, whereas two (22 percent) contained both negative and good sentiments. There was a clear association between the opinion or viewpoint, and the amount of assurance. Negative opinions were observed solely in remarks about inadequate assurance.

2.2 Sustainability Development

2.2.1 Sustainability Reporting Content

Annual reports from companies were mainly regarded as the primary source that was available for the purpose of informing various stakeholders about the performance of an organisation over the course of several decades. The methods used by corporations to report their activities have seen significant shifts over the past few decades, with many companies now publishing separate reports on their sustainability performance, such as sustainability reports, social reports, and environmental reports (Lodhia, 2018). As a response to the growing interest in sustainability, several international initiatives have been launched to develop guidelines for the reporting on sustainability practices. The trend of sustainability performance has evolved over the years through reporting structure in various alternative frameworks, such as: Corporate Annual Report, Corporate Social responsibility, Triple Bottom Line, Reporting, Global Reporting Initiative, International Integrated Reporting Framework, and Sustainability Accounting Standards Board (Syder et al., 2020). KPMG (2020) further reiterate that:

"Sustainability reporting is now so nearly universally adopted, that the small minority of companies not yet reporting will find themselves seriously out of step with global norms. This misalignment with accepted global practice in itself poses risks to non-reporting companies, but the leaders of these companies should also be aware that sustainability reporting cannot easily be solved overnight with a quick fix. Reporting methodologies

and approaches are complex and dynamic, requiring deep professional knowledge and expertise and must be backed up with robust sustainability strategies and risk management processes. So, my advice to any company that has yet to start the sustainability reporting journey is to take it seriously and begin now. The laggards will soon be left behind."

Previous studies have shown that a sustainability report may be broken down into three sections: the economic performance (profit), the social performance (people), and the environmental performance (planet) (Elkington and Rowland, 1999). More recent studies revealed that, the concept was then expanded to encompass the dimensions of governance and ethics, community, customers, employees, and human rights, as revealed by more recent studies (Jain & Winner, 2016). Adding to the themes, GRI G4 Guidelines (2013), the Specific Standard Disclosures are broken down into three categories of Economic, Environmental, and Social. With the expansion to four subcategories that fall under the umbrella of the social category. These subcategories are titled 'Labor Practices and Decent Work,' 'Human Rights,' 'Society,' and 'Product Responsibility.' Alternatively, each of these aspects can be the subject of a report on its own (for example, a report on greenhouse gas emissions), as is frequently required by a variety of regulatory or legislative mandates. It is a challenge for the assurance provider to ensure that all significant issues that fall under these broad categories are appropriately reported for a comprehensive report and that there is no choosing on the topics, or those that paint the entity in the most positive light and that they are reported in accordance with the reporting criteria (O'Dwyer, 2011). This is part of the challenge of ensuring that all significant issues that fall under these broad comprehensives reported.

To this day, the Sustainability Reporting Guidelines developed by the Global Reporting Initiative stand out as the most noteworthy of these initiatives (GRI, 2014).

Other government and standard organisations, such as the Carbon Disclosure Project (CDP), Climate Disclosure Standards Board (CDSB), International Integrated Reporting Council (IIRC) and Sustainability Accounting Standards Board (SASB) (Adams, 2020). All the organizations have come together to carried out activities to produce international guidelines. Cooperation between all the standard setters much required due to the groundswell demand to comprehend between sustainability aspects and its connection to business risk and opportunity. Apart from the business risk, the aim is to provide single coordinated solution in using sustainability information using unilateral standards (CDP et al., 2020).

There are increasing number of firms reporting on sustainability information (PWC, 2014). Numbers of firms that produce sustainability reports are different from one sector to another sector. As reported by Jalila and Komathy (2019), industries related to automobiles, chemical, oil and gas, food, and beverages' published sustainability reports above the average level whereas services, communications, financial companies and media sectors were not active in reporting their sustainability practices. As for financial companies, following Islam et al., (2016), the level of sustainability information disclosed by banks that take part in the GRI is much higher than the level of information disclosed by banks that have not taken part. There is a higher rate of disclosure by externally assured banks among those institutions who have engaged in the GRI. This is in contrasts with the percentage of disclosure by banks that do not have external assurance. Moreover, there was a great amount of difference in the disclosures that were made by the GRI participating institutions from country to country. The number of disclosures made by banks, particularly in Australia looked to be much larger than the number of disclosures made by banks in any of the other nations under investigation.

On the other hand, reporting on sustainability can take on a variety of forms due to the numerous resources that are involved. People who were involved in the process of engaging with the consultant, particularly from the preparation side as well as the consultant themselves. Additionally, the assurance provided by the engagement, and the sustainability objective are among the other elements contributing to the difference in sustainability reporting (Mahmood & Uddin, 2021).

Khan et al (2011) found that among the developed and developing countries, Spain has the highest number of sustainability reports contributing hundred twenty-eight reports followed by United States at one hundred reports into next place. Europe is on the top with forty nine percent in which the reporters were known to GRI followed by Asia with fifteen percent includes countries like Japan, Republic of Korea, China, and India. Besides, in North America is contributing to Fourteen percent and Latin-American is twelve percent. Oceania, however, has the lowest percentage with only six percent, while Africa's rate is only four percent. According to the most recent data available from the Dow Jones Sustainability Index (DJSI), which covers the years 2011 to 2018, the commitment to disclose data regarding sustainability is higher in developed countries than in less developed ones. Although Switzerland has the most environmentally conscious businesses, companies in Australia, Europe, and the United States are not far behind (Zahan & Sultana, 2019). While in Malaysia, KPMG survey in 2017, 93 percent of top 100 companies by revenue have included sustainability information in their annual report. Nevertheless, the disclosure is quite unbalanced.

Companies are unable to act independently from their social environments because of the social embeddedness of their stakeholder environments. The various stakeholders of a company pursue various economic, environment, and social goals, and they demand information that is relevant to achieving those goals. These stakeholders also determine

the purposes that a company should pursue. As a direct result of this, the challenge for corporate sustainability management is not only to manage the economic, environment, and social effects of corporate activities in a methodical manner, but also to provide information to stakeholders about sustainability-relevant issues and how the company is addressing them (PWC, 2014). The design of sustainable business and corporate processes and structures is an important part of sustainability management, which aims to make a positive contribution to the long-term viability of society as well as to the long-term viability of businesses and (Schaltegger & Burritt, 2010). This indicates that the generation and the flow of information need to be organised in accordance with the requirements for reporting, communication, and dialogue with key stakeholders (Herzig & Schaltegger, S., 2006).

It is essential that the reporting be accurate in order to instill confidence in the business and the activities it engages in. The creation of guidelines, norms, or standards for sustainability reporting is one approach that can be used to deal with this issue. Sustainability reporting not only serve the firms the purpose of sustaining in the market, but also to facilitate the creation of new and different image of the company (Hogan & Lodhia, 2011). As mentioned by Goldman Sachs (2015):

"As a company, if you ignore sustainability, you're going to be worth less."

Below mentioned are three dimensions described in the sustainability reporting.

Economics Dimension

The information that is included in the economics dimension, convinced by investors when there in a low degree of risk and possibility for competitive capital resources (Deloitte, 2016). The presentation of these characteristics can provide evidence that their company has contributed to the economic growth of the communities in which it operates. A sustainability disclosure report is considered as a positive activity by the company to preserve confidence and strong relationships with investors and creditors who will invest in the firm. This report is also seen as an important step toward achieving the company's long-term goals. The perception of investors and creditors as being able to rely on the corporate accountability shall contribute to an improvement in the reputation or image of the firms (Caesaria & Basuki, 2017). As a consequence of this, it will lead to an improvement in the company's overall performance in the market during the subsequent years.

Environmental Dimension

Following the environmental disclosure dimension, the firms responded to public criticism by disclosing environmental information (Schadewitz & Niskala, 2010). Environment category in GRI G4 (GRI, 2013) encompasses consequences related to sources (such as energy and water) with outcomes (such as emissions, effluent, and waste). The company's utilisation of its inputs and outputs causes a few environmental issues. As a result, the firms are expected to prevent, limit, and restore the damage as an act of environmental care and responsibility. Transparency of the company's commitment to environmental protection will inform and educate stakeholders about the actions taken out of concern and obligation for the environment. The organisation will obtain commitment and acceptance from its stakeholders, allowing for more efficient corporate operations.

Social Dimension

On the social dimension, the company's concern has grown in the focus on social issues, even as it strives to maximise economic performance to investors and other stakeholders and assume moral obligation for the betterment of society (Caesaria & Basuki, 2017). This is because the company recognises that it has a responsibility to contribute to the improvement of society. If the company is transparent about the social components of the sustainability report, it demonstrates that it is committed to supporting many of the concerns that international organisations have. The concept of social responsibility applies not only to stakeholders on the outside but also to those on the inside. Since the firm has a commitment to the internal side, it is needed to pay attention to the health and safety of its employees, ensure that all employees have equal opportunities to compete, and pay attention to the human rights aspects of the business. Looking in depth into this dimension, human rights for instance attract many researchers to explore more on the issue.

Contemporary human rights crises, including climate change and refugee crises, demand vigilance and response, and could be seen to be of more immediate concern than the development goals of the 2030 Agenda (UN, 2022). On the other hand, and without denying the immediacy of these concerns, sustainable development provides the framework for addressing all these challenges in an interconnected and comprehensive manner (Winkler & Williams, 2017).

During this early period, social concerns have not been a primary focus. 14 percent of all social ratings items just. compiled by the GRI for the SR reports that are aimed at the investment audience (AB, 2018). This indicates that investors do not believe that these factors are likely to improve investment outcome, and as a result, they do not demand social products and services. Alternatively, this indicates that investors believe that there

is something about social factors that makes it difficult to embed them into their investment portfolio.

The topic of whether or not better social performance is likely to improve investment outcomes depends on the time horizons being considered. When determining what information is important to their choice, investors frequently center their attention on the immediate dangers and potential returns on their investment (O' Connor C. and Labowitz S. 2018). According to this strategy, investors are likely to take social performance into consideration only when it results in short-term expenses that are straightforward to assess (AB, 2018). The risk of incurring such costs increases when poor management of social issues leads to negative consequences, such as harm to the reputation of the company, lawsuits, fines, disruptions in the workplace, or protests from customers. Investors are less accustomed to accounting for the long-term rewards of positive social performance, which is especially problematic when the realisation of these gains requires the investor to incur expenses in the short term. This presents a challenge due to the fact that many of the most significant ways in which social performance may influence investment outcomes are only likely to take place over the course of a much longer period of time.

In the meantime, the firms are expected to support anti-corruption regulations, anti-competitive and monopolistic practises that can hurt the stakeholders, and labelling items for the health and safety of customers. These obligations are directed toward external parties. Implementing and reporting on a company's social responsibility toward its interested parties can not only raise the price of the company's stock, but it can also promote the wellbeing and employee loyalty, as well as reduce the turnover rate of employees, which can lead to an increase in the company's overall productivity (Deloitte, 2016). When productivity rises, a firm has the opportunity to further improve its image or the worth of the organisation in the perspective of all of its stakeholders.

According to a previous study by Jain and Winner (2016), the environmental disclosure aspect receives the most attention, followed by health and education. However, other studies concluded that social aspects contributed the most attention, followed by economic dimensions, and then the environmental dimension, indicating that management at the top level is not prioritising the issues in the same way as investors (Zahan & Sultana, 2019). Investors have taken notice of the differences in the prioritising of sustainability-related issues in the reporting. A survey reveals that over 80 percent of investors are dissatisfied with the quantification of classification and measurement (PWC, 2014). Furthermore, there is a lack of discipline regarding management systems, procedures, and control in comparison to financial reporting. As an example, energy consumption is calculated differently across the globe, such as the use of gigajoules versus kilowatt hours.

These shortcomings are reflected in the fact that 33 percent of investors believe they are utilising reporting that is adequate in terms of quality, showing that investors cannot easily discern between companies that disclose their sustainability operations based on the dimensions. As a result, the relevance, dependability, completeness, and comparability for investment decision making are called into doubt (PWC, 2021). In order to gain access to sustainability statistics, investors might turn to third-party ratings and data providers for comparative and accessible disclosure. Thus, major standard-setting and reporting initiatives are focusing their efforts on making standards and guidelines more applicable and usable in order to meet the expectations for increased comparability in sustainability reporting. The goal is to generate useful data for better investment choices.

Table 2.1: Referenced standard-setting and reporting initiatives.

	Year	Type	Audience	Form of Report	Focus
Carbon Disclosure Project (CDP)	2000	Reporting and rating	Investors and other stakeholders	CDP questionnaire	Provide investors with climate change, water, and carbon data
Dow Jones Sustainability Index (DJSI)	1999	Rating	Investors	RobecoSAM questionaire	Evaluate the sustainability performance of the largest 2,500 S&P firms through a family of indices
Global Initiative for Sustainability Ratings (GISR)	2011	Rating	Investors and other stakeholders	Center of Ratings Excellence (CORE) program	Steward an ESG ratings standard to accelerate the contribution of organizations worldwide to sustainable development
Global Reporting Initiative (GRI)	1997	Reporting	Broad set of stakeholders	Sustainability report	Empower sustainable decisions through established standards and a global, multi-stakeholder network
International Integrated Reporting Council (IIRC)	2010	Reporting	Providers of financial capital	Integrated annual report or standalone report	Establish integrated reporting and thinking within mainstream business practice for both public and private sectors
Sustainability Accounting Standards Board (SASB)	2012	Reporting	Investors in US public companies	SEC 10-K, 20-F filings	Establish and improve industry specific metrics for investors in the US

Sources: Deloitte (2016)

Economic, environmental, and social disclosures provided by the company in the sustainability report have been found to have a significant impact on a company's success on the share market. These three facets will be able to establish the company's contribution to the economic development of both global and local economies, to prove the existence of the company's environmental concern, and to demonstrate the company's social contributions to society. In the long run, this will improve the company's market performance by boosting its standing in the eyes of investors.

To best serve the firms and its external stakeholders, management must first isolate those sustainability challenges for which the stakes are highest. Then, it is crucial to not only collect consistent and full data, but also convert it to a usable measurement system that can be reported and analysed. Non-financial information, such as sustainability reporting requirements for elements like energy use, is necessary to fairly portray a company's performance, much as the accounting profession created standards for reporting financial information. The findings lend credence to the outcomes of several earlier studies, which concluded that a greater level of disclosure regarding the economic, environmental, and social aspects of a sustainability report will result in an improvement in the performance of the firm market. Firms can better satisfy the changing expectations of 21st century investors, regulators, and customers if they take measures now to prepare for more stringent reporting and transparency needs from these stakeholders.

2.2.2 Development of Millennium Development Goals (MDGs) and Sustainability Development Goals (SDGs)

At the 1972 United Nations Conference on the Human Environment in Stockholm, the idea of sustainable development received its first significant international recognition. The industrial revolution is linked to the development of sustainability. Western societies began to discover, during the second half of the nineteenth century, that their economic, industrial, environmental and social impacts had a considerable impact. Several environmental and social crises have occurred worldwide and the awareness that a more sustainable model is needed. The concept emerged in the beginning of the 1960s when Rachel Carson reported the utilisation, over usage and final destruction of synthetics as synthetic pesticides, harmful to ecological systems, as described in 1962 - The Tragedy.

In 1972, at its Human Environment Conference in Stockholm, the UN recognised its first major recognition of the concept. The term "sustainable development" was introduced as a global priority in 1980, initiated in 1980 by the United Nations Educational, Scientific and Cultural Organization (UNESCO). In 1982, the United Nations developed five principles for nature conservation which guide and appreciate human behaviour. First tenet places an emphasis on the surrounding natural environment. Reverence should be shown for the natural world, and its fundamental processes should be allowed to continue unaltered. Second premise emphasis on the solvability of the population. The earth's genetic viability must not be compromised in any manner; the population numbers of all life forms, both wild and farmed, should be at least adequate for continuous survival. Appropriate habitats must be conserved in order to accomplish this objective. Third primary focus of attention is placed on ecosystems. These principles of conservation are to be applied to all areas of the earth, both land and sea; special protection is to be afforded to areas that are particularly rare or unique, as well as to

representative samples of all of the various kinds of ecosystems and the homes of species that are threatened with extinction. Fourth principles concentrate on the administration of conservation efforts. Ecosystems and organisms, as well as the land, marine, and atmospheric resources that are utilised by management, shall be managed to achieve and maintain optimal sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist. This is to ensure that optimal sustainable productivity can be achieved and maintained. In keeping with the United Nations Convention on the Conservation of Natural Resources, this is how things should be done (UNCCR). Finally, the fifth to preserve natural resources. It is imperative that the natural world be shielded from the potential devastation that is caused by armed war and other forms of hostile activities.

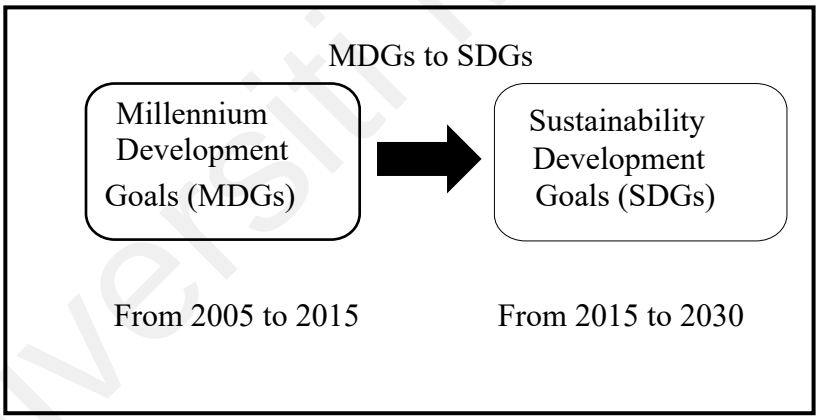

Figure 2.1: Transition from MDGs to SDGs.

The 'official' definition of sustainable development was developed for the first time in sustainable development, which is that people must live and meet their needs while remaining incapable of meeting their own needs. But only at the Rio Summit in 1992, the world's leading leaders recognised and adopted sustainability. In 2000, UN MDGs were first set with eight objectives aimed at stabilising the environment and deforestation, mixing foresters with carbon releases, and contributing to climate change. The programme however end in 2015 (UN, 2015).

Figure 2.1 shows the visual overview on the transition from MDG to retirement until new SDGs were introduced. The Millennium Development Goals (MDGs) were formalised in the Millennium Declaration "to end poverty by 2015" that was endorsed by 189 Heads of State and Government at the United Nations Millennium Summit in 2000 (https://www.mdgmonitor.org/mdg-progress/).

The MDGs are an eight-point road map emphasized on three areas: human capital, infrastructure, and human rights. These goals formulated with clear deadlines and measurable targets in multiple dimensions for improving the lives of the poorest people in the world and increasing the living standards. These time-bound targets provide solid, numerical benchmarks for addressing human capital objectives include nutrition, healthcare, and education. Infrastructure objectives include access to safe drinking water, energy, and modern technology; increase farm output using sustainable practice, transportation as well as environment. Human rights objectives include empowering women, reducing violence, increasing political voice, ensuring equal access to public services, and increasing security of property rights. They are the most comprehensive, specific, and broadly supported development goals. By achieving these goals, through sustainable growth and advances in key areas such as health, gender equality, education and environmental sustainability is recognised as a challenge for developed and developing countries alike. Still, there has been incredible progress on some MDGs in many countries, including decreased extreme poverty, increased in primary school, and improved access to clean water.

However, progress is highly uneven among regions, countries, and population groups. Some targets are also globally off-track owing to unpredictable events such as international and economic crisis, war, and climate change in the fifteen years journey. There was huge criticism of MDGs for not being holistic as they left out certain social

issues and a need for post-2015 agenda (Ruhil, 2017). As a result, MDGs expire in 2015 and the world adopted Sustainable Development Goal (SDGs) by the end of 2015. Even they could not escape criticism, and the article discusses few debates around them. At last, the article discusses potential challenges for SDGs, both at international level as well as national level with special emphasis on health-related SDGs.

At the end of 2015 and the beginning year 2016, the SDGs are set to achieve 17 goals in 169 target areas which would overcome the failures of MDGs and achieve global sustainability in social, economic and environment within 2030 (United Nations, 2022). It is the world's shared plan to end extreme poverty, reduce inequality, and protect the planet by 2030. Adopted by 193 countries in 2015, the SDGs emerged from the most inclusive and comprehensive negotiations in UN history and have inspired people from across sectors, geographies, and cultures. Achieving the goals by 2030 will require brave and ingenious effort, determination to learn about what works, and agility to adapt to new information and changing trends. The UN Foundation focuses on ideas and initiatives that generate larger impact, advance the SDG imperative to "leave no one behind," and are backed by evidence, practical commitments, and action. Individuals, innovations, and actions are helping the planet realize the potential and promise of the SDGs. It is containing concrete list of targets and measurable indicators to ensure that progress against the SDGs can be tracked. The following is included in the preamble to the SDGs:

> "*We envisage a world of universal respect for human rights and human dignity, the rule of law, justice, equality, and nondiscrimination; of respect for race, ethnicity, and cultural diversity; and of equal opportunity permitting the full realization of human potential and contributing to shared prosperity. A world which invests in its children and in which every child grows up free from violence and exploitation. A world in which every woman and girl enjoys full gender*

equality and all legal, social, and economic barriers to their empowerment have been removed…We envisage a world in which every country enjoys sustained, inclusive and sustainable economic growth and decent work for all. A world in which consumption and production patterns and use of all natural resources – from air to land, from rivers, lakes and aquifers to oceans and seas – are sustainable.

One in which democracy, good governance, and the rule of law, as well as an enabling environment at the national and international levels, are essential for sustainable development, including sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty and hunger...

In its scope, however, the framework we are announcing today goes far beyond the Millennium Development Goals. Alongside continuing development priorities such as poverty eradication, health, education and food security and nutrition, it sets out a wide range of economic, social, and environmental objectives. . . It also, crucially, defines means of implementation".

The SDGs are more challenging than the MDGs and considerably expand the former goals' scope. The emphasis is not simply on development, but on sustainable development, or development which meets the needs of the current generation without compromising future generations' ability to meet their own needs. The SDG framework's implementation started at the beginning of 2016, and a growing body of evaluations, analyses, guidance, and research papers are emerging internationally.

The growth and presentation of systems approaches and models to analyse interconnections between targets, and the provision of guidelines and toolkits to support

the early stages of SDG implementation and mainstreaming, have all been done at the global and regional levels of research and implementation (Allen et al., 2018; United Nations, 2016). It is significant that the emerging SDG literature and guidelines acknowledge that transitioning from the MDGs to the SDGs calls for a change in focus, moving away from addressing goals in developing countries that are falling behind to identifying actions for all countries (both developed and developing) to advance more quickly across a wider range of interconnected goals.

Most countries have started implementing the SDGs at the national level. These efforts are documented in the initial Voluntary National Reviews (VNRs) submitted to the High-Level Political Forum on Sustainable Development (HLPF) in 2016 and 2017, with 66 countries reporting on progress in the first 18 months of implementation. Furthermore, some developed countries have published additional reviews and studies on their approach to the SDGs and national progress (McArthur & Rasmussen, 2017). As MDG, SDG also measured by set of indicators, which contribute a few for each goal. This indicator works as an essential tool to monitor towards SDG at the local, national, regional, and global levels. A wide-ranging indicators framework will turn the SDGs and their target into management tool which assist countries and global community to allocate resources and strategize accordingly. Each country uses the SDG indicator that are best suited to ensure that they are on the right path towards progress on sustainable development. Undoubtably, due to the multiplicity of countries, they are variety of indicators opted. Nevertheless, it is crucial to have consistency in statistics use and the data availability that will going to be used to monitor and verify the SDGs. The indicators used not only enable all interested parties to compare efforts between countries to assess the effectiveness of the domestic policies, but also should provide the reflective representations in situation of each country used as well the speed towards sustainable

development. In the end, it is essential to have prospective analysis of future dynamics indicators.

2.3 Socially Responsible Investment

Socially responsible investment (SRI) is an investment decision that selects investments based on factors other than risk and return. Responsible investment requires investors to consider environmental, social, governance, and ethical issues during the investment process (Renneboog et al., 2008). The field of SRI has traditionally been characterised by debate or a lack of consensus about definitions; even the terminology used within the field is not settled. Therefore, generally comparable or associated terms that are found in the research. SRI has been referred to as "social, ethical, and sustainable investment" in the academic literature, as well as "sustainable investment" (Bruyn, 1987; Hylton, 1992; Sparkes & Cowton, 2004; Renneboog et al., 2008) and other investment process that incorporates environmental, social, and governance (ESG) concerns into financial goals" (Eurosif, 2008) whereby, investors practices align those concern with their investment strategies (Lozano, 2006). Additionally, SRI also known for the purpose of generating superior long-term financial returns while also having an impact on the environment, social welfare.

When making investments, this particular type of investment strategy takes into consideration both "people" and "the planet," and it appears to provide investors with a framework within which they can incorporate ethical considerations (Boatright, 1999), green (Simpson, 1991), investment that is targeted, developed, and strategic (Wokutch, and Fahey, 2013) on both investment and credit practises. Additionally, these practises may relate to loans, bonds, stocks, commodities, and other financial instruments, including financial derivatives (Scholtens, 2006).

Furthermore, Schwartz (2016) in his research add two more categories of moral and governance principles that integrate into investment decision making should take into account for environmental, social, and governance factors. Investing in socially and environmentally responsible projects helps corporations become better corporate citizens by allocating a portion of their assets to community economic development projects that fulfil certain minimum standards (Cai et al., 2016). On the other hand, SRI is an investment strategy not only recognizing identifiable non-financial criteria, but another dimension also includes religious dimension. The degree of acceptance of SRI is directly proportional to the considerations given by socially responsible investors (Chen et al., 2019). As depicted by Australian Centre for Financial Studies (ACFS), 2017:

> *"Socially responsible investing (SRI) means integrating nonfinancial factors – such as ethical, social, or environmental concerns – into the investment process. The term SRI is often used interchangeably with other terms like 'ethical investing' and 'values-based investing'"*

In other notes, SRI throughout the academic literature, this concept is referred to as either responsible investment or sustainable investment. Scholtens, B. (2014). Ethical investment (the term favoured in the United Kingdom) and socially responsible investment are the two most commonly used terms (the term commonly used in the United States and adopted in this study). In spite of the use of these terms interchangeably, socially responsible and ethical investment are the two most commonly used terms in financial circles (Schueth, 2003). Some investors may be reluctant to use the word "ethical" to describe their investment principles because it implies an excessive adherence to religious or moral values, according to a recent report (Sparkes & Cowton, 2004). Additionally, instead of focusing on short-term financial gains, a relatively new investment philosophy known as "impact investing" aims to create long-term social value

by addressing social issues. It's reasonable to assume that impact investing is an SRI strategy, given the definitions' similarity. Hill (2011) acknowledges it as a common ground with SRI, while most practitioner academic and practitioner conclude that impact investing is distinct from SRI or that impact investing goes beyond SRI.

To summarise, impact investing is typically viewed as distinct from or going beyond SRI in the texts examined. Because impact investing is more proactive in solving social and/or environmental challenges rather than simply improving corporate practises in terms of ESG criteria, there is a wide range of investment sizes and types, as well as a wide range of return expectations and risk–return profiles, which are all factors to consider. The field of SRI is a vast and intricate one. It is fundamentally characterised by debate (Bruyn 1987; Hylton 1992), a lack of consensus on its definition (Sparkes & Cowton 2004), and a great deal of terminology that attempts to describe this phenomenon. According to Bauer and Smeets (2015), ethical investing can be a mutual fund with a social focus (Riedl and Smeets, 2017), an environmental focus, or a combination of the two. Since SRI is defined in part by generating reasonable returns on investments, this research defines social or socially responsible investing as the type of investment and individual that combines financial objectives with their concerns about environmental, social and governance (ESG) issues (Starik & Marcus, 2000).

2.3.1 Overview of SRI

SRI has grown significantly over the last few decades. SRI's roots can be traced back to the 17th and 18th centuries, when faith-based investment decisions were made (Schueth, 2003). Several religious traditions, including Jewish, Christian, and Islamic ones, got the idea to steer clear of financial investments in goods that they regarded as potentially harmful. This included the sale of alcoholic beverages, tobacco products, and interest on loans. During this age, SRI was known as “Ethical Investing” because the process was

focused on avoiding harmful products and services. Whether they were aware or not, these investors were using a consequentialist approach in evaluating their investment decisions. The religion of Judaism has a wealth of teachings on how to use money in an ethical manner, and in the times of mediaeval Christianity, ethical restrictions on loans and investments were based on the Old Testament. Usury was made illegal everywhere in the world by the Catholic Church in 1139, and the ban did not begin to be partially lifted until the 19th century. The Methodist Church in the United Kingdom avoided investing in "sinful" companies during the 1920s. These "sinful" companies included those that produced alcoholic beverages, tobacco products, weapons, and participated in gambling. The Pioneer Fund, the world's first modern mutual fund, was established in 1928. It was the first fund of its kind to use screening criteria based on religious traditions.

This method of capital accumulation has its roots in the Islamic tradition as well. Investors who follow the teachings of Islam's holy book, the Qur'an, and the various interpretations of those teachings, abstain from investing in companies that are involved in the production of pork, pornography, gambling, and financial institutions that charge interest. In the past, ethical investing was based on religious beliefs, but modern SRI is more about how each investor's personal moral and social beliefs affect their investments. Since the 1960s, a number of social movements, such as the anti-war and anti-racist movements, have made investors aware of the social effects of their investments. A big reason for this was the Vietnam War. Before this, the US created the Pax World Fund in 1971 as the first SRI mutual fund for people who didn't like the Vietnam War or militarism in general. The fund did not invest in companies that made weapons. During this time, the U.S. made a lot of progress in social issues, like civil rights and women's rights. The United States also took part in the controversial Vietnam War. Because of these events, some investors responded to the political climate of the time by staying away from companies that made weapons or were known to violate civil and women's rights.

In this time, investors also began shunning companies that were not environmentally friendly.

In the 1980s, social investors protested the racist apartheid system in South Africa. SRI investors in the US and Europe have put pressure on companies with operations in South Africa to move those operations to other countries. They have also asked mutual funds not to invest in South African companies or western companies with subsidiaries in South Africa. These campaigns were mostly successful. For example, in 1986, the California legislature changed the law so that the state's pension funds had to get rid of more than $6 billion in investments in companies that did business in South Africa. (Sparkes & Cowton, 2004). Six years after, the Chernobyl nuclear power plant in what was then the Soviet Union and is now Ukraine exploded, sending radioactive material all over Europe and causing thousands more people to die of cancer. Also in 1989, the oil supertanker Exxon Valdez ran aground near Alaska and spilled 11 million gallons of crude oil.

This was the worst environmental disaster caused by people in the US for the next 20 years, and it did a lot of damage to the environment and people's health. In the late 1980s, these and other environmental disasters made investors more aware of the bad things that industrial growth can do to the environment. All of these events have made both society as a whole and investors much more aware of their social responsibilities. After the period of 1980s, references are made to market as green niche fund as mostly environmentally oriented such as “green funds.” For the first time in the discussion, the idea of making money from these ethical investments comes up. When SRI turns its attention to climate change, the focus has changed. It is also defined by the fact that SRI and corporate governance, which used to be looked at separately, are now brought together. This period is referred to as sustainability period because the way the news is written tries to be neutral

and free of any ethical slant. There hasn't been a break yet that would make it possible to close the bracket. So, even though SRI has been around for a long time, the current global environmental crisis, legislative pressure, and stakeholder pressure, as well as the current financial crisis, have brought SRI to the forefront to solve these problems.

The global financial crisis has also made consumers and investors pay more attention to market participants' responsibility, openness, and accountability (Barth & Landsman, 2010). SRI has changed people's ideas about what, besides financial performance, a good investment should consider. According to Unesco “The 2030 Agenda” provides a new framework which include environment, social and governance. The SRI indexes act as an endorsement for responsible businesses, allowing them to demonstrate to their stakeholders that they have a solid foundation in CSR and sustainability.

The growth of the industry is being fueled by a variety of factors including SRI. As a starting point, information is essential to SRI. Today's investors have access to technology that keeps them up to date on the latest developments in the world of business. Investors can get realtime information on stock market movements via certain applications. The quality of data produced by research organisations has never been better. Since investors have access to a wealth of data, they are better equipped than ever to make well-informed decisions.

Investors who base their investment decisions on "extra-financial information" (also known as non-financial information) based on the information provided by SRI providers (GRI, 2013) which refers to disclosures concerning governance and environmental concerns, amongst other topics. Firms are encouraged to report on their responsible and sustainable activities because of these sources of information (Camilleri, 2015).

Second, progress made toward gender equality in economies that have undergone industrialization might be a factor in the rapid development of SRI. In today's world, there are more emancipated women working. Because of their engagement in the labour market, they find themselves in the position of having a job. The vast majority of these women have earned relevant credentials through post-secondary study and have graduated from such programmes. Many of them are progressing in their careers with large corporations, and as a result, they are deciding to enrol in MBA programmes. It is possible that some of them will be elected to boards of directors and will be responsible for fiduciary duties.

Different women have created their own businesses and have become entrepreneurs. As a result, the problem of gender equality may have been responsible for some of the most important innovations within the realm of the financial services business in recent decades. Women are no longer the only ones who benefit from social finance; it is now part of a larger community of socially responsible investors (Maretick, 2015). Furthermore, it has been revealed that they will inherit 70 percent of their fortune over the following two generations, and Wall Street wants their business. Female investors, in comparison to their male counterparts, have demonstrated positive attitudes toward social investing; consequently, this wave of money is destined to settle in their laps because of these positive attitudes. One of the methods in investing in SRI is using positive and negative screening.

Finally, a rising body of evidence suggests that investing in socially responsible assets does not have to mean sacrificing performance. The claim that social screening could lead to poor corporate performance was refuted by relevant academics. Investors are now aware that taking responsibility is essential to having financial success (Porter & Kramer, 2019; Schueth, 2003).

Investing in the major asset classes in the United States can be done responsibly while also generating high returns. Investors are increasingly recognising that they may increase the value of their portfolio while also supporting social and environmental objectives. It doesn't matter what system is used to rate funds; socially responsible funds are always rated well above average performers (Schueth, 2003). According to Auer (2016), negative environmental and social filters had no effect on portfolio value at cut-off rates that were not excessive. Under similar conditions, he discovered that governance screens significantly improved portfolio performance. The method of investing in SRO are discussed further in next sub topic.

2.3.2 Attributes of SRI

Individuals who desire to invest in a socially responsible manner can choose from three SRI method which are corporate activism, stockholder screening, and community investment which divided into four method generation. Positive screening or negative screening constitutes social screening. The most common investment strategy is the avoidance strategy, also known as "negative screening" (Eurosif, 2014). This strategy, also known as first-generation methods, were used to limit investment in "sin stocks" of companies that manufactured or provides such as such as alcohol, tobacco, nuclear power, gambling, etc (Haigh & Hazelton, 2010). This type of strategy attempts to avoid investing in companies that engage in business areas or practises that are deemed to be unethical or problematic.

The second generation of socially responsible investing (SRI) places more of an emphasis on using positive screening and a "best-in-class" strategy to choose firms, with the idea that companies that are known to engage in social responsibility activities are more acceptable to investors (Radu & Funaru 2010; BarredaTarrazona et al., 2011).

The third generation of SRI is produced as a result of the incorporation of both positive and negative screens into the screening process. Positive screening is a supportive strategy (Eurosif, 2014) adapt fund in firms who business areas or activities that are exceptional regarding social or environmental performance and ethically acceptable or outstanding (Haigh & Hazelton, 2004). Global Sustainable Investment Review (2016) stated that:

> *"The largest sustainable investment strategy globally is negative/exclusionary screening ($15.02 trillion), followed by ESG integration ($10.37 trillion) and corporate engagement/shareholder action ($8.37 trillion). Negative screening is the largest strategy in Europe, while ESG integration now dominates in the United States, Canada, Australia/New Zealand, and Asia ex Japan in asset-weighted terms. Corporate engagement and shareholder action is the dominant strategy in Japan."*

The fourth and most recent generation of SRI includes shareholder activism (Oh et al, 2013), in which investors invest in companies engaged in morally unacceptable business activities but use their shareholder influence to change their ways. The idea of such a strategy is investors as shareholders having ownership share-limited has privileged rights. This is accomplished through the voting rights that are granted to individuals who fulfil the role of owners of corporate businesses (Schueth, 2003) through specified resolution. Most is done on numerous campaigns associated withs shareholders activism. These efforts include not only having productive relationships and conversations with companies about issues of concern, but also making it easier for shareholders to talk directly with management about changes they want to see in corporate policy and practise, and steering management in a direction that could improve corporate financial performance over time. This helps shareholder activist groups convince corporations to act responsibly (Camilleri, 2017). When there is shareholder engagement, investees

frequently receive constructive feedback on how to improve their ESG issues within their sphere of influence (Camilleri, 2015).

Finally, another subset of SRI is community investing. It allows money to be put into organisations that help the community (Mansuri & Rao, 2004). Investors can make direct investments in institutions to make a more significant contribution to society (rather than purchasing stock). It's possible that the people who had the stock before you benefited financially from the money you spent buying it (and may not necessarily generate social good). For instance, funds that are invested in a Community Development Financial Institution (CDFI) may be utilised by that institution to fight against issues of poverty or inequality. Underserved communities may benefit from the community investment funds in the form of increased access to capital, increased economic growth, green enterprise, or other forms of social good (Benjamin et al., 2004). As quoted by Islam et al., (2022),

> *"Do something that makes a positive difference to society. This will involve obstacles and failures, but stick to your goal and you will succeed"*

Community investment is a way for people in low-income and high-risk neighborhoods who would not have access to traditional sources of finance to do so. When capital is scarce, it gives investors the opportunity to put their money to work creating jobs, affordable housing, and ecologically friendly goods and services. In order to assure the loan's success and investors' returns, the community investment organisation may also give training and other sorts of support and expertise (Berry & Junkus, 2013). Community investment grew by 5 percent between 2012 and 2014 (US SIF Foundation, 2017). At the beginning of 2014, CDFIs based in the United States held and invested $64.3 billion in local assets and investments (US SIF Foundation, 2017). Over the last decade, the SRI market has grown exponentially all over the world. Assets under management spanned from US to Europe, Canada, and Australia at the time. Portfolios

are designated SRI if they apply a social screening, shareholder activism, or community service approach. It is getting more and more common among investors to invest this way (US SIF Foundation, 2014).

As of 2014, 95 percent of the global SRI market was concentrated in Europe and the United States (Global Sustainable Investment Alliance). It expanded from $336 billion in 2003 to $13,608 billion in 2014 (+3950 percent) and from $216 billion in 2003 to $672 million in 2014 (+204 percent), respectively, in the two markets. There is an additional $6.57 trillion in SRI assets in the United States market (USSIF, 2017). In a similar vein, responsible investing in Europe outpaced other European investment markets and experienced growth in the double-digit percentage range between 2011 and 2013. The rates of growth range anywhere from 22.6 percent (according to the concept of sustainability) to 132 percent (relating to the concept of innovation) (EUROSIF, 2014).

Williams (2007) argues that 'SRI provides prima facie evidence that financial returns may not be the only criteria used by a significant number of investors, and that ethical and social considerations may also play an important role. This has prompted scholars to explore investor behaviour and potential trade-offs in SRI, such as the possibility that investors derive nonfinancial utility from the SRI process (Renneboog et al., 2008) and those motivations include instrumental as well as relational and. ethical.

2.3.3 Individual Investment Decision Making

Research in investment shows that, investors do not seek investment solely for financial gain (Gangi et al., 2016); non-financial utility generated by SR investment is self-determining when making investment decisions, and the indication is satisfactory that investors have a certain amount in allocating their budget invested sustainably (Gangi et al., 2016). To truly gauge investor sentiment, firms choose to communicate information

via sustainability reporting. This reporting mechanism is largely voluntary and functions as a self-regulatory mechanism, with management exercising discretion over what and how to report.

There has been a share of discussions on how the involvement of an impartial third party can improve the credibility of SR reporting. For example, Shen et al., (2017) examine individual investors' access to company information when making investment decisions. In light of the fact that private investors' access to company information is more restricted than that of institutional investors, third-party assurance helps to verify the information's credibility. Independent third-party assurance also enhances the actual and perceived quality of the information reported (Hodge et al., 2009), due to the fact that a knowledgeable third party will almost probably uncover any significant flaws or omissions in the report. With this assurance, the company's credibility is enhanced, and investors' willingness to invest is likely to improve as a result of reduced investment risk (Pinsker & Weeler, 2009). This has an impact on the extent to which investors rely on available information and, consequently, the choices they make Mercer (2004), for example, presents a framework for the investors' evaluation of voluntarily reporting. The approach incorporates four aspects, including management credibility, scenario incentives, disclosure characteristics, and assurance. The external assurance feature is the one that is most pertinent to this research on the disclosure characteristics. In addition, investors spend less time looking for information when they have trust that it was disclosed voluntarily.

2.4 Sustainability Assurance (SA)

Sustainability assurance is an external procedure that addresses the challenge of sustainability reports' lack of confidence (Hodge et al. 2009; Simnett et al. 2009). To protect their investment decisions, investors' primary goal is to ensure that information about their investments is genuine and reliable (Hodge et al., 2009). This is particularly important given the growing demand for information that is more open and credible regarding environmentally responsible performance and greater decrease in cost of capital for companies that publish and assure their social and environmental reports (Martinez-Ferrero & Garcia-Sanchez, 2018). It is widely accepted practice for businesses to include information about their operations in their reports, which can be accessed via a variety of channels of information, including the firm's website and prospectus, to name a few. Based on the information provided, firms have experienced few changes in the type of information offered in the reporting practice over time. Aside from financial information, information about long-term viability is currently in high demand as well, both information is critical in making investment decision by investor. On the other hand, while reporting on sustainability is restricted to unregulated formats, it is all up to management's freedom to choose what information to report and how to report it because it is a self-regulatory mechanism where management has discretion (Shen et al., 2017). This causes reports to vary widely in content format, which leads investors to be skeptical of the information they obtained.

2.4.1 Overview of Assurance

'Sustainability assurance' refers to assurance services for sustainability-related material in company reports (Manetti & Becatti, 2009). It is becoming more usual practise to collect data on the social, economic, and environmental performance of a corporation (sustainability information). The purpose of these efforts is to respond to user expectations while still following regulatory requirements (Kolk & Perego 2012; Hahn and Kuhnen, 2013). Investors and analysts, for example, require evidence to back up their judgments. The phrases "assurance" and "audit" or "verification" are occasionally used interchangeably (O'Dwyer & Owen, 2005). For consistency, this research will refer to the practice as sustainability assurance (SA). As reported by Sustainability Knowledge Group in 2022, The aim of assurance statement is to:

> *"Assurance statements are primarily intended to enhance credibility of Sustainability Reports. Therefore, credibility and independence are important. External assurance should not be performed by the same provider (Sustainability consultant) who wrote the report, as they would be assuring their own work. Assurance statements have value only when they comply with certain requirements of methodology, evidence investigation and when they are performed based on specific standards. AA1000 provides a list with Licenced Providers and a list of the Assurance Statements using the AA1000AS to support organisation to select assurance providers that meet certain requirements and increase the quality and consistency of AA1000 assurance delivery."*

The necessity of reporting on sustainability and ensuring that these reports have been independently verified is growing (Simnett et al., 2009). assurance from the outside on sustainability reporting, like sustainability reporting itself, has become common business practise (KPMG, 2013). More than 59 percent of the 250 largest companies in the world

were required to submit sustainability reports in 2013. According to a recent survey conducted by the auditing firm KPMG, an increasing number of firms are enlisting the help of an impartial third party to examine and validate their facts about sustainability. After stagnating between 2011 and 2013, 63 percent of the 250 largest global firms (G250 companies) have their sustainability information certified by an independent third party (KPMG, 2015).

SA is a response to people' requests for credible and reliable information (Robert et al., 2013). Many have agreed that engaging with an external third party to boost the credibility of in-house sustainability statistics is a good idea (Robert et al., 2013). Some scholars are of the opinion that involving sustainability assurance is a beneficial move. If the assurance process is well-designed, it can improve credibility by enhancing transparency and accountability (Dando & Swift, 2003) and confidentiality Beelde & Tuybens (2015). The use of independent audits from the outside should be encouraged as a strategy to bolster the credibility of sustainability reporting, however, the influence of management can be problematic if it results in a lack of relevance and completeness in sustainability reporting (Casey & Grenier, 2015). As more stakeholder participation would lessen the bias of managerial influence, it would also strengthen the relevance and independence of the assurance that is offered.

In a separate vein, SA has produced results from a unique perspective. For example, Hodge et al., (2009) show how SA traits might boost users' confidence in sustainability performance. The information is affected both by the type of assurance provider and the level of assurance (which is represented by the type of report). This is reinforced by a recent study by Quick and Inwinkl (2020), which found that bankers are more inclined to make favourable judgments regarding reporting businesses may engage in activities such as taking credit application, investing in the company, or advising that their clients

purchase stock. The Federation of European Accountants is another organisation in this vein (FEE, 2004) advises businesses to use independent third-party assurance to boost shareholder confidence. These statements are in line with previous auditing research, which shows assurance provided voluntarily by a third-party increase's user trust in the accuracy and dependability of the data provided (Carey et al., 2000). This backs up by Cuadrado-Bellesteros et al. (2017) findings, which state that "sustainability assurance is a valuable instrument for improving the quality and reliability of sustainability information, therefore strengthening the analysts' capacity to predict future cash flows." Furthermore, as information is perceived as more credible, the value of reporting rises.

Apart from the good effect of SA in enhancing trust, some factors may jeopardise the reliability of sustainability data (Smith et al., 2011). For instance, there is no precedent for assureos to build on because sustainability reporting and assurance is voluntary. It's also worth noting that there are a number of different sustainability reporting and assurance guidelines, each with a different level of assurance. A wide variety of assurance providers are also available. SA research is crucial for a variety of other reasons, including enhancing a company's legitimacy. According to previous research, firms engage in SA to maintain their market position in response to external users' concerns about social and environmental performance. The SA report aids investors in gaining confidence in the information supplied. This is a key indicator of the company's underlying risks and future success (Kolk & Perego, 2012). As a result, when assurance is offered, the risk of information quality is reduced, and stakeholders are more likely to trust the information contained in the sustainability report. Furthermore, assurance enhances a company's reputation, making it easier to obtain resources (Casey & Grenier, 2015). It also increases stakeholder communication and can be used to signal increased management capability (GRI, 2013; Peters & Romi, 2015). 1SA has a large effect on investors' future stock price forecasts when non-financial information is favourable but has little effect when non-

financial information is negative, according to research. Brown-Liburd et al., (2015) find that stock price revisions are largest in the presence of SA only when a company's SA investment is substantial in comparison to other firms in its industry.

In some cases, it appears that firms in the sensitive and financial industries are more interested in ensuring their sustainability information (Cho et al., 2014). Furthermore, firms employ SA as a legitimization tool (O'Dwyer et al., 2011, Power, 2003) to keep their reputation from being harmed if they fail to offer sufficient assurance. Aside from this, the assurors are under pressure to streamline the assurance process, standardise it, and make it public to eliminate expectations gaps. The assurance practise can be isolated from other forms of legitimation (Power, 2003). The desire to prosper economically is a motivator for the leading auditing firms to enter the assurance business. According to studies, the legitimising techniques adopted are more short-term than moral. They are concentrating on the customers; rather than working to improve the process of assurance, they are promoting the internal benefits that can come from assurance, such as better reporting practises and greater credibility with outside parties.

Finally, sustainability reporting and assurance can be used to interact and communicate with stakeholders that leads to mutual understanding (GRI, 2013). External assurance is especially crucial for positive data, which makes up most sustainability reports, although negative data is considered reliable even without it (Casey & Grenier, 2015). Greenwashing, or the manipulation of information circulation by businesses to deceive the public, can be regarded as leaving positive information unconfirmed (Lyon & Maxwell, 2011). Firms, on the other hand, would not release any more negative material than is necessary. According to the findings of some researchers (Agyemang et al. 2020; Alshbi et al., 2021; Elmagrhi et al., 2019; Chen et al., 2020), businesses that take part in sustainability activities and disclose those activities will improve their level of

transparency, reputation, and branding, thereby encouraging employees and increasing their level of competitiveness.

Other academicians, on the other hand, have arrived at contrary results. The findings stated there is no connection between the quality of sustainability information and the sustainability assurance that is provided (Michelon et al., 2015). They state that, viewed in this light, it can be considered a symbolically significant activity, as corporations attempt to influence stakeholders' perceptions of their dedication to sustainability issues by assuring them. Additionally, studies have indicated that "the assurance seems to be related with managerial procedures for the sake of internal congruence rather than as a performance differentiating signal to external stakeholders.

Another attributes of sustainability assurance are on the level of assurance (Martinez-Ferrero & Garcia-Sanchez, 2018). According to the existing level of assurance, if investors had access to the information they are looking for, their preference for assurance would be the same as their desire for financial information (Krasodomska et al., 2021). In order for investors to make informed decisions, they want to know about risk, the policies companies use, and whether they are applied correctly rather than too conservative or aggressively; internal controls and governance; metrics and evaluation methodologies/calculations; assumptions used for stress testing; and comparisons between the company and its peers. For this reason, investors believe that because assurance providers provide services to a wide range of businesses, they can establish benchmarks and comparisons to illustrate where the company is. The essential question is whether or not SA reporting and assurance are of sufficient quality. Is the data useful to the user and easy to comprehend? and the degree to which the user has trust and belief in the data?

2.4.2 Adoptions of Sustainability Assurance

The assurance of SR has emerged as a critical component in enhancing the credibility of sustainability information supplied by corporations (Darus et al., 2014; Herda et al., 2014). Having a third party verify the accuracy and completeness of data provides users with additional peace of mind because they can be sure that the information, they're receiving is accurate and up to date (IAASB, 2013). There is no globally acknowledged standard for reporting or assurance due to the voluntary nature of sustainability reporting and assurance. On both national and international levels, there are numerous rules and standards for such procedures. There are various misunderstandings about the terms 'sustainability reporting guidelines' and 'SA standards' that need to be clarified before these standards and guidelines can be introduced to the community.

Sustainability reports and related portions in annual reports are aided in the preparation process by the GRI's reporting criteria (e.g., those developed by GRI). It is essential to acknowledge that standards have been established in order to instill confidence in the information that has been presented. At the national level, new norms and standards for national reporting are being developed, similar to those that have been implemented in the Netherlands and Australia. According to what was covered in the section before this one, there are no standards that are universally approved for the practise of sustainability reporting at the global level.

In a manner comparable to the practise of reporting on sustainability, SA is generally characterised by its voluntariness, with only a few exceptions. The creation of sustainability reports by businesses is not yet mandated by any laws or regulations that require those businesses to take part in any kind of certification process. In addition, practitioners of assurance now have the option of establishing their assurance engagements on multiple SA standards that are now available to them. Both the

International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC) and AccountAbility are acknowledged as the principal standard-setters recognised as being responsible for the establishment of SA standards on an international basis. **Table 2.2** provides a recap of the process that led to the formulation of these assurance criteria and reporting rules for SA engagement.

Table 2.2: The advancement of assurance standard and reporting guidelines for assurance engagements.

		Year															
Founder	Year of Establishment	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2015	2016	2020
GRI	1997	G1		G2			G3						G3.1		G4		Universal Standard effective 2023	
AccountAbility	1995				AA1000AS					AA1000AS(2008)								
IAASB (IFAC)	1987						ISAE 3000			ISAE 3000 (Revised)					ISAE 3000 (Revised)	ISAE 3000 (Revised) Ammendment : ISAE3402,3410,3420		ISAE 3000 (Revised) Part 4B code revision

2.4.3 Global Reporting Initiative (GRI)

Firms are under increasing pressure to meet the different requirements and preferences of numerous stakeholders, as well as to justify their ability to exist and prosper (Bose et al., 2018; Siddiqui & Uddin, 2016). Along with its extensive adoption, comprehensiveness, renown, and global exposure, the GRI framework is often recognised as the most widely approved way for SR practises (Dissanayake et al., 2016; Kuzey & Uyar, 2017). When companies publish GRI reports that are open to the public rather than replying to individual requests for non-financial information from stakeholders, they can save a significant amount of time (e.g., institutional investors or NGOs). An empirical study conducted on Australian companies by Siew et al. (2013) found that businesses who publish nonfinancial reports have a competitive advantage over their counterparts that do not in a number of financial parameters.

The Coalition for Environmentally Responsible Economies (CERES, 2018) established the Global Reporting Initiative (GRI) in Boston in 1997 as a not-for-profit

organisation with the intention of creating an environmental framework. In 1998, the Global Reporting Initiative (GRI) established a multi-stakeholder Steering Committee with the goal of expanding the reporting framework to cover concerns pertaining to social and economic conditions as well as governance, translating it into a reporting framework for sustainable practises. In addition to this, GRI offers reporting guidelines for businesses who operate within particular sectors and are required to place an emphasis on particular reporting criteria. Investors are the major market for whom this framework is intended, and the fundamental aim of the framework is to serve as a system of accountability to guarantee that compliant companies adhere to the responsible behaviour criteria established (C. After publishing its first version of reporting rules, known as GRI G1, in the year 2000, the GRI eventually transitioned into an autonomous organisation.

The framework will continue to evolve over the next few years, with different emphasis for each generation. Second generation guidelines, known as G2, were released in 2002, marking the start of a new cycle of revisions. At the time, the newly launched framework marked a significant milestone in the advancement, rigour, and quality in comparison to the previous guidelines (GRI, 2002). After the United Nations Environment Program (UNEP) selected GRI as a partnering firm that year, the organisation was moved to Amsterdam the next year. After they were made public, the number of SRs saw a dramatic surge, going from 150 in 2002 to 325 in 2003, 500 in 2004, and 750 in 2005. Because the market for assurance services was expanding at such a rapid rate, there were a lot of chances for significant modifications to be made in the type of assurance that was being given.

Later, in 2006, this generation, known as "G3," has been supported by professionals in different sectors since its inception (the extension of the G3, known as the G3.1 Guidelines, was published in March 2011 to update and expand the issues covered to

gender, community, and human rights-related performance). The guidelines are the first to address the issue of sustainability report assurance (Ballou et al., 2006). G3 focuses on firm profiling and business information to improve user understanding of the nature of issues and challenges.

Furthermore, GRI G3 suggested adding ‘GRI Context' to the report to indicate that firms are using sustainability using the GRI Reporting Framework for their reports. In addition, firms are encouraged to use the GRI Reporting Framework's levels to show the extent to which it has been implemented. The reporting criteria that companies have addressed in their financial statements served as the basis for determining these levels. The objective is to satisfy the requirements of reporters at all skill levels, from novices to experts. If firms engage in external assurance to confirm their self-declaration. It is suggested that the firm should adding a certain symbol. At the GRI Global Conference on Sustainability and Reporting in May 2013, the most recent version of GRI G4, was presented to the public for the first time (GRI, 2013). This most recent iteration of guidelines for reporting on sustainability seeks, among other things, to establish a reporting framework that is easily understandable, to enhance the technical quality of the reporting guidelines, to encourage harmonisation with other reporting guidelines, and to provide an outline of the approach to ‘material issues’. Even though various reporting entities are answerable to a wide variety of stakeholders, the approach to 'material issues' may be beneficial to both the firms and the stakeholders they serve. This could prompt them to reflect on material issues that are pertinent to their industries and meet the information disclosure expectations of their stakeholders, which would result in an increase in the credibility of the information presented, a reduction in the risk posed by the data, and an increase in the value of the reports (GRI, 2013). The progression of GRI projects, from the earliest G1 iteration to the most recent G4 iteration, is outlined in chronological order in **Table 2.3**.

Table 2.3: Chronological events of GRI Reporting Initiative (GRI) development.

Year	Category	GRI Reporting Guidelines Focus
1997		Environmentally Responsible Economies (CERES) developed an environmental reporting system and created the Global Reporting Initiative (GRI) in Boston, in the United States.
1998	G1	To broaden the scope of the reporting system, the GRI established a multi-stakeholder Steering Committee. Include considerations of social, economic, and governance problems in the development of a framework for sustainable reporting.
2000		Introducing their first version of its reporting guidelines GRI G1
2001	G2	New milestone in the advancement, rigor and quality relative to the previous guidelines Released GRI G2
2002		One of UNEP's collaborators, and transferred its headquarters to Amsterdam as part of that agreement
2006	G3	Released GRI G3 Addressed sustainability issue
2011		Launched GRI G3.1 expand to other issues in sustainability - gender, community and human rights related performance
2013	G4	Launched GRI G4 Emphasize on latest generation reporting guidelines, address 'material' issues differences among firms

2.4.4 AA1000 Assurance Standard (AA1000 AS)

With a few exceptions, SA is primarily voluntary in nature, like sustainability reporting. There are no regulations that require firms who issue sustainability reports to engage in this type of assurance activity. In light of SA's voluntary nature, standards exist to provide guidance on best-in-class practises. Some standards are more precise than others (Siew, 2015). There are two primary standard-setting organisations for SA standards worldwide: the International Federation of Accountants' Auditing and Assurance Standards Board (IAASB) and AccountAbility.

Second in importance to the ISO 27001:2013 framework is the AccountAbility AA1000 assurance standard (AA1000 AS). Developed by AccountAbility in March 2003, it is the only recognised standard in the world that focuses on sustainability assurance (AccountAbility, 2008). It was published by The Institute of Social and Ethical Accountability (ISEA), also known as AccountAbility, a non-profit organisation. It was founded in 1995 to provide corporate social solutions based on accountability and long-term viability a variety of businesses, including for-profit, non-profit, and government organisations.

Through the AA1000 Series, which was launched in March 2003, AccountAbility aims to provide principles, rules and guidelines for reporting, assurance, and involvement with stakeholders. The AA1000AS was an open-source standard that helped organisations examine and improve the reporting on environmental issues is credible and accurate, underlying processes, systems, and competences. Through the concepts of materiality, completeness, and responsiveness of reports to stakeholder needs, AA1000AS established a more stakeholder-oriented approach. The AA1000 AS is intended to anyone who provides external verification services (Kolk & Perego 2012; Manetti and Becatti, 2009; Dando & Swift, 2003).

The purpose of AA1000 is to reduce the expectations gap regarding auditor requirements, public interest commitment, independence issues, and assurance statement development (Dando & Swift, 2003). The AA1000's major goal is to give firms with an internationally approved, freely available set of principles to shape and structure the way they comprehend, govern, administrate, implement, evaluate, and communicate responsibility three fundamental principles: inclusiveness, substance, and responsiveness—these are all found in AA1000. A firm is said to follow the 'Principle of Inclusivity' when it commits to being accountable to those on whom it has an effect or

who have an impact on it (AA1000, 2008). It has the required competencies and resources in place to carry out the stakeholder participation process. Participation from stakeholders is necessary for the formulation and execution of an accountable and strategic approach to addressing sustainability concerns.

When a company follows the 'Principle of Materiality' (AA1000,2008), it means it has established a materiality determination methodology (establishes criteria by drawing on a diverse set of inputs, including the requirements and considerations of various stakeholders, societal conventions, and financial factors, among others). The firms have the requisite competencies and resources in place or have access to them to put into action the process of determining the materiality. Understanding the material sustainability criteria can be achieved by using the materiality determination approach. In order to adhere to the 'Principle of Responsiveness' (AA1000, 2008), companies must have a method for responding to customers. Ability to provide organisations with the necessary skills and resources to meet their commitments. Comprehensive (addresses the needs, concerns, and expectations of stakeholders), balanced, and timely responses.

An iterative study and review process has resulted in an improved AA1000 Assurance Standard, which can be used as a stand-alone instrument or as a complement to other sustainability assurance methods. Non-financial assurance has grown in popularity, and as a result, more companies are including sustainability assurance measures into their product offerings. The AA1000AS v3 was created through a collaborative effort including many different parties. Following a period of preliminary study and consultations with the Working Group, a draft standard was prepared for public review. During the period, an international panel of experts representing a wide range of stakeholders was consulted via the online web platform.

The general opinion that emerged from the discussion was that the existing document had reached a high level of quality, is legitimate and relevant, and is able to provide its users with a worthwhile, easy-to-apply standard. During the period of public review, relevant comments were received, and the draft was evaluated and updated in response to those remarks. The AccountAbility AA1000 Steering Committee reached a consensus on the final text, and then they presented it to the AccountAbility Standards Board, who gave their approval for the document to be published in August of 2020. The chronological events of the assurance standard since its inception are summarized in **Table 2.4**

Table 2.4: Chronological events of Accountability AA1000 Standard.

Year	AA1000AS Focus
1999	Published AA1000 series standard as a standalone system
2003	AA1000 Assurance Standard, the world's first sustainability standard, will have its first edition launched today
2005	Launch AA1000 Stakeholder Engagement Standard as first internationally accepted standard
2008	Introduce the second edition of the AA1000 Assurance Standard, which includes improvements to the assurance engagement. AA1000 Accountability Principles standard is a separate principal standard that was created to promote assurance engagement in sustainability
2011	Launch exposure draft of AA1000 Stakeholder Engagement following critical review to enhance multi-stakeholder process
2015	Launch final draft for AA1000 Stakeholder Engagement
2018	Launch AA1000 Accountability Principles with additional fourth principal "Impact"
2020	Launch third edition AA1000 Assurance Standard known v3 in August.

2.4.5 ISO/IEC 3000:2005 International Standard on Assurance Engagement (ISAE 3000)

The establishment of worldwide framework standards with the goal of improving assurance processes was fueled by the need to increase stakeholder trust, which was further increased by the development of International Standards on Assurance Engagements 3000 (ISAE3000). This standard offers accountancy professionals with principles-based guidelines for all services of assurance in addition to audits and assessments of past financial data. This standard applies to assurance providers who are expected to adhere to the standards as a condition of membership in the International Federation of Accountants (IFAC), which they join. In December of 2003, the International Auditing and Assurance Standards Board (IAASB) completed the process of finalising the standards, and closely resemble the International Framework on Assurance Engagements (IFAE).

The framework evolves by decontextualizing and lifting broad concepts from the realm of financial audit to a more general, abstract level that is capable of being re-implanted into other subject matter while preserving financial audit language. The goal is to ensure that assurance engagements are carried out consistently.

In the years 2002–2005, the criteria for ensuring sustainability underwent significant revisions. ISAE 3000 is one of the most widely used standards in terms of application (Corporate Register, 2013), and it is regarded one of the most widely used assurance service guidelines. ISAE 3000 was thus recognised as an umbrella that should stimulate innovation and flexibility while covering a broad variety of subject topics to make it more responsive to the public interest. In January 2005, a standard that applies to services of assurance that are not related to finances, in addition to assurance about sustainability assurance went into force (Kolk & Perego 2012; Manetti & Becatti, 2009; Gray et al., 2014). The publication of basic principles for quality assurance indicates that assurance firms and the entirety of the profession recognised that these reports presented a significant window of opportunity to provide confidence.

The International Auditing and Assurance Standards Board came to the conclusion that the actual execution of ISAE 3000 should be monitored regularly due to the continual development of assurance services. After practitioners had been made aware of it for a period of time, the International Auditing and Assurance Standards Board (IAASB) accepted a reform project for ISAE 3000 in March of 2009. In April 2011, it also established a comment period for the exposure draft, which lasted until September 1, 2011, and announced the issuance of an approved suggested amended ISAE 3000. The exposure draft covered the following topics: practitioners' aims, the differentiation between reasonable and limited assurance engagements, the competency of assurance practitioners, and the growth of internal control (Simnett, 2012).

The establishment of international standards has a variety of repercussions for the experts that are participating in the assurance process. The assuror follows a transparent and well-defined procedure in order to collect the necessary evidence on the adequateness of the information in order to fulfil the requirements of the user. The service's trustworthiness is enhanced through a well-designed assurance process (Fuhrmann et al., 2017). An organised sequence, such as that used in financial auditing, is one of the things that ISAE3000 takes into consideration during the assurance process. Due to the existence of a large number of standards, it is necessary to provide a variety of assurance statements (Manetti & Becatti, 2009). In its emphasis on ethical and formal norms, ISAE3000 provides the required formalism. The following is a timeline that illustrates the development of the ISAE3000 over the course of time. In summary, **Table 2.5** shows the chronological events of ISAE 3000 development.

Table 2.5: Chronological events of ISAE 3000 development.

Year	Development of ISAE3000
2005	Launch the latest version of ISAE3000
2009	Revised ISAE3000
2011	Launched revised ISAE3000 exposure draft in September
2013	Launched final pronouncement for latest version

2.5 Determinants of Sustainability Assurance

Many experiments have been performed to test the trustworthiness of different types of assurance providers in order to assist investors in making more informed decisions regarding socially responsible investments. Research in that field found that report users confident are increase when it is prepared by a certain type of assurance providers. Hodge et al., (2009), for instance, conclude that the user's view was more confident in the SRI report when such a report is prepared by the professional accountant as opposed to another

type of assurance provider. In more recent times, Cheng et al., (2012) also discovered that the verification prepared by professional accountant increases the likelihood of an investor to invest. Besides, professional accountants are said to have added advantage among other types of assurance providers in the market.

Statistics show that a professional accountant has reviewing business financial statements as one of their responsibilities and maintain a predominant position in the market for sustainability assurance. KPMG's (2015) survey indicated that more than half of the world's largest 250 corporations had their sustainability report externally verified. As the poll revealed, this has been the most important aspect of assurance and the type of assurance provider for decades. Major public accounting firms continue to dominate the market for third party assurance among G250. According to Fortune 500 rankings, this type of company generates the most income in the globe, but market share in both large and mid-cap corporations around the world has fallen since 2013. A professional accountant is viewed as having a better position although the area of assurance is not the traditional domain (Pflugraph et al., 2011).

However, research about identification of the affiliation accountant versus non-accountant assurance provider most frequently generate different outcomes have been found in the literature on the subject. SRI investment decisions may be affected by fundamental differences in investors' views of the assurance statement offered by different affiliations of accountants and non-accountants. Eventually this factor give weight on the investment amount allocation is rather in need of clarity. This subject of research rather at the forefront of this studies that investigate the impact of the affiliations of types of assurance provider on individual investment decision making in SRI.

2.5.1 Assurance Provider

Non-financial measurements of performance have been developed for many years as a result of the commonly held confidence that frequently prepared financial statements do not adequately capture diverse aspects of company operation (Simnett et al., 2009). For this, businesses all over the world have begun publishing information that is not related to their financial situation. One example of this is the widespread independent usage of results on social and/or environmental issues as stand-alone documents termed sustainability reports. The reporting of sustainability data has seen consistent growth over the last two decades and is now a mainstream business practise, with 92 percent of the world's top 250 businesses in 2015 releasing either stand-alone or integrated sustainability reports (KPMG, 2015). Similarly, among the world's largest 250 corporations, the share of enterprises seeking external verification of these reports has more than doubled since 2002, now accounting for 63 percent of the total (KPMG, 2015).

However, despite a large rise in sustainability reporting in recent decades, the credibility and quality of the information given has not increased, leading to the notion as sustainability reports are neither consistent nor comprehensive (Adams & Evans, 2004). Given the absence of credibility presented, investors look for external assurance (Zorio, et al., 2013) as a strategy for increasing their level of confidence in the findings of specific subject matter evaluations. This is a strategy that investors seek to increase their confidence. Obtaining external assurance can be an effective way for the purpose of responding to concerns regarding the dependability of the information provided (Cho et al., 2014; Simnett et al., 2009). Furthermore, the disclosure of sustainability reports can be considered as a possible technique for improving the relevance and accuracy of firm-specific information (Cho et al., 2013). By making previously confidential information available to the general population, the situation bridges the knowledge gap among those

who know and those who do not (Glaum et al., 2013), making information more accurate and more accessible to all stakeholders.

In addition, assurances are commonly implemented to boost confidence in the accuracy of given information, with the assumption that information asymmetries will be reduced due to lesser dispersion in analysts' estimates (Carey et al., 2000). As a result, the ability of sustainability report assurance to increase the trustworthiness of the supplied data and hence legitimise firm actions (Simnett et al., 2009; Kolk & Perego 2012). Assurance of sustainability reports marks the start of a procedure that allows companies to analyse their performance in light of social expectations. Since assurance is not a statutory obligation and no universal set of standards, it leads to disparities that make the study of who, how, and what in terms of assurance relevant. Regarding the "who," earlier research has splitted into a diverse range of providers in the industry for sustainability assurance.

According to De Beelde and Tuybens (2015), the early stage of development of the assurance market means that "no specific requirements concerning the nature of the assurance provider have yet been issued, resulting in a variety of entities offering sustainability assurance services." According to the findings of the research conducted, there is consequently no discernible difference in the features of the reporting companies. The conclusion that may be drawn from this finding is that managers should not restrict their search for high-quality assurance from only accounting profession.

The voluntary and competitive structure of the assurance market is another essential facet of the market for assurance, which enables a wide variety of professions to provide assurance services to customers. As a result, there will not be a demand for assurance

until the benefits to those paying are seen to exceed the costs (Cohen & Simnett, 2015). There is intense competition for a portion of the assurance market among audit firms, consultancies, certifying bodies, and others like institutions, NGOs, and stakeholder panels (Huggins et al., 2011). Furthermore, the nature of the assurance service supplied varies greatly in practise due to the lack of mandated credentials for assurance providers and their diverse qualifications and professional skills in connection to sustainability (KPMG, 2013; Manetti & Becatti, 2009). There have been a number of concerns highlighted in the assurance literature regarding how much the quality of an assurance engagement can vary depending on the assurance provider chosen (Mock et al., 2007). Extensive prior study has looked into the question of whether or not auditors' assurance differs in quality from that of other assurance providers.

Some studies have found that users of assurance reports have more confidence in sustainability information when the assurance is provided by an auditor (Casey & Grenier, 2015; Perego & Kolk, 2012; Pflugrath et al., 2011); however, other studies have concluded that the assurance provided by auditors does not have a more positive impact on the confidence of stakeholders (Hasan et al., 2003). According to the findings of De Beelde and Tuybens (2015), the quality of assurance provided by auditors and other suppliers of assurance is beginning to converge. The contradictory findings of these research might indicate that the variation in assurance quality is not necessarily impacted by the type of assurance provider, but rather by other unique professional abilities that different assurance providers possess. As a result of the inherent difficulties in confirming the diverse and complex subject matter of sustainability information, it is required for assurance providers to possess the necessary capabilities in order to effectively undertake assurance engagements (Cohen and Simnett, 2015).

The absence of regulations governing the disclosure of information by companies regarding their performance in terms of environmental and social responsibility, combined with the fact that certain concerns are relevant to some industries but not to others, results in the subject matter of sustainability reports being highly context-specific in terms of both the company and the industrial sector in which it is active (Pflugrath et al., 2011).

Consequently, the knowledge required to perform high quality assurance will typically be acquired in the context of the relevant engagement (Kim et al., 2015), in which experience with the client and expertise in the industrial sector it operates. This may enhance the assurance provider's ability to perform a high-quality engagement. Therefore, the purpose of this study is to examine if these factors influence the performance of assurance statements. Until mid-2000, a variety of providers such as NGOs, engineering consultancies, management, and accountancy. Big Four accounting companies had taken control (O'Dwyer, 2011). In recent years, the Big Four accounting firms, certification agencies, and consultancies have been the three primary categories of providers, accounting for a combined total of 89 percent of the market shares (CorporateRegister, 2008). Others also categorised assuror as accountants, specialists, certifying bodies (including academic institutes, NGOs, panels of stakeholders and individual auditors); (Perego & Kolk, 2012; CorporateRegister, 2008). While Simnett et al. (2009) distinguish auditing members from other insurance providers, they were categorised by Peters and Romi (2015) as professional accountants, consultants, and internal auditors. Those categories are depicted in **Figure 2.2**.

This research categorized type of assuror as accountant (professional accountant) and non-accountant (engineering and specialist consultant). Martinez-Ferrero and Garcia-Sanchez (2018) outline a few elements that contribute to the comparison of different

assurance provider professions. These characteristics may contribute to the longevity of their service in the assurance market. The following subtopic examines a few of the elements that contribute to the disparities in assurance providers in the assurance area.

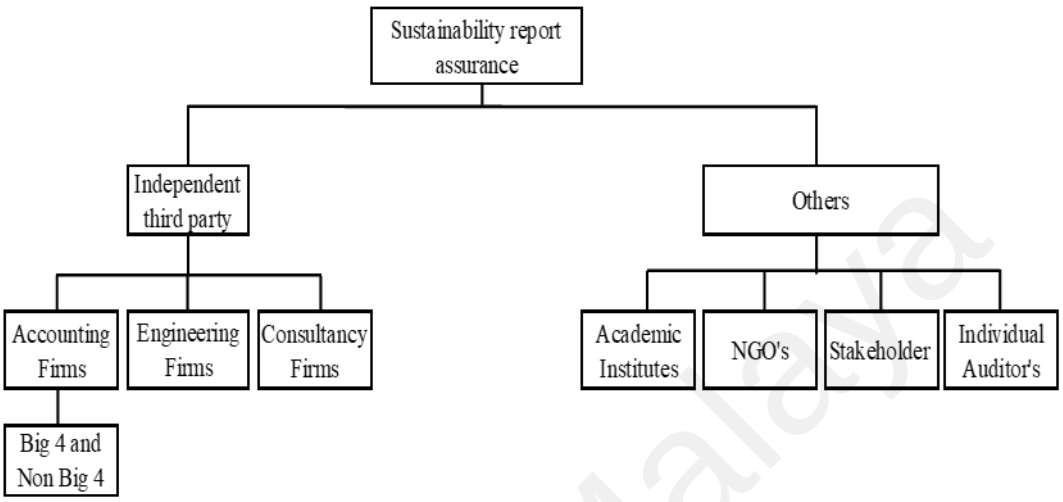

Figure 2.2: Category of assurance provider.

(i) Difference in reporting approach

Comparison between different profession in affecting investors decision when doing investing in a company has made some remarks in research. In the earlier research, the studies report perception on general users such as stakeholders, lenders, as well as creditors for report on sustainability assurance usage. Most of these studies distinguish between reporting approach of these categories of assurance provider and describe on how the information conveyed in the report differently for each of the assurance statement element.

The major takeaway from this research is that management's level of control over the assurance process is extremely strong, hence undermining the report's independence (O'Dwyer & Owen, 2005). Further, the reporting practice stands different widely in the report coverage and dimensions. While the above studies more on descriptive analysis,

Mock et al., (2007) complement the literature by adding up regression analysis comparing accountant with level of assurance report. Result shows that, in terms of reporting style, accountant likely to give lower level of assurance more likely due their clients' size. This is due to most client is big and when it comes to sustainability information, it is possible that providing positive assurance to a clientele that is both larger and more sophisticated will be more difficult and riskier. In addition, matters of recommendation is not included in the report. Accountant does disclose their framework with generally accepted guidelines, and they also use certain symbol to promote a standardised level of service quality and improved comparability across countries and reduce cost of engagement.

(ii) Difference in independence

Other criteria used among scholars in comparing between different profession is on the independence of type of assurance provider. Ball et al., (2000) for instance, reports on the attestation and nature of the assurance report intertwining between reporter and verifier and more on managerial capture. In addition, O'Dwyer and Owen (2005) update and expand on the work that Bell et al., (2015) did, determining the degree to which the contents of assurance statements meet certain criteria adequately meet key aspects of these standards, including independence. This work was done to determine the degree to which assurance statements meet certain criteria adequately meet key aspects of these standards, including 0independence. This research aimed to find variations in approach taken by accountants and engineering/specialist consultant, as well as call attention to major discrepancies between the two types of auditors. Their sample of assured sustainability reports in Europe consists of 4 reports based on the 2002 ACCA (Association of Chartered Certified Accountants) UK and European Sustainability Reporting Awards. Their assessment suggests that assurance practice seems to indicate

that progress has been made in terms of the amount of work done and the autonomy of the exercise. Under GRI Guidelines, specifically demanded that the assurance provider's independence and lack of prejudice should be affirmed in the document so that users are fully informed.

(iii) Difference in Expertise

Another comparison is on the competency and quality derived from the knowledge and experience collaborating with other specialist and superior understanding of the subject matter (Casey & Granier, 2015). The current ongoing demand from the profession is on the assurance on specific type of subject matter information such as GHG emissions report as compared with accountant and engineering (Huggins et al., 2011). The study further elaborates that, assuror outside accounting profession has better experience and knowledge regards to subject matter, given the specific nature required in order to assess firms' environmental processes. Furthermore, although auditors have solid knowledge of auditing methods, this may not be transferred completely to the special aspects of the assurance process, particularly given the qualitative approach of much sustainability information (Dando & Swift, 2003; O'Dwyer et al., 2011).

Furthermore, some engagement often involves the participation of specialists in fields as diverse as information technology, accounting, and even forensic auditing while conducting an examination of a company's financial statements (Huggins et al., 2011). On the contrary, education background possess by Accountant contributes to the weighed of the affiliations. Stringent entry on education and experience benchmarks with ongoing professional development requirements to retain competency. In addition, quality policy assurance implemented at engagement and firm level and external quality review for audit are suggest for external quality review programmed and performance standard to increase the reliability of the data reported process. While provision of high-quality decision

embedded in audit tradition make the accountant well placed to deliver the assurance service in niche area.

According to Martínez-Ferrero & García-Sánchez et al., (2018), accountant has advantage in terms of deeper industry knowledge due to longer tenure with the client. An extended assuror- client relationships lead to assuror experience and to greater client-specific knowledge, reinforcing the ability to provide more complete information. They further highlight that, in particular, the assurance providers' brand reputation and market competence are mentioned as factors of the assurance engagement.

Industry specialization and the utilisation of standardised audit programmes for each specialised industry (Casterella et al., 2004) would lead to increased capability on detecting the existence of errors and any omissions in sustainability reports. The combination of all these abilities, knowledge, and experience, in addition to a grasp of the client's business and the risks involved, increases the capacity to recognise any sustainability report that is not prepared in accordance with proper representation. Considering the high demand for sustainability report assurance, very little has been written about the brand name and market competence of providers on the degree of assurance. Nonetheless, as Manetti and Becatti (2009) proposed, assurance research should be focused toward explaining the degrees of assurance and their explanatory elements while taking the type of assurance provider into account. In this regard, this research further investigates their industrial specialisation, to enhanced previous research by Mock et al., (2007) and Martinez-Ferrero and Garcia-Sanchez (2018).

(iv) Difference in levels of familiarity with the subject matter

Furthermore, in terms of knowledge, study agree that criteria of good accountant and non -accountant should have been familiarity of the client industry and business operations and related procedure to the specific industry. However, Gray (2000) argue that, while accountant have the relative expertise over non-accountants, having the experience throughout the years in auditing financial reports, it is uncertain whether they have the knowledge about the subject matter of sustainability. Education in accounting excludes any consideration of the impact on society or the environment on its programme (Coy and Dixon, 2004). Perhaps this angle of knowledge makes room in the market for non-accounting background assurors (Gray, 2000). Here, non-accountant such as environmentalist would have the edge over accountant. Thus, to fill in this knowledge gap, experts suggest combining this expertise during the engagement (Wallage, 2000). During the sustainability engagement, both can complement each other and better able to fulfill the requirement (Jones & Solomon, 2010). It is essential for businesses to have an understanding of the variations in the amount of assurance that can result from the providers they select (accountants vs engineering/specialist). The knowledge that stakeholders and stockholders can gain from our proof is also very helpful. It gives them the opportunity to assess how the assurance contributes to the credibility (Martinez-Ferrero & Garcia-Sanchez, 2018).

2.5.2 Levels of Assurance

The United Nations Conference on Trade and Development - International Standards of Accounting and Reporting (UNCTAD-ISAR) and the World Business Council for Sustainable Development (WBCSD) cosponsored Assurance on Sustainability Reports: Current Practices and Challenges in June 2020, emphasising the importance of investors' perspectives on matters assured and the process used to reach the report's conclusion. The

Webinar was hosted by well-known panelists from around the world, including the Sustainability Accounting Standard Board (SASB) and the Financial Reporting Council (FRC). An important takeaway from the conference was the emphasis placed on providing users with the information they require, which includes satisfying their desire for credible sources.

The level of competence, trustworthiness, and goodwill that stakeholders attribute to the reporting company is directly proportional to the level of credibility that the information possesses (Perloff 2010). The value of the reports varies according to the level of assurance supplied, which also determines the level of reliability on the report presented (Hsueh, 2018). Its significance varies according to assurance levels in terms of time spent on the assurance process, procedures conducted by providers, and final assurance report conclusion format. Level of assurance reflect the intensity of type of assuror's investigations and obstacles of convenience that govern the level of conform that they willing to provide regarding the firm's SR (Steinmeier & Stich, 2017). The goal is to bring the level of ambiguity in the conditions of the assignation down to an acceptable level so that the type of assuror's provider engagement risk can be reduced. The International Auditing and Assurance Standards Board (IAASB) has provided the definition of assurance given below:

> *"An engagement in which a practitioner expresses a conclusion designed to enhance the degree of confidence of the intended users other than the responsible party about the outcome of the evaluation or measurement of a subject matter against criteria".*

ISAE 3000 (2013) define assurance engagement as:

> "Assurance engagements include both attestation engagements, in which a party other than the practitioner measures or evaluates the underlying subject matter against the criteria, and direct engagements, in which the practitioner measures or evaluates the underlying subject matter against the criteria. This ISAE contains requirements and application and other explanatory material specific to reasonable and limited assurance attestation engagements. This ISAE may also be applied to reasonable and limited assurance direct engagements, adapted and supplemented as necessary in the engagement circumstances"

As such, following the findings suggesting that type of assuror may influence individual investor's investment decision making in SR, some academics are interested in conducting their studies at a more specific level of conclusion. Rivière-Giordano et al., (2018) in investigating whether different level of assurance do affect investment choices found that, investor's decision making do influence by level of assurance disclosure with positive impact on. In sustainability reporting assurance, The International Standard of Assurance Engagement (ISAE 3000) issued by IAASB focusing on the process of assurance with predetermined scope for consultation on organization reporting (KPMG, 2005). The AccountAbility (2003) AA1000 Assurance Standard (AA1000AS) emphasizes on the materiality, correctness, and usefulness of the subject content to users. Following ISAE 3000, two type of conclusion in the form of opinion proposed in the report which are 'reasonable' and 'limited' level of assurance. Research also stated other terms such as reasonable – high level/level 3 and limited as low level/Level 2 (Rivière-Giordano et al., 2018).

AccountAbility 2008; IFAC 2018 stated that, 'Reasonable' type of assurance statement provided in 'positive' term where 'The information stored in the environmental

and social report is, in all material aspects, accurate and complete', in accordance with the criteria that have been established'. As stated by ISAE 3000 (2013), reasonable level of assurance defined as:

> *"Reasonable assurance engagement—An assurance engagement in which the practitioner reduces engagement risk to an acceptably low level in the circumstances of the engagement as the basis for the practitioner's conclusion. The practitioner's conclusion is expressed in a form that conveys the practitioner's opinion on the outcome of the measurement or evaluation of the underlying subject matter against criteria."*

In order to comply with this criterion, accountants are required to specify the level of assurance, which can either be 'reasonable'. When the interaction reduces the risk of errors or omissions occurring, a positive statement is used to convey reasonable certainty. Reasonable is deemed to be when fifty percent of the firm's perimeter can be validated and when 95 percent of data reliability can be assessed by assurance providers.

As for limited assurance, negative statement is given when risks are moderately reduced.

As stated by ISAE 3000 (2013), limited level of assurance defined as:

> *"Limited assurance engagement—An assurance engagement in which the practitioner reduces engagement risk to a level that is acceptable in the circumstances of the engagement but where that risk is greater than for a reasonable assurance engagement as the basis for expressing a conclusion in a form that conveys whether, based on the procedures performed and evidence obtained, a matter(s) has come to the practitioner's attention to cause the practitioner to believe the subject matter information is materially misstated. The*

nature, timing, and extent of procedures performed in a limited assurance engagement is limited compared with that necessary in a reasonable assurance engagement but is planned to obtain a level of assurance that is, in the practitioner's professional judgment, meaningful. To be meaningful, the level of assurance obtained by the practitioner is likely to enhance the intended users' confidence about the subject matter information to a degree that is clearly more than inconsequential. (Ref: Para. A3–A7)."

There is difference between those two levels of assurance in terms on time spent, approach taken, the way of expressing opinion and the requirement needed in order to derive the level of opinion (Hsueh, 2018). It is said that this level of opinion more effective in addressing the credibility gap as well as to support trustworthiness and transparency due to extensive approach taken. In addition, this level of assurance signals confidence among investors because more stringent processes are done in the investigation of the procedure taken (Hasan et al., 2003). While limited assurance would be vice versa of the reasonable assurance. Less time taken spent the procedure, limited qualitative and quantitative approach are the characteristic of the limited level assurance. While the nature of opinion is stated in negative form.

Scholars had long undertaken research on how level of assurance influence user's decision-making individuals' investors (Shen at al., 2017; Rivière-Giordano et al., 2018; Steinmeier & Stich., 2017; Hodge et al., 2009). Characteristics of both the scope and the level of assurance were the focus of the majority of the inquiry into the level of assurance. Steinmeier and Stich (2017) for instance states that, compared to limited level, SR with reasonable level provide higher level of assurance. The research states that, given SR report in either whole, defined chapters or in a specific indicator as stated in KPMG

(2013), when performed at a more advanced level, the effect of SR is seen to be more pronounced.

Further, previous research conducted in different continent highlight different outcome. Investing decisions in France are influenced by the varying levels of assurance provided by environmental disclosure declarations. (Rivière-Giordano et al., 2018) with the question of whether a greater sense of confidence is present on SR disclosures increases investment. It is stated that, reasonable statement/ level 3 provided more than 50 percent around the outside of the company can be verified and when type of assurors can evaluate the data's dependability with 95 percent accuracy. This research covers three level of assurance while the first level is not covered by ISAE3000 framework. Level 1 is when opinion is given focusing solely on the procedure of information collection information. Results shows that, tendency provided with Level 1 compared to no assurance given while lack of consideration was given on moderate/level 2 assurance.

Additionally, on the statement of assurance opinion, the wording of the opinion also plays an important role on user's perception in investment decision making. Based on the study conducted by Hasan et al., (2003), writing that expresses an opinion with reasonable assurance (positive form) is perceived as more trustworthy by some people, which is one reason why it is seen to provide greater assurance than writing only provides limited assurance (negative form). Positively phrased assurance reports, according to Schelluch and Gay (2006), influence trustworthiness more strongly than negatively worded ones, when it comes to future financial information in the reports' context. Accordingly, from the standpoint of a sustainability report, this research predicts that adequate levels of assurance supplied in a sustainability report will increase investors' confidence.

There is an attempt for hybrid assurance reports as a combination with reasonable in some disclosures and limited assurance on others (KPMG, 2013). More recently, KPMG

2013 finds that hybrid report makes to about the same level as 8 percent from assured sustainability reporting worldwide. Previous research did mention in their research regarding ‘hybrid’ level of assurance (Mock et al., 2007). However, the research result only mentioned about the 9 percent report is classified as ‘hybrid’ report, but report result on the other two level of assurance. According to Wieriks (2013), a 'hybrid' report would merely serve to confuse readers; nonetheless, there are other possible ramifications that require further investigation. According Sheldon (2016), users of hybrid assurances will be provided with an in-depth description of both reasonable and limited certainty.

Another level of assurance discussed in the GRI report is ‘not specified ‘level of assurance. This type of level does not provide any opinion on the engagement undertaken. GRI reported that, firm that receive ‘not specified’ opinion contribute at least 37 percent in 2011, 12 percent in 2014 and 5 percent in 2013. Findings also shows that, tendency on investors to invest is higher when assurance statement unspecified opinion is give. In other words, no opinion is given compared to lower-level opinion (Rivière-Giordano et al., 2018).

2.6 Issues in Sustainability Assurance

2.6.1 The Emerging on Different Type of Assuror

The academic literature has established the stakeholder's choice for the type of assurance they prefer both internally and externally. As for example, Wong and Millington (2014) on their survey about the preference towards type of assurance provider shows that, they are two reasons of external stakeholders prefer non-accountant assurance provider in assuring they report. It is believed that, relating to the famous case of Enron and Arthur Anderson incident, the independent of professional accountant still in question although the case has long been overdue. The next highlight is on the knowledge of the subject matter. Additionally, internal stakeholders projected that, hiring the same assurance

provider will ease the coordination work along with shorten the engagement time. Moreover, having the same assurance provider, will reduce the cost of hiring different assurance provider. However, it must take into precaution that the point of view of external stakeholders is important as it will influence their decision making and consequently improve the performance of the firms.

Another research has shown the opposite conclusion. Moroney et al., (2012) discovered that, assurance provider type had no effect on anything other than the credibility of the reporting on the environment. It's possible that this is related to professional accountant training and conventional preferences to ensure just the best results on quantitative data and less assuring soft data. While Mock et al., (2007) provide mixed findings on the provision of recommendation with sample oof Big 4 firms. As suggested by The American Institute of Certified Public Accountants (AICPA), there were opportunities for auditors to broaden the scope of their services, despite the fact that they would be up against a lot of other competitors. Market share is open to various types of assurors since sustainability assurance is still a voluntary (Farooq & De Villiers, 2018).

Auditors were often depending on their capacity to do the assurance engagement when the market for sustainability assurance started. This new field of assurance on sustainability reporting is a multidisciplinary one, and so auditors are only one component, but environmentalists, socialists, and economists are also needed in order to establish a more comprehensive assurance practise (Gray, 2010). Previous research in those area where non-accountant as type of assurance provider is rather scarce. Most of the studies concentrate on the accountant as the domain on the field and the non-accountant just the comparison. In recent years, the number of non-accountants who claim to be experts in a company's social and environmental activities has increased significantly.

Emerging differences between those accountant and non-accountant are in terms of specialization of the work. This specialization can be seen in terms of scope of work delivered. In comparison of reports prepared, the assurance statement is prepared comprehensively with normally highlighting sustainability statement items on the materially of the report. Furthermore, when it comes to creating recommendations, they tend to be more detailed and informative (Perego & Kolk, 2012). This in turns bring greater clarity on the investors in making their decision. Another difference is by the way of diversity of subject matter from both firm and industry level. Hummel et al., (2017) in his research mentioned that, in sectoral experience area, highly trained assessors are in need. This is developed to ensure up for the varied nature of sustainability challenges and the fact that the operations of the organisation change depending on the area of attention. The required spectrum of abilities includes both technical and general skill sets. General assurance competency, such as, for example, collecting and checking data, understanding the role and responsibilities of assurance, and analysing the underlying systems of management, while technical assurance competency verifies from material aspects of performance and the accuracy of the data presented. Investors are currently looking for professionals that reflect the range of topic matter and methods to assurance; this is what they are looking for (KPMG, 2015).

Previous research highlighted expertise generally comes from industry specialization. Industries that are regulated, experiencing rapid growth and concentrated needs higher level of audit concentration (Hogan & Jetter, 1999). Probably this is one of the reasons why this type of assurance provider emerges in the assurance market. Industry specialisation provides a competitive advantage and justifies the establishment of sustainability assurance market strategies (Casterella et al., 2004). In the sphere of economic logic, corporations prefer to work with an industry expert because they believe they will receive better service (Almutairi et al., 2009). If an assurance provider is an

expert in a certain area, firms in that industry are more likely select them as they provide quality assurance. Additionally, they represent the many stakeholders needs, as there has been a significant increase in engineering firms claiming expertise in environmental and social activity assurance. While the varied sorts of providers may reflect the work they are called to do, it also reflects their own lines of thinking about the forms of assurance they are willing to take on to some extent, the variation in assurance providers indicates. Huggins et al., (2011) comprehensively discuss the pros and cons of accounting versus non-accounting assurance providers with respect to the assurance of greenhouse gas information. Non-accounting assurance providers who use specific standard for instance ISO14064-3 and ISAE 3410 are capable of analysing GHG engagements with both competences. It is customary for other assurance providers to argue that they have a competitive advantage since they have a specialised skill set and comprehensive understanding of the subject area. This matter of expertise tends to emphasize on legitimacy of assurance outside of the profession (Corporate Register, 2008). Regards to the specific industry, the fully involvement of expertise give genuine understanding on the actual process of the engagement. The specific skills set in different industry varies widely. Reporting in cement producers is relatively different from oil and gas producers. Thus, the expertise needs to be addressed appropriately according to assurance process. This case made the subject matter expertise and knowledge can be invaluable according to the respective area and thus they can comprehensively report the subject matter.

Additionally, accounting and non-accounting assurors differ in terms of their level of quality control and the severe assurance techniques that they employ (i.e., greenhouse gas reporting). According to a report published by GRI in 2014, determining what characteristics constitute an effective assurance provider is not a simple task. This is due to the fact that different assurance audiences have different requirements, and it is also possible that new issues and technological advancements will place the existing assurance

provider beyond the realm of expertise of even the current range of organisations that are involved in assurance.

Users now value the credibility of assurance providers as a result. Numerous businesses have recognised that a single assurance provider cannot cover all of these competencies and have opted for diversification. This is due to the fact that stakeholders demand a combination of technical, industry, and multicultural communication skills, as well as stakeholder engagement and audit-type assurance abilities.

2.7 Personality Characteristics

Individual investors ranked as the second main actor in the SRI investment (Wagemans et al., 2013) among others institutional investors, NGO's and financial industry that perform role as facilitator in the market. All of these investors have their own motives in SRI. While this research will focus on individual investors motives for engaging in SRI. SRI is motivated by ethical considerations, particularly for private investors. Pasewark and Riley (2010) suggest that for individual investors concerned with undesirable societal side effects of firm behaviour, financial variables play a less significant role in their investment decisions. Individual SRI investors are mainly driven by their personal ideals, their desire for social change, and the 'feel good' element, according to Michelson et al., (2004). Individual investors make investing decisions that involve a complex trade-off between their values and expected financial return (Michelson et al., 2004).

Various stakeholders have an interest in companies' SRI activities, and demand information on such, even when they are carried out "at shareholders' expense." Investors who have a high level of concern over social and environmental issues will choose companies to invest in based on the performance of their initiatives, even if doing so means accepting a so-called "ethical penalty" in the form of reduced rates of return

(McLachlan & Gardner, 2004). Another view is that the activities increase firm value for shareholders. Consequently, rational investors will find information on these regardless of their attitudes towards social and environmental issues. Researchers in the social sciences are aware that people's perspectives on the environment can have an impact on how much environmental information they factor into their decision making (Hawcroft & Milfont, 2010).

Therefore, those who have high favourable attitudes towards environmental sustainability are likely to hold stronger views regarding the relevance of environmental performance and the return on environmental performance. Disclosures of favourable environmental performance information should have a beneficial influence on investment judgments for investors that have stronger environmental performance importance return perspectives, similar to the results of past studies on the topic (Dilla et al., 2019).

It is imperative that assurances be provided regarding environmental performance information. should increase these investors' perceptions of information credibility, and consequently, consider while making investing decisions (Hodge et al., 2009; Pflugrath et al., 2011; Moroney et al., 2012). For investors who consider environmental performance information relatively less important or who do not agree there is a link between environmental performance and success in business and investment returns, it appears that environmental performance information and assurance will have little impact on investment decisions. According Cheng et al., (2015), experiments can be used to evaluate how individual factors such as investor views may modify the impact of sustainability disclosures on judgement decisions. Non-professional investors' perceptions on business sustainability may differ, but accounting judgement research incorporates such. When an individual or organisation is willing to act in a way that is socially desirable or could benefit others, they are said to be showing social concern or

social responsibility. A person's sense of social concern or obligation may be influenced by his or her personality qualities, according to previous study (Harland et al., 2007).

Conscientiousness, openness to experience, extraversion, agreeableness, and neuroticism are the major five personality qualities examined by Milfont and Sibley (2012). A correlation between social responsibility, openness to new experiences, extraversion, and agreeableness is found by Digman (1997). Social responsibility has a negative correlation with neuroticism. As studies shows that, opinion has an influence on the perceptions when making an investment decision, report that comes with the suitable assurance providers and in the positive manner (reasonable) will further enhance the decision making. Further, this research perceives that, individual investors with such character, influence their believe of high-quality report comes with the perception that the opinion of reasonable assurance and the preparation by a non-professional accountant will significantly increase the report's credibility.

2.7.1 Extraversion

An individual with level of sociability can be defined as their preference for interacting with the outside world and being friendly, warm-blooded, and sociable and are also easily to talk to while open to strangers. In accordance with the findings of Charles and Kasilingam (2014), Extraversion is one way that the personality of a person can be portrayed as having multiple dimensions. One other facet of an extraverted person is that they are daring, gregarious, and outspoken. In addition, extraversion is linked to the trait of impulsivity, which can influence the way investment decisions are made (Dewberry et al., 2013), and people who are more extroverted tend to place more of their attention on investments that they can easily join or leave (Sadi et al., 2011). Numerous socially responsible investors appear to view investing as an extension of their lifestyle or identity, wanting to apply their social beliefs and values in this area of their economic life. This

may be because many SR investor's view investing as an extension of their lifestyle (Rosen et al., 1991; Glac, 2009). It is safe to say that, individually, SRI investors having the same identity with the feel of belong to one group and simply having networking with the aim of common good and sharing individual resources for the same purpose, exchange ideas. This is also in congruent with the study by Bauer and Smeets, (2015), showing that, social identification plays an important role in the allocations to socially responsible for the product that offered by banks.

This conclusion is further strengthened by the fact that SR investors frequently participate in activities organised by other social engagement groups (Rosen et al., 1991). Interesting, typical investors seem to value non-economic features of their investments in the same way that SR investors do, but in contrast to SR investors, they highlight the economic necessities of investing when explaining their investment behaviour (Lewis, 2001; McLachlan & Gardner, 2004). The research believe that there is a greater likelihood that there are disparities in cognitive, personality, and environmental aspects across investors.

2.7.2 Agreeableness

Reflects a person who is good-natured, easy-going, cooperative characteristic (Bano et al., 2019). This type of personality also is said as having tendency tendency to respect the others with the person is straightforward and truthful and thus attract other people truthfulness (Gambetti & Giusberti, 2012). It is difficult for them to lie and deceive people because they lack self-adequacy as well as self-confidence, and they prioritise the needs of other people over their own and strive to conform to their peerand avoid disagreement (Costa & McCrae, 1992). The trading behavior of agreeable investors also reflects more of others' desires rather than investors' own judgment (Cloninger et al., 1993; Tauni et al., 2017). In order to ensure harmony in social relations, agreeable investors tend to

believe in the information acquired from their peers and thus this study argues that investors try to seek the most reliable information in order to conform with others. As a result, they tend to take other people's word for it and not do any critical thinking about it (Beukeboom & Vermeulen, 2013). The concern of critique leads them to always look forward to meeting the expectations of others, which makes them tremendously afraid.

2.7.3 Conscientiousness

This personality trait represents the inclination of people to be dutiful, responsible, and organised (Costa & McCrae, 1992), which makes it more likely that a person will act in a manner that is beneficial to both themselves and to the others around them. With the cognitive ability to make decisions (Chitra & Sreedevi, 2011), this personality has a strong desire to work for their success. As a result, they will keep working until the problem is solved, regardless of how much time or effort is required, and at the same time they will follow the policies and protocols or rules and procedures. Chitra and Sreedevi (2011) found that this personality has a cognitive ability in making decisions. This is to encourage them to put in a lot of effort to finish the business transaction with the highest possible chance of achieving the best benefits possible with their investments (Epstein & Schneider, 2008).

2.7.4 Neuroticism

People who have the neuroticism characteristic are more likely to encounter negative emotion, depression, pessimism, anger, and fear (Costa & McCrae, 1992). Individuals who have the neuroticism trait are also more likely to be emotionally unstable, depressed, and self-centered (Pak & Mahmood, 2015). They explained that when the people who have neuroticism's personality tend to receive more negative feeling, for example, sad,

guilt, worried, low self-esteem, pessimism and instable on emotion, they tend to make their investment decision based on their emotions (Chitra & Sreedevi, 2011).

When a person has a high level of neuroticism, they are more likely to feel negative emotions. According to Zhang et al. (2014), individuals with high levels of neuroticism may trade excessively because they are overly sensitive to even the smallest price changes on the stock market, leading to irrational behaviour. People who have a high level of neuroticism tend to amass large amounts of knowledge before making any kind of choice. This helps them find relief from the troubling ideas that worry their minds. In fact, they make it a habit to look for information in order to ensure that they are aware of every significant facet of a particular circumstance. They do this because they are of the mindset that it is always preferable to be fully informed possible rather than be taken aback by.

High-neurotic investors are hypersensitive to the various signals that come from the outside world. Anxiety causes neurotic investors to become more uneasy, which in turn heightens their apprehension when confronted with unknown and uncertain circumstances. Even if they amass relatively more information for use in making trading decisions, they report feelings of unease regarding the outcomes of their trades. This is due to the fact that they concentrate solely on the dangers and obscurities of the share market, rather than the possibilities of gain presented by the market. As a result, they frequently make fewer trading decisions. Furthermore, Wang et al. (2014) discovered that negative emotions lead to a pessimistic evaluation of risk. While Durand et al. (2008) said that the opposite of a negative mood is emotional stability. They believe that the two concepts are not mutually exclusive. A variable such as credible information primarily contains knowledge element that made investors more familiar with the types and level of risk associated with various investments will push investors to reduce the risk and

search for clarity of information in order to ensure that they have made sound investment decision making.

2.7.5 Openness

This type of personality relates to a readiness to try new things or to examine unorthodox ideas while being creative, as well as a willingness to try new ways in one's area. People with a high tolerance for ambiguity and need for change are said to have a propensity for sensation-seeking and calculated risk-taking (Camgoz et al., 2011). Individuals with an open mind welcome information in all circumstances and have a good attitude toward it, whether they acquire it or encounter it along the road. Although individuals with an open mind gather information from a variety of sources through inventive means (Palmer, 1991), this does not imply that they quickly accept everything. Since they are frequently curious, they do not quickly accept the information provided by others and have the tendency to explore exhaustively till they locate trustworthy facts to identify alternate problem resolutions. In contrast, their basic questioning approach is both accepting and skeptical (Heinstrom, 2010). Overall, researchers have found that Openness, Agreeableness, and Conscientiousness, can be useful predictors of their sustainable investment behavior (Akhtar, F., 2019; Nga and Yien, 2013).

2.8 Competing Theories

Considering understanding the theoretical lenses deployed to support the model proposed for this study, it is rather important to gain insights into the predominant theories that have been used by scholars in the field of SRI research. Wagemans et al., (2013) in their paper review, reveals an insightful look at the various theories applied by academic scholars to unravel the intricacies of scholarly investigation on credibility of SR reporting in the point of view of the different actors' interactions. Although most SRI studies are

empirical in nature, scholars categorize this field of studies into two areas of research: behavioral finance and socially responsible investment, specifically investment decision making to analyses the basis for their actions. As for behavioral finance, the theory much discusses in this area is agency theory, stakeholder salience theory, modern portfolio theory and source credibility theory.

2.8.1 Agency Theory

The implementation of agency theory is predicated on the interpretation that a corporation is an accumulation of contracts with individuals who are all working to maximise their own benefit (Clarke, 2004). An essential presumption is that the various actors that make up a firm, including as the management, the employees, and the shareholders, all have distinct interests that may at times be in direct opposition to one another. These interests need to be aligned via contracts between actors within a corporation in order for the corporation to be effective. Among other that apply stakeholder theory in the context of investment decision making is Panda and Leepsa (2017). They argue that managers know about the information while investors do not have full access to the information, in result, information may not be receiving by the investors in the same manner. As a consequence of this, investors employ independent assurance as a means of compensating for the information gap that exists between them in order to ensure that they are kept informed about the dependability and authenticity of the information.

According to agency theory, shareholders are the 'principals' in whose financial interest the company should be run by its management (Clarke 2004; Eisenhardt, 1989; Schneper and Guille'n, 2004). The view held by Clarke (2004), Eisenhardt (2004), Schneper and Guille'n (2004) makes the case that agency theory is overly efficient and financial summary. As mentioned in the previous chapters, firm's sustainability reporting is rather unregulated that left to the choice of managers to report according to their best

interest. This has raised the issue of information asymmetry between both parties in relation to the intended information that the firms want to convey to the owners of the firms, which in this case, the investors. As depicted in Chowdhury (2004), one of the reasons that occur from agency problem is the prevalence of information asymmetry related to business.

2.8.2 Stakeholder Salience Theory

The Stakeholder Salience Theory is used by Majoch et al., (2017) to examine the prioritisation and identification of stakeholders' claims. The study investigates the underlying attributes of salience such as power, legitimacy, and urgency and how its influence investor's perspective on their method of making financial investment choices. This study is done in the context of United Nations Principle for Responsible Investment (PRI) between 2007 to 2011. Findings shows that, the both power and legitimacy are clearly evident indicates the demand for SRI is progressively mainstreaming and the fact that SRI is the avenue for value creation (Crifo & Forget, 2013).

2.8.3 Modern Portfolio Theory

The Modern Portfolio Theory (MPT), which was developed by Markowitz in 1952, postulates that the goal of making investments is to get a return on the capital that is invested while taking into account the level of risk involved. Investors expect to be compensated for taking additional risk. According to MPT, the theory carries both systematic and unsystematic risk. The term "systematic risk" refers to the risk that is inherently carried out by the market, whereas "unsystematic risk" relates to the volatility of an individual investment. Potential investors may undertake diversification on the way of assembling individual security to offset against specific risk carried by another and getting the reward. However, there are critics on the investing strategy despite of its

theoretical importance. In real world, market does not seem to fit in many ways such as, shortcomings to transform the theory into technical applications especially shortcomings from the available data. The realized return however is higher for low-risk securities compared to high-risk securities which shows that risk-reward relationship is weaker than expected.

2.8.4 Cumulative Prospect Theory

Further, the area of investment decision-making theory was then built with the introduction of cumulative prospect theory (CPT). This enhanced expected utility theory and addressed issues from deviating to this model (Kahneman and Tversky, 1992) that allows the further understanding of agents and how they may behave. This theory suggests that losses and gains are valued differently and consequently any decision making is based upon their apparent gains. It also allowed the understanding of decision-making under scenarios involving uncertainty (Gurevich et al., 2009). It is understandable as when doing investing, large number of outside economic and financial variables is uncertain that can influence investments.

The use of source credibility theory on the other hand is more prevalent in the literature that involved investors in making their investment decision. Hsueh, (2018) utilize the source credibility theory to suggest the critical success of communication between the agent of the transaction – information provider and investors. As most of the above discuss about risk, the only way to have the calculated risk is by having credible information regards to the investment investor's need to evaluate before starts making investment. While this may be different with SRI funds as this is rather an intentionally selected fund based on screening criteria and thus should carry substantial risk-adjusted return as it has eliminated certain firms, industries and sectors are according to the screening criteria and thus bear substantial degree of specific risk.

Discussion on the risk-return in comparison of SRI fund with conventional fund has stemmed towards no significant difference on the risk-adjusted (Renneboog & Zhang, 2008), does not considered the benefit of social screening (Barnett & Solomon, 2006) and the fact that the security is treated as homogeneous and does not take into account the ability of the firms to create value. Firms are embedded in social environment and must built favorable relations with those group of stakeholders. The way of communicating the report is through the activities done in the SRI report. This way, investors will assess their information in making their investment decision. For a communication to be successful it must have the ability to convince the recipient not only to understand, but to comprehend the information it intended to convey, in this case between firms and individual investors.

To convince the individual investors, the information should have the credibility on the information content which will then shape the perception, intention, and trust of the validity of the communication. Investors' perceptions of assurance vary depending on the type of engagement described (past against future) and the quantity of work completed, according to recent studies on the effects of assurance level on decision-making assurance reports (high versus low level), external and internal auditor (Holt, 2019). The results reveal that consumers do not react to subject matter variations but do react to a perceived difference in assurance levels due to the statement of tasks performed. History lends itself to a larger degree of confidence. Results also show that the preparer fails to effectively communicate the required level of certainty when utilising the phrasing provided by the IAPC at the time. A desired level of assurance by the client, the form of the assurance report (positive or negative), the risk level of the client and the complexity of the task are all examined by Debreceny et al., (2003) in their study of the impact of these factors on assurance effort. According to their experiment, all four elements have an impact on how confident assurance providers are in a certain level of assurance.

2.8.5 Self-Concept Theory

Investors tend to obtain more information about assets while operating in environments that have indirect characteristics. This is done in an effort to lessen uncertainty. It is possible for investors to obtain knowledge about what investment to choose in three different ways: by consulting a financial expert, by seeking the counsel of peers, and by making direct inquiries about the qualities of investment options themselves. It is considered that personality is one of the primary factors that determines human conduct. Personality psychology is one of the sub-disciplines that fall under the umbrella of the science of psychology.

The process of decision making is significantly influenced by the personalities of the people involved (Durand et al., 2013; Sashikala & Chitramani, 2019). Personality is the primary focus of research in psychology, and these studies both demonstrate that personality does play an essential part in an individual's life and in a wide variety of contexts. The investors' personalities are a significant component that plays a role in determining their actions. There is a well-established opinion among professionals that these elements may be more relevant in describing swings in stock prices than financial considerations alone (Smith & Harvey, 2011; Shiller, 2002). With that overarching goal in mind, such as a concern for social, ethical, and environmental issues when investing, the purpose of this study is to start investigating to what extent investors are influenced in their investment decisions given assurance of information on SRI report by different types of third party and with the integration of personality factor traits such as extraversion, agreeableness, conscientiousness, neuroticism, and openness. Specifically, the researchers are interested in determining the extent to which investors are influenced in their investment decisions when given the assurance factor. This is reinforced by John and Srivastava (1999) argument that the Big Five personality qualities do not have any

theoretical views but rather represent the natural language that people use to describe themselves and others. John and Srivastava's argument are as follows:

> *'One starting place for a shared taxonomy is the natural language of personality description. Beginning with Klages (1926), Baumgarten (1933), and Allport and Odbert (1936), various psychologists have turned to the natural language as a source of attributes for a scientific taxonomy'.*

In this regard, Migliore (2011) suggested that the five-factor model is one of the strongest theoretically supported models in trait psychology that explains taxonomy of five personality traits. This viewpoint is relevant since the five-factor model explains taxonomy of five personality traits. 0Investors are the most important factor in determining the world's future because they allocate their capital with an eye toward maximising profits while also taking into account issues of ecological and social responsibility (Eurosif, 2008). According to the Social Investment Forum's report entitled 'Socially Responsible Investing (SRI) Facts', social investors seek out the stock of prosperous corporations that are actively involved in their local communities. Consequently, one's personal values should be taken into consideration when making investing decisions.

However, very little or no research work has been done to explain each aspect in the Big Five personality traits and their relationship with the SRI idea of financial decision making anywhere in the world. This is a significant gap in the body of knowledge. A research work that was conducted by Nga and Yien (2013) to investigate the influence of personality traits on decision making of socially responsible investment (SRI) criteria counts as a contribution in this respect. In addition, the findings of Milfont et al., (2012) are consistent with those of other researchers who have demonstrated that ecological

engagement is influenced by fundamental character qualities, and that personality factors have a connection with ecological and environmental challenges (Hirsh, 2010).

2.9 Theoretical Underpinnings

2.9.1 Source Credibility Theory (SCT)

More than a decade of research has been conducted to determine whether or not a credible source has a greater impact on changing the opinions, attitudes, and behaviours of the target audience than a less credible one. Birnbaum and Stegner (1979) for instance commented sources credibility as important item in decision making. This theory predicts individual will place greater weight of confidence from more credible sources and individual could perhaps give more weight on the input that they view as having a higher level of credibility (Pornpitakpan, 2004). During the early days, the evidence of credible sources considered to be more persuasive than sources with a low level of credibility (Horai et al., 1974), behavioral compliance as well as under recreational behavior management (Manfredo & Bright, 1991).

All these areas agreed with the same stance of having sources of information that is credible will lead to more influence on the judgement and advertisement that have high expertise will lead to positive attitudes and thus increase performance rating. These sources of information considered as credible when it is given or perform by figure of person who is viewed as having high credibility. For instance, in recreation behavior management, Weick et al., (1973) found that musician who are highly credible will have less error than those who are less credible. Furthermore, the perceived skill of celebrity endorsers has significantly explained individuals' intention to acquire these things, regardless of whether the product is for personal use or gift giving (Ohanian, 1991).

As in other field of study, credibility is also an issue in auditing field. Firms, having financial and non-financial report as their source of information in conveying their activities to the user of the reports. In the contrary of financial report that have strict regulation, non-financial information such as information regarding their sustainability activities remain unregulated. A firm might intentionally choose what information to reveal about its actual behaviour, particularly unethical activity (Wang et al., 2016). The truth may vary from how the reporting business publishes in a report. For instance, the reporting corporation may claim to help a local community while providing no actual evidence of the area and how it is assisted (Cerin, 2002). Selective disclosure or even removal of sustainability information might generate issues among stakeholders regarding the reporting company's possible credibility gap (Perloff, 2010). The voluntary nature of sustainability reporting induces stakeholders concern about the credibility information and thus further reinforces this credibility gap. As a result, investors lose confidence in the reporting business's ability or intention (Dando & Swift, 2003) and have limited confidence in the legitimacy of the statements in the report.

Sustainability reporting necessitates a high degree of source credibility. Voluntary disclosure of a company's ethical practises, such as its involvement in environmental protection or the local community, is the basis of sustainability reporting (Gray, 1997). From the point of view recipient of corporate communication, a gap in reporting business governance is analysed, and the role that assurance services serve in filling the oversight is also investigated in detail (Hsueh, 2018). Source credibility theory suggests that when information is given from two sources with varied levels of credibility, the information recipients are more likely to believe it. Stakeholder perceptions can improve even though the content's source is seen to have poor credibility because of the strong reputation of the communicator (the assuror) (Hovland et al. 1953).

While decision making in investment requires individual to make wise decision to place their investment amount allocation, this allocation of investment heavily depends on the information provided to them to rely upon. Firms communicate their activities through their SR report. Firms are now having their SR report assured to increase the trustworthiness of the report. Referring to SCT, expertise is one of the important elements in persuading judgment in decision making (Birnbaum & Stagner, 1979).

While the most highlighted among all is the expertise gain form knowledge and experience collaborating with third parties (Casey & Granier, 2015). Under current market scenario, due to specialization of certain industry, food and beverages, mass agriculture to name a few, which involved in greenhouse gas emissions, the subject matter of assurance become more technical and with high level of non-accounting assurors with specific competence in the subject matter are required to perform stringent assurance processes (Huggins et al., 2011), making the source more credible to evaluate. This suggests that type of assurors competency increases individual investors' confidence in evaluating the SR report. If the different type of assurors does effect investors amount allocation in their investment decision making, then it is reasonable to expect that, investors reliance on the type of assurors does impact their investment decision making.

2.10 Other Avenue of Assurance Practices

Social – Modern Slave Auditing

Social assurance is a subset of auditing that focuses on checking in on and assessing people's general social well-being (Carroll and Beiler, 1975). Gao and Zhang (2006) argue that the extent to which a company's ties with its various stakeholders have been consolidated and simplified through social accounting is a key factor in the company's capacity to develop a competitive advantage based on sustainability. Concerns such as

human rights, supply chain difficulties, and the privacy of customers and users of products are all part of a company's assurance efforts, among others. While governance and environmental concerns received more attention, social concerns were seemingly ignored (Soh & Martinov-Bennie 2015).

On a social level, at least 27.6 billion people are enslaved in operations or supply chains. To address this, the reporting entity should implement a due diligence system (Christ et al., 2023). The modern slavery audit extends beyond the well-established financial audit framework. According to Christ et al., 2022, to tackle this issue, performing due diligence which requires company to identify, address and remedy their impacts on human rights. In fact, existing modern slavery regulations emphasize companies to disclose audit associated to monitoring mechanism used to address over arising modern slavery from their business activities. Social auditing to address modern slavery risk is a new audit area that may be used as both an internal and external component of due diligence in addressing modern slavery risk. In terms of sustainability assurance practice, this can give sustainability assurance reports that gather input from several departments with the goal of overseeing and verifying any performance gaps, or when compliance gaps are detected, managers can take corrective action. There are other skills to address in this new area of assurance, such as increasing social justice and environmental challenges.

Environmental – Carbon Audit

Carbon assurance is a relatively undeveloped field that has gained popularity in several advanced economies (Zhang et al., 2020). Further, carbon assurance is a subfield of environmental assurance that demonstrates how nations may adjust to variations in economic development, so helping to fortify and enhance national auditing.

Similarly, Tang (2019) defined carbon assurance as an extension of the broader concept of sustainability or environmental assurance. Furthermore, his research found that the use of carbon auditing is increasing as a result of economic development in several nations. This necessitated the use of carbon auditing to work toward achieving a balance between domestic product growth and ecosystem protection, given that carbon auditing is a tool for managing innovation governance, transformations management, and sustainable technical, social, and managerial transformation. As opposed to typical audit assurance, which focuses on procedures like revenue and expense coverage, law review, financial expenditures, internal management, and reporting, carbon assurance focuses on the audit of carbon derivatives and associated aspects of a company's operations.

Economy – Sharia Assurance

Sharia assurance is one of the most important aspects practiced in Islamic institutions including Waqf institutions. It is the most important way to measure the level of commitment and compliance with Islamic law principles. According to Khalil et al. (2014), the Islamic Waqf institutions contributed positively to achieving economic and social development in some Islamic countries such as Egypt, Kuwait, and Malaysia. Furthermore, only one study observed that the practice of Sharia assurance contributes to adopting advanced governance and Sharia assurance mechanisms, which contributes to facilitating and promoting sustainable development and economic growth (Shafii et al. 2020).

Mandated Sustainability Report

During the 1960s and 1970s in both the U.S. and Europe, people became more aware of their responsibility to society and the environment. This responsibility was not being met by government institutions, and some of it was directly due to business company. This

led to what is now called voluntary sustainability reporting (Ioannou and Serafeim, 2017). Recent years have seen a rise in investor and shareholder pressure on companies to adopt a more systematic approach to risk management and sustainability reporting as a result of growing social (such as poverty, declining social equality, and corruption) and environmental (such as climate change, water use, and waste) challenges (Truant et al., 2017).

Initiatives and regulations reflect a growing recognition of the importance on the issues and their impact on corporate performance and value. These regulators also highlight the need for more standardized and transparent reporting on society and enforcement that can help investors to make more informed decision and hold company accountable for their sustainability performance. In order to increase transparency and accountability in the reporting, the SEC's Investors Advisory committee has called for all their registrants to provide material information .

Similarly, the European Union's Non-Financial Reporting Directive (NRFD) requires large companies to provide non-financial and diversity information in their management reports starting 2017. Some of other player for instance, GRI and IFRS develops global standards for sustainability reporting to help companies communicate their impact on critical sustainability issues and proposing a global approach to sustainability reporting to address the proliferation of standards and standard setters, which can create confusion and complexity for companies and investors. This proposed approach would aim to provide a globally accepted and consistent set of standards for sustainability reporting, which would be based on existing frameworks and standards (IFRS, 2020).

The market for assurance services will expand dramatically, creating a business opportunity for different type of assuror. How will audit firms' abilities change over time? How much of an increase in the employment of specialists or a wider variety of

capabilities for assurance practitioners may be expected? The notion of using reporting to "drive change" in the sustainability space is widespread in part because a reporting requirement forces activities to promote more transparency.

Mandating sustainability reporting may also influence the type of assurance that firms choose to provide for their sustainability reports. Company is more likely to seek external assurance to boost their credibility, which has increased demand for assurance services supplied by external auditors, consultants, or other third-party assurance providers. It can also have an impact on the disclosure requirements itself. For example, if the reporting criteria define a certain level of assurance, such as reasonable assurance, external auditors with the required qualifications and expertise are more likely to be selected.

On the other hand, if the reporting requirements only mandate a limited level of assurance, company may choose internal auditors or consultants lead to an increase in the quality and consistency of assurance services. Reporting requirements can establish clear expectations for the level of assurance required, the scope of the assurance engagement, and the reporting requirements easier for investors to compare and evaluate the sustainability performance increase in demand for external assurance services and can influence the type of assuror selected. This will help to improve the quality and consistency of assurance services, leading to increased confidence in the sustainability performance of company.

2.11 Summary

The said chapter has presented the emerging discourse in the field on the linkages between type of assuror and level of assurance and their impact on individual investor's investment decision making in SRI. Furthermore, the necessity of behavior among investors towards investment decision making measured in Big Five personality characteristic has been

discussed and proposed as the second moderator between type of assuror individual investor's investment decision making in SRI. The chapter also introduces an elaborate theory that link to individual investor's investment decision in the early days until the evolution of the theory considering new dimension incorporating non-financial criteria perspective.

The Source Credibility Theory consumes as the primary conceptual lens proposing a research model that establishes the link between type of assuror, level of assurance and personality characteristics on individual investor's investment decision making in SRI. Finally, five (5) distinct research gaps have been identified that will be the foundation of this doctoral research endeavor. The next chapter will introduce the theoretical framework and explain how the above-stated theories are deployed to propose the research framework of this study. Thereafter, the arguments for the hypotheses developed for this study are explained along with empirical support.

CHAPTER 3 : RESEARCH FRAMEWORK AND HYPHOTHESIS DEVELOPMENT

3.0 Introduction

This section explains how theory and past empirical studies come together to form the research framework of this study and lead to the development of a set of the hypotheses that are to be subsequently tested in this experimental study. The chapter starts by discussing the application of the main theory that is deployed to propose the research model, which is leveraged as a supporting theory that enables the incorporation of personality characteristics into the theoretical framework.

After discussions on the theories deployed, discussions follow on the type of assuror and its potential impact on individual investor's investment decision-making in SRI. The next set of discussions is arguments made to suggest that Level of Assurance acts as a moderator between Type of Assuror and individual investor's investment decision-making in SRI. The subsequent section discusses the importance of considering Personality Characteristics are a potential moderator in the relationship between type of assuror and its potential impact on individual investor's investment decision-making in SRI.

Finally, the chapter explores the possibility that an integrated moderated-moderation model emerges, involving the Type of Assuror as an independent variable (IV), individual investor's investment decision-making in SRI as the dependent variable (DV), Level of Assurance and Personality Characteristics acts as a moderator. Therefore, it is posited that the relationships on the direct path (IV to DV) and the indirect path (IV to DV through the Moderator) are both moderated by Personality Characteristics. Thus, a moderated-moderation model is proposed which resembles Model-3 from Hayes (2013).

3.1 Theoretical Framework

3.1.1 Source Credibility Theory in Relationship between Type of Assuror, Level of Assurance and Personality in Investment Decision making in SRI

According to the source credibility theory, the message's effectiveness as conveyed by an endorser is determined by the end user's perceptions of the endorser's knowledge, trustworthiness, and attractiveness (Hovland & Wiess, 1951; McGuire, 1969; Ohanian, 1991). Source expertise refers to the qualifications that a source possesses that have a direct impact on the level of belief that is required to convince customers to purchase a product. This level of belief is necessary in order to sell a product. It reflects the endorser's estimation of the level of the recipient's understanding, skills, and knowledge (Hovland et al., 1953). The qualifications held by a source that have a direct impact on the level of belief required to persuade target audience members are referred to as the source's expertise. It indicates the level of understanding, skills, and knowledge that the endorser believes the recipient possesses (Hovland et al., 1953).

In investment field, the need to have credible information is rather important in order to have sound decision making. Research confirms that assurance in SRI do influence investor's decision making. However, assurance sustainability required their own niche of expertise which require the assuror to have their own qualification in order to certify the report. Thus, the credibility of information required by investors to assuror to certify their information highly dependable on the expertise of the assurors.

According to Perego and Kolk (2012), engineers have a higher level of expertise in sustainability assurance and have the potential to include more extensive assurance disclosures (reasonable assurance), which may include important sustainability-specific statement item. In comparison with reports provided by non-accounting versus accounting assuror, materiality of the report provided by non-accounting assuror is more

comprehensive (Huggins et al., 2011).When individual investors have the perception that the engineering/specialist consultant has a high level of expertise, they are more likely to be persuaded by the message that is communicated in the sustainability report, which also influences the investment decisions that are made by the investors (Ohanian, 1991). Therefore, it was presumed that a competent type of assuror with high expertise would be more persuasive than an accountant (Ohanian, 1991). As a result, in order to guarantee the investment success, the individual investors ought to look to the engineer as a subject matter expert.

Individuals with higher levels of personality conscientiousness have also been found to be more concerned about the environment (Hirsh, 2010). People who have a long-term view of the future, such as better environmental conditions, tend to be more dependable (Milfont & Sibley, 2012). These individuals most likely have a high level of self-discipline and demonstrate effective participation in decision-making. Furthermore, they are characterised by consistency, industriousness, reliability, and determination, which are all positive qualities (McCrae & Costa, 1997). This type of personality is a member of a top-rated alignment, which may cause them to be more particular regarding the manner in which financial commitment strategies are made and the threat that they are willing to take into consideration. With this newly emerging area of SRI, individual investors have dual purpose that is on the non-financial utility as well as financial utility (Goyen and Philips, 2005). Conscientiousness individual investors tend to be precautious about the information that they are evaluating. Individual that has high Conscientiousness tend to have high scrutiny ensuring their information is credible. The engineer/Specialist Consultant are representatives of expertise and specialization and thus may have affected the individual investors with conscientiousness attitudes.

A source's trustworthiness is measured by investors' perceptions of the endorser's honesty, trustworthiness, and integrity. The credibility of a source is predicated on trustworthiness. Assuming the source is credible, individual investors make SRI decisions based on their trust in the source. Considering engineers' expertise in sustainability, individual investors with high levels of agreeableness may be more influenced by their recommendations. Thus, this study hypothesised that individual investors' investment decisions in SRI will be influenced by the level of acceptance of assurors of this type.

According to the research that was conducted on the subject, the attractiveness of the source came into play more later than the other two aspects (Pornpitakpan, 2004). Attractiveness was determined in part by characteristics including the assuror type's likability, similarity, and familiarity with the target audience. The similarity between the individual investor and the assuror type was represented by the term "similarity". The investors were able to acquire familiarity with the source by reading the information in the sustainability report that was endorsed by an engineer. This information provided them with knowledge about the source. Likeability represents a favorable impression develop by investor towards the assuror resulted from the assuror qualifications, appearance and behaviour. Through the identification process, an appealing source was able to influence the individual investor. This procedure was carried out at the time when the individual investor acknowledged this same information that was provided by a desirable source.

Curiosity and a desire to learn new things are two characteristics associated with the quality of openness as a whole (Palmer, 1991). Open-minded consumers are likely to respond favourably to marketing that uses non-traditional methods (rather than simply listing a product's benefits).

Assurance practitioners' scope of work and, their degree of confidence inside the sustainability report are both revealed by the level of assurance (the "how" part) they provide. When it is determined by the assurance that the reporting on sustainability is at a level that is reasonable or high, the information asymmetries are likely to be smaller. The assurance level provides an indication of the breadth and depth of the activity performed by the assurance provider. As a result, it is associated with the level of certainty that the assurance report should provide to its users.

The level of assurance in an assurance statement has a positive effect on its perceived trustworthiness, given that investor's view a reasonable/high level of assurance as offering more assurance than a limited/moderate one. According to the findings of Hodge et al., (2009), sustainability reports that have a moderate level of assurance are more credible than those that have a low level of assurance. When the level of assurance is reasonable or high, the level of confidence in the accuracy of this information is increased. This is because the level of assurance influences both confidence and the user's perceptions of the situation. Therefore, it is anticipated that a reasonable opinion with a high level of assurance will strengthen the value relevance of the information contained in such reporting by increasing its reliability, thereby reducing the level of information asymmetry. Additionally, reasonable assurance engagements require that the result be presented positively. The phrases 'fairly stated in all material respects' and 'free of substantial misstatements' that are found in positive statements give the impression that there is a high level of assurance (Mock et al., 2007).

Previous studies have also shown that positive assurance statements are considered as having the highest level of assurance, whilst the negative assurance statements are regarded as having the lowest amount of assurance (Hasan et al., 2003; Mock et al., 2007). In contrast, the conclusion is presented in a negative manner in limited level assurance

engagements. When compared to reasonable assurance, limited assurance has significantly fewer options that are available in terms of the nature, timing, and scope of methods for gathering sufficient evidence (Christensen et al., 2020). As a result, limited assurance might be thought of as the less expensive and lower level of assurance. This suggests that there are a variety of points of view regarding the roles and responsibilities of the assurors, as well as the messages that are included in the report of assurance. Concerns about the function, importance, make-up, and consequences of assurance are at the root of this issue (Benson and Humphrey, 1992).

Because of this, the level of in-depth process is represented on the SRI report by the level of reasonable certainty, which reflects the level of trustworthiness. Investors who have Personality Conscientiousness are the ones most likely to have this trait. By having high level of trustworthiness, their confidence level increased, influencing their investment amount allocation to the firm that provide the report.

3.2 Type of Assuror

Extensive experimental research on the reliability of various types of assurance providers, which can be utilised to improve investors' decision-making in socially responsible investing (SRI), has been carried out in recent years. According to the findings of that research, when a report is prepared by a specific type of assurance provider, the confidence of the report's users increases. The purpose of this study is to investigate the affiliation with engineering consultants as opposed to professional accountants and a characteristic that has been studied extensively in the previous research but yielded contrasting findings. The question of whether or not there are fundamental differences in the assurance statements provided by various types of assurance providers has always been at the forefront of research by exploring the influence of type of assuror on the investment decision made by the individual investor.

On the other hand, there are studies that come to the complete opposite conclusion. When it comes to sustainability assurance, engineering consultant providers are typically more specialised than accounting assurance providers. However, accounting assurance providers may provide assurance on a wide variety of topics, including sustainability. As a result of this, engineering consultant assurance providers might have a higher level of expertise in sustainability assurance, and as a result, they might be able to provide more comprehensive assurance statements that include essential sustainability-specific statement items, like the materiality of the report. For example, Perego and Kolk (2012) offer some descriptive evidence indicating that engineering consultant providers are more elaborate and informative when it comes to formulating recommendations and conclusions. This evidence is presented in their article. In addition to this, O'Dwyer and Owen (2005) state that consultant assurors are more likely to rely on assurance standards during the assurance process, include references on their independence within the assurance statement, report on the performed procedures of the assurance process, and comment on the completeness of the assured report.

Mock et al., (2007) demonstrate statistically significant negative associations in between provision of positive assurance and recommendations and accounting firms, which make up a large portion of the accounting assurors. These findings provide a mixed picture of the relationship between the two variables. Studies have shown that external stakeholders lean more toward non-accounting assurance providers due to a higher emphasis on knowledge over the subject matter of sustainability assurance, such as expertise in sustainability, rather than knowledge of how to conduct the sustainability assurance engagement itself, such as expertise in assurance procedures. This is because knowledge over the subject matter of sustainability assurance is given a higher priority than knowledge of how to conduct the sustainability assurance engagement itself (Wong & Millington. 2014). Therefore, the research hypotheses were addressed by highlighting

the variation in the differences across types of assurance providers to individual investors' decision making.

3.2.1 Level of Assurance

Academics have spent considerable time investigating how users' and investors' decisions are driven by assurance (Shen at al., 2017; Rivière-Giordano et al., 2018, Steinmeier & Stich., 2017, Hodge et al., 2009). An in-depth investigation was conducted into both the scope and the level of assurance. According to Steinmeier and Stich (2017), SRs that have a reasonable level of assurance provide a higher level of assurance than those that have a limited level of assurance. The research shows that a higher-level assurance SR report has a greater impact than a lower-level assurance SR report. While scope affects decision making, assurance does not increase efficiency for a given scope. There is an attempt to combine reasonable disclosures with limited assurance on others in hybrid assurance reports (KPMG, 2013). KPMG (2013) finds that approximately 8 percent of global assured sustainability reporting consists of hybrid reports. Mock et al., (2007), for example, mentioned a 'hybrid' level of assurance in their research. However, only 9 percent of the reports were classified as ‘hybrid', according to the research. According to Wieriks (2013), a ‘hybrid' report only confuses readers, and other implications must be researched. According to Sheldon (2016), users will be able to view the complete descriptions of both reasonable assurance and limited assurance when hybrid assurances are used.

3.3 The Interaction Effect of The Type of Assuror and Level of Assurance on Individual Investor's Investment Decision Making in SRI

Our prior remarks strongly suggest that assurance of SRI reporting provided by an engineer and environmental consultant has a greater impact on investor decision making to a greater extent than assurance provided by an accountant. This is likely since engineers and environmental consultants are more independent and have more expertise than accountants. In addition, our prior discussion suggests that a reasonable and hybrid level of assurance increases investor willingness to invest because reasonable and hybrid levels of assurance are likely to be perceived as being more reliable. This further supports the idea that hybrid levels of assurance are superior to reasonable levels of assurance.

Putting the assumption of reasonable/hybrid enhances the investors willingness to invest, we predict that when assurance level on SRI is provided with limited and unspecified opinion, there is no correlation between the type of assuror and the effect of the type of assurance on investment decisions. This is because neither a certified public accountant nor an expert in the relevant industry can lend more credibility to a report that only provides limited and unspecified assurance. On the other hand, when SRI report is provided with reasonable and hybrid level of assurance, the willingness of individual's investors to invest is likely to increase more by engineer and environmental consultant than by accountant. The conclusion that can be drawn from this discussion is hypothesized as follows:

H1: Individual will choose to invest in companies assured by engineer/specialist who gives reasonable/hybrid assurance, whereas individuals will choose to invest in companies assured by accountant who gives limited assurance.

3.4 The Interaction Effect of Type of Assuror and Personality on Individual Investor's Investment Decision Making in SRI

According to findings from earlier studies, increased environmental concern was reported to be correlated to higher levels of the Big Five personality traits of agreeableness and openness. This association was found to be significant (Akhtar, F. 2019, Hirsh & Dolderman, 2007). Given that they were replicated using different measures and obtained from an adult rather than a student population, these relationships appear to be durable. More recently, Akhtar, F., (2019) found that, among the five traits, openness, agreeableness and conscientiousness measures individual investor's investment decision making towards environmentally friendly companies. According to findings from earlier studies, increased environmental concern was reported to be correlated to higher levels of the Big Five personality traits of agreeableness and openness. This association was found to be significant (Akhtar, F. 2019, Hirsh and Dolderman, 2007). Therefore, it is important to gain insight on these physiological characteristics before developing a successful strategy.

This study anticipates that people with Openness characteristics who are willing to try new things will invest more heavily in socially responsible funds. Research has also found that openness has a positive influence on long-term investments made by undergraduates in the United States who are enrolled in business schools (Mayfield et al., 2008). People who have open minds are typically receptive to new details in any setting and promote a positive attitude toward this, regardless of how it comes into their possession or whether it is simply encountered along the way. The fascination with newness, aesthetics, and new ideas is what we mean when we talk about openness (McCrae & Costa, 1997). The fact that open-minded people use creative methods to gather a large amount of information from a variety of sources (Palmer, 1991) does not mean that they accept everything

without question. They tend to be curious, and as a result, they are reluctant to readily accept the information that is obtained from other people (Tauni et al., 2017). They typically conduct in-depth research with the goal of discovering additional options for resolving the issue (Brookfield, 1987). Instead, the fundamental way in which they question things is in a way that is both receptive and sceptical at the very same time (Heinstrom, 2010). They will continue their research until they find information that can be trusted.

According to the information presented above, people who possess the trait of openness may have a different perception of risk. When it comes to making decisions about their finances, they may also be more open to considering other qualitative factors like SRI. Conscientiousness is defined as "the tendency to be organised, responsible, and hardworking," and an individual with conscientiousness possesses this tendency (Mcrae & Costa, 1992). Therefore, being able to plan, having self-discipline, and being able to delay gratification are typically associated with possessing this trait (Epstein & Schneider, 2008). According to Epstein and Schneider, (2008), these individuals are more likely to be in control of their financial situation and, as a result, have a greater willingness as well as an increased ability to save money. This suggests that responsible investors place less of a reliance on luck and/or superstitions and instead are meticulous in their research of the various investment options available to them. Because of their emphasis on high performance, they are likely to be more selective in the kinds of investments they make and the levels of risk they are willing to take on. Within the framework of SRI, one could make the case that conscious people have a greater capacity for foresight, and as a result, they consider the long-term repercussions of actions that are not sustainable. Because of this, we anticipate that those individuals will allocate a greater portion of their allocation to funds that are socially responsible.

Furthermore, McCrae and Costa (1997) defined agreeableness as a person's friendliness, warmth, and cooperativeness in social interactions. Individuals who are highly agreeable are forgiving, tender-hearted, and good-natured, and they are well accepted by their peers (Gambetti & Giusberti, 2002). They are selfless and cooperative when it comes to public standards. It is possible that an agreeable person's habitat places a high value on public needs and agreement in economic decision-making style. They are generally altruistic and conform to social norms. As a result, their decision-making approach is more direct and modest (McCrae & Costa, 1997). It is likely that agreeable people place a high value on social criteria and consensus when making financial decisions. Given that the characteristics tend to make SRI investment more likely, this study predicts that the willingness to consider qualitative criteria, be farsighted and consider the long-term consequences of (un)sustainable activities, and be compliant with social norms will be positively associated with individuals' investors' willingness to invest in SRI.

Given that individual with personality characteristics openness is more prone to SRI. Openness should play a mediating role between the type of assuror and the level of assurance and individual investors' investment decisions in SRI. In other words, this research predicts that, individual investors that have more willingness to consider qualitative criteria, farsighted and taking will be more receptive when presented with engineering profession who prepare the report accompanied with reasonable and hybrid level of assurance. As such, this research posited below hypothesis:

H2a: Individuals with higher openness will invest in companies assured by engineer/specialist, whereas those with lower openness will invest in companies assured by accountant.

Given that individual with personality characteristics conscientiousness is more prone to SRI. Conscientiousness should play a mediating role between the type of assuror and the level of assurance and individual investors' investment decisions in SRI. In other words, this research predicts that, individual investors that are farsighted to social norms will be more receptive when presented with engineering profession who prepare the report accompanied with reasonable and hybrid level of assurance. As such, this research posited below hypothesis:

H2b: Individuals with higher Conscientiousness will invest in companies assured by engineer/specialist, whereas those with lower Conscientiousness will invest in companies assured by accountant.

Given that individual with personality characteristics agreeableness is more prone to SRI. In SRI, agreeableness should play a mediating role between the type of assuror and the level of assurance and individual investors' investment decisions. This research postulated that individual investors who are taking into account the prolonged effects of (un)sustainable activities while also adhering to social norms will be more receptive to engineering professionals who prepare the report accompanied by a reasonable and hybrid level of assurance. In other words, the research predicts that individual investors will be more receptive towards engineer/environmental specialist. As a result of this, the research hypothesised the following below:

H2c: Individuals with higher Agreeableness will invest in companies assured by engineer/specialist, whereas those with lower Agreeableness will invest in companies assured accountant.

3.5 The Interaction Effect of Type of Assuror, Level of Assurance and Personality on Individual Investor's Investment Decision Making in SRI

This section focuses on how different personality level on individual investors with different level of assurance respond to engineering/specialist consultant versus accountant. The respond is on the information related by both affiliates. Previous research documented the different level of assurance with different type of assuror do give impact on information credibility in which enhances investors investment decision making (Shen et al., 2017; Hsueh, 2018; Hodge 2009; Hasan et al., 2005).

According to how stakeholders perceive reporting, there is a need to document the credibility of information (Perlof, 2010). Credibility of information determined by how investors perceive a company's reporting (Perlof, 2010). Credibility is also determined by assurance level (Hsueh, 2018). In providing level of assurance, time spent on procedures, examination, and obstacles are considered (Steinmeier & Stich, 2017). Based on previous research, this study concludes that individual investors who invest in SRI have a common interest in investigating the credibility of the SRI report provided by the firm and the type of profession that provides the assurance report. We anticipate that the level of assurance indicating the comprehensiveness of information will be of interest to specific types of individual investors. These types of investors have personalities that are open, conscientious, and agreeable.

Although there is a paucity of research in the field of type of assuror and level of assurance for personality, the intrinsic evidence has always been the descriptive outcome – gender, education, and socioeconomic status. The intrinsic similarity between research on type of assuror and level of assurance on SRI and Personality towards SRI demonstrates that the user of the information has a particular pattern of choices supported by their preferences, which are reflected in their personality. This study contributed to the

field of assurance research by incorporating personality variables that indirectly influence investment decisions, specifically SRI decisions. Shen et al., (2017) found most industry experts receive more support from investors than their competitor, the accountant. Due to their affiliation with the government, industry experts are more well-established and are accorded with greater credibility. They are likely to be more susceptible to government influence when making decisions. Accordingly, this type of personality believe that the veracity of information reported by others or the information they obtain from their peers, is credible (Mcrae & Costa, 2003).

While in other context, Hsueh (2016), reported on how information credibility act as an important communication tool to convey information among family businesses. In the research, specialist consultant is said to generate more credible report compared to accountant. Both type of assuror needed much of carefully assessment by the individual investors and it is investors who conscience on what type of information that they want when making investment decision. The source's credibility is one of the most important determinants of the reliability of the information. Investors find assurance to enhance credibility, regardless of the kind of assurance that is provided or the provider that offers it. Indirectly, the purpose is to demonstrate that investors with this type of personality require additional evidence to support their decision. This type of investors is characterized by a strong desire to complete business transactions with the highest probability of success (Epstein & Schneider, 2008).

Prior research concluded that a person's preference determines which investment option is the best when making investment decisions (Akhtar, F, 2009). Expertise and quality produce the superior reports that investors need to make investment decisions. Since SRI is relatively new to the market, investors prefer these types of providers and assurances. This type of preferences represents the individual investor’s investment's

attitude in selecting the type of protection they needed for their investment. These preferences bring the research to dig deep into the personality of the individual investor. In line with conscientiousness personality, individual with high conscientiousness will invest more in the company that using engineering/specialist consultant compared to accountant. Additionally, individual investors with high openness, conscientiousness, and agreeableness, with reasonable/hybrid level of assurance, should evaluate the engineering/specialist consultant, favorably because reasonable/hybrid level of assurance offers more coverage on the information and this reflect to information credibility.

Therefore, individual investors will appreciate or utilize the firsthand information provided by engineering/specialist consultant and type of assurance given to ensure their investment decision making is on the right track. Individual investors who are open, conscientious, and agreeable are less likely to be dominated by a single dominant investment decision method when they receive a limited assurance on the SRI report. In contrast, investors who lack openness, conscientiousness, and agreeableness are less likely to engage in a single dominant investment decision-making process mode than those who are more confident.

In this case, they may resonate with either engineering/specialist onsultant type of assurance (due to low openness, conscientiousness, and agreeableness) or choosing accountant with limited assurance. The study proposes the following hypothesis depicted in graphic (also see Figure 3.1):

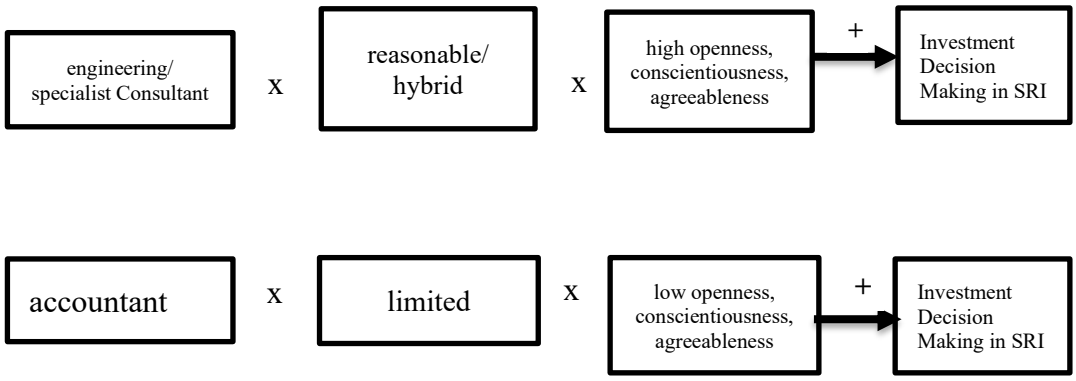

Figure 3.1: The interplay between type of assuror, level of assurance, and type of personality.

To understand how SRI's Type of Assuror and level of assurance affect individual investors' investment decisions, it makes sense to investigate whether individuals who are open, agreeable, and conscientious interact with this process. It is more likely that an investor's preferences will change in response to new information if they have a higher level of assurance, regardless of the type of assuror.

If individual investors that prone to SRI investment, have this type of personality- openness, agreeableness, and conscientiousness, then this personality may further moderate this process. That is, it is possible that individuals are prone to SRI when the information presented to them have the high credibility and the level of assurance given - reasonable hybrid level of assurance enhance the willingness to invest. That is, the willingness to invest in SRI will be higher when, (a) they are presented with competence people giving the assurance (b) attached with reasonable and hybrid level of assurance, and (c) they possess openness, agreeableness, and conscientiousness. Because of the lack of prior research on this topic, this research poses hypothesis as below:

H3a: Individuals in high openness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance.

H3b: Individuals in lower openness will invest less in companies assured by accountant who gives limited assurance.

H4a: Individuals in high conscientiousness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance.

H4b: Individuals in lower conscientiousness will invest less in companies assured by accountant who gives limited assurance.

H5a: Individuals in high agreeableness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance.

H5b: Individuals in lower agreeableness will invest less in companies assured by accountant who gives limited assurance.

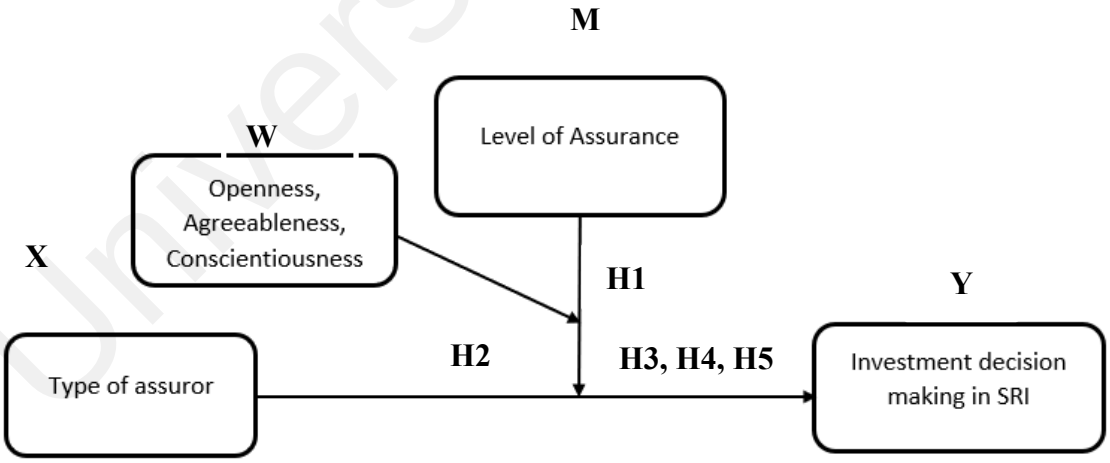

Figure 3.2: Conceptual Model: Three-way interaction effect of exposure to Level of Assurance (M) and Openness, Agreeableness and Conscientiousness (W) on the relationship between Type of Assuror (X) and individual investor's investment decision in SRI (Y).

Figure 3.2 Conceptual model explain three-way interaction between independent variables (X: Type of Assuror), Moderator 1 (M: Level of Assurance), Moderator 2 (W: Openness, Agreeableness, Conscientiousness), towards dependent variable (Y: Investment Decision Making in SRI). Figure shows how type of assuror, investment decision making in SRI and two moderators interact so that the second moderator (M2) moderates the moderating influence of the first moderator. Further, it elaborate the path of the study according to the formulated hypotheses that link the variables in the study.

CHAPTER 4 : RESEARCH METHODOLOGY

4.1 Introduction

This chapter emphasize on the research design and methodology to be applied to test the proposed hypotheses. The discussion starts with the research paradigm to be adopted for this study. Thereafter, a detailed discussion follows on experimental research and the justification for deploying this method for this study. The following section of the chapter discusses the process of selecting participants for the study as well as the characteristics of those participants that are required to ensure a strong compatibility between the research goals of this study and the participants.

The subsequent theme focuses on the need for validation of the instrument prior to collecting data. For determining the face validity and suitability of the instrument, a panel of experts was selected who examined the instrument and provided feedback on the issues that need to be incorporated into the content of the instrument. Following this section, the discussion moves on to the details of how the experiment is to be conducted. The experimental process is explained in detail, including how the variables will be manipulated in the experiment. Finally, the 'Conditional Process Model' is explained in detail, along with justification for deploying the moderated-moderation model for the SPSS PROCESS Macro.

4.2 Research Paradigm

For a researcher to present their collected data and giving the interpretation in the meaningful way, he or she has to have their own perspective, thinking or school of thoughts. This collective mind is also termed as 'worldview' (Mackenzie & Knipe, 2006). This concept is also referred to as research paradigm where, it involves philosophical thinking for researcher to find answers to their research questions. As a guidance for research, authors somehow follow numerous paradigms and sometimes combines their paradigmatic schemas to conceptualize and classify their research (Denzin & Lincoln, 2000).

The following section of the chapter discusses the process of selecting participants for the study as well as the characteristics of those participants that are required to ensure a strong compatibility between the research goals of this study and the participants. Whether or not they believe that reality exists apart from the knowledge that people possess, or whether they consider themselves to be participants in the construction of that reality. These key assumptions are reality that exists outside of researcher's mind. It argues that social truth is external. In addition, social processes occur independently of social agents and their interpretations (Sarantakos, 1998: Bell & Bryman, 2007). Given that the objective of this study is to investigate the influence that the type of assuror has, level of assurance and personality on individual investors decision making in SRI, all the factors viewed as beyond the mind of the researches and foreign to the researcher. Inside this analysis, all the variables influencing the individual investors' investment decision making in SRI - the reasoning, motivation and perception and personality are finite properties is deemed out there as unique and already present and the aim is to research them.

The branch of philosophy concerned with the origin of knowledge and the conditions under which particular phenomena can be known is known as epistemology (Giacomini, 2010). It addresses the question of how we come to know the things that we think we know. The pursuit of knowledge can be approached in a variety of ways by researchers, similar to how ontology can be approached. Each epistemology is based on a unique set of assumptions, or theoretical beliefs, concerning the nature of the relationship that exists between a researcher and the people who are the focus of the researcher's investigation. In terms of its epistemological stance, this research leans more toward positivism as an attempt to analyse the effect of variables influencing the investment decision making of investors in SRI. Specifically, the research focuses on SRI.

From this position, it synthesizes the general rule for the purpose to generalize the whole population rather to explain and interpret the meaning of such decisions. Epistemology reflects the procedure that should be taken and the principles that should govern the study. Positivism used natural science methods to investigate social reality (Bryman & Bell, 2007). Because positivism is based on the view of natural science, it stresses the existence of scientific truth (Blumberg et al., 2014). When it comes to learning about social institutions from current theories it is important to use an empirical method of testing hypotheses, according to Saunders et al., (2009). The goal of positivism is to generate general behaviour predictions that are consistent with the objectives of understanding investors in order to generalise and predict their decision-making process (Fisher, 2010). The task positivism is to generate these predictions using law.

It is anticipated that researchers will maintain objectivity with regard to the purpose of the study, which will foster a value-free approach to data collection and analysis. To put it another way, the researcher does not have any influence or effect on the subjects who made up the sample. As such, suitable approach set to derive the result. This research

chooses experimental method to gather the data. The goal of an experiment is to provide evidence that demonstrates that one factor caused another factor. The methodology that is used in experimental research is based on the concept that data should be unearthed and analysed in a neutral manner. Since they are looking at the objective, they are looking at the topic from outside. Since these researchers believe that the only way the truth can be discovered is by removing the context from it, the experimental methods is planned in advance to eliminate the influence of as many contextual factors as possible. Researchers who use quantitative methods attempt to draw broad conclusions from their findings. The deductive method of analysis is utilised within the context of an experiment. This indicates that the investigation will begin with a theory. Following on from that theory will be the development of hypotheses. The hypotheses that are stated in a clear and explicit manner either at the beginning of the methodology section or just before it. After that, these hypotheses are put to the test. Data from a variety of sources are gathered and examined so that the initial hypotheses can be validated or invalidated. Due to the fact that the experiment is intended to be objective, the method will most likely consist of other objective measurements such as height and gender. Ontology dictates the epistemology will dictate the methodology and methods. By asking the right questions, we can get reliable and valid answer, the result meant to give snapshot of how things really are.

Another word, there is an objective reality out there, and the experiment is trying to show it. This analysis is taken in a very neutral direction as the research instrument is used to standardized the case material. In addition, in order to strengthen the study, the background information for the fictitious company was taken from an actual sustainability report and then slightly altered so that it would be impossible to identify the actual organisation. Further, the extracted report was title as original report to convey that in reality, this type of report would generally portray the actual report. In addition,

the report that was extracted was given the same name as the original report. This was done so that it would be clear that this kind of report would typically depict the actual report. Existing research and theories served as the foundation for all of the study's hypotheses and assumptions, as well as the design of the research instrument itself. Then after, the hypotheses are tested using the data gathered from the experimental sessions, which is consistent with what the suggestions of positivism suggest.

4.3 Experimental Method

It has been determined that the experimental method is the most appropriate way to determine the cause, effect, and causal relationship between variables while also controlling the irrelevant variables at the same time. Therefore, this method will be used (Shadish, et al., 2002). Consequently, in the experimental method, one variable would be manipulated in order to determine whether or not changes in one variable cause changes in another variable. According to the statement made by Moore and McCabe (1993):

> *"The best method — indeed the only fully compelling method of establishing causation is to conduct a carefully designed experiment in which the effects of possible lurking variables are controlled. To experiment means to actively change x and to observe the response in y" (p. 202).*

For the purpose of putting the hypothesis to the test, the experimental method makes use of controlled methods, random assignment, and the manipulation of variables (Field & Hole, 2002). Furthermore, Gay and Diehl (1992) states that:

> *'The experimental method is the only method of research that can truly test hypotheses concerning cause-and-effect relationships. It represents the most valid approach to the solution of problems, both practical and theoretical.'*

The ability to control the factors of interest in order to clearly quantify the potential effects is the main advantage of an experimental method. Furthermore, by constructing a single design, it is advantageous for investigating the main and interaction effects, as well as controlling confounding variables (Field & Hole, 2002). Experiments on decision making, on the other hand, measure behaviour rather than attitudes. The advantage of using decision experiments is that when they do measure changes in behaviour, participants do it under the controlled and hypothetical scenarios, where it offers greater internal validity. Another advantage is that decision experiments are relatively easy to conduct. To put it more succinctly, the level of confidence that can be placed in the experimental results depends, to some extent, on how robust the experimental conditions model is and how effectively the actual decision setting is imitated, comparing it to other types of research methods that are the best fit for the objectives of the study (Milne & Patten, 2002). Therefore, this research is experimental in nature, with an intention to determine the impact of types of assurance provider, level of assurance and personal characteristics on the individual investor's decision making in SRI.

The main purpose of the research would be to determine whether or not differences in the types of assurance providers and the levels of assurance that are provided in environmental reports are factors that contribute to high or low levels of investment amount allocation. Further, whether this different level of investment amount allocation can be enhanced by personality characteristics contributing from Big Five personality traits that can be addressed best by designing an experimental framework.

4.3.1 Selecting Participants for Experimental Studies

All participants were assigned to a few experimental groups. Independent variables in this research included Type of Assuror (manipulated as Engineering/Specialist Consultant and Professional Accountant) and Level of Assurance (Reasonable, Hybrid (Reasonable

and Limited), Limited and Unspecified). A total of 315 participants were solicited for the purpose of this study. Participants were recruited by contacting three consultants who are able to recruited participants. This was done to ensure that the participants recruited were suitable for the study that was being conducted. The first two consultant use face to face to recruits' participants and the third consultant use online method to recruits participants due to Movement Control Order (MCO) Covid 19 issue from the government in March 2020. For face – to face method, we seek the participants permission to agree to participate in the experiments. Following the distribution of research materials i.e., instruments, a five-minute briefing was delivered to familiarize participants with the structure and content of the instrument, as well as to prompt them to answer each question in materials given.

As for online session, a text message was given prior to the session to ensure the participants understand the objective of the answering the question. The first consultant able to recruits total amount of 120 participants, however, only responses from 100 participants was usable. The reason 20 was not able to be used because the instrument was incomplete. The second consultants 154 and the third consultants 61 participants. The ANOVA result on the dependent variable showed no significant differences among the given participants by the 3 consultants, F (2,313) =2.186, p =0.114.

4.4 Instrument Design

The experimental instrument from this study mostly adopted from the study by Brown-Liburd et al., (2018) and Gangi et al., (2016) further customized by borrowing some of the procedures applied in the study by Hasan et al., (2003). This also included study proposed by Sheldon, (2016) for the report on GHG emissions proposing the report to includes imitation of real situation of report on gas emissions result audited by all the profession (engineering/environment specialist and accountant,)

The booklet divided into 4 Parts. Part A asking about the investor's judgment on the credibility of assurance report, Company Background and Financial Summary, Pre-Investment Question, Extract from Beta's Sustainability Report; Part B: Questions indicating the understanding of information given in Part A; Part C: Question Related to Personality and Part D: Demographic Questions. The variables manipulated in the booklet are sustainability report which represent Type of Assuror, Level of Assurance and Personality traits. Operationalization of Variables and details of experimental task discussed in next section followed by details of the variables.

4.5 Research Design

In this study, experimental research with a quantitative approach is used, similar to a study that Hodge et al., (2009) conducted on the Independent Variable – Type of Assurance Provider and Level of Assurance. For the purposes of this study, statistical methodology will be applied to primary data. The use of a hypothetical case scenario is adopted as the research instrument in order to investigate the impact that personality traits with Type of Assurance Provider and Level of Assurance has on the decision-making process of individual investors in SRI. This is done by using a case scenario that is hypothetical. However, there have been some adjustments made to the demographics of the target population. Actual individual investors in Malaysia are the focus of the population analysis that this study is intending to carry out.

4.5.1 Research Approach

For the purpose of this investigation, an instrument utilising a between-subjects experimental case design at two levels was utilised. The first level is a 3 x 4 design (type of assurors x level of assurance) and it is intended to test hypotheses 1 and 3 x 3 design (type of assurors x personality) for hypothesis 2. For hypotheses 3 through 5, the second

level uses a design with two levels of each variable (type of assurors x level of assurance x level of personality).

4.5.2 Sample of Study

Individual investors have become an increasingly important component of the equity markets in the United States and Europe over time (Cohen et al., 2011). As a result, the individual, more specifically the individual investors, will serve as the level of analysis for this particular study. Unlike previous studies that use students as proxy for individual investors (Daniel Reimsbach & Rudiger Hahn, 2018; Cheng et al., 2015), this study will use actual investors in determining the relationship between type of assurors, level of assurance and personal characteristics on socially responsible investing decision-making. This study's population consists of Malaysian individual investors who are either current investors or plan to invest in the near future. Individual investors can be defined as people who purchase professionally managed funds from banks or other investment platforms on their own and invest their own money in them. In Malaysia, to be able to trade into share market, all investors are required to register to an account called Central Depository System (CDS) with Bursa Malaysia.

Given the fact that investors are permitted to have multiple CDS accounts, the total number of accounts can provide a rough estimate on the number of individual investors in Malaysia. According to the shown data (Bursa Malaysia, 2013), there are 4.4 million CDS accounts in Bursa Malaysia. These accounts operate within the 30 licensed share broking companies that are listed on the website of Bursa Malaysia. This study requires the participants at least to have experience in trading. However, since transaction record in Malaysia not readily available and information on transaction are considered highly confidential due to personal data protection act (Bursa 2013), it is not possible to track active and in active investors. Information is the most important strategy to investors to

be able to trade in the stock market. Most of the information contains in the primary investing strategy analysis including fundamental approach and technical approach. While fundamental analysis requires investors to assess the financial statement health of the interested company to be invested in, technical approach requires quite complicated skills to study the pattern and using stock chart. In Malaysia, this information on technique to approach stock market in available through private classes throughout the country with Klang Valley is the hub of the participants. Three main contacts were used to locate all the participants. First and second contact were investment class held in Klang Valley. Both sessions done by contacting the owner of the classes which later give the permission to distribute the instrument. Third contact were done through a face-to-face session.

4.5.3 Operationalization of Variables

Operationalization of Dependent Variable

This variable will be represented by a question that asks participants to provide the allocation percentage of their initial investment amount. Proposed dependent variable – Investment Decision Making in Socially Responsible Investment (SRI) Brown-Liburd et al., (2018) and Gangi et al., (2016). Regards to the investment amount allocation, participants were requested to provide details regarding their initial investment amount allocation before viewing sustainability report. Following the viewing of the sustainability report, investors were asked to allocate resources for the company. After reading the sustainability report, participants were later questioned about the amount of money, in total amounting to $10,000, that they would put aside for the company as a long-term investment. This was done based on the methodologies used in previous research.

Operationalization of Independent Variables

Type of Assurors[1]

This was captured from Hodge et al., (2009), with only the introduction to the assurance statement being modified. The following is how the introduction was written for the accounting firm: PricewaterhouseCoopers is a leading public accounting and auditing firm that also offers a variety of consultancy and assurance services. They are the company that provides the assurance practitioner. The name of the other type of assurance provider, on the other hand, was changed so that it more accurately reflected their area of specialisation in accordance with the GRI report. In this particular investigation, the role of the assuror was played by accountants, engineers, and Specialist Consultants respectively.

Accounting firms: Firm that are typically connected to international networks; are concentrated on business; have expertise in financial and extra-financial reporting; have their own systems, controls, and audit/assurance procedures (including for climate change/GHG data; and generally, follow a clear set of professional standards).

Engineering firms: Firm that are typically offer technical certifications and engineering expertise, are accustomed to risk-based analysis, understand complex processes, and employ a multi-disciplinary approach are desirable.

Specialist Consultant: Firms that focus on sustainability-related issues; typically smaller than the general categories of the other assurance providers; typically based locally; frequently recognised due to their experience with stakeholder issues.

[1] Type of Assuror further explained in the appendix appended together with the booklet

Operationalization of First Moderator

Level of Assurance[2]

This research verified four types of assurance level. There are four types of assurance consist of reasonable, hybrid (reasonable and limited), limited, and unspecified. Hasan et al., (2003) provided the basis for the structure of the assurance statements, while ISAE 3000 provided the basis for the wording of the opinion paragraphs. The introductory paragraph for all four types of assurance statement read as follows:

> *We have reviewed the accompanying Environmental and Social Report 20XX of Beta Ltd. The responsibility for the statements made in the Report lies exclusively with the Company's management. Our responsibility is to provide a reasonable level of assurance on the report based on our review.*

The opinion stated was worded as follows:

> *Our work was conducted based on principles and methods described in the International Standard on Assurance Engagements (ISAE) 3000. The work was planned and carried out to provide reasonable assurance for all indicators in Table 1 and we believe it provides an appropriate basis for our conclusions.*

As for hybrid assurance:

> *Our work was conducted based on principles and methods described in the International Standard on Assurance Engagements (ISAE) 3000. The work was planned and carried out to provide reasonable assurance for all indicators in Table 1 and we believe it provides an appropriate basis for our conclusions.*

[2] Level of Assurance are further explained in the appendix append together with this essay

With the additional of:

> *We have also reviewed the following selected indicators included on page 12 of the Report for the year ended December 31, 2018. BETA BHD Company's management is responsible for the selected indicators, based on the reporting criteria referenced in Table 2 below. Our responsibility is to express a conclusion on the indicators included in Table 2 based on our review verification of indicators included in Table 2 was carried out to provide limited assurance.*

As for limited assurance:

> *Our work was conducted based on principles and methods described in the International Standard on Assurance Engagements (ISAE) 3000. The work was planned and carried out to provide limited assurance for all indicators in Table 1 and we believe it provides an appropriate basis for our conclusions.*

Finally, for unspecified opinion worded as follows:

> *Our work was conducted based on principles and methods described in the International Standard on Assurance Engagements (ISAE) 3000. The work was planned and carried out to provide for all indicators in Table 1 and we believe it provides an appropriate basis for our conclusions. Accordingly, we do not express an opinion.*

Figure 4.1 explains the booklet is divided into 12 conditions whereby each of the Type of Assurors manipulated to each of the level of assurance. Participants will receive different booklet of manipulations.

Table 4.1: Summary of experimental condition.

No	Type of Assurors / Level of Assurance	Professional Accountant	Engineering Consultant	Specialist Consultant
1	Reasonable	✔	✔	✔
2	Hybrid	✔	✔	✔
3	Limited	✔	✔	✔
4	Unspecified	✔	✔	✔

Operationalization of Second Moderator

Personality

We used the personality trait index that was developed by John et al., (1991) to measure the "Big Five" personality dimensions of each participant in order to get a better understanding of their personalities. The instrument consists of forty-four statements, each of which represents a different personality scale. There are ten statements that measure openness, eight statements that measure extraversion, nine statements that measure agreeableness, nine statements that measure conscientiousness, and eight statements that measure neuroticism. On a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), respondents are asked to indicate the degree to which they agree or disagree with each statement (5). The results of the final sample showed that the scales had good internal consistency, with Cronbach's alpha reliability scores of 0.561, 0.434, 0.530, 0.679 and 0.560 respectively for each scale. These scores were based on the relative importance of each scale. The Cronbach‟s alpha met the requirement by Pallant (2020) states Alpha Cronbach's value above 0.6 is considered high in reliability. As recommended by Hayes (2013), personality traits are the probe to their significant interactions using quantiles to estimate the conditional effects of the predictor at a low, medium, high levels of the moderator.

4.6 Data Collection Method

For the purpose of data collection, an instrument will be utilised. Throughout the course of the experimental session, a structured multi-item instrument that contains closed-ended questions will be utilised. The instrument that will be used in this research is a replication of an instrument that was used in previous studies, specifically the studies conducted by Brown-Liburd et al. (2018), Gangi et al. (2016), and Hodge et al., (2009).

Experimental Task

In the very beginning, in order for participants to acquire an understanding of the instrument, they were provided with a set of general information regarding the level of assurance report available as well as the type of assurance report provider that was made available in the market. There were then given six true or false questions to indicate the level of their understanding on the variables tested. In all experimental conditions, the presentation of financial information content was kept constant. As a result, every participant had access to the exact same general introduction to the company's condensed financial summary, selected consolidated balance sheet data, selected statement of income data, the prevalent share price, and the price-to-earnings ratio on the business day before the release of these financial statements.

After reviewing background information, participants were provided with three questions with regards to the financial data review prior to the question. In light of this, participants were provided with a summary of the Sustainability Report, which highlighted the key performance indicators of greenhouse gas emission as defined by the Global Reporting Initiative (GRI). The experimental report streamlined the material by including an excerpt of the report page, the company's presentation and discussion of their GHG emissions for the year, including the performance in relation to the plantation

industry, and the independent assuror's report. Although these reports can frequently be quite lengthy and contain a great number of pages, the experimental report did the opposite. This use of specific information is done with the intention of avoiding unneeded length or deviating from the primary focus of the study. ISAE 3410, Assurance Engagements on Greenhouse Gas Statements, was another factor that played a role in the decision to centre attention on gas emissions. Before viewing the CSR disclosure items, participants were requested to provide specific information regarding the initial investment amount allocation they had chosen. After reviewing the CSR disclosures, investors were subsequently requested to commit resources to the organisation in question. In addition, based on the methodologies used in previous studies, participants were later asked to estimate the amount of money, out of $10,000, that would be invested in the company over the long term after viewing the Sustainability Report.

Accordingly, participants' activities were tracked to forty-four types of statement on the agreement or disagreement of the personal characteristics. Finally, participants were provided with demographic questions and familiarity of report being assessed earlier. Participants were given small gift equals to approximately US5 as a token of appreciation after answering all the questionaries. All participants take approximately 10 to 15 minutes to answer all of the questions on the booklet.

4.7 Data Analysis and Procedure

SPSS was used to generate descriptive statistics in the forms of mean-scores and standard deviation, and to describe the demographic characteristics. The non-parametric statistical methods were used when describing and analyzing data that were not normally distributed and were on a nominal or an ordinal level. A Chi-Square test was used to identify the difference among groups for demographic characteristics. Prior to data analysis, all required statistical assumptions were tested. A two-way ANOVA was used, followed by

a Bonferroni post hoc test, to compare the levels of the two factors and their interaction on the dependent variables. While the moderation analysis and the moderated-moderation effect were investigated using SPSS's PROCESS Macro (Hayes, 2013). Therefore, hypotheses H1 tested using two-way ANOVA, H2 was tested using Model -1 of Hayes PROCESS, and finally H3 to H5 tested using Model-3 of Hayes PROCESS Macro version 4.1.

4.7.1 Hayes Process Macro (SPSS)

The SPSS Macro, more commonly referred to as 'PROCESS,' is a computational tool that can be used for path analysis-based moderation and mediation analysis, in addition to their combination (the conditional process model) (Hayes, 2013). It employs a logistic regression-based analytical framework that is based on ordinary least squares in order to estimate both the direct and indirect effects that are present in conditional process models (Hayes, 2012). PROCESS expands the number and complexity of models that combine moderation and mediation ("mediated-moderation" and "moderated-mediation"), as well as dichotomous outcomes, while providing many of the capabilities of already existing programmes and tools. Sobel, INDIRECT, MODPROBE, MODMED and MED3/C all use PROCESS to estimate the indirect effect, but the number and complexity of models that PROCESS can accommodate is greatly expanded. The indirect effect is estimated by using the SOBEL test and a bootstrap approach to obtain the CI and to incorporate the stepwise procedure suggested by Preacher et al., 2007. The use of bootstrapping as an alternative to tests of mediation based on normal theory has received some support (Preacher & Hayes, 2004).

The bootstrapping method can be applied just as easily to the evaluation of conditional indirect effects as it can to the evaluation of unconditional indirect effects. This is due to the fact that a conditional indirect effect is nothing more than the product of two causal path estimates that are conditioned on the value of one or more moderators.

In addition, the Bootstrapping method is preferable to the Sobel test due to the fact that it is a non-parametric test that does not call for an assumption of normality and that can be used with a variety of different sample sizes. Additionally, it strengthens the validity of the examination (Hair et al., 2014; Hayes & Matthes 2009). Normally, the sample size of an experimental method is small compared to other research methods, and thus, SPSS is suitable for this research (Preacher and Hayes, 2008). This study will use the Model-3 to test for H3 to H5 from Hayes PROCESS Macro in SPSS (Hayes, 2022).

4.7.2 Moderated Moderation Hayes Model-3

This model is based on the premise that when there are two moderator components are incorporated together in one model, it allows moderation of independent variables on dependent variables moderated by first and second moderator. As a result, in situations in which the treatment effect of an independent variable X on an outcome variable Y, which is mediated by a moderator variable W, is dependent on the levels of another moderator variable Z. This phenomenon is called moderated-moderation.

This research use Model 3 to test for the moderation effect of level of assurance and for the type of assuror on the individual investor's investment decision making in SRI. Express in this from, it is apparent that X's effect on Y has two components. One

component determined by Personality. The second components determined by Level of Assurance. Hence, Level of Assurance influence on Type of Assuror's effect on Investment Decision Making is conditional on Personality which is called Moderate.

Moderation or better known as three-way interaction (Hayes, 2022). The Hayes PROCESS Macro (Model-3) shown in figure 4.1 resembles a simple moderation model where the significance of the moderation effect will be determined through bootstrapping (Hayes, 2018). Figure 4.1 resemble moderated moderation in the form of statistical diagram.

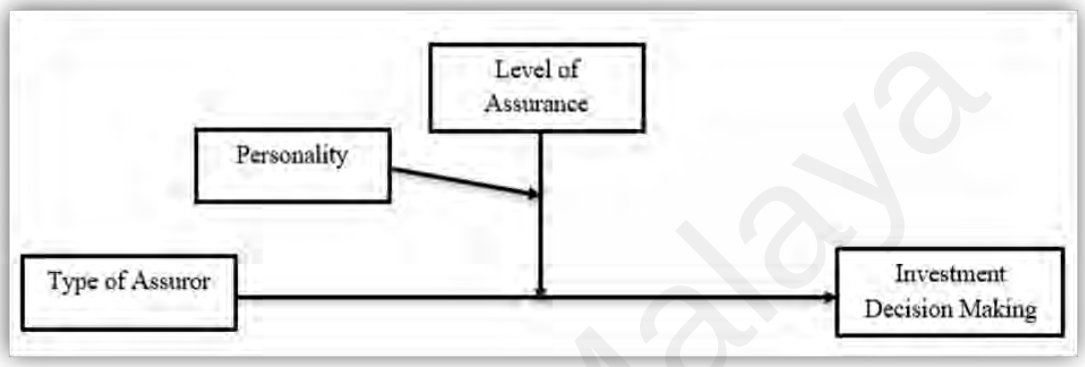

Figure 4.1: Hayes Model-3 (Moderated moderation analysis).

Therefore, based on the above arguments, this study proposes to use the "Moderated-Moderation Model" which is Model 3 (**Figure 4.1**) in PROCESS Macro by Hayes (2013) to test H3 to H5, as it seems to be the most suitable model to deploy in light of the explanations stated in the preceding paragraphs.

4.8 Ethics

Table 4.2 shows the research procedures that were carried out throughout this study. All rigorous steps were conducted to ensure that the study was conducted in ethical manner.

Table 4.2: Research procedures.

Research Procedures	Duration
Sending Application for Ethics Clearance Application to University of Malaya Research Ethics Committee (UMREC)	1 day
Received feedback from UMREC coordinator	2 days
Approval from UMREC Committee, Reference No: UM. TNC2/UMREC – 734	10 weeks
Field Study - Distributing instrument and collected the booklet at the end of the session	12 Weeks (January~ May)

4.9 Validity

Accuracy of an instrument relate to the extent information is relevant to the conclusion. There are several types of validity for instruments. Content validity represents "the degree to which the items on the instrument are representative of the knowledge being tested" (Dawson & Trapp, 2004) and refers to the experts' general agreement about the content. The instrument usually employs the opinions of some experts to assure the consistency and validity of the content of the instrument so respondents perceive the same meaning from the same question. To ensure the instrument and data collected is valid and precise as well as in the Malaysian environment setting, the instrument was sent to 5 expert panel in sustainability expertise.

The instrument was then modified according to the expert panel comment and proceed for data collection. Face validity demonstrates that an instrument measures what it tries to measure (Dawson & Trapp, 2004). For example, the length of the affects the participant's cooperation, which in turn affects the validity of the instrument (Punch, 2003). Ideally, the instrument should generate consistent answers (reliability) and honest,

conscientious answers (validity), based on frame of mind and attitudes of the respondent (Punch, 2003).

4.9.1 Internal Validity

An internal validity is the degree to which one can infer a causal relationship between an independent variable and a dependent variable. When research is carried out in an atmosphere that is free of outside influences and under strict control, it is generally acknowledged to have a high degree of internal validity. In addition, measurement validity is concerned with the question of whether or not a measure can in fact provide measurements of a particular concept (Bell & Bryman, 2007). As a result of the fact that the questionnaire was developed on the basis of theoretical models derived from earlier research, the indicators for measurements have been well applied to accurately reflect the concept of "factors influencing investors' decisions." When making a pre-investment decision, a careful case basis is stated accordingly, and when making an investment decision after receiving post-investment information, neutral opinions are removed, which increases the accuracy of the measurements. In addition, the data that were collected are processed and analysed with the help of SPSS software in order to investigate the factors that influence investors' decisions and their correlations with the type of assuror, the level of assurance, and the investors' personalities.

As a result, the validity of the measurements has been established throughout this study. This study incorporates causal relationships between independent variables (type of assuror), first moderator (level of assuror), and second moderator (personality) with dependent variables, which contributes to its internal validity (investment amount allocation). According to various studies, the type of assuror, level of assurance, and personality all influence individual investors' investment decisions. As a result, internal validity is obtained.

4.9.2 External Validity

The external validity requirement is met to some extent because a relatively large sample is chosen using purposive sampling. As previously stated, respondents are chosen at random from three consultants who can recruit participants through face-to-face and online sessions. Because this is done through the three consultants, the researchers have less control over the entire process. Nonetheless, the three consultants are clearly explained what the experiment is and how to choose respondents randomly, so it is believed that any potential biases are minimised to the lowest level. Due to time and resource constraints, participants are chosen from investment classes with the most market participants, and thus representativeness is achieved to some extent. Although the responses received do not accurately reflect the population distribution, the result can be generalised for the reasons stated above.

4.10 Reliability

The consistency of a measure of concept is one of the most common things that people mean when they talk about reliability (Drost, 2011). That is to say, if the research is carried out in another context that is comparable, and similar results can be obtained, then the research is highly reliable (Saunders et al., 2009). In this investigation, every reference comes from a reputable publication, book, or website, such as a scientific journal or a website for a professional organisation. The research questions and theories are used to guide the processes of data collection and analysis, which are carried out with the assistance of scientific methods and computers. In light of this, it is clear that the research in question possesses an adequate amount of reliability.

4.11 Summary

This chapter provided a brief overview of the research design and methodology used to test the hypotheses derived from the theoretical framework, where the model is proposed to determine the impact of Type of Assuror, Level of Assurance and Personality on individual investor's investment decisions making in SRI. As the study is grounded on the experimental technique, the entire experimental procedure is explained along with how the moderating effect of risk, is tested in one integrated model using the moderated-moderation model developed by Hayes (2013).

An important discussion in the chapter was related to the justification for selecting the target participants of this study and how they were recruited. It was highlighted that this experiment actually used real-world individual investor's, instead of using students, which has been the case in the majority of the previous studies. The case scenario for the participants is explained and how the scenario is presented to the individual investor's is discussed. The chapter also explains how the independent variables are used to manipulate the experiment, as well as the dimensions of the model's other variables. The data analysis is presented in the following chapter.

CHAPTER 5 : DATA ANALYSIS

5.1 Introduction

This chapter explains the results of this study's data analysis and evaluates them in relation to the research objectives and hypotheses. The result later presented in the preceding chapter. This research is based on quantitative analysis using experimental method to derive the result. The data derived were then presented on this chapter with two main sections. In the first section, data was cleaned and prepared for analysis followed by the features of the data and quantitative results and they are presented in two main sections. The descriptive section examines study variables as well as statistical parameters such as frequency, percentage, mean, and standard deviation are determined.

In the second section, inferential statistical were applied to evaluate the outcome of the research hypotheses using v26 statistical package for social science analysis and validation of the research framework. The statistical analysis performed included descriptive analysis and analysis of variance (ANOVA). The goals of this chapter are to use SPSS software to describe the participants' response rate, general information, and demographic profiles. In this study, the ANOVA technique was used to evaluate and analyse the overall measurement model and the structural model. Further, to investigate the relationship between the various variables, including their personal characteristics, by testing the hypotheses, in order to gain a better understanding of the factors that influence the decisions that individual investors make regarding SRI investments. Moderated Moderation model is used to test the three-way effect of type of assuror, level of assurance and personality on the investment decision in SRI using PROCESS Macro version 4.1 (Hayes, 2022).

5.2 Descriptive Analysis

This section provides a descriptive analysis on the constructs, which were carried out for individual investor's decision making in SRI.

5.3 Demographic Information of the Participants

The Participants' demographic profile is as shown in **Table 5.1**. It can be summarized that participants' mean age was 35 years old, 69.8 per cent of them comprised of male. This is consistent with a recent study by Khan et al., (2017), which found that individual investors are more likely to be male than female, with 48.9 percent having a bachelor's degree. As for experience in investment, most of the participants do have investing experience. In terms of familiarization with assurance report question, the majority of respondents indicated that they are (34.0) below average, (51.4) average and (14.6) above average. Further, item familiarization with GHG (Gas Emission Report) report, (45.1) below average, (48.3) average and (6.7) above average.

Table 5.1: Demographic information.

Demographic	Levels	N=315	Percentage
Age group	<20 years	1	0.3
	20~30 years	55	17.5
	31~40 years	126	40
	41~50 years	104	33
	>50 years	29	9.2
Gender	Male	220	69.8
	Female	95	30.2
Higher Education	Undergraduate	154	48.9
	Postgraduate	63	20
	Others	98	31.1

Table 5.1, continued.

Demographic	Levels	N=315	Percentage
Investing Experience	0 years	58	18.4
	1~2 years	94	29.8
	3~4 years	91	28.9
	5~6 years	33	10.5
	7 or more years	39	12.4
Assurance Report Familiarity	Below Average	107	34
	Average	162	51.4
	Above Average	46	14.6
GHG Report Familiarity	Below Average	142	45.1
	Average	152	48.3
	Above Average	21	6.7

5.4 Test for Missing Data

The raw data were then entered into SPSS V26 to look for missing data. The data set contained no missing data or values.

5.5 Test of Outliers

The process of gathering and entering data is frequently associated with the occurrence of errors, which may result in significantly different values from the values of the other respondents. As a result, such data are regarded as outliers (Hair et al., 2010). The presence of outliers in a study can impair its validity; therefore, outliers must be identified and corrective measures must be implemented (Bluman, 2013; Pallant, 2016).

The minimum and maximum Z-scores of the observed data were used to assess univariate outliers, as suggested by Pallant (2016). Univariate outliers were identified using univariate data (box-plots and standardised Z-scores). Extreme observations are indicated by absolute Z-values greater than 4.0. The standardised Z-scores of the imputed

variables ranged from -3.48 to 3.60, indicating that none of the variables exceeded the threshold (**Table 5.2**).

Table 5.2: Results for univariate outliers.

Standardized Z-Score	Minimum	Maximum
IDM_SRI – Individual Investment Decision Making	-1.39	3.60
TOA – Type of Assuror	-1.37	0.73
LOA – Level of Assurance	-0.92	1.47
Openness	-3.48	1.92
Conscientiousness	-3.59	1.92
Agreeableness	-1.80	2.58

Based on the visual inspection on the box plots, when compared to the sample size, there are 3 outliers represent the individual's investors that invest all of the allocated amount in either in three category of amount allocation items. The number of extreme cases is also not nearly equal to becoming significant. This method also involves making decisions about investments based on the individual's own interpretation of the information provided in the booklet. Constructed on the approach that used to target the participants, this study suggests that all cases in the data set belongs to the population and thus, the outliers are maintained in the data set. **Figure 5.1** visualize the outliers lies on the top of the chart. Thus, this study maintained the outliers in the data set.

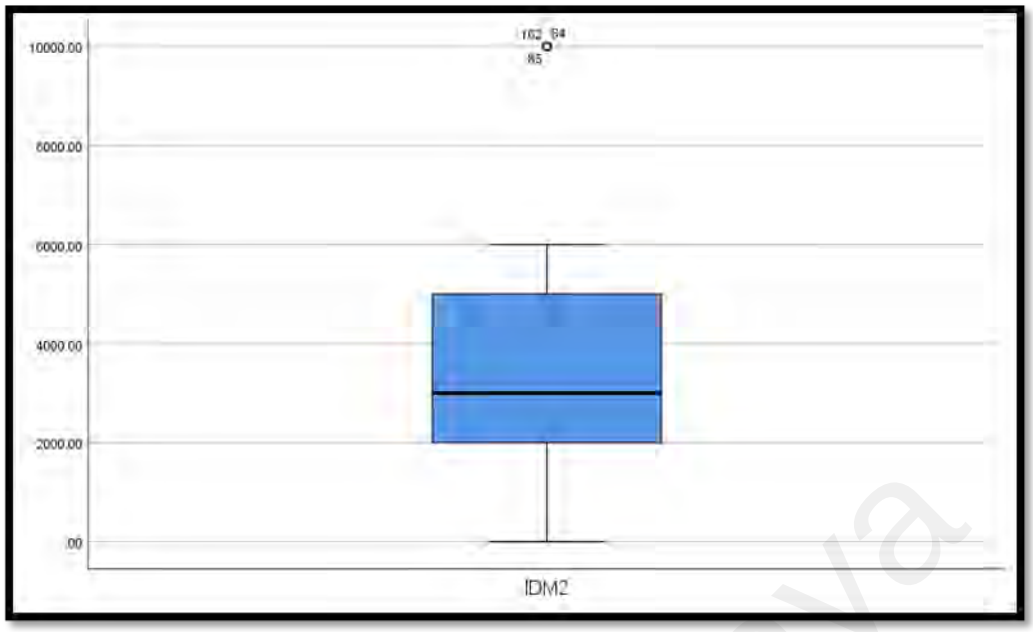

Figure 5.1: Box plots for observed value on dependent variable.

5.6 Normality

The variables were screened for normality as required in multivariate analysis. This study dealt with 315 participants which is consider large sample (n>300A statistically significant skewness does not regularly deviate from normality to the extent that it makes a material difference in the analysis when the sample size is large. As a result of this, the significance level of skewness is not as important as the actual size of it (Tabachnik & Fidell, 2007). Therefore, the absolute value of skewness and kurtosis were checked to assess the normality of distribution for dependent variable. **Table 5.3**shows the data value for skewness and kurtosis of more than acceptable range of normality data (Mallery & George, 2018).

Table 5.3: Skewness and kurtosis.

Dependent Variable	Skewness	SE	Kurtosis	SE
Investment in SRI	0.10	0.14	-0.31	0.27

5.7 Homogeneity of Variance (Levene Test)

An assumption of analysis of variance (ANOVA) is known as the assumption of homogeneity of variance. This assumption states that the variance that exists within each of the populations is identical (Kim & Cribbie, 2018). The ANOVA test is effective; however, its underlying assumption can be broken in the event that there are not equal numbers of subjects distributed across the different groups. There must be consistency in the variances across all of the different permutations of the groups (Kim & Cribbie, 2018). Levene's test for homogeneity of variances is a tool that can be used in SPSS statistics to investigate whether or not this assumption is true (Jayalath et al., 2017). According to the results of Levene's Test of Equality of Error Variance (**Table 5.4**), the error variance was the same for all of the groups when it came to the research variables. This indicates that the assumption of homogeneity of variances was satisfied.

Table 5.4: Levene's test of equality of error variances.

Variables	F	df1	df2	*p*-value
Type of Assuror	2.37	1	313	0.13
Level of Assurance	2.67	2	312	0.07

5.8 Manipulation Checks

There are 2 manipulation checks employed. The first manipulation check questions are asking about the understanding about the assurance type. There is no significant difference between those who answer correctly (M=2868.83, SD= 2207.66) and those who answered incorrectly (M= 2708.70, SD= 1802.51). The second manipulation question is asking about the assurance level. There is no significant difference between those who answer correctly (M=2947.37, SD= 2153.02) and those who answered incorrectly (M= 2717.73, SD= 1944.81). Therefore, the full sample was accepted for analysis.

5.9 Descriptive Statistics

Table 5.6 examining descriptive statistics about the responses for dependent variables (amount allocation in social responsibility investing) between those that received Accountant with Reasonable/Hybrid [3](*N* = 50), Limited *(N* = 25*)* and Not Specified *(N* = 34*)*. As for Non-accountant (Engineers and Consultant), those who received booklet Reasonable/Hybrid (*N* = 105), Limited *(N* = 53*)* and Not Specified *(N* = 48*)*. The figures show that on all the measures the assurance group gave higher ratings for engineering/specialist consultant in comparison with Accountant. Investment amount allocation is slightly higher on engineering/specialist consultant for reasonable/hybrid level of assurance.

[3] Combination on level of assurance for Reasonable/Hybrid as hybrid has the element of reasonable assurance

5.10 Correlation

Table 5.5: Correlation among variables.

No	Variables	M	SD	1	2	3	4	5	6
1	Investment Decision Making	2,787.0	2,009.2	1					
2	Type of Assuror	1.7	0.5	.142*	1				
3	Level of Assurance	1.8	0.8	-.132*	-0.074	1			
4	Openness	3.6	0.7	0.002	0.082	0.030	1		
5	Conscientiousness	4.0	0.5	0.008	0.070	.147**	.233**	1	
6	Agreeableness	2.6	0.9	-.112*	0.080	.160**	-0.004	0.082	1

Note: N = 315, *p <0.05, **p<0.01

The relationship between Type of Assuror, Level of Assurance and Personality Traits (as measured by Openness, Conscientiousness, Agreeableness) on individual investor's investment decision making in (as measured by Investment Decision Making) was investigated using Pearson product-moment correlation coefficient. Preliminary analysis was performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. Pearson correlations (also referred to as Pearson's 'r') was applied to study the presence of linear relationships and also to determine the statistical significance of relationships between the Type of Assuror with individual investors investment decision making in SRI. The correlation helps to clarify how the variables are related in strength and magnitude (Gogtay & Thatte, 2017).

The correlations coefficient (r-values) ranged from -1 to +1. As depicted in **Table 5.5**above, this study found a significant and negative relationship between the 'individual investor's investment decision making in SRI vs Type of Assuror ($r = 0.142$, $p < 0.05$) followed by negative and significant relationship for Level of Assurance ($r = - 0.132$, $p < 0.05$). As for Personality Traits 'Agreeableness', result showed significant positive relationship between Level of Assurance ($r = 0.16$, $p < 0.01$). Further, Level of Assurance showed a positive and significant results with Personality Traits 'Conscientiousness' ($r = 0.147$, $p <0.01$). Finally, there is negative and significant relationship showed between investment decision making in SRI and Personality Traits 'Agreeableness' ($r = -0.112$, $p <0.05$).

5.11 Hypotheses Testing

5.11.1 Analysis of Hypothesis 1

Table 5.6: Analysis of variance.

Panel A: Descriptive Statistics

Type of Assurors / Level of Assurance	Accountant		Engineering /Specialist		Total	
	M(SD)	*N*	*M(SD)*	*N*	*M(SD)*	*N*
Reasonable/ Hybrid	2970.00(2304.41)	50	3199.05(2086.33)	105	3125.16(2154.24)	155
Limited	980.00(1510.24)	25	2981.13(1987.85)	53	2339.74(2064.69)	78
Not Specified	2588.24(1405.99)	34	2562.50(1613.19)	48	2573.17(1521.69)	82
Total	2394.50(2036.78)	109	2994.66(1967.84)	206	2786.98(2009.19)	315

Panel B: Two Way ANOVA Result

Independent Variable	df	*F*	*p* value
Type of Assuror	1	9.33	0.00
Level of Assurance	2	7.49	0.00
Type of Assuror * Level of Assurance	2	6.09	0.00

Panel C: Post Hoc Result

Mean	vs	Mean	Sig	Mean Difference	SE	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Reasonable/ Hybrid	vs.	Limited	0.02	785.42*	269.054	123.64	1447.2
Reasonable/ Hybrid	vs.	Not specified	0.12	551.99	264.652	-98.96	1202.94
Limited	vs	Not specified	0.75	-233.43	306.535	-987.4	520.54

Based on observed means. The error term is Mean Square (Error) = 3756193.628.

The study was conducted to see if different type of assuror and level of assurance will have significant effect individual investor's investment amount allocation in SRI. H1 predicted that individual investors will invest more in a company assured by engineering consultant/environmental specialist consultant who gives reasonable/hybrid assurance whereas individual investors will invest less in a company assured by accountant who gives limited assurance. To test this hypothesis, two-way ANOVA was used. Result for the main effect on type of assuror indicated a significant difference in the individual investor's investment amount allocation in SRI ($p<0.05$) and level of assurance showed statistically significant different on individual investor's investment amount allocation in SRI ($p<0.01$).

A two-way ANOVA was performed to compare the effect of three different level of assurance on individual investor's investment amount allocation. A two-way ANOVA revealed that there was a statistically significant difference in mean investment amount allocation between at least two level of assurance (F (2, 309) = [6.09], p = 0.00). Further, Table 5.6 Panel C Post-hoc using the Scheffe Test for multiple comparisons found that the mean value of investment amount allocation was significantly different between Reasonable/Hybrid assurance and Limited assurance (p = 0.02, 95% C.I. = [123.64, 1447.20]). There was no statistically significant difference in mean investment amount allocation between Reasonable/Hybrid assurance and Not Specified (p=0.12) or between Limited assurance and Not Specified assurance (p=0.75). Therefore, H1 was supported as illustrated in **Table 5.6**.

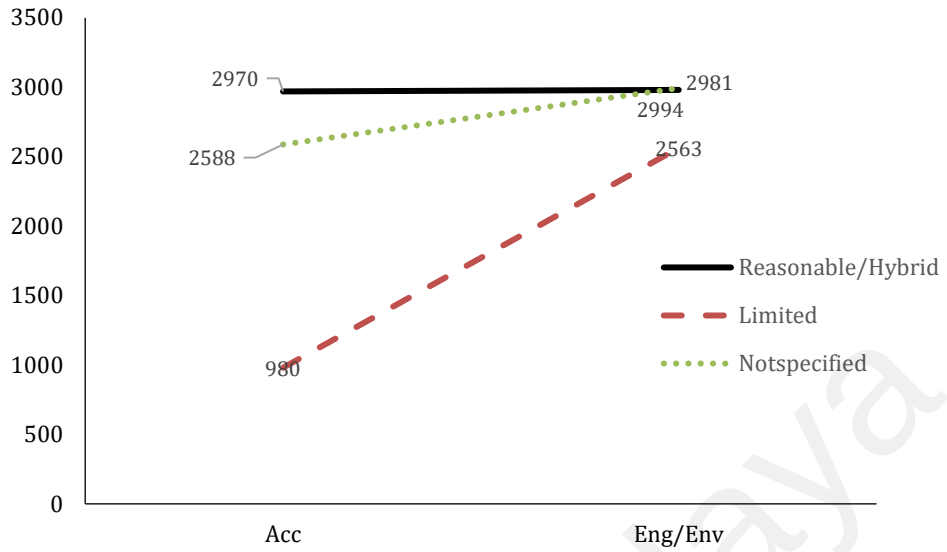

Figure 5.2: Two-way ANOVA table for type of assuror and level of assurance.

Figure 5.2 explains significant Level of Assurance Provider by type of assuror method interaction on individual investors amount allocation in SRI. Plotted graph shows, Type of Assuror on the x-axis, for accountant and engineering consultant/specialist consultant. Y axis and the different line are the different level of assurance - Reasonable/Hybrid, Limited and Not Specified. The lines show, investment amount allocation by individual investors changes based on types of assurance with change on level of assurance. Level of assurance reasonable/hybrid at the highest for engineering consultant/ environment specialist. Individual investors investment amount allocation is less for accountant with limited assurance.

5.11.2 Analysis of Hypothesis 2

5.11.2.1 Analysis of Hypothesis 2a

Table 5.7: Main and Interaction Effect of Type of Assuror On Individual Investors Investment Amount Allocation At Levels Of Assurance And Type Of Personality (Openness).

	Coefficient	SE	*t*	*p*
Intercept	1616.17	1975.80	0.82	0.41
Type of Assuror	766.77	1158.58	0.66	0.51
Openness	49.41	550.71	0.09	0.93
Type Of Assuror x Openness	-46.10	320.35	-0.14	0.89

R^2=0.02, F (3,311) =2.16, p<0.01

Table 5.7 explain main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Openness). To test Hypothesis 2a, the data were analyzed using PROCESS moderation analysis (model 1). As H2a hypothesized, individual investors with higher Openness will invest in companies assured by engineering/specialist consultant, whereas for those who has lower Openness will invest in companies assured by accountant. According to the findings of this research, the openness variable does not reveal any significant moderation effects on the relationship between the type of assuror and the investment amount allocation made by individual investors. Therefore, H2a was not supported.

5.11.2.2 Analysis of Hypothesis 2b

Table 5.8: Main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Conscientiousness).

	Coefficient	SE	*t*	*p*
Intercept	3232.90	3101.32	1.04	0.30
Type of Assuror	-349.85	1793.15	-0.20	0.85
Conscientiousness	-363.55	785.92	-0.46	0.64
Type Of Assuror x Conscientiousness	238.35	452.09	0.53	0.60

R^2=0.02, F (3,310) =2.17, p=0.09

Table 5.8 explain main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (conscientiousness). To test Hypothesis 2b, the data were analyzed using PROCESS moderation analysis (model 1). As H2b hypothesized, individual investors with higher conscientiousness will invest in companies assured by Engineering/specialist consultant, whereas for those who has lower conscientiousness will invest in companies assured by accountant. Therefore, H2b was not supported.

5.11.2.3 Analysis of Hypothesis 2c

Table 5.9: Main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Agreeableness).

	Coefficient	SE	*t*	*p*
Intercept	-394.64	1194.78	-0.33	0.74
Type of Assuror	1484.02	687.10	2.16	0.03
Agreeableness	842.42	443.23	1.90	0.06
Type Of Assuror x Agreeableness	-332.54	258.88	-1.28	0.20

R^2=0.04, F (3,311) =4.64, p<0.01

Table 5.9 explain main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Openness)**.** To test Hypothesis 2c, the data were analyzed using PROCESS moderation analysis (model 1). As H2c hypothesized, individual investors with higher agreeableness will invest in companies assured by engineering/specialist consultant, whereas for those who has with lower agreeableness will invest in companies assured by accountant. Result shows the model fit at p<0.01. However, agreeableness did moderate the relationship between type of assuror and investment decision making in SRI (b = 842.42, SE = 433.23, t (311*)* = 1.90, p < .10). Thus, hypotheses 2c is supported as illustrated in **Table 5.9**.

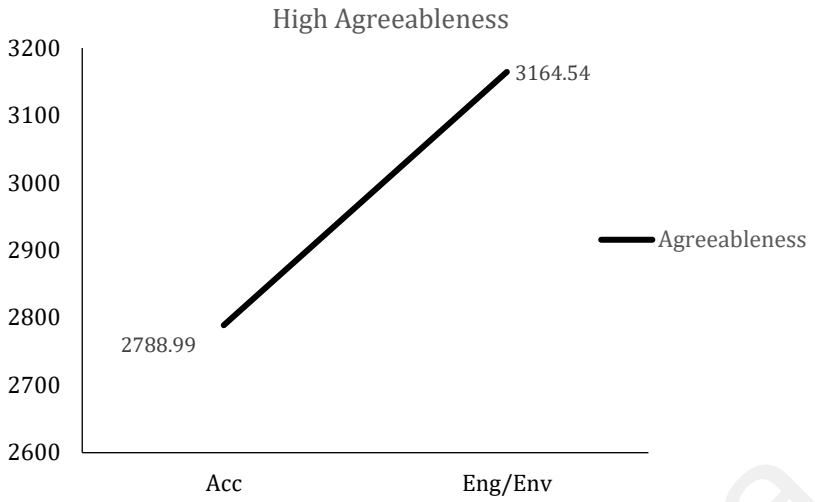

Figure 5.3: Testing direct effect (Type of Assurance x Personality (Agreeableness) at high level.

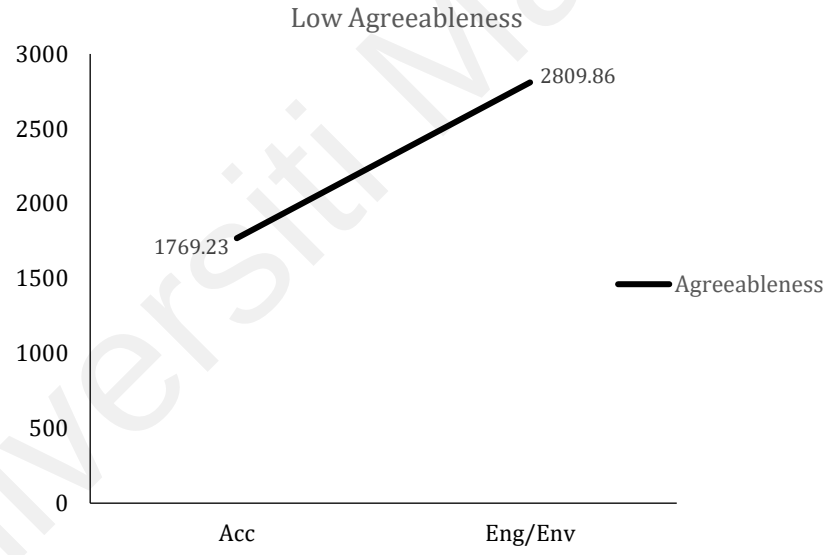

Figure 5.4: Testing direct effect (Type of Assurance x Personality (Agreeableness) at low level.

5.11.3 Analysis of Hypothesis 3, 4 and 5

This study used PROCESS to perform a moderated moderation analysis to test Hypotheses H3, H4, and H5 (model 3). Moderated moderation estimates how one variable's effect is moderated by another (Hayes, 2013). In this investigation, the effect of personality (openness, conscientiousness, and agreeableness) is moderated by the type of assuror (engineering consultant or specialist consultant), and the effect of the moderation itself is moderated by the level of assurance (reasonable/hybrid, limited, and not specified). Moderated moderation hypotheses, also known as three-way interaction hypotheses, are frequently advanced and tested in the social sciences (Hayes ,2013). Since level of assurance is a multicategorical variable, we used sequential coding (Hayes & Montoya, 2017).

In order to make a comparison between the levels of assurance, sequential coding was used. This involved using W1 (i.e. the difference in comparing investment decision making in SRI between the limited (W1=1, W2=0) and reasonable/hybrid conditions (W1=0, W2=0) and W2 (i.e. the difference in comparing investment decision making in SRI between not specified (W1=1, W2=1) and limited condition) for W1 and W (see Hayes & Montoya, 2017). When comparing multicategorical variables with k groups, PROCESS constructs k-1 variables (termed W1 and W2 in Tables 5.10, 5.11, 5.13, 5.14), which are added to the model including products necessary to specify the interaction (Hayes & Montoya, 2017). A significant increase in variance explained (R^2_{change}) when the interaction terms were added to a model already containing the re-coded variables and personality aspects was considered evidence for moderation (Hayes & Montoya, 2017). Simple slopes analyses were used to explore significant interactions in the regression analyses.

5.11.3.1 Analysis of Hypothesis 3a and 3b

Table 5.10: Main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Openness).

	DV: Investment Decision Making in SRI			
	Unstandardized coefficient	SE	*t*	*p*
Intercept	4532.52	2373.76	1.91	0.06
Independent variables				
Type of Assuror	-1411.53	1427.03	-0.99	0.32
Openness	-505.04	667.14	-0.76	0.45
Pairwise comparisons with sequential coding				
W1[a] (reasonable/hybrid vs limited)	-20222.29	5809.02	-3.48	0.00
W2[b] (limited vs not specified)	18910.79	6649.91	2.84	0.00
Interactions				
Type of Assuror x W1[a]	11634.03	3211.96	3.62	0.00
Type of Assuror x W2[b]	-9343.13	3759.81	-2.49	0.01
Type of Assuror x Openness	461.06	398.04	1.16	0.25
W1[a] x Openness	4558.56	1597.88	2.85	0.00
W2[b] x Openness	-4240.62	1834.97	-2.31	0.02
Type of Assuror x W1[a] x Openness	-2723.68	877.71	-3.10	0.00
Type of Assuror x W2[b] x Openness	2018.87	1031.80	1.96	0.05

$R^2 = .13$, $F(11,303) = 3.96$, $p<.01$

[a]Difference in means between the reasonable/hybrid compared with limited conditions

[b]Difference in means between the limited vs not specified conditions

Table 5.11: Moderated moderation analysis: Conditional effects of type of assuror x openness interaction at values of the moderator (Level of Assurance).

LOA	Openness	Effect	SE	*t*	*p*	LL	UL
Reasonable/Hybrid	3.00 (Low)	-28.34	382.7	-0.07	0.94	-781.42	724.73
Reasonable/Hybrid	3.67(Medium)	279.03	337.27	0.83	0.41	-384.66	942.72
Reasonable/Hybrid	4.33 (High)	586.41	471.04	1.24	0.21	-340.52	1513.33
Limited	3.00 (Low)	3434.65	678.54	5.06	0.00	2099.41	4769.89
Limited	3.67(Medium)	1926.24	467.47	4.12	0.00	1006.34	2846.13
Limited	4.33 (High)	417.83	721.52	0.58	0.56	-1002	1837.66
Not Specified	3.00 (Low)	148.13	562.31	0.26	0.79	-958.4	1254.66
Not Specified	3.67(Medium)	-14.37	437.79	-0.03	0.97	-875.85	847.12
Not Specified	4.33 (High)	-176.87	685.19	-0.26	0.8	-1525.2	1171.47

LOA refers to level of assurance. LL refers to the lower limit of the confidence interval. UL refers to the upper limit of the confidence interval.
3.00 (Low) indicates the mean value of Openness at the low level is 3.00.
3.67(Medium) indicates the mean value of Openness at the medium level is 3.67.
4.33 (High) indicates the mean value of Openness at the high level is 4.33.

The results revealed that the coefficient for the three-way interaction on individual investors' investment decision-making in SRI was significant. The model is shown in **Table 5.10** (R2 = 0.13, F (11,303) = 3.96, p < .01). The interactions among Reasonable/Hybrid vs. Limited (W1) and Type of Assuror and Openness personality were significant predictors of investment decision-making in SRI (b = -20222.29, SE = 5809.02, t (303) = -3.48, p = .00) (see **Table 5.10**). The interactions between Limited vs. Unspecified (W2), Type of Assuror and Openness personality were significant predictors of investment decision-making in SRI. A significant three-way interaction emerged (R2change = 0.13; F (11,303) = 3.96; p < .05).

Hypothesis 3a proposed that, individual in high openness will invest more in companies assured by engineering/specialist consultant who gives reasonable/hybrid assurance while individual investors with low openness will invest less in companies assured by accountant who gives limited assurance. The conditional effects at values of openness and level of assurance (i.e., moderators) are reported in **Table 5.11**. For the reasonable/hybrid and high openness conditions (as moderators), although the conditional

effect is positive, but the result is not significant. H3a is not supported. As for limited level of assurance condition provide by accountant, individual investors with low openness personality seem to invest significantly less (b = 3434.65, SE = 678.54, t (303) = 5.06, $p<0.01$. Thus, H3b is supported

Figures 5.5 and 5.6 depict the simple slopes procedure (Hayes & Montoya, 2017). Figure 5.5 shows that in the condition of high openness personality, there were no significant group differences at engineering/specialist consultant for limited and unspecified conditions, but there is a significant group differences for reasonable/hybrid conditions from other level of assurance. The benefit of the interventions for level of assurance, and the superiority of reasonable/hybrid over other types of level of assurance, became significant at engineer/Specialist Consultant. For low openness personality, as seen in **Figure 5.6**, there are no significant differences for reasonable/hybrid and not specified conditions for accountants or engineers. However, for limited condition, accountants show a significant difference compared to other types of level of assurance. Taken together, these results indicate hypotheses 3a is not supported while 3b is supported.

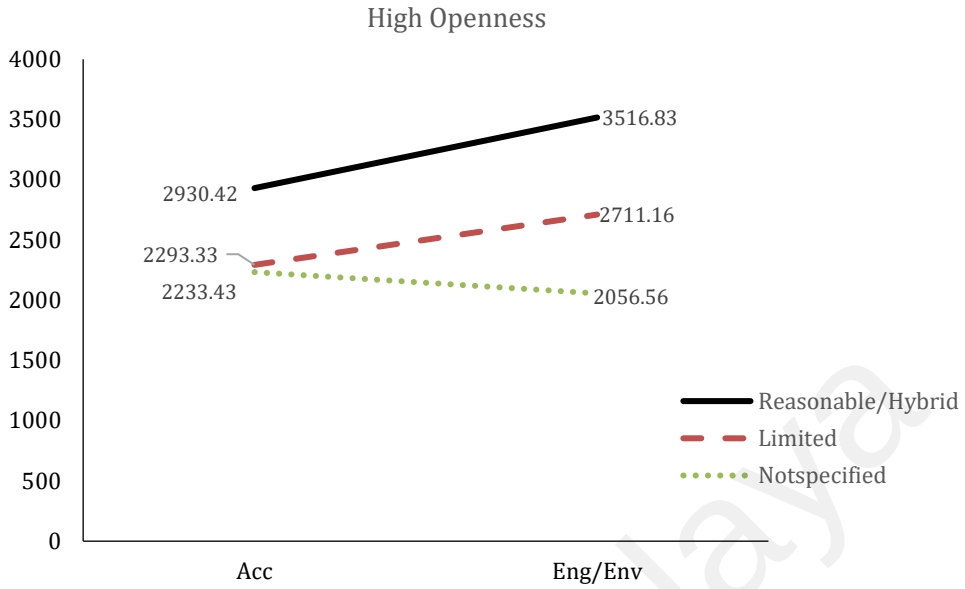

Figure 5.5: Testing moderated moderation (Level of Assurance x Type of Assuror Under High Openness Personality).

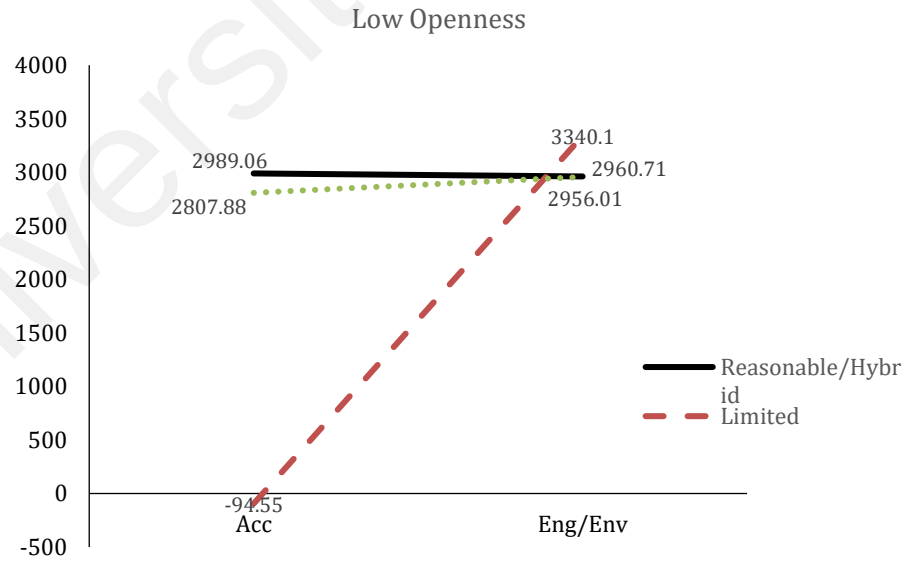

Figure 5.6: Testing moderated moderation (Level of Assurance x Type of Assuror Under Low Openness Personal).

5.11.3.2 Analysis of Hypothesis 4a and 4b

Table 5.12: Main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Conscientiousness).

	DV: Investment Decision Making in SRI			
	Unstandardized coefficient	SE	*t*	*p*
Intercept	9899.91	4638.74	2.13	0.03
Independent variables				
Type of Assuror	-4530.93	2594.94	-1.75	0.08
Conscientiousness	-1870.15	1214.47	-1.54	0.12
Pairwise comparisons with sequential coding				
W1[a] (reasonable/hybrid vs limited)	-18642.39	7776.66	-2.40	0.02
W2[b] (limited vs not specified)	5778.07	8370.84	0.69	0.49
Interactions				
Type of Assuror x W1[a]	11284.19	4491.59	2.51	0.01
Type of Assuror x W2[b]	-3272.03	4996.49	-0.65	0.51
Type of Assuror x Conscientiousness	1235.50	675.25	1.83	0.07
W1[a] x Conscientiousness	3779.99	1957.88	1.93	0.05
W2[b] x Conscientiousness	-517.11	2065.74	-0.25	0.08
Type of Assuror x W1[a] x Conscientiousness	-2405.50	1121.57	-2.14	0.03
Type of Assuror x W2[b] x Conscientiousness	295.13	1227.71	0.24	0.81

$R^2 = .10$, $F(11,302) = 3.2$, $p<.01$

[a] Differences in means between the reasonable/hybrid compared with limited conditions

[b] Differences in means between the limited vs not specified conditions

Table 5.13: Moderated moderation analysis: Conditional effects of type of assuror x conscientiousness interaction at values of the moderator (Level of Assurance).

Level of Assurance	Conscientiousness	Effect	SE	*t*	*p*	LL	UL
Reasonable/Hybrid	3.33 (Low)	-412.61	464.86	-0.89	0.38	-1327.38	502.16
Reasonable/Hybrid	4.00(Medium)	411.05	358.45	1.15	0.25	-294.32	1116.42
Reasonable/Hybrid	4.33 (High)	822.89	486.49	1.69	0.09	-134.44	1780.22
Limited	3.33 (Low)	2853.23	804.18	3.55	0.00	1270.71	4435.74
Limited	4.00(Medium)	2073.22	475.87	4.36	0.00	1136.78	3009.66
Limited	4.33 (High)	1683.22	532.58	3.16	0.00	635.19	2731.25
Not Specified	3.33 (Low)	564.96	714.29	0.79	0.43	-840.65	1970.56
Not Specified	4.00(Medium)	-18.3	433.91	-0.04	0.97	-872.17	835.57
Not Specified	4.33 (High)	-309.92	512.27	-0.6	0.55	-1318	698.15

LOA refers to level of assurance. LL refers to the lower limit of the confidence interval. UL refers to the upper limit of the confidence interval
3.33 (Low) indicates the mean value of Conscientiousness at the low level is 3.33.
4.00 (Medium) indicates the mean value of Conscientiousness at the medium level is 4.00.
4.33 (High) indicates the mean value of Conscientiousness at the high level is 4.33.

The results revealed that the coefficient for the three-way interaction on individual investors' investment decision-making in SRI was significant. The model is shown in **Table 5.12** (R^2 = 0.10, F (11,302) = 3.20, p < .01). The interactions among Reasonable/Hybrid vs. Limited (W1) Types of Assurors and Conscientiousness personality were significant predictors of investment decision-making in SRI (b = -18642.39, SE = 7776.66, t (302) = -2.40, p < .05) (see Table 5.12). The interactions between Limited vs. Unspecified (W2) Types of Assurors and the Conscientiousness personality trait were significant predictors of investment decision-making in SRI. A significant three-way interaction emerged (R^2_{change} = 0.01; F (11,302) = 3.20; p < .10).

Hypothesis 4a proposed that, individual in high conscientiousness will invest more in companies assured by engineering/specialist consultant who gives reasonable/hybrid assurance while individual investors with low conscientiousness will invest less in companies assured by accountant who gives limited assurance.

The conditional effects at values of conscientiousness and level of assurance (i.e., moderators) are reported in **Table 5.13** For the reasonable/hybrid and high conscientiousness conditions (as moderators), although the conditional effect is positive, but the result is not significant. H4a is not supported. As for limited level of assurance condition provide by accountant, individual investors with low conscientiousness personality seem to invest significantly less (b = 2853.23, SE = 804.18, t (302) = 3.55, $p<0.01$. Thus, H4b is supported. The simple slopes procedure (Hayes & Montoya, 2017) was plotted in **Figure 5.7** and 5.8. As can be seen in the figure 5.7, in the condition of high conscientiousness personality, as revealed in the figure, there were no significant group differences at engineering/specialist consultant for reasonable/hybrid, limited and unspecified conditions. For low conscientiousness personality, as seen in **Figure 5.8**, there are no significant differences for reasonable/hybrid, limited and not specified conditions for Engineering/specialist consultant. However, for limited condition, accountants show a significant difference compared to other types of level of assurance. Taken together, these results indicate hypotheses 4a is not supported while 4b is supported.

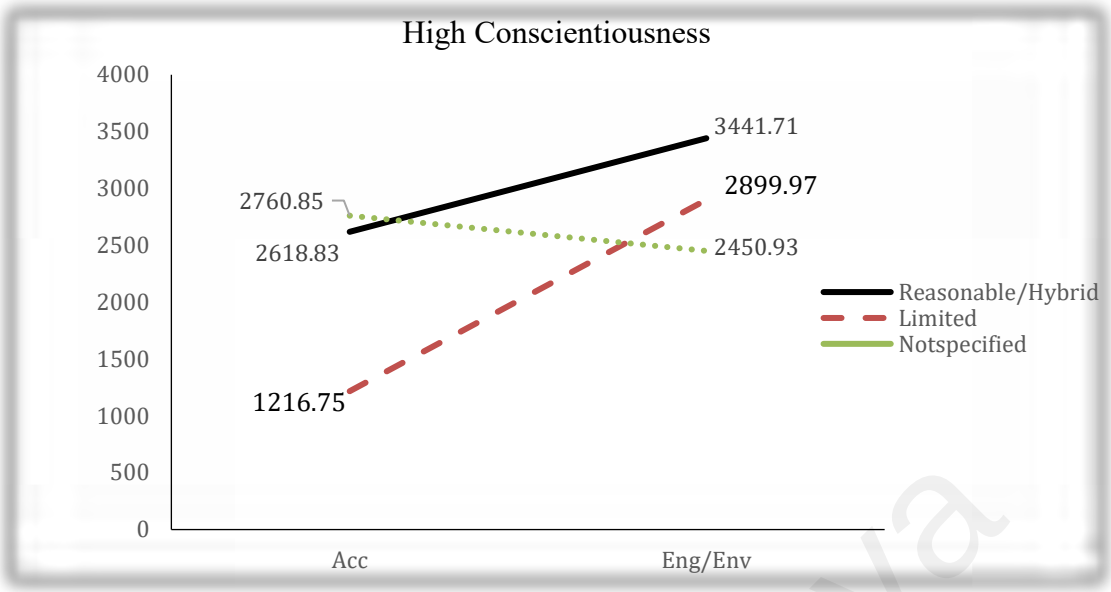

Figure 5.7: Testing moderated moderation (Level of Assurance x Type of Assuror Under High Conscientiousness Personality).

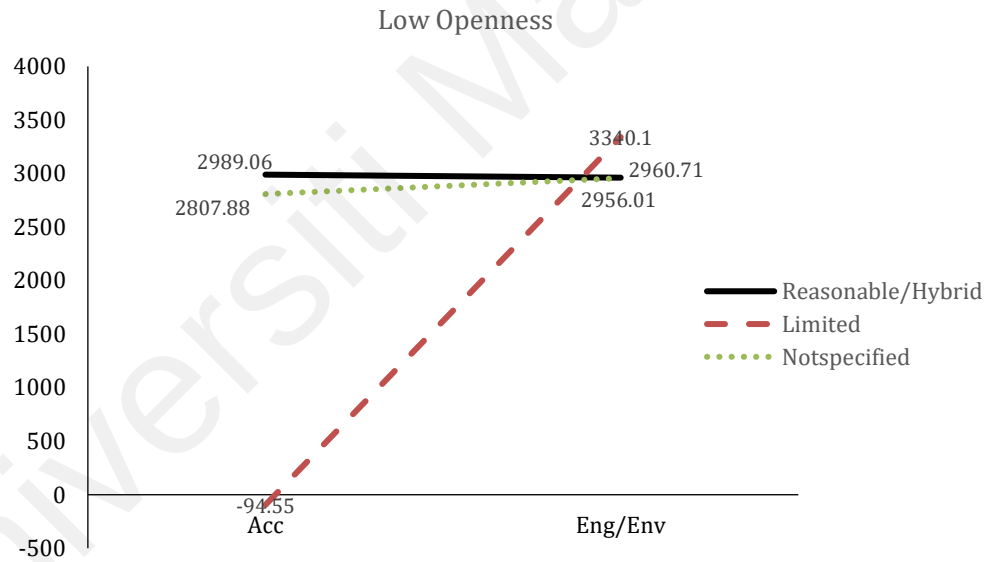

Figure 5.8: Testing moderated moderation (Level of Assurance x Type of Assuror Under Low Conscientiousness Personality).

5.11.3.3 Analysis of Hypothesis 5a and 5b

Table 5.14: Main and interaction effect of type of assuror on individual investors investment amount allocation at levels of assurance and type of personality (Agreeableness).

	DV: Investment Decision Making in SRI			
	Unstandardized coefficient	SE	*t*	*p*
Intercept	1182.45	1871.10	0.63	0.53
Independent variable				
Type of Assuror	542.68	1047.21	0.52	0.60
Agreeableness	514.54	627.18	0.82	0.41
Interactions				
Type of Assuror x W1[a]	2686.82	1772.55	1.52	0.13
Type of Assuror x W1[b]	-2098.86	1941.28	-1.08	0.28
Type of Assuror x Agreeableness	-79.28	356.09	-0.22	0.82
W1[a] x Agreeableness	486.57	1235.54	0.39	0.69
W2[b] x Agreeableness	-414.88	1372.02	-0.30	0.76
Type of Assuror x W1[a] x Agreeableness	-483.86	719.36	-0.67	0.50
Type of Assuror x W2[b] x Agreeableness	39.83	827.56	0.05	0.96

R^2 =.11, F (11,303) = 3.32, p<.01
[a]Difference in means between the reasonable/hybrid compared with limited conditions
[b]Differences in means between the limited vs not specified conditions

The results revealed that the coefficient for the three-way interaction on individual investor's investment decision making in SRI was significant the model is shown in **Table 5.14** (R^2 = 0.11, F (11,303) = 3.32, p<.01). The interactions among Reasonable/hybrid vs. Limited (W1), type of assuror and agreeableness personality were not significant predictors of investment decision making in SRI (see **Table 5.14**). Hypothesis 5a proposed that, individual in high agreeableness will invest more in companies assured by engineering/specialist consultant who gives reasonable/hybrid assurance while individual investors with low agreeableness will invest less in companies assured by accountant who gives limited assurance. The conditional effects at values of agreeableness and level of assurance (i.e., moderators) are reported in **Table 5.14**. For the reasonable/hybrid and high agreeableness conditions (as moderators), although the conditional effect is positive, but the result is not significant. H5a is not supported. As for limited level of assurance

condition provide by accountant, individual investors with low agreeableness personality seem not to invest significantly less. Thus, H5b is not supported.

The simple slopes procedure (Hayes & Montoya, 2017) was plotted in Figure 5.9 and 5.10. As can be seen in the **Figure 5.9**, in the condition of high agreeableness personality, as revealed in the figure, there were no significant group differences at engineering/specialist consultant for reasonable/hybrid assurance, limited and unspecified conditions. For low agreeableness, as seen in **Figure 5.10** there seem to be differences for reasonable/hybrid and not specified conditions against limited conditions for accountants but this may not be significant. Taken together, these results indicate hypotheses 5a and 5b are not supported. **Table 5.15** presents a synopsis of the results of all the hypotheses tested in this research.

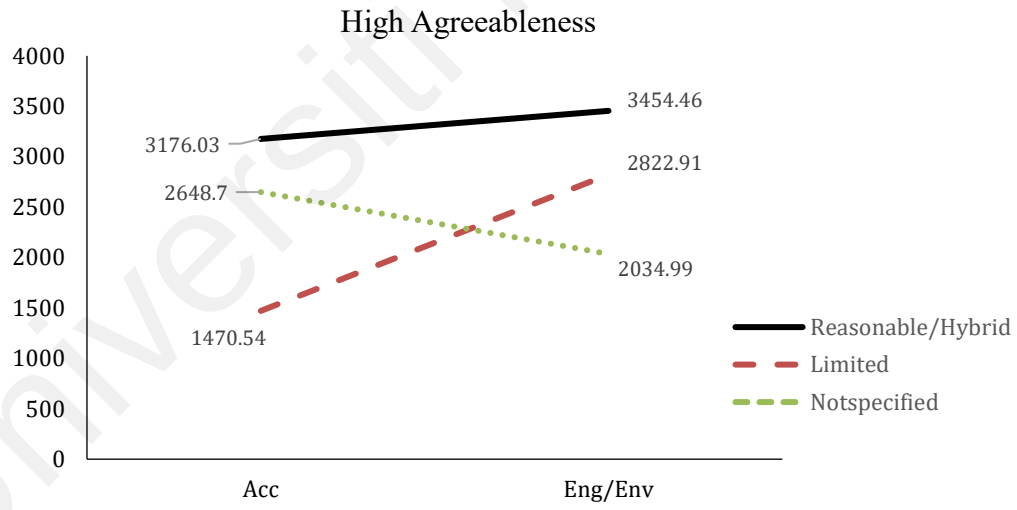

Figure 5.9: Testing moderated moderation (Level of Assurance x Type of Assuror Under High Agreeableness Personality.

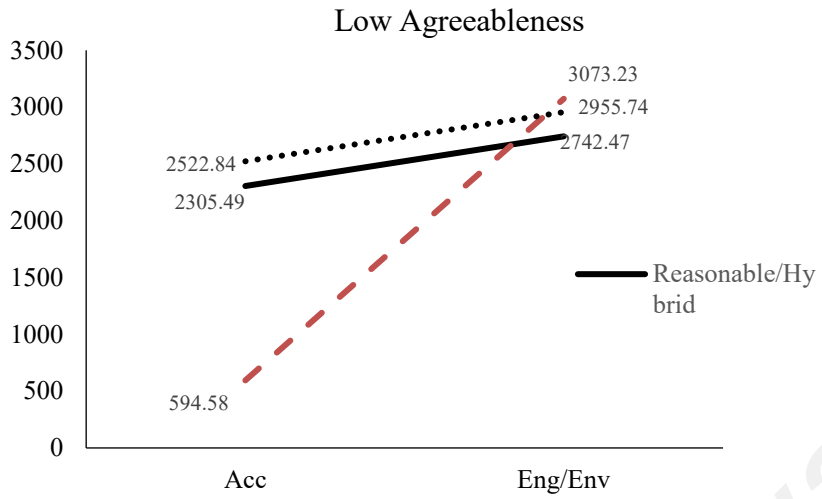

Figure 5.10: Testing moderated moderation (Level of Assurance x Type of Assuror Under Low Agreeableness.

Table 5.15: Summary hypotheses.

Hypothesis	Description	Results
H1	H1: Individual will choose to invest in companies assured by engineer/specialist who gives reasonable/hybrid assurance, whereas individuals will choose to invest in companies assured by accountant who gives limited assurance. .	Supported
H2	H2a: Individuals with higher openness will invest in companies assured by engineer/specialist, whereas those with lower openness will invest in companies assured by accountant more favorably. H2b: Individuals with higher conscientiousness will invest in companies assured by engineer/specialist, whereas those with lower conscientiousness will invest in companies assured by accountant more favorably. H2c: Individuals with higher agreeableness will invest in companies assured by engineer/specialist, whereas those with lower agreeableness will invest in companies assured by accountant more favorably.	Not Supported Not Supported Supported
H3	H3a: Individuals in high openness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance. H3b: Individuals in lower openness will invest less in companies assured by accountant who gives limited assurance.	Not Supported Supported
H4	H4a: Individuals in high conscientiousness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance. H4b: Individuals in lower conscientiousness will invest less in companies assured by accountant who gives limited assurance.	Not Supported Supported
H5	H5a: Individuals in high agreeableness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance. H5b: Individuals in lower agreeableness will invest less in companies assured by accountant who gives limited assurance.	Not Supported Not Supported

5.12 Chapter Summary

This chapter gave an analysis of the data that was collected for the experimental study. The main goal of the study was to find answers to several research questions about how Type of Assuror, Level of Assurance, and Personality affect an individual investor's decision making, both directly and indirectly. Finally, the chapter also tests the effects of the moderated-moderation of Level of Assurance and Personality on investment decision making.

An experiment was conducted on groups of participants. The results of a sample test using the t-test statistic revealed that there was not a significant difference between the two groups' responses. The findings of the study, which included a total of 315 participants, revealed that the decision-making process pertaining to environmental investment was distinct depending on the type of assuror and the level of assurance that was presented in the assurance report. According to the findings of the analysis of moderation, the variable known as "Level of Assurance" appears to play a moderating role in the connection between the "Type of Assuror" and an individual's investment choices in SRI. Personality, on the other hand, does not appear to play a moderating role in the connection between the type of assuror and an individual's choice to invest in SRI, according to the findings. The final hypothesis was a moderated-moderation analysis and it suggests that both the direct effect of Type of Assuror on individual’s investors investment decision-making in SRI and the indirect effect through Type of Assuror and moderator is conditional upon the Personality as moderated-moderator. The effects were significant on the Openness and partially supported on Conscientiousness and do not support personality Agreeableness.

The detailed discussions on the results shown in this chapter are presented in the next chapter along with the implications of the findings.

CHAPTER 6 : CONCLUSION

6.1 Introduction

This chapter presents the implications and conclusions of this research work, as well as discusses the findings that were derived in the previous chapter (Chapter 5). There are six sections in this chapter. The first section presents an overview of the research. The second section expands on the findings' discussions. The findings' theoretical, methodological, and practical implications are discussed in the following sections. Section five highlights the limitations of this research work. The signposts for future research directions are suggested in section six, followed by a section that concludes the thesis.

6.2 Overview of the Research

The primary objective of this research is to investigate the various aspects of assurance that have an impact on decision-making when the type of assurance and the level of assurance that are being considered are those that are designed to maximise the investment amount that is being allocated toward SRI. The type of assurance and the level of assurance are two aspects of assurance that are investigated in this study based on previous research. The second goal of the research is to determine whether or not different investors have different preferences when it comes to allocating their investment amounts based on whether the report was issued by an engineer, consultant, environmental specialist, or accountant; the secondary goal is to determine whether or not different personality types have different perspectives on the reliability of the various types of assurors. The third objective is to examine the influence that investors' personalities have on the proportion of their portfolios allocated to various assurance providers and assurance levels. This will be done in order to fulfil the third objective.

Finally, the study investigates whether an integrated framework emerges in which the direct relationship between type of assurance provider and environmental investment decision-making is significant, as well as the indirect path through level of assurance as a moderator, when both the direct and indirect paths are moderated by personality characteristics. As a result, the research model predicts a significant moderated-moderation effect. The interactions of the independent variables, the moderator and the dependent variable in the research framework were developed, by deploying the theoretical lens provided by Source Credibility Theory (Birnbaum & Stegner, 1979). The incorporation of personality characteristics into the research framework was achieved by leveraging the Big Five Personality Traits or Big Five Model (John & Srivastava, 1999).

A set of hypotheses were developed by drawing support from the above-mentioned theories and past empirical works in the literature, and the hypotheses were tested through an experimental research design following the guidelines of similar studies Brown-Liburd et al., (2018) and Gangi et al., (2016) further customized by borrowing some of the procedures applied in the study by Hasan et al., (2003). The experiment was conducted through participation of 315 participants of individuals' investors from investment classes were targeted where the participants have had experience in stock market investments. The careful selection of real-world individuals' investors in this study distinguishes this research from most experimental studies in the literature on assurance that were conducted on students as surrogates for industry practitioners. The reason for conducting this study is based on four (4) important elements, and revolves mainly around the research gaps in the extant literature on assurance services, personality, and individual investor's environmental investment decision-making.

First, the literature indicates that empirical studies have presented conflicting findings on whether Type of Assuror are significantly different when it comes to utilizing them

for individual investor's investment decision-making in SRI, and whether the differences are significant in the presence of different type of personality. Second, the study explored whether Level of Assurance moderates the link between Type of Assuror and individual investor's investment decision-making in SRI, which appears to have increase with different level over time and been overlooked in past research. Third, whether different type of personality indicators moderate the relationship between type of assuror and individual's investor's investment decision-making in SRI has not been dominant in empirical studies on assurance provider field and individual investor's investment decision-making behavior. Finally, as far as this researcher has been able to ascertain, no study so far has proposed an integrated framework that demonstrates the relationships between Type of Assuror and individual investor's investment decision-making in SRI when this relationship is moderated by Level of Assurance and Personality (i.e., a moderated-moderation model).

Based on a set of research objectives (see **Table 1.2**), this study presented different SRI investment options to decision-makers with a total budget of USD 10,000. This was to be allocated based on different Type of Assuror's affiliations (engineering/specialist consultant and Accountant) and Level of Assurance (reasonable/hybrid and limited/not specified) with Type of Personality. By using an experimental method, the study was able to draw conclusions related to all the research objectives. This study was divided into three primary phases. In the first phase, a systematic literature review of past and recent peer-reviewed articles, books, journals and dissertations were conducted to examine the current state of knowledge related to assurance, Type of Assurance, Level of Assurance and Type of Personality and individual investor's investment decision making. Five research gaps were identified from examination of the literature, which formed the basis of the justification to pursue this research endeavor. Thereafter, a theoretical framework emerged, leveraging on the support of the Source Credibility Theory by (Birnbaum &

Stegner, 1979). Finally, based on support from empirical studies published in top-tier peer reviewed journals lead to the development of hypotheses, linking the variables in the research model.

In the second phase of the research, the instrument for conducting the experimental study and to test the model was developed. The measurement scales were adapted from existing scales used in studies published in top journals by business scholars (e.g., Brown-Liburd et al., 2018 ; Gangi et al., 2016 ; Hasan et al., 2003). Thereafter, the instrument was pre-tested for face and content validity with the assistance of an expert panel comprised of five (5) individuals with experience in assurance field, as well as substantial grasp of environmental investment policies and the strategies of business organizations. Based on feedback of the expert panel, the experimental instrument was refined before commencing collection of the actual experimental data. Prior to commencing the data collection, ethical clearance was obtained from the University of Malaya Research Ethics Committee (UMREC).

The sample for this study was drawn from a population that consists of individual investors in Malaysia; current investors or those who plan to invest in the near future. Initially, 336 participants were selected for the experiment. However, after screening based on complete booklet received in Chapter 4, 315 participants were eventually qualified for the study. The subjects of the experiment were given different booklet. Each group was asked to distribute a limited amount of funds between two hypothetical investment projects. Once the raw data was available, it was filtered through a data cleaning process following the same procedures implemented by Brown-Liburd et al., (2018), Gangi et al., (2016) and Hasan et al., (2003).

In the third and final stage of research, the data was analyzed using SPSS (v.26). The two-way ANOVA was applied to determine significant differences among the groups,

which is a common practice in experimental study with multiple levels and groups. Furthermore, SPSS Process MACRO developed by Hayes (2013) was applied where appropriate. The purpose of this study was to find answers to the five research questions by developing corresponding hypotheses that were tested with the experimental data **Table 6.1** summarises the research objectives, questions, and hypotheses, as well as the results of the hypotheses tests. In Section 6.2, this research presented in-depth comments on the results of this research and its accompanying hypotheses.

Table 6.1: Summary of research questions, objectives, hypotheses and findings.

No.	Research Questions	Research Objectives	Hypothesis	Findings
1	Is there any significance difference for assurance statement prepared by engineering/specialist consultant when assurance statement is accompanied by reasonable/hybrid level rather than limited/unspecified on individual investors investment decision making?	To investigate whether is there any significance difference for assurance statement prepared by engineering /specialist consultant accompanied with level of assurance (reasonable/hybrid level or limited/unspecified) on individual investors' investment decision making in SRI.	Individuals will choose to invest in companies assured by engineer/specialist who gives reasonable/hybrid assurance, whereas individuals will choose to invest in companies assured by accountant who gives limited assurance.	Supported
2a	Do higher or lower personality openness will moderate the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI?	To investigate whether individual investors who has higher or lower personality openness moderates the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI	Individuals with higher openness will invest in companies assured by engineer/specialist, whereas those with lower openness will invest in companies assured by accountant more favorably.	Not Supported

Table 6.1, continued.

No.	Research Questions	Research Objectives	Hypothesis	Findings
2b	Do higher or lower personality conscientiousness will moderate the relationship between type of assuror (engineering/specialist consultant or accountant) and individual investors investment decision making in SRI?	To investigate whether individual investors who has higher or lower personality conscientiousness moderates the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI	H2b: Individuals with higher conscientiousness will invest in companies assured by engineer/specialist, whereas those with lower conscientiousness will invest in companies assured by accountant more favorably.	Not Supported
2c	Do higher or lower personality agreeableness will moderate the relationship between type of assuror (engineering/specialist consultant or accountant) and individual investors investment decision making in SRI?	To investigate whether individual investors who has higher or lower personality agreeableness moderates the relationship between type of assuror (engineering /specialist consultant or accountant) and individual investors investment decision making in SRI	H2c: Individuals with higher agreeableness will invest in companies assured by engineer/specialist, whereas those with lower agreeableness will invest in companies assured by accountant more favorably.	Supported

Table 6.1, continued.

No.	Research Questions	Research Objectives	Hypothesis	Findings
3a	Is there any significant moderating effect of level of assurance (reasonable/hybrid) and high personality openness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (reasonable/hybrid) and high personality openness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI	H3a: Individuals in high openness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance.	Not Supported
3b	Is there any significant moderating effect of level of assurance (limited/unspecified) and low personality openness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI?	To investigate if there is a moderating effect of level of assurance (limited/unspecified) and low personality openness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI	H3b: Individuals in lower openness will invest less in companies assured by accountant who gives limited assurance.	Supported

Table 6.1, continued.

No.	Research Questions	Research Objectives	Hypothesis	Findings
4a	Is there any significant moderating effect of level of assurance (reasonable/hybrid) and high personality conscientiousness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (reasonable/hybrid) and high personality conscientiousness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI	H4a: Individuals in high conscientiousness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance.	Not Supported
4b	Is there any significant moderating effect of level of assurance (limited/unspecified) and low personality conscientiousness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (limited/unspecified) and low personality conscientiousness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI	H4b: Individuals in lower conscientiousness will invest less in companies assured by accountant who gives limited assurance.	Supported

Table 6.1, continued.

No.	Research Questions	Research Objectives	Hypothesis	Findings
5a	Is there any significant moderating effect of level of assurance (reasonable/hybrid) and high personality agreeableness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (reasonable/hybrid) and high personality agreeableness (moderated-moderation effect) between type of assuror (engineering/specialist consultant) and individual investor's investment decision making in SRI	H5a: Individuals in high agreeableness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance.	Not Supported
5b	Is there any significant moderating effect of level of assurance (limited/unspecified) and low personality agreeableness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI?	To investigate if there is a significant moderating effect of level of assurance (limited/unspecified) and low personality agreeableness (moderated-moderation effect) between type of assuror (accountant) and individual investor's investment decision making in SRI	H5b: Individuals in lower agreeableness will invest less in companies assured by accountant who gives limited assurance.	Not Supported

6.3 Discussions on the Research Findings

All the findings summarised in **Table 6.1** are discussed in depth in this section, binding together the research objectives to the findings and comments of other studies that are closely related to the research objectives of this study. Where applicable, the discussions refer to the theoretical lenses used in this study; the Source Credibility Theory. Lastly, the discussions also present the understanding derived by the author of this study from the findings.

6.3.1 Type of Assuror and Individual Investors Investment Decision-Making in SRI

The first hypothesis (H1) posited is that when individual investors choose between Type of assuror as a decision-making tool to allocate their investment amount allocation in SRI, their decisions are significantly different between the option of Engineering/specialist consultant and Accountant. All the findings summarised in **Table 6.1** are discussed in depth in this section. Furthermore, the credibility of information of the two Types of Assurors provides a significantly different view of how the tradeoff between financial goals and SRI goals of the invested amount. Clearly, individual investors favored assurance report provided by the engineering/specialist consultant, that had more credibility compared to provide by Accountant.

The preceding finding is consistent with a recent discussion in the existing literature in which Huggins et al., (2011) discuss greenhouse gas reporting. In terms of greenhouse gas information security, accounting assurance providers have high levels of quality controls and stringent assurance procedures, whereas non-accounting assurance providers have technical expertise and subject matter knowledge. Sustainability assurance generally

emphasis higher on knowledge over the subject matter, it is quite challenging for stakeholders – individual's investors to lean on Accountant where most of the subject are typically very niche. As a result, the Engineering/specialist consultant is perceived as having more sustainability expertise and knowledge of how to conduct the sustainability assurance engagement. Furthermore, studies by Wong and Millington (2014) and also by Perego and Kolk (2012) provide some important clues that support the fact that the way individual investors choose between the two Types of Assurors (engineering/specialist consultant and accountant) cause their impacts on the outcomes to be different.

In an experimental study to investigate how judgments differ when engineering/specialist consultant and accountant are used under conditions of assurance practitioner information, Perego and Kolk (2012) discovered that when the assurance statement is prepared by certain type of assuror, individuals investors gave less weight to the SRI report features by Accountant as compared to when they were provided by Engineering/specialist consultant. The current study's findings are also in alignment with Wong and Millington (2014) findings suggesting that the firm option in choosing which assurance engagement to assured SRI report impacts decision-making behavior of individuals investors for their investment decision making.

Huggins et al. (2011) conducted a separate study in which they investigated the recognised competencies of engineering/specialist consultants on subject matter required to complete assurance engagements in GHG. Huggins et al., (2011) discovered that engineering/specialist consultants place a premium on subject matter expertise and frequently have a competitive advantage due to their specific skill set and extensive knowledge of the subject matter (Corporate Register 2008). Further, following the report made by Association of Consulting Engineers Australia (ACEA) as in their external audit report:

> *"Much of the efficacy of the audit process will be dependent upon and relate to the engineering qualifications and competency of auditors, and less on the contributions of corporate law, business management and financial accounting ... We feel the full involvement of engineering and related practitioners offers the genuine understanding of the physical processes that lead to the various types of emissions. (ACEA 2008)"*

shows the importance of education and capability matters in ensuring the credibility of assurance report and thus influence the individual investors in their decision making.

In addition to the preceding discourse, from the perspective of the Source Credibility Theory Birnbaum and Stegner (1979) suggested that sources credibility as important item in decision making. Therefore, people will put more trust in information that they perceive as more reliable (Pornpitakpan, 2004).

It has been demonstrated in experiments that a credible source of information has a greater influence on a decision, and advertisements that are highly knowledgeable will elicit positive attitudes and, as a result, will improve performance ratings. In this regard, choosing engineering/specialist consultant vs accountant depends on the expertise. Under the current market scenario, due to specialization of certain industries, such as food and beverages, mass agriculture, which are involved in greenhouse gas emissions, the subject of assurance has become more technical, with a high level of stringent assurance procedures where non-accounting assurors have specific subject matter competency (Huggins, 2011), making the source more credible to evaluate. Individual investors' confidence in evaluating the assurance report appears to be boosted by the competency of the assurors, according to this evidence. Therefore, the results of this part of the experiment are in alignment with the premise of the Source Credibility Theory, which argues that decision-makers are influenced by the manner of 'who' provide the assurance

report. Hence, there is a discernable difference between Engineering/specialist consultant and Accountant when individual investors choose for their investment decision making in SRI.

Table 5.6 in the previous chapter reports the ANOVA result differences between engineering/specialist consultant and accountant as significant and positive. The results found from the current study related to the above hypothesis are in alignment with the theory and prevailing views of scholars that have conducted similar studies but with different variables and in different contexts. Furthermore, it is to be noted that the current experimental study was conducted using individual investors, unlike most prior studies in the literature that were conducted using students as surrogates for industry practitioners. Therefore, the findings of the current research are likely to be more dependable and robust.

6.3.2 The Interaction between Type of Assuror and Personality on Individual Investor's Investment Decision Making in SRI

The second component of the overall aim of the research and the corresponding hypothesis (H2) assumed that individual with higher personality openness, conscientiousness and agreeableness will invest more in companies assured by engineering/specialist consultant and for those with lower personality openness, conscientiousness, and agreeableness, will favor accountant.

The results of Bonferroni post-hoc tests shown in the previous chapter indicate that:

1. H2a hypothesized that individuals with higher openness will invest in companies assured by engineer/specialist, whereas those with lower openness will invest in companies assured by accountant more favorably. H2a is not supported.

2. H2b hypothesized that individuals with higher conscientiousness will invest in companies assured by engineer/specialist, whereas those with lower conscientiousness will invest in companies assured by accountant more favorably. H2b is not supported.

Hypothesis H2a and H2b do not show any significant result on favor to engineering/specialist consultant. Given the reputation of the new affiliates is new in the market and sustainability assurance by this type of assuror is relatively new, we suggest the insignificant result might reflect on why the insignificant result – This type of personality still skeptical and still choosing traditional assuror – Accountant. This shows that their basic questioning attitude is welcoming yet skeptical at the same time (Heinström, 2010).

3. H2c hypothesized that Type of Personality – Individuals with higher agreeableness will invest in companies assured by engineer/specialist, whereas those with lower agreeableness will invest in companies assured by accountant more favorably. H2c is supported.

As hypothesized, agreeableness (H2c) is significant. Agreeableness moderated the relationship between assuror type and SRI investment decisions. Individual investors who consider long-term consequences of (un)sustainable activities and comply with social norms will be more receptive to engineering reports. This study argues that investors seek the most reliable information to conform with others and tend to accept information without critical evaluation. This makes them fear social disapproval, so they always follow others' expectations (McCrae & Costa, 2008) The previous paragraph's experiment result agrees with Steinmeier and Stich (2017) study on the role of assurance level in decision making. Schelluch and Gay (2006) found that positive assurance reports make investors more likely to trust future financial information.

6.3.3 Moderated-Moderation Effect of Type of Assuror on Investment Decision-Making with Level of Assurance and Personality as a Moderator

The final research objective of the study is to investigate whether there is a conditional indirect effect of Type of Assuror on environmental investment decision-making, with Level of Assurance and Personality as a moderator. The overarching goal of this research objective is to determine whether or not there is such an effect. Therefore, a moderated-moderation model was proposed and tested in hypothesis H3, H4 and H5.

The results shown in the previous chapter indicate that:

1. H3 hypothesized:

   H3a: Individuals in high openness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance. For the reasonable/hybrid and high openness conditions (as moderators), although the conditional effect is positive, but the result is not significant. H3a is not supported.

   H3b: Individuals in lower openness will invest less in companies assured by accountant who gives limited assurance. As for limited level of assurance condition provide by accountant, individual investors with low openness personality seem to invest significantly less ($b = 3434.65$, $SE = 678.54$, $t(303) = 5.06$, $p<0.01$. Thus, H3b is supported.

2. H4 hypothesized:

   H4a: Individuals in high conscientiousness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance. For the reasonable/hybrid and high conscientiousness conditions (as moderators), although the conditional effect is positive, but the result is not significant. H4a is not supported.

H4b: Individuals in lower conscientiousness will invest less in companies assured by accountant who gives limited assurance. As for limited level of assurance condition provide by accountant, individual investors with low conscientiousness personality seem to invest significantly less ($b = 2853.23$, $SE = 804.18$, $t(302) = 3.55$, $p<0.01$. Thus, H4b is supported.

3. H5 hypothesized:

   H5a: Individuals in high agreeableness will invest more in companies assured by engineer/specialist who gives reasonable/hybrid assurance. For the reasonable/hybrid and high agreeableness conditions (as moderators), although the conditional effect is positive, but the result is not significant. H5a is not supported.

   H5b: Individuals in lower agreeableness will invest less in companies assured by accountant who gives limited assurance. As for limited level of assurance condition provide by accountant, individual investors with low agreeableness personality seem not to invest significantly less. Thus, H5b is not supported.

The results of this study indicated that the type of assuror and level of assurance influence investors' decisions regarding socially responsible investing (SRI) in a manner that is unique to each investor's personality type. According to the findings of this research, openness, conscientiousness, and agreeableness among individual investors are likely to decrease their investment amount allocation when the information is assured by an engineering/specialist consultant with a reasonable or hybrid level of assurance. Individual investors, on the other hand, are supportive of accountants who give a limited level of assurance. The firm that has its reports assured by those types of assurance is obligated to provide openness investors with clear information so that those investors are able to investigate the pertinent contents of information in greater depth.

In addition, the impact of being conscientious was shown to be insignificant. As a result, it is important to suggest to individuals' investors that they analyse SRI using a choice structure that is more dependent on psychological and ethical intelligence rather than the choice strategy that is more focused on logic (Ali et al., 2017).

To reiterate further, the findings reported in the previous chapter indicate that the indirect conditional effects are significant only at the lower-level part. Low type of personality openness and conscientiousness do give significant influence on individual investors investment decision making when offering limited level of assurance with accountant provide the services. This research is among the first research to prove that, type of personality among individual can give influence on the preference to invest based on information provided to them. This result provides mix result compared to previous research. In comparison between Hodge et al., (2009), which stated that, accountant with reasonable assurance is considered influence investors decision making. further, in the contrary of Hsueh (2018) and Shen et al., (2017) reports that, either type of assuror does not show any significant influence on investors investment decision making.

6.4 Significant Implications of the Research

This experimental research undertaking provided a more nuanced understanding about the relationships between Type of Assuror and individual investors investment decision making in SRI. The findings have important repercussions for both theory and practise, and they also contribute significantly towards the base of knowledge from a methodological standpoint.

6.4.1 Theoretical Implications

This study makes a number of theoretical contributions to the existing body of knowledge on the topic of the types of assuror and the investment decision making processes of individual investors in SRI. First, the current study provides further evidence to the notion that the way the Type of Assuror representing themselves to individual investor makes a significant difference in the outcome of investment amount allocation in SRI. Prior experimental studies show that scholars differed on this issue, and conflicting findings have been presented in several studies (e.g., Hasan et al., 2003; Huggins et al., 2011; Perego & Kolk, 2012; Zorio et al., 2013). Recent publications by scholars such as Channuntapipat et al., (2020) have shown that a finer-grained understanding was warranted to determine whether significant difference exists between different type assuror. A clear determination of a significant difference in the sustainability assurance when used for individual investors point of view presented by the current study is expected to make significant strides towards understanding the reasons for conflicting findings in past literature.

Second, providing information about the Level of Assurance as well as the Type of Assuror to individual investors so that they can make investment decisions regarding SRI. This research is probably the first to incorporate all four levels of assurance in the field of sustainability assurance literature because it incorporates different levels of assurance, including Reasonable/Hybrid, Limited, and Unspecified. According to what is shown in the UNCTAD conference in 2020, information credibility depends on the assurance level in terms of not only the time spent, procedures and also form of conclusion found in the comprehensive assurance report. Therefore, this research conforms to standards in such a way that, the level gives a significant result on the level of assurance that it provides to individual investors when it comes to making their investment decision in SRI.

Third, the study considers the moderating role of Personality on the relationship between Type of Assuror and individual investors investment decision making in SRI by examining whether the association between Type of Assuror and individual investors investment decision making in SRI is moderated by Level of Assurance. The findings of the study suggest that personality plays a moderating role in the relationships, implying that the direct link is weak and is strengthened when the moderator is present. The issue of differences between type of assuror has been alluded to in previous studies but not exclusively tested in the form of SRI point of view (e.g., Hasan et al., 2003, Perego & Kolk, 2012). Therefore, the finding of the current study suggests that by using multiple choices of assuror in the field, among individual investors, the point of view needed to effectively choose between those choices is significantly addressed when they are being presented to effectively evaluate investment options with maximize their amount to allocate.

Fourth, the existing cluster of studies in the literature appears to have overlooked the issue of investigating how personality indicators impact the association between types of Type of Assuror framework and investment decisions geared towards SRI objectives. As a result, one of the most significant contributions that the current study has made to the previous research is an investigation into how the incorporation of personality indicator as a moderator in the relationship between Type of Assuror and individual investors' investment decision making has an effect on the manner in which individual investors' investment decision making pertains to SRI.

A number of studies in the past have attempted to integrate personality into the traditional individual investors behavior and examined its' impact on their investment decision making (Joo & Durri, 2018). However, the current study examines a different context by integrating fundamental assessment of information by including the expert in

the assurance field to assist individual investors in making their investment decision in SRI. By integrating the element of Type of Assuror, Level of Assurance and assessment the type of individual investor personality. The findings demonstrate that there is a substantial disparity between the various ways in which personality can be incorporated into the framework. The results indicate that overall, the impact of type of assuror on individual investors investment decision making in SRI is supported. The above results make an important contribution to theory by including the dimension psychological view point to the type of assuror and level of assurance, when deciding on investment amount allocation options that relate to SRI.

Finally, to extend the theory about our understanding of how in Type of Assuror, Level of Assurance and individual investors investment decision making in SRI interact in the presence of Personality item. This study proposed a moderated-moderation model that explains that the moderation role of Level of Assurance and Personality on the relation between Type of Assurance and individual investors investment decision making in SRI has theoretical implications. The outcome of this part of the study clearly suggests that the conditional indirect effects are both significant, as the perception of the individual investors are already enhanced due to the presence of Level of Assurance and influence by certain type of personality. However, the conditional direct effect with risk was not significant, which is a clue that the premise of cognitive efforts suggested by Source Credibility Theory comes into play. Therefore, an integrated model emerging from this study opens prospects for further research with regards to Type of Assuror and individual investors investment decision making in SRI by including other type of variables such as individual intention.

6.4.2 Practical Implications

This study offers a few practical contributions that can be of use to industry professionals in addition to the theoretical contributions it has already made. Type of Assuror as a predictor evaluation mechanism is a holistic lens for fund managers when offering investment alternatives. Fund managers using this combination of assurance providers from the sustainability report aimed at achieving environmental strategic objectives will benefit from the finding that there are important distinctions to be made between the various types of assurance that businesses put their faith in. Fund manager may be advised to select the appropriate combination in the context of the type of information that they incorporate under sustainability reports in the investment portfolio. When the sustainability assurance is more qualitative in nature, it may be extremely challenging to embed this information along with the quantitative data that are usually prevalent in the assurance report. In such circumstances, it may be more prudent to utilize the type of assuror that matches the needs of the investors, where the sustainability information is assured by certain assuror. Furthermore, individual investors will be able to choose the appropriate combination on type of assuror and level of assurance and intrinsically the type of personality that the investors have will influence the choice. According to the findings of this research, the general assumption would be that Engineering Consultant with Reasonable assurance has a stronger influence on individual investors investment decision-making in SRI and thus would be a better choice to maximize their allocation amount. The role of Level of Assurance as a moderator in the relationship between Type of Assuror and individual investors investment decision-making in SRI is an important finding. Company that issues sustainability report that deploy the level of assurance in their reporting tools will be able to attract investors and would further attract investors.

Studies in the past have possibly overlooked the need to provide empirical evidence that integrating personality indicators into the Type of Assuror can significantly influence decision-makers to make better investment decisions. Gerwanski et al., (2022) and Shen et al., (2017) use sample investors as surrogates towards investment decision making when assurance is presented with assured sustainability reports. Both research use investors point view to perceive how they react when certain information is given and decision makinf should be made. This research argues that, by assessing their personality, there might be additional information that can be assess on how and why the investors behave certain way when certain type of information presented to them. In line with the premise of the Source Credibility Theory, when investors are deciding on SRI investment options, the results suggest that integrating personality risk into the assurance framework encourages investors to consider the most reliable and credible information that can give assurance on their investment amount.

Most of the experimental research conducted in the past with Type of Assurance and investment decision-making (Hasan et al., 2003; Hodge et al., 2009) conducted their studies with students of business schools (both undergraduate and post-graduate) as surrogates for industry practitioners. Although Hodge et al., (2009) argue that student decisions were similar to professional participants, yet this research would prefer to consider actual investors and measured them as adequate surrogates for people with practical real-world experience who involved their actual decision making involving financial factors. Therefore, a distinct methodological contribution of this study is that all participants were actual individual investors practicing their investment in the share market. Hence, the findings of the current study are likely to be more robust.

6.5 Limitation of Study

This research, like others, is subject to the constraints that were imposed on the research programs. When it is acknowledged that the studies have limitations, researchers can present a more realistic and honest picture of their findings and conclusions, as well as suggest areas that need more exploration.

Firstly, it is possible that the conclusions of a study that generalizes its findings on individual investors in Malaysia are not applicable to other populations or settings. This is one of the limitations of such a study. This is because individual investors in Malaysia might possess distinctive qualities and experiences that are not shared by investors in other nations. For instance, investment behaviors in Malaysia may be influenced by cultural variables, regulatory settings, and economic conditions in ways that are distinct from those influenced by similar elements in other places. Thus, it may be risky to generalize about Malaysian investors because there may be meaningful variances across investors that should be taken into account when making investing decisions.

Secondly, the research focused on a particular aspect of sustainability, such GHG. The idea of sustainability may be broken down into its component parts, which include the social, the economic, and the environmental. This study makes a very deliberate selection of the region to correspond with the fictional corporation described in the booklet, and it also corresponds with the risk that the company is expressing. The other goal is to ensure that the booklet instrument does not contain an excessive amount of information in order to reduce the amount of time that will be spend by the participants responding questions. In the future, study may focus on other areas that are applicable besides environmental concerns, such as the consumption of water or the production of waste.

Finally, it is possible that the association between the moderator and the outcome variable is only reliable during a particular window of time. This is especially true for variables such as risk perceptions that are influenced by external factors that are subject to change over the course of time. For instance, a study may conclude that risk perceptions moderate the relationship between investment knowledge and investment behavior at the period when the study was carried out. However, people's perceptions of risk are not fixed; rather, they can shift over time in response to a wide range of events and circumstances in the wider world, including shifts in the state of the economy, political developments on a worldwide scale. As a direct consequence of this, the moderating influence of risk perceptions could not be as effective over a more extended time period or in various circumstances.

6.6 Signposts for Future Research Possibilities

The current study paves the way for new avenues of potential research in the future that are connected to the Type of Assuror and the individual investment decision making process in SRI. Firstly, Channuntapipat et al., (2020) forecast that the competitive environment that is typical of Type of Assuror will continue to provide a fertile ground for supply side innovations that will shape the future of assuror practise and potentially provide opportunities for further differentiation and fragmentation between providers. These predictions assume that Type of Assuror will continue to be a dominant factor in the insurance industry. This situation implies that there have been valuable options for the further research to raise the question on whether any further potential type of assuror differentiation and fragmentation of supply will lead to a genuine improvement in practise quality or will simply serve to advance the commercial agendas of the suppliers (Boiral et al., 2018). Additionally, this situation suggests that there should be consideration given

to whether fragmentation of supply and significant diversity in the knowledge bases and standards deemed relevant.

Secondly, there may be other exogenous variables that may strengthen the explanations of the linkages between the manipulated variables and the dependent variable in the study. For instance, the reputation of the firm in terms of SRI impact may be a pertinent variable that influences the relationships. Similarly, the level of communication in the company on sustainability goals may also have a bearing on outcomes.

Further, this research can also suggest that certain assurors may not have sufficient technical understanding and that they may uncritically verify the substance of a report without the required expertise. It is also noteworthy that the study finds Professional Accountant do not outperform Engineering Consultant when it comes to the quality of assurance they provide. This supports the troubling pattern of auditing methods being referred to as symbolic "rational myths" (Boiral and Gendron, 2011) that are divorced from the activities of businesses. It is possible that these findings will have repercussions for how firms select their assurance providers in the future. When a company decides to use a verification process for the first time, or when it implements a corporate policy of auditor rotation, it is important to understand the specific competencies and knowledge of the assurance provider.

In addition, the way in which the moderating effect of Level of Assurance and Personality varies over time in the relationships between Type of Assuror and individual investors' investment decision making in SRI can reveal information that is helpful. To determine the effects of different additional types of assurance and disclosures on the judgement and decision-making processes of investors, further research is required in the future. This research is important due to the likelihood that the benefits of various

assurance sources are related to the risk perceptions of investors. Further, this study applies investment amount in common stock since the type of investment represents ownership and heighten the stakes with regard to social responsibility Pasewark and Riley (2010) however focuses on single issue – the expertise of type of assuror on SRI report for GHG carbon emission. The findings that the investment decision regarding the credibility of type of assuror linger only on the issue and not generalizable to other type of investment in SRI. Future research may benefit by employing in the context of other social influence.

Finally, other demographic criterion may be at play, such as the participant's gender or age, the number of years in the investment market. It is reasonable to expect differing results from sophisticated investor groups is needed to examine the effects of investor sophistication on the study's results which future researchers may consider. Due to the cross-sectional nature of this study, it may be impossible to definitively determine the direction in which causality is operating. The survey was carried out by utilising a google form during a period of time when market attention was focused on the Covid-19 pandemic. It is possible that the personalities of investors will affect the results in a variety of different ways depending on the financial environment. These effects could take the form of positive or negative outcomes. In the future, academics ought to give some consideration to the possibility of utilising panel data in order to investigate the activities carried out by investors over an extended period of time.

On the basis of self-reported data, which may be a less reliable measure, an investigation into the trading behaviour of investors was carried out. The findings of this research might be validated by looking at actual trading records from investors in further research and studies in the future. Because investor behaviour is comprised of a set of

several complex factors that involve concepts that are interrelated, it can be challenging to interpret concepts all by themselves.

The number of reports that are made for information that is not related to finances is expanding. The success of this way of reporting is a reflection of the fact that investors are becoming more aware of the social and environmental repercussions of the decisions that are made by governments and enterprises. Despite the fact that the industry is still unregulated basis (Shen et al., 2017), there has been an increase in the demand for credible information. This is because the information is essential for investment decision making, and the goal of investors is to safeguard their investments (Hodge et al., 2009). Firms have been increasing the amount of information they willingly disclose, but the information has not always been relevant. Firms have had the ability to pick and choose from several different disclosure requirements, and they have also had the ability to interpret those standards in a variety of different ways.

Unresolved difficulties on uncontrolled and different standard applicable for enterprises to follow when it comes to the publication of sustainability report should be addressed, at least in part, by paying more attention to how users perceive the report. Businesses rely heavily on investors for funding, making investor reporting arguably the most important aspect of any company's success. As a result of this, in order to satisfactorily answer what the demand on investors is, it is very vital to have a solid understanding of where the companies stand in terms of their reporting practices as reporting is the manner that can attract a great of attention of various group of investors (Chen et al., 2019).

The credibility of the information must be maintained at all costs; thus, businesses need to be aware of which standards to apply in their industry and how those standards treat crucial information. All the standard setters have taken their seat at the round table

to debate and propose the unilateral reporting in order to address the different reporting guidelines in the market, as was described in the earlier chapters. This study was undertaken in the hopes of shedding light on, and providing context for, the information investors dire need to make investing decisions. When the perspective of the other actor - investors, is taken into account, the continuous dialogue on combining sustainability with economic risk and opportunity becomes much more feasible. Investors appear to be moving toward allocating a larger portion of their portfolios to sustainability funds, as evidenced by the growing interest in sustainability statistics across industries (Islam et al., 2016; Khan et al., 2011; DJSI data from 2011 to 2018). Thus, this study contribution focuses on the perspective of investors with regards to the optimal structure and presentation of reports. It is important for businesses and their investors to be aware of the risks they face. A firm may implement a strategy based on the usage of the suitable standard to guarantee that information is supplied to the user and that the user understands it in order to maximise investment amount allocation and, by extension, the firm's success in the market. This approach to maximise investment amount allocation and, by extension, the firm's success in the market, a company may consider adopting an approach based on the use of the appropriate standard to ensure that information is successfully delivered to the investors and that the they can comprehend it.

6.7 Concluding Remark

The primary objective of this experimental study was to find out whether or not the various kinds of assuror make a difference when it comes to individual investors using those them to make decisions about their investments in SRI. The experiment was able to demonstrate that Level of Assurance with Personality traits integrated is significantly different. When individual investors would invest between the investments options that have tradeoffs between type of assuror and other variables given, the model is

significantly different. Overall, the current study demonstrates that in terms of impact on SRI investment decision-making, engineering/specialist consultants has a stronger relationship with SRI investment decision-making compared to professional accountant.

Additionally, the role played by level of assurance and personality as a factor that acts as a buffer in the connection that exists between Type of Assuror and individual investors investment decision making in SRI suggests that individual investors assign greater decision weight to different type of assuror when different level of assurance and certain type of personality is employed. This finding is well in consonance with the fact that people with certain personality traits are generally prone to their perceive point of view.

At final point, an integrated moderated-moderation model was suggested and put through its paces with the aid of the guidelines developed by Hayes (2022). According to the findings of this study's analysis, there are conditional indirect effects of Type of Assuror and Individual Investors' Investment Decision Making in SRI through Level of Assurance and Personality as a Moderator. This shows that, hypothetically, it will be better off for individual investors to make their investment decision making in the present of what they perceive the ultimate choice for their investment amount allocation.

In conclusion, the experimental research work presented here makes a contribution to the existing body of knowledge on the assurance practise that is currently on the market. As a result, businesses that provide services related to the assurance of non-financial information can improve the quality of those services., particularly in SRI. Additionally, it reveals new findings for industry practitioners by providing pertinent information on the fact that different types of assurors, levels of assurance, and personalities all have significantly different patterns of influence on the investment decision making of individual investors. This information is useful because it demonstrates that individual investors are influenced by investment decisions in significantly different ways.

Furthermore, prior knowledge of different type of assuror among individual investors background – knowledge and expertise are a crucial factor for achieving the ultimate investment allocation. Lastly, the moderated-moderation model may serve as a foundation for future theory development related to type of assuror and individual investors investment decision-making in SRI.

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