南華大學管理學院企業管理學系管理科學博士班

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邁向組織綠色實踐和綠色環保績效的綜合模型：前因、中介、調節和後果

Toward an Integrative Model of Organizational Green Practices and Green Environmental Performance: An Assessment of Antecedents, Mediators, Moderators, and Consequences

范氏寔
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博　士　生：范氏實 (PHAM THỊ THẬT)

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口試日期：中華民國 111 年 06 月 28 日

準博士推薦函

本校企業管理學系管理科學博士班研究生范氏寔君在本系修業04年，已經完成本系博士班規定之修業課程及論文研究之訓練。

1、在修業課程方面：范氏寔君已修滿44學分，其中必修科目：研究方法 (Research method) 、最佳化理論 (Optimization)、書 報討論等科目 (JP)，成績及格(請查閱博士班歷年成績)

2、在論文研究方面：范氏寔 君在學期間已完成下列論文：

(1) 博士論文：Toward an Integrative Model of Organizational Green Practices and Green Environmental Performance: An Assessement of Antecedents, Mediators, Moderators, and Consequences.
(2) 學術期刊：Sustainability, International Journal of Organizational Analysis, and Asian Journal of Business Research.
(3) 本人認為 范氏寔 君已完成南華大學企業管理學系管理科學博士班之博士養成教育，符合訓練水準，並具備本校博士學位考試之申請資格，特向博士資格審查小組推薦其初稿，名稱：Toward an Integrative Model of Organizational Green Practices and Green Environmental Performance: An Assessement of Antecedents, Mediators, Moderators, and Consequences，以參加博士論文口試。

指導教授：吳萬益博士

指導教授：紀信光博士

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Pham Thi That

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中文摘要

隨著全球氣候和環境的迅速惡化，越來越多的個人與組織將綠色關切及綠色實踐列為拯救地球的最重要之項目。從企業的角度，如何透過投資綠色實踐來提升綠色環境績效（GEP）特別值得關注。過去的研究已將減少廢棄物之排放、可重覆使用之設計、綠色供應鏈、環保友善材料及綠色聲譽等列為組織綠色實踐(OGP)的主要議題，然而有關綠色實踐的前置變數卻仍被各界忽略。其中有關綠色轉換型領導(GTL)及綠色人力資源管理(GHRM)實踐對於促進綠色實踐之影響，最為學者所重視，部分學者並進一探討綠色轉換型領導、人力資源管理實踐及持續性創新對綠色環境績效的影響，但截至目前為止仍然很少研究針對這些構念之間的關係進行系統性的探討。再者，儘管平衡計分卡(BSC)的概念已經被企業界引用超過 20 年，但綠色實踐在 BSC 上的應用卻很少被討論。鑑於綠色實踐對綠色環境績效的重要影響，本研究將綠色平衡計分卡(GBSC)因素整合到研究論文模型中。此外，本研究進一步探討高階管理人員之參與及組織之社會資本等兩個構念對於 GEP 的調節作用。

本研究針對 427 名受訪者進行問卷調查，調查對象包括越南南部中小型製造公司的高階經理、執行長及人力資源經理。本研究採用偏最小平方法結構方程模型(PLS-SEM)進行資料分析。研究之結果顯示，GTL、GHRMP、及持續創新對於組織綠色實踐具有顯著的影響。GTL 對綠色人力資源管理實踐及持續創新具有顯著影響。此外，OGP 對於 GEP 具有顯著的影響，並進一步造成 GBSC 的提升。最後，高階管理之參與及組織之社會資本均能夠加速促進 OGP 和 GEP 之間的關係。

由於以往的研究很少將 OGP 和 GEP 的相關變數整合成為更完整的研究架構，本研究試圖填補以上之研究缺口，以促進我們對 OGP 和 GEP

的前因、中介、調節因素及後果變數的了解。本研究之結果預期可提供學術界做為進一步實證研究的依據，也可以做為企業高階管理人員或決策者制定其綠色發展策略及提升競爭優勢之參考。

關鍵詞：綠色轉型領導、綠色人力資源管理實踐、組織綠色實踐、高階管理參與、組織社會資本、綠色平衡計分卡

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ABSTRACT

With the rapid deterioration of worldwide climate and environment, more and more people and organizations are putting their first priority on green concerns and green practices to save the Earth. From the aspect of the firms, how to invest on green practices to acquire green environmental performance (GEP) deserves particular attentions. Previous studies have identified minimization of emissions and waste, design for recyclability, green supply chain, environmentally friendly raw materials, and reputation for green as the major issues of organizational green practices (OGP), however the antecedents of OGP are largely ignored. Among others, the role of green transformational leadership (GTL) and green human resource management (GHRM) practices in achieving green practices and GEP has been highlighted by researchers. Many studies have also concerned about the effects of GTL, GHRM practices, and sustainability innovation on GEP, the interrelationship among these constructs are still unknown. In addition, even though the concepts of balanced scorecards (BSC) have been implemented in the business sectors for more than two decades, the application of green practices on BSC has rarely been discussed. Given the importance influence of green practices on GEP, this

study integrates the factors of green BSC (GBSC) on our research model. Furthermore, to consider the moderating effect of GEP, this study further examines two variables including top management involvement and organizational social capital as the accelerating agents that can amplify the influence of GEP.

A quantitative survey approach was conducted in this study with 427 respondents including top managers, executives, and human resource managers from small and medium-sized manufacturing firms (SMEs) in the South of Vietnam. In this study, the Partial Least Squares (PLS-SEM) route modeling technique was used for both the measurement model and the structural model. The findings show that GTL, GHRMP, sustainability innovation are the antecedents of OGP. Besides, GTL has a significantly effect on green HRM practices and sustainability innovation. Additionally, the results further indicate that OGP is significantly related with GEP, and GEP is significantly related to GBSC. Both top management involvement and organizational social capital are found to accelerate the relationship between OGP and GEP.

Since previous studies rarely integrated relevant constructs of OGP and GEP into a more comprehensive model, this study aims to fill in these research gaps to enhance our understandings of the antecedents, mediators, moderators, and consequences of OGP and GEP. The results are very supportive for academicians to further validate the investigation model, they may be very useful for top executives, senior managers, human resource professionals, and policymakers to design and implement appropriate green strategies to pursuit organization's sustainability development and to promote competitive advantage.

Keywords: green transformational leadership, green human resource management practices, organizational green practices, top management involvement, organizational social capital, green balanced scorecards

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CHAPTER ONE

INTRODUCTION

The research background and motivations, research objectives, and research procedures are all covered in this chapter.

1.1 Research background and motivation

The race to achieve a competitive advantage through the development of a long-term company policy is critical for companies' survival. Since organizations are concerned about how to preserve and enhance profitability, they should keep an eye on the elements influencing profitability. Moreover, nowadays, the effort to implement an effective green strategy to address the myriad negative effects of industrialization on the environment is even more vital due to climate change and global warming. Since global warming is now one of the most important challenges affecting people's quality of life, it requires immediate attention from all business sectors and decision-makers to combat it (Mishra, 2017). Thus, for the role of leaders, green human resource management (GHRM) practices and green innovation strategies in bringing about reform have been highlighted in many previous studies.

For instance, green transformational leadership (GTL) has a significant impact on green work engagement and green team resilience (Çop et al., 2020); and followers' perception of leaders' actions in their sojourn to stimulate engagement (Schmitt et al., 2016). According to previous studies, the intellectually inspired part of GTL has a favorable impact on performance management, talent management, and employee efficiency (Jia et al., 2018;

Carton et al., 2014). In order to achieve environmental performance, the top management should use GTL (Chen & Chang, 2013) and GHRM practices (Jia et al., 2018; Dumont et al., 2017; Haddock-Millar et al., 2016; Renwick et al., 2013) to develop and support internal competencies required for green innovation (Begum et al., 2022; Singh et al., 2020; Zhou et al., 2018; Chen & Chang, 2013). In the current literature, green innovation predicts environmental performance (Singh et al., 2020), however, the role of innovation and environmental performance in firms' sustainability has not yet been confirmed. Besides, environmental thinking and creativeness have now become important tools for fostering green innovation (Begum et al., 2021), but the influence of GTL in organizational green practices has received little attention in the literature. Moreover, the full potential of GHRM practices for encouraging pro-environmental behaviors for sustainable organizational development in an emerging economy is still not fully investigated. Hence, this study intends to fill these gaps.

Besides, in recent decades, policymakers, scholars, and industry practitioners have paid more attention to sustainability, particularly since the adoption of the *Sustainable Development Goals* promoted by United Nations. In this context, businesses have realized that the preservation of natural resources or the environment is critical to their long-term viability. As a result, the factors that influence environmental performance have previously been investigated in the environmental management literature. GHRM practices, for example, have shown in studies to have a positive and direct effect on environmental performance (Nisar et al., 2021; Kim et al., 2019). Although many empirical studies indicated that green innovation predicts environmental performance (Singh et al., 2020; Chaudhary et al., 2020), these studies have not examined whether organizational green practices are associated with

environmental performance in depth (Li et al., 2020). Hence, our study aims to explore this relationship in depth.

Additionally, organizations have realized that preserving natural resources is critical to their long-term viability. It is well documented that organizations' disregard for the natural environment will inevitably jeopardize their environment and their financial sustainability (Hawkem et al., 1999). As a result, organizations have recognized the importance of incorporating environmental, social, and financial sustainability into their business model and operations (Elkington, 2018). While green operational strategies are clearly beneficial to the environment, the impacts on a company's profitability may be both positive and detrimental (Butler et al., 2011). On the one side, green practices may boost a company's profitability by offering to differentiate its products in the marketplace and enhancing its image among investors and consumers (Reinhardt, 1999). On the other side, green practices may actually lower cost-effectiveness due to the increased expenditures associated with implementing and maintaining sustainable business practices (Uthes et al., 2010). However, the relationship between organizational green practice and environmental performance has still not been clarified clearly.

Furthermore, the balanced scorecards (BSC) has been recognized as a good instrument for incorporating non-financial criteria into company operations and assessments. The BSC has been used by businesses to describe the link between sustainability targets and outcomes, as well as corporate strategy and profitability. The BSC is a strategic management system developed by Kaplan and Norton (1992). It utilizes a balanced collection of financial and non-financial indicators while developing cause and effect links between them. The key objectives of the BSC are to (i) explain and translate the vision and strategy; (ii) communicate and associate objectives and strategic

measurements; (iii) plan, create targets and align strategic activities; and (iv) promote feedback and strategic learning (Voelker et al., 2001). The green balanced scorecards (GBSC) clarifies the relationship between sustainability outcomes and profitability/shareholder interests by integrating sustainability measures into business practices and clearly linking an organization's competitive strategy to its green outcomes (Butler et al., 2011). Indeed, some efforts have been made to identify the motivations for incorporating environmental performance into the BSC (Khalid et al., 2021) in order to successfully manage and target the firm's environmental performance of the supply chain (Ferreira et al., 2016); or using the BSC to evaluate environmental performance and strategy management (Hsu & Liu, 2009). However, there has been little research into the relationship between environmental performance (EP) and GBSC under the context of green management. As a result, the current research attempts to fill this gap in the literature.

Additionally, in some ways, this study adds to the literature by merging transformational leadership theory, the Ability-Motivation-Opportunity (AMO) theory, the Nature-Resource-Based View (NRBV) theory, and then using the Balanced Scorecards theory for green management. Specifically, in this study, we experimentally demonstrate that when leaders are transformational, they motivate their followers to engage in proactive behaviors, such as green behaviors in a company. We argue that when leaders participate in transformational leadership, they discover their followers' talents and encourage them to (a) exploit their strengths and (b) take personal initiative. Such acts may boost employee engagement, that is distinguished by lots of energy (passion), enthusiasm (devotion), and fully immersed in work responsibilities (Schaufeli & Bakker, 2010). Employees who use their talents and take personal initiative achieve what they are already excellent at and

approach their work objectives and responsibilities in a self-starting manner (Bakker et al., 2022).

Furthermore, it is indicated that when the business implements GHRM activities, employees' understanding and dedication to environmental protection and preservation improve (Pham et al., 2019; Farrukh et al., 2022). Thus, by integrating AMO theory, GHRM is adopted in this study to emphasize that the firms need to do different kinds of activities (such as training, rewarding, etc.) to enhance employers' ability by enticing and developing employees to become high-performers, augmenting employee motivation and commitment by providing conditional rewards as well as conducting effective performance appraisal, and by providing opportunities for employees to participate in knowledge-sharing and problem-solving activities that are relevant to green practices and green management. This study also used Hart's natural-resource-based view (NRBV) theory to describe how a company's green practices affect its environmental performance. According to the NRBV theory, three major strategic competencies exist pollution avoidance, product stewardship, and sustainable development. Each of them is driven by various environmental pressures, relies on different essential resources, and derives its competitive edge from a different source (Hart & Dowell, 2010). To enhance environmental performance, firms have to utilize green goods, implement waste reduction and management strategies, and recycle water, by appropriate green human resource management techniques (Ragas et al., 2017). This is crucial since it is ultimately up to organizational members to implement green policy. Besides, pollution reduction, recycling initiatives, and waste minimization are some of the measures used to assess a company's environmental performance (Molina-Azorín et al., 2009). Therefore, this study applied the NRBV theory to explain the reason why the top management

team must promote green practices among employees, which in turn results in sustainable environmental performance.

Lastly, two moderators are employed in this study to promote green environmental performance. First, the organizations tend to be "green" based on the top management involvement. Specifically, with the top management involvement, the green organization policies and strategies will be more effective for sustainable practices (Ilyas et al., 2020). Nevertheless, previous studies regarding the moderating effect of top management involvement on environmental performance are yet to be decided. This study asserted that, based on organizational learning theory (Argyris & Schon, 1978), with higher level of top management involvement, employees will learn more from their leaders. Consequently, employees may have higher mutual understandings and trusts with their leaders. These mutual trusts will result in higher confidence to implement organizational practices, and thus result in higher green performance. Second, organizational social capital is considered to perform the role of a moderator in the relationship between green practices and environmental performance in organizations. Employees are more willing to support a green environmental strategy stance established by senior management in a business with long-term connections (Yong et al., 2020). Additionally, according to the social capital theory, one of the most significant resources that might contribute to the accumulation of human capital is social relationships (Bourdieu, 1986). Social networks, social interaction, social standards, and mutual trust are all examples of social relationships (Nahapiet & Ghoshal, 1998). These social links can enhance member participation, coordination, and interaction, which is critical for enterprises to implement various organizational green practices and, thus, to higher environmental performance (Hussain et al., 2022). Individual empowerment, according to

Sarjiyanto (2022), may increase via synergistic collaboration, social connection, and reciprocal engagement, which is critical for encouraging green activities and business performance. Organizational social capital characterized by such trustworthy connections and objective alignment (Leana & Van Buren, 1999) may thus interact with green practices in cultivating organizational EP.

1.2 Research objectives

Based on the above discussions, these following are the study's objectives:

1. To examine the interrelationship of GTL, GHRM practices, sustainability innovation, and organizational green practices.
2. To examine the influence of organizational green practices on green environmental performance, and its influence on GBSC.
3. To investigate the moderating effect of top management involvement and organizational social capital that can promote the influence of green practices on green EP (GEP) in organizations.

1.3 Research contribution

This dissertation contributes to the literature in some ways by combining transformational leadership theory, the Ability-Motivation-Opportunity (AMO) theory, the Nature-Resource-Based View (NRBV) theory, and the GBSC. First, this study looked at multiple predictors of green environmental performance at the same time. Second, this research adds to the existing body of literature about the impact of green transformational leadership and green HRM on organizational green practices and sustainability innovations. Third,

this study investigates the impact of organizational green practices on green environmental performance as well as their impact on GBSC. Last but not least, this study sheds some light on two moderating variables: top management involvement and organizational social capital, both of which moderate the effects of green environmental practices on GEP.

1.4 Research project and scope of the study

Based on the above research objectives, the authors developed the scope and project of the current study as shown in Table 1-1.

Table 1- 1 The scope of this study

Items	Scope of the Study
Types of the study	The literature reviews that were used to develop the research hypotheses and framework. To collect empirical data, questionnaires and construct measures are utilized, as well as to test hypotheses and draw conclusions.
Key issue	The current study focuses on identifying the moderating effect of top management involvement and organizational social capital that can promote the influence of green practices on GEP in organizations.
Dependent variables	Green financial performance.
Independent variables	GTL, GHRM practices, sustainability innovation, organizational green practices, green environmental performance, green balanced scorecards.
Moderating variables	Top management involvement and organizational social capital.
Underlying theory	Transformational leadership theory, the AMO theory, the NRBV theory, and the GBSC.
Testing location and sample	The top executives, and the human resource managers of the manufacturing small and medium enterprises (SMEs) in Vietnam.
Analyzed unit	Individual level.
Time frame	Cross-sectional study.
Research instruments	1. Meta-analysis: Theory inference, secondary data, and statistical analysis instruments by using CMA software. 2. Survey: SPSS 22.0 and PLS-SEM 3.0 were used for

Items	Scope of the Study
	theory inference, primary data, and analytical approaches.

Source: This study.

1.5 Research procedures

This dissertation contains of six chapters, and the summary for each chapter is as follows:

Chapter one labeled the research background and motivation, research objectives and scope of the study, procedure, and the dissertation structure.

Chapter two presented the literature review, including the evaluation of the theoretical formation and definition of research variables.

Chapter three discussed the development of research hypotheses, study design, and methods. In addition, the research model was given in this chapter. The research design was described, which included (1) meta-analysis and (2) a questionnaire survey. Data collection procedure and data analysis procedure of each research methods are presented.

Chapter four presented the results of a qualitative study using meta-analysis. The purpose of this study was to ensure the comprehensive research model and the completion of the survey questionnaire items.

Chapter five presented the empirical results of the hypotheses testing questionnaire survey. This chapter also included descriptive analysis, measurement scale reliability and validity, and hypothesis testing.

Chapter six presented the study's conclusion and suggestions. A summary and conclusions of the research outcomes were offered. The research contributions; academic and practical implications; limitation and the future directions were also presented in this chapter.

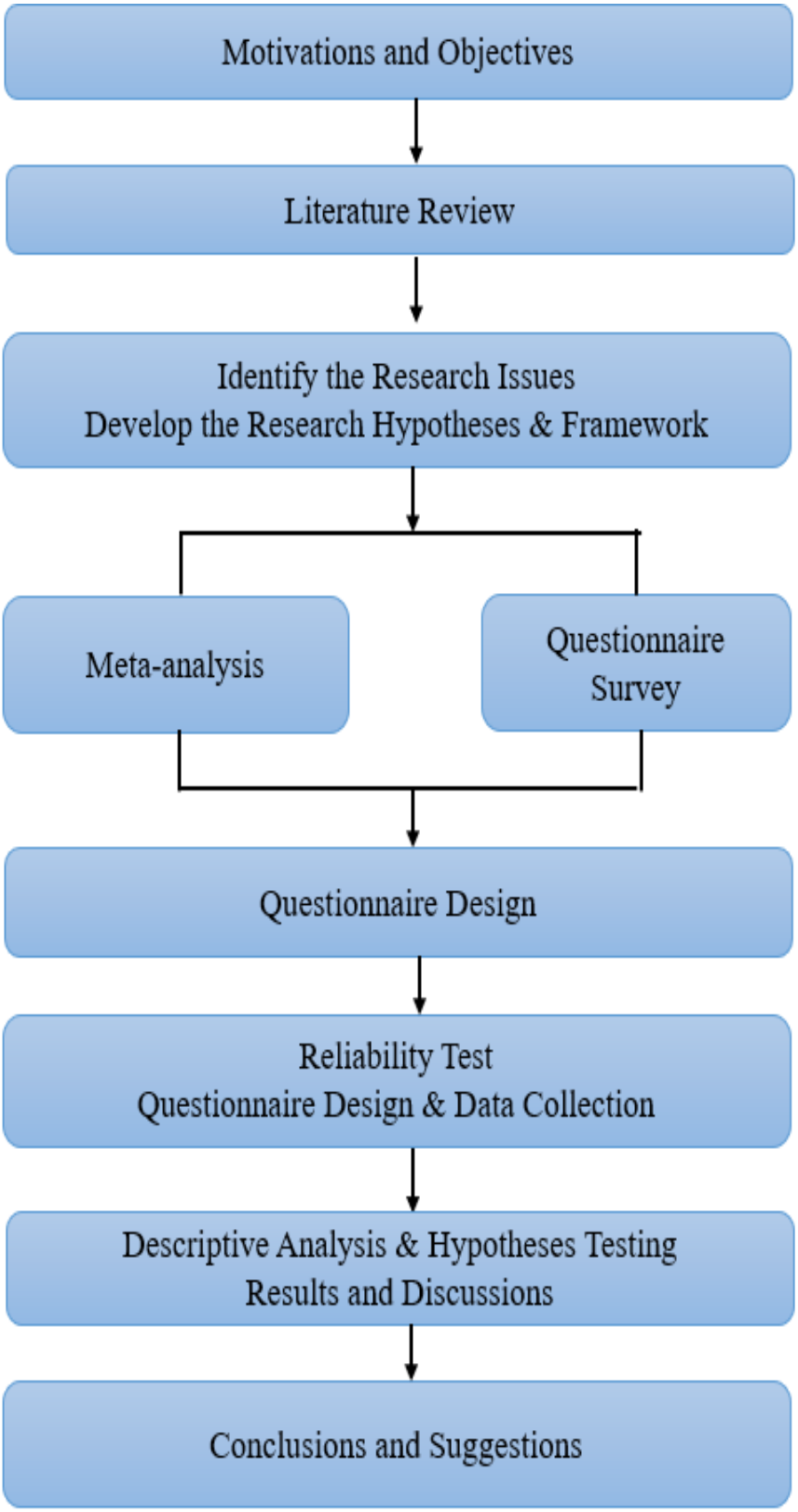

Figure 1- 1 The flow chart

Source: This Study.

CHAPTER TWO

LITERATURE REVIEW

This chapter displays a review of the literature with respect to detailed research constructs definitions. The antecedents, moderators, and consequences of green environmental performance are also presented.

2.1 Theoretical background

2.1.1 The transformational leadership theory

The transformational leadership theory has become a pillar of leadership research (Siangchokyoo et al., 2020). The idea that leaders turn followers in situations that lead to excellent organizational success provides a compelling experimental foundation for both research and practice. Besides, the transformational executives obtain a detailed understanding of the company's existing and future activities in competitive marketplaces (Avolio & Bass, 1995). These leaders create an ambitious vision, have a strong belief in it, express it explicitly, and communicate it to staffs so that they can trust, loyal, and be enthusiastic about the firms' visions (Zhu et al., 2005). According to García-Morales et al. (2012) and Para-González et al. (2018), transformational leadership is concerned with enhancing higher organizational performance as well as what mediates between the prosocial behavioral intentions and organizational performance which is considered unresolved and important for the researcher to discover. However, Della Peruta et al. (2018) and Donate and de Pablo (2015) indicated that the relationship between transformational leadership and financial performance (FP) has been taken as the ground where organizations are required to be more innovative in the platforms of process and goods to get the competitive advantage ground and best performance of

the organization. Thus, in the current study, the transformational leadership theory was chosen based on its applicability to GHRM practices, sustainability innovation, and organizational green practices (Pham et al., 2019; Alnajdawi et al., 2017; Renwick et al., 2012).

2.1.2 Ability-motivation-opportunity (AMO) theory

The AMO theory (Appelbaum et al., 2000) is a key theoretical paradigm in strategic HRM research (Gerhart & Fang, 2015). GHRM practices contribute meaningfully to eco-friendly sustainability by "developing green employee ability (A), which includes attracting, selecting, and training the workforce" (Renwick et al., 2013). Furthermore, the ability to be the greatest predictor of a manager's HRM performance and opportunity (O) did boost the influence of ability on HRM implementation effectiveness (Bos-Nehles et al., 2013; Jia et al., 2018). Additionally, the firms can motivate (M) green employees such as green performance management and green rewards. In this study, we use AMO theory to describe how the firms can improve their capabilities, motivations, and opportunities in order to contribute to implementation effectiveness and organizational green accomplishment.

Natural green competencies are less valued than acquired green abilities, which is the reasons why green training is critical for improving the ability, motivation, and opportunities of the employees who can promote better company capabilities and better for green performance (Subramanian et al., 2016). Previously, in the textile sector, the AMO theory was utilized to explore the implications of GHRM practices, and environmental sustainability (Cheema & Javed, 2017). Pinzone et al. (2019) confirmed the relationship between GHRM practices and environmental management commitment. Pham et al. (2019) further investigated in the hospitality sector the relationship between GHRM practices and environmental performance. Yu et al. (2020) examined the effect of GHRM on organizational green supply chain

management and sustainable cooperation. However, the effect of GHRM practices on sustainability innovation and organizational green practices is still unclarified.

According to the Ability–Motivation–Opportunity theory (Appelbaum et al. 2000), HRM strategies that develop human capabilities translate into performance outcomes such as productivity improvement, lower waste, better performance, and profit. In order to increase organizational performance, the company must display its effort in completing its duties by HRM policies implemented. It is strongly related to the conditions that the company's HRM implementations can support the employees including (i) having the necessary abilities and skills to do their jobs effectively; (ii) are motivated to put in extra effort in performing their tasks; and (iii) are given the opportunity to use their skills and are encouraged to express themselves. From the foregoing, it is clear that from firms must exercise their best effort to provide initiatives and training programs to promote employee's ability, motivation, and opportunities to increase their performance.

2.1.3 Nature-resource-based view (NRBV) theory

Nature resource-based view (NRBV) is a widely acknowledged paradigm that describes how green activities may provide competitive advantages (Hart & Dowell, 2011). According to NRBV, the natural environment has increased the severity of restraints on business, and environmental sustainability fits well with the profit motive of business since company competitiveness is anchored in the ability to execute green business operations (Hart, 1995). NRBV emphasizes the importance of internal resources in developing a competitive advantage (Fichter & Tiemann, 2018).

Pollution prevention, product stewardship, and sustainable development are three major strategic capabilities in NRBV theory. Each of these is driven by different environmental forces, relies on different key resources, and derives

its competitive advantage from a different source. Lower expenses are associated with pollution prevention, which seeks to avoid waste and pollutants instead of cleaning them up at the end of the pipe. Product stewardship extends pollution prevention to include the whole value chain or "life cycle" of a company's product systems. Through stakeholder participation, the "voice of the environment" may be successfully integrated into the product design and development process. The third sustainable development approach emphasizes long-term commitment to market development through the deployment of low-impact technology and products.

Stakeholder and institutional considerations, according to NRBV, are in relation to the the strategies with external aspect. NRBV also necessitates the development of internal capabilities and a shared vision (Hart, 1995). Existing environmental research, NRBV have validated some of Hart's predictions regarding the qualities that promote performance under diverse environmental approaches (e.g., Rodrigues et al., 2021). Furthermore, Hart and Dowell (2011) claimed that environment protection success is connected to flow of material management, and empirical research revealed that process innovation and project control capabilities boost the impact of pollution prevention measures on financial performance. Moreover, empirical investigations (e.g., Chen et al., 2022; Sarker et al., 2021) found that managers overinvested in pollution control while under investing in cost-effective pollution prevention. In the current study, from a nature-resources perspective, primarily discusses which top managers and human resource management measures can be implemented to effectively carry out environmental management. Based on the meaning of NRBV theory, we apply it to explain the relationship between organizational green practices and green environmental performance.

2.2 Research construct definitions

2.2.1 Green transformational leadership

Green transformational leadership (GTL) promotes and creates connections between the employees, thereby generating an organizational network to raise motivation and morale of sustainability in the pursuit of long-term agreements on environmental suatainabilty and organizational environmental performance. In this study, GTL is described by the way which top managers and human resource professionals inspire subordinates with environmental plans, provide subordinates with a clear environmental vision, encourage subordinates to work on the environmental plan, encourage employees to attain environmental goals, consider the environmental beliefs of subordinates, and stimulate subordinates to think and share their green ideas (Chen & Chang, 2013). Many experimental research papers support links between GTL and organizational performance such as Siangchokyoo et al. (2020); Rao and Abdul (2015); Camps and Rodríguez (2011) and so on. Based on hypothetical and empirical evidence, this study purposes to explore the effect of transformational leadership on GHRM practices, sustainability innovation, and organizational green practices.

2.2.2 Green human resource management practices

Green human resource management (GHRM) practices are the way of establishing a green workplace in order to implement and sustain green initiatives across the human resource management process (Marhatta & Adhikari, 2013). In the current study, GHRM practices are defined as the collection of a lot of activities and human resourse implementing to (i) develop green abilities; (ii) motivate green employees; and (iii) provide green opportunities (Sun et al., 2007; Renwick et al., 2013). First, the organization cultivates green abilities by selecting and developing exceptional employees through recruitment and selection. Furthermore, training is widely regarded in the literature as a critical GHRM intervention, not least to raise staff awareness of the environmental impact of their organization's activities (Bansal & Roth,

2000), to equip staff with core skills for environmental protection, and to raise the firm's level of 'eco-literacy' and environmental expertise (Roy & Therin, 2008). Frontline personnel that are well-trained and environmentally conscious are best equipped to identify and decrease waste since they are closest to it. Second, via performance monitoring and assessment, as well as compensation and incentive systems, the organization may incentivize green staffs to promote employees' motivation. Finally, creating green opportunities through employee participation. Employee participation in environmental performance has been documented to improve important outcomes of organizational environmental performance, such as efficient resource utilization (Florida & Davison, 2001), waste reduction (May & Flannery, 1995), and workplace pollution reduction (Kitazawa & Sarkis, 2000).

Several academics have highlighted the strategic importance of GHRM practices in developing and implementing business strategies that focus on sustainability both within and outside of an organization's immediate surroundings (e.g., Yu et al., 2020; Macke & Genari, 2019; Markey et al., 2016). GHRM practices, according to Kapil (2015), include all human resource management systems set in place to guarantee an organization's environmental friendliness is matched. GHRM practices employ policies which concerning human resources and green practices to support the execution of the entire firm's environmental policies, such as sustainable use of raw materials and energy conservation, as well as waste reduction, and pollution control, in order to improve corporate image and financial performance (Prasad, 2013).

Furthermore, GHRM practices are a series of environmental policies designed to increase employees' understanding of environmental actions, with the primary purpose of lowering a company's carbon footprint and boosting its environmental record (Renwick et al., 2013). According to Jabbour and de Sousa Jabbour (2016), effective green practice implementation necessitates

reorienting employees and HRM policies toward environmental issues. This suggests that aligning environmental protection requires GHRM techniques like as employee selection, recruiting, training, empowerment, performance assessment, culture, incentives, teamwork, and participation in green activities and goals (Renwick et al., 2013, 2016; Haddock-Millar et al., 2016). According to Daily and Huang (2001), environmental training, rewards, and employee empowerment all help to better environmental practices. In the current study, applying the AMO theory on explainning GHRM practices (Appelbaum et al., 2000), we propose that the company can improve the human abilities and motivations while also provide opportunities to participate in environmental management-related activities from the perspectives of AMO theory (Haddock-Millar et al., 2016; Berrone & Gomez-Mejia, 2009).

2.2.3 Sustainability innovation

Sustainability innovation is a wide notion that encompasses innovations aimed at reducing a firm's negative influences on the ecosystem and the society while guaranteeing the firm's performance (Hermundsdottir et al., 2021). In this research, sustainability innovation refers to the implementation of sustainability concepts into the innovation process. It is widely described as commercial value-creating innovation with good environmental and social effects (Hermundsdottir et al., 2021; Cho et al., 2020). To fulfill the sustainability innovation goals, for example, the organization will prioritize technological advancement, continual process improvement, lowering energy, water, and other natural resource use, recycling and reusing, and employing environmentally friendly products.

Numerous companies, including those in the textile, food, furniture, and energy industries, have developed the products that are better for the environment, society and manufacturing processes that far exceed the stringent regulations (Schaltegger & Wagner, 2011). Companies that are less reliant on

natural resources than their rivals and have policies in place to cope with sustainability innovation will also have a better chance of long-term success. Sustainable innovation (SI) is making purposeful modifications to a company's goods, services, or products, or processes in order to achieve long-term social and environmental benefits whereas simultaneously creating financial rewards (Adams et al., 2015).

Furthermore, traditionalist and revisionist approaches were used to approach sustainability innovations, leading in heterogeneity in the contemporary literature (Hermundsdottir et al., 2021). According to the traditionalist viewpoint, sustainability technologies help the environment rather than companies. Then, sustainability innovations need a significant initial investment with a lengthy return time, resulting in increased expenses, higher prices, and worse corporate competitiveness (Kuzma et al., 2020; Rauter et al., 2019). The revisionist approach, on the other hand, rejects this assumption and claims that sustainability innovations boost firm performance characteristics in a number of ways (Gürlek et al., 2018; GarcaSánchez et al., 2019; Ikram et al., 2020). This research takes a revisionist approach to sustainable innovation.

2.2.4 Organizational green practices

The current study defines organizational green practices (OGP) as fostering pro-environmental behavior at work that can result in a considerable decrease in environmental concerns. Companies all over the world are using green practices to minimize their environmental effect while also improving their financial performance. Green practices may include actions such as reducing emissions and waste, designing for recyclability, utilizing a green supply chain, utilizing ecologically friendly raw materials, utilizing organic materials, or establishing a reputation for green (Butler et al., 2011).

The current society is confronted with a number of economic, social, and

environmental issues that necessitate responses from individuals, organizations, and governments at all levels. In this context, sustainability and sustainable development have emerged as critical global issues (Leal Filho et al., 2018). The growing demand for more sustainable business practices has had a substantial influence on the growth of companies' competitive strategies. OGP that cause people to focus on doing "the right thing" for the environment (Steg et al., 2014). Green practices are critical in the context of the organization for personal norms at work (Ruepert et al., 2016).

2.2.5 Green environmental performance

Lober (1996) defined green environmental performance (GEP) as an organization's dedication to preserving and protecting its natural environment's multifaceted qualities, such as maintaining the water quality, atmosphere, and land. The consequences of business actions and products on the natural environment, such as resource consumption, waste creation, and emissions, are referred to as GEP (Epstein, 1996). Epstein (1996) listed various elements of GEP, such as pollutant reduction, resource conservation, waste minimization, conservation of energy, the advertising of green products, and the reporting of potential dangers are just a few examples. GEP was defined in this study as the result of a company's strategic initiatives to control environmental consequences (Walls et al., 2012). In this study, GEP is defined as the consequence of a firm's strategic actions that manage environmental impacts. Some of the results that the company can get from green practices such as reducing the overall costs, reducing the times, impoving the product or process quality, improving the companys' reputation, and reducing the time waste (Melnyk et al., 2003; Daily et al., 2007; Chiou et al., 2011).

Because this study emphasized the relationship between GHRM practices, sustainability innovation, and organizational green practices in manufacturing organizations, the environmental performance of these

organizations was viewed as the primary outcome of GHRM practices, sustainability innovation, and organizational green practices implementation.

2.2.6 The green balanced scorecards (GBSC)

The balanced scorecards (BSC) as initially recommended by Kaplan and Norton (1992), is a strategic management tool for both operationalizing and measuring the organization's or organizational units' strategies. BSC strives to 'balance' financial and non-financial success metrics, as well as theoretical and practical success measurements (Kaplan & Norton, 1992; 1996). It does this by offering a series of firm strategic objectives, which are subsequently allocated to one of four performance perspectives including financial, customer, internal processes, learning and growth, and which eventually contribute to long-term financial performance via causation chains (Wu et al., 2019). Sustainable organizational change is becoming increasingly important, necessitating a rethinking of management and performance measurement and monitoring systems within businesses. As a response to current global warm phenomena, we attempted to investigate the components of green practices based on the balanced scorecard (BSC) of companies through green management in this study.

Based on the BSC theory from Kaplan and Norton (1992), this study tries to broaden the notion of green balanced scorecards (GBSC) with four elements including green learning and growth (GLG), green internal process (GIP), green customer satisfaction (GCS), and green financial performance (GFP) through green practices and environmental performance. This study proposed that GBSC is the consequence of organizational green practices and environmental performance. First, GLG can be described as the results of the firms' green practices and achieving the environmental performance such as attaining the business process innovation, raising the satisfaction level of customer enterprises, achieving the information flow through green training,

and preparing the uncertainty or risk. Second, GIP can be described as the results of the firms' green practices and achieving the environmental performance such as improving its competitive power, providing the products and services on time, reducing the inventory cost and the rate of inventory, and improving the productivity and business value. Third, GCS can be described as the results of the firms' green practices and achieving the environmental performance such as reducing the business handling time and resource waste, reducing the business cycle time and the delivery time, raising the quality level of the product and service, and reducing the cost of goods. Last, GFP can be described as the results of the firms' green practices, and achieving the environmental performance such as raising the rate of business profits; smoothing cash flow of business; increasing the rate of earnings and sales; and improved the rate of return on capital.

2.2.7 Top management involvement (TMI)

Top management involvement (TMI) in the company's sustainability management is one of the key success factors for the company's long-term development (Kiesnere & Baumgartner, 2020). Through their dedication and leadership, top executives not only offer resources and reward schemes for employees to support sustainability projects, but they also have a tremendous effect on organizational culture and business decision-making processes. The top management is made up of the organization's highest-ranking officials. According to Auh and Menguc (2005); and Hambrick and Mason (1984), key executives set the tone and provide guidance for crucial strategic decisions; they are regarded as the driving power behind the firm's behavior and performance. In this study, TMI is defined as the managers and top executives who are concerned about environmental issues and involved in the organizational green practices such as paying close attention to green appeal information, keeping a watchful eye on new and popular green products,

understanding that every action will impact the environment, willing to make sacrifices to protect the environment, and knowing that the condition of the environment affects the quality of everyone life (Schuhwerk & Lefkof-Hagius, 1995; Souza & Taghian, 2005).

2.2.8 Organizational social capital

Organizational social capital (OSC) is defined as collective assets that represent the characteristics of social ties among employees within a company (Nahapiet & Ghoshal, 1998). According to the social resource viewpoint, OSC reflects the qualities of social groupings that each individual member may access and use to achieve advantages (Lin, 1999; Yang, 2007). Individually experienced social capital is thought to reflect the latent benefits of OSC to a large extent (Boyas & Wind, 2010; Yang, 2007).

OSC has three components including the structural (related to information sharing), relational (related to trust), and cognitive (related to shared vision) (Nahapiet & Ghoshal, 1998; Leana & Pil, 2006). The structural OSC is the degree to which organizational members are integrated or connected, as well as their exposure to each other's intellectual capital (Nahapiet & Ghoshal, 1998). Relational OSC (Nahapiet & Ghoshal, 1998) defines the the extent and degree of these ties among organizational members, which is well-defined as trust among organizational members. The cognitive dimension of OSC explains the extent to which its members share a common shared vision (Tsai & Ghoshal, 1998) that binds them together for a common goal. Social capital fosters internal management, knowledge creation and growth, creativity (Leana & Pil, 2006; Han et al., 2014), and innovation within an organization (Maurer et al., 2011). As a result, in a green practices environment, employees with high social capital seem to be more likely to be involved in pro-environmental. Therefore, the current study aims to examine the moderating role of OSC in terms of OGP and environmental performance.

CHAPTER THREE

META-ANALYSIS

This chapter presents research framework, hypotheses, and empirical results from meta-analysis.

3.1 Meta- analysis

The primary objective of the meta-analysis study is to examine prior study findings, some of the hypotheses from the suggested research framework. Meta-analysis is important because some primary studies may not have enough power (e.g., sample size) to get statistically significant results, and virtually all studies lack the capacity to correctly assess impact size (Lipsey & Wilson, 2001). By trying to combine the findings of multiple independent studies that bear on the same correlation into a single estimate and correcting for the distorting effects of artifacts that may produce the illusion of conflicting findings, meta-analysis arrives at more accurate conclusions than any of the primary studies (Hunter & Schmidt, 2004).

The main benefits of meta-analysis obviously stem from the method's ability permit scholars to combine conclusions from multiple studies, determine the robustness and generalization of stated connections, as well as dissect contradictory findings (Pan & Sparks, 2012). Meta-analysis is a statistical technique that combines data from previous studies. When the effect size is constant from one study to another, meta-analysis can be utilized to uncover a common effect (Hunter & Schmidt, 1990; 2004). Because meta-analysis does not necessitate access to original study data, it has emerged as one of the most popular integrative approaches for determining effect sizes of the same hypotheses across many empirical studies (Liberati et al., 2009).

In comparison to a literature review, as shown in many journal papers and dissertations, the meta-analysis technique offers in this study has many advantages. The emphasis on performing an investigation of published studies distinguishes meta-analysis. This focus is critical from both a practical and theoretical standpoint. According to the American Psychological Association (2008), a given literature stream typically contains divergent findings, and studies can grow so numerous that drawing any genuine findings about a specific topic becomes difficult. Meta-analysis enables the quantitative investigation of previous results in a specific literature flow to provide a more effective methods of formulating causal influences and comprehension, at least inferentially, how various findings happened (Hedges & Cooper, 1994), and also the relative importance of different independent factors (Gravier et al., 2008; Lipsey & Wilson, 2001). The main objective of meta-analysis is to collect and simplify findings from the previous studies in order to make the existing state of knowledge on a specific topic more translucent and to support guide forthcoming research (e.g., Farley & Lehmann, 1986; Bijmolt et al., 2001).

Furthermore, it enables researchers to investigate the contribution of minor and insignificant effects in a body of literature (Cooper & Patall, 2009; Cooper & Hedges, 1994). The antecedents and consequence of environmental performance is a specific area in which there have been no previous endeavors to quantitatively synthesize the results from the literature. As a result, a meta-analysis of GTL, GHRM practices, GI, EP, and FP literature may supply a much-needed literature overview while also highlighting any discrepancies and gaps in the literature.

According to De Matos and Rossi (2008), when using the meta-analysis method, two criteria should be included: (1) correlation studies that yield the correlation coefficient, r, or the standardized regression coefficient, ß, and (2)

group contrast studies that yield related statistics (t-tests or F-ratios with one degree of freedom in the numerator) determining the influence of independent variables on dependent variables. A p-value was also used to determine the significance of the variables. Furthermore, using Comprehensive Meta-Analysis (CMA) software, all coefficients can be converted into r coefficients. The correlation coefficient r was used as the primary effect size in this study because it is easier to interpret and because most studies use "r" as the primary criterion in a meta-analysis (Bhaskar-Shrinivas et al., 2005; Byron et al., 2010). Before considering r coefficients, the study's basic information was assessed for instance researchers, year, journal, sample size, study factors, and effect magnitude are all examples of basic information.

3.2 Research framework

Based on the research objectives, this study tried to review previous literature related to the objectives of this study. Since meta-analysis is a summary of previous studies, thus, those construct relationships with more than five quantitative results between 2011 to 2021 were included in this meta-analysis framework.

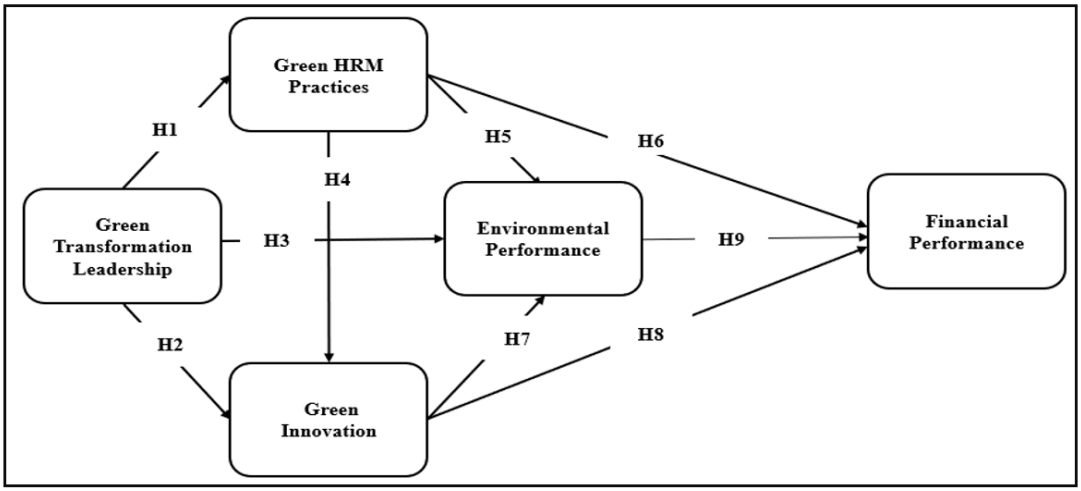

Figure 3-1 The conceptual framework of meta-analysis

Source: This Study.

Eventually, nine major hypotheses were included. This meta-analysis process includes a thorough review of literature, a development of research hypotheses, a cacluation of effect size using CMV meta-analysis software, and a significiance test of the effect size. The conceptual framework of the meta-analysis is shown in Figure 3-1.

The scope of the relationships is as follow:

Hypothesis H1. Green transformational leadership will have a directly and positively influence on GHRM practices.

Hypothesis H2. Green transformational leadership will have a directly and positively influence on green innovation.

Hypothesis H3. Green transformational leadership will have a directly and positively influence on environmental performance.

Hypothesis H4. GHRM practices will have a directly and positively influence on green innovation.

Hypothesis H5. GHRM practices will have a directly and positively influence on environmental performance.

Hypothesis H6. GHRM practices will have a directly and positively influence on financial performance.

Hypothesis H7. Green innovation will have a directly and positively influence on environmental performance.

Hypothesis H8. Green innovation will have a directly and positively influence on financial performance.

Hypothesis H9. Environmental performance will have a directly and positively influence on financial performance.

3.3 Hypothesis development for meta-analysis

3.3.1 Green transformational leadership, GHRM practices, green innovation, and environmental performance

Transformational leadership completely embraces senior management's

values, attitudes, beliefs, and actions. Transformational leadership also has a significant impact on a company's HRM processes (Renwick et al., 2013). Marshall et al. (2005) indicated that leaders have a significant impact on the development of HRM ideas, goals, and policies. However, HRM practices have evolved into an essential platform for senior management to deliver corporate plans and visions (Carton et al., 2014). According to research, the intellectually inspired feature of transformational leadership improves performance management, talent management, and staff efficiency. As a result, when a firm seeks an environmental purpose, a transformational leader can successfully communicate green goals to HRM and affect the world. Thus, this study proposes that:

Hypothesis H1: Green transformational leadership will have a directly and positively influence on GHRM practices.

The implementation of green practices to increase cost-effective performance and environmental performance is an essential goal of every firm. As a result, part of leadership entails fulfilling the organization's economic and environmental goals and ambitions. That influences the leadership development paradigm. Leaders can utilize encouraging and logical inspiration and motivation, which is hazardous to a company's innovation (Elkins & Keller, 2003). Earlier research found that transformative leadership can have an impact on a company's innovation; besides, it can also serve to promote fresh ideas and motivate employees (Jung et al., 2003; Choi et al., 2016; Prasad & Junni, 2016). According to recent studies, leadership plays a challenging role in the encouragement of beneficial innovation ideas within organizations. Because transformational managers act as an accelerator that pushes their followers to look at difficulties in new ways and expand creative minds in the innovative process (Ahmeda et al., 2020; Knezović & Drkić, 2021). Furthermore, positive behaviors are part of the leadership that helps employees

to come up with innovative ideas. Besides, green transformational leaders play a critical role in the formulation of supportive GHRM practices to achieve the organization's green innovation (Jia et al., 2018). Thus, we predict that:

Hypothesis H2: Green transformational leadership will have a directly and positively influence on green innovation.

Employee behaviors and attitudes, employee engagement, and economic strength (Barling et al., 2009), environmental performance (Ramus & Steger, 2000), and psychological performance are all influenced by transformational leaders. Additionally, transformational leaders promote organizational innovation performance (Jia et al., 2018), and positively impact green performance (Riva et al., 2021; Rizvi & Garg, 2020; Chen et al., 2014). Çop et al. (2021) discovered that green transformational leadership has a significant effect on green employee engagement, which in turn impacts environmental performance. As a result, we developed the following hypothesis based on the literature.

Hypothesis H3: Green transformational leadership will have a directly and positively influence on environmental performance.

3.3.2 GHRM practices, green innovation, environmental performance, and financial performance

Green innovation refers to playing a role in the development of environmentally friendly products and processes through the acceptance of administrative functions, specifically, green resources, and the use of some resources while designing products using eco-design ideologies and to sink discharges, reduce waste of electricity, water, and resources. Many existing studies suggest that firms with green innovation are extremely effective and provide overall improved performance when compared to competitors, due to the way they influence green capital, abilities to respond quickly and correctly to clients' requirements, add nontangible beliefs and property to the

organization. Previous study has found that human resource management has a substantial impact on technical and product innovations (Oltra et al., 2022; Shahzad et al., 2021; Wei et al., 2011). Thus, we hypothesized that:

Hypothesis H4: GHRM practices will have a directly and positively influence on green innovation.

Environmentally aware firms are generally preferred by job searchers (Gully et al., 2013), which means that organizations looking to attract and recruit the top people provide roles emphasizing environmental conservation and enhancement (Renwick et al., 2016). According to their findings, both the recruiting and selection procedures in firms demonstrate the growing importance of GHRM (Renwick et al., 2016). Furthermore, as the demand for environmental protection rises, GHRM is having a greater impact on environmental education, administration, and career development in businesses (Renwick et al., 2016). Furthermore, it has been demonstrated that GHRM and individual environmental performance are favorably associated (Paillé et al., 2020). As a result, GHRM has the potential to affect individual employees' understanding of environmental preservation and improvement. GHRM is likely to influence the outcomes of individual and organizational efforts directed at reducing an organization's negative impact on the environment, increasing its positive impact on environmental healing and recovery. GHRM practices encourage employee participation in pro-environmental behaviors in order to achieve long-term environmental performance (Ojo et al., 2020; Tahir et al., 2020). Accordingly, we propose these hypotheses:

Hypothesis H5: GHRM practices will have a directly and positively influence on environmental performance.

Previous research has demonstrated that worker engagement, capability, and involvement in environmental practices have a favorable influence on

financial performance (AlZgool, 2019; Masri & Jaaron, 2017; Jabbour & de Sousa Jabbour, 2016). According to O'Donohue and Torugsa (2016), GHRM practices improve financial performance, however, Renwick et al. (2013) contend that the effect of GHRM practices extend beyond preserving natural resources and influences financial performance. GHRM practices such as green recruiting, selection, training, remuneration, assessment, business operations techniques, and employee green values assist organizations achieve a competitive edge, boost sales, and enhance profitability (Haddock-Millar et al., 2016). As stated by Longoni et al. (2018), implementing GHRM practices attract prospective competent workers who may provide a business with a competitive advantage in terms of improving FP. Furthermore, Bon et al. (2018), GHRM practices create a competitive edge, which may consequence in enhanced financial performance. As a result, we hypothesize:

Hypothesis H6: GHRM practices will have a directly and positively influence on financial performance.

3.3.3 Green innovation, environmental performance, and financial performance

Green innovation (GI) is linked to an effective environmental management program that improves environmental efficiency through green innovation (Singh et al., 2020; Adegbile et al., 2017). According to Weng et al. (2015), GI including green product and process development not only eliminates the firm's negative environmental impact but also improves financial performance by eliminating waste and costs, saving time, money, and resources. Furthermore, exploratory GI can lead to the creation of new goods and techniques that can help with environmental cleansing, healing, and rehabilitation (Sobaih et al., 2020). Based on the above statements, this study contends that green innovative firms may make improvements to their goods and internal processes while lowering their operating costs. Because they may

distinguish themselves from their competition and achieve external reputation and legitimacy, they can increase their total revenues. Some recent studies determined that GI has a positively effect on firm's financial performance (Rehman et al., 2021). Therefore, we predict that:

Hypothesis H7: Green innovation will have a directly and positively influence on environmental performance.

Hypothesis H8: Green innovation will have a directly and positively influence on financial performance.

3.3.4 Environmental performance and financial performance

EP is defined as business activities and organizational operations that are related to the natural environment, as well as how organizations maintain and enhance sustainability EP in order to reduce damage, squandering, and emissions (Arabkoohsar et al., 2020). Then, according to Sun et al. (2021), reduce damage will result in lower down operating costs, reduce squandering and reduce emissions will result in lower investment and operation costs, thus improve finance performance. Along with previous researches, a company's environmental strategy, as well as particular proactive measures aimed at producing eco-friendly technology, can boost its financial results (Tahir et al., 2020; Malik et al., 2021). According to the natural-resource-based theory, pollution prevention, product stewardship, and long-term development are main environmental measures which contribute to competitive benefits for enterprises (Hart, 1995; Barney, 1991; Wernerfelt, 1984; Hart & Dowell, 2011). Hence, we propose the hypothesis below:

Hypothesis H9: Environmental performance will have a directly and positively influence on financial performance.

3.4 Inclusion criteria and coding

Theoretical and qualitative studies were not included in the analysis. Despite the wide variation in the retained studies, the majority of previous

studies used a cross-sectional, mail survey. This study identified two criteria for evaluating the effect size of each hypothesis: (1) correlation coefficients (r) or standardized regression coefficients (β) should be presented in the study, and (2) if r or were not available, t, z, and p-values should be available. These values can be converted to correlation coefficients (r) using Comprehensive Meta-Analysis (CMA) software. r was chosen as the primary effect size in this study because it is easier to interpret and is a scale-free measure, which is a common approach in meta-analysis (Byzon & Khazanchi, 2010; De Matos & Rossi, 2008).

3.5 Data collection for meta-analysis

The following steps were used to collect research articles for this study. First, those articles with relevant research topics of study that appeared in the meta-analysis. To create a database for this study, indexed keywords were specifically searched. In detail, we searched a couple of keywords including green transformational leadership and GHRM practices (for Hypothesis H1), green transformational leadership and green innovation (for Hypothesis H2), green transformational leadership and environmental performance (for Hypothesis H3), GHRM practices and green innovation (for Hypothesis H4), GHRM practices and environmental performance (for Hypothesis H5), GHRM practices and financial performance (for Hypothesis H6), green innovation and environmental performance (for Hypothesis H7), green innovation and financial performance (for Hypothesis H8), and environmental performance and financial performance (for Hypothesis H9). Data for all of the above constructs were gathered from various scientific databases, including ProQuest, JSTOR, Willey Online Library, Science Direct, Taylor and Francis, and Emerald Insight, among others, in order to identify studies relevant to the research topic of this study. Second, quantitative studies were chosen to test the interrelationships between green transformational leadership, GHRM

practices, GI, EP, and FP.

Finally, these preliminary studies should be carried out quantitatively, with sample sizes, correlation coefficients (r) or standardized regression coefficients (ß), and path coefficients. The antecedents and consequence of environmental performance meta-analysis included previous studies from 2011 to 2021.

Based on the study results from 96 previous studies, the articles were collected from the following journals.

(1) Acta Psychologica Sinica
(2) Asian Review of Accounting
(3) Benchmarking: An International Journal
(4) Business Strategy and the Environment
(5) Current Issues in Tourism
(6) Employee Relations
(7) European Journal of Innovation Management
(8) Industrial Management & Data Systems
(9) International Journal for Quality Research
(10) International Journal of Commerce and Management
(11) International Journal of Environmental Research and Public Health
(12) International Journal of Innovation Management
(13) International Journal of Hospitality Management
(14) International Journal of Management Excellence
(15) International Journal of Manpower
(16) International Journal of Productivity and Performance Management
(17) International Journal on Recent Trends in Business and Tourism
(18) International Journal of Trade and Global Markets

(19) Journal of Asia Business Studies
(20) Journal of Business Ethics
(21) Journal of Business Research
(22) Journal of Cleaner Production
(23) Journal of Knowledge Management
(24) Journal of Management & Organization
(25) Journal of Organization and Business
(26) Journal of Research & Reviews in Social Sciences Pakistan
(27) Journal of the Academy of Marketing Science
(28) Management Decision
(29) Organization & Environment
(30) Pakistan Journal of Commerce and Social Sciences
(31) Personnel Review
(32) Polish Journal of Management Studies
(33) Prabandhan: Indian Journal of Management
(34) Problems and Perspectives in Management
(35) Social Responsibility Journal
(36) Supply Chain Management: An International Journal
(37) Sustainability
(38) Sustainability Accounting, Management and Policy Journal
(39) Sustainable Economics and Accounting Journal
(40) Sustainable Production and Consumption
(41) Systematic Reviews in Pharmacy
(42) Technological Forecasting and Social Change
(43) The International Journal of Human Resource Management
(44) Tourism Management

3.6 Data analysis techniques for meta-analysis

The following information was acquired from all recognized studies: the

total sample number, the set of items measured each construct, correlation for each hypothesis, and reliability for each variable (Peterson & Brown, 2005). The following important characteristics were investigated in all chosen studies: authors, year, sample size, study variables, effect size, and journal (Matso & Rossi, 2008).

According to Peterson and Brown (2005), a meta-analysis should contain as many effect sizes as possible, and the approach can make the conclusions more generalizable (De Matos & Rossi, 2008). This study also included papers that only reported standard regression coefficients (β) and estimated correlation from the β following the formula $r=0.98\beta+0.5\lambda$, where $\lambda=1$ when β is non-negative, and $\lambda=0$ when β is negative (Peterson & Brown, 2005).

Using Comprehensive Meta-analysis (CMA) software, the effect size was computed and classified as small ($r<0.1$), medium ($0.1<r<0.4$), and large ($r>0.4$). Furthermore, this study also reported a 95% confidence interval (CI). A 95 percent CI around for a point estimate that does not contain zero indicates that the estimate would be larger or less than zero in 95 percent of circumstances when the estimation methods were repeated numerous times.

Another Q-statistic mentioned by Lipsey and Wilson (2001) is an analysis of the homogeneity of the effects size distribution. It has a Chi-square distribution with a degree of freedom = n-1, where n is the number of investigations. This test assumes that all effect sizes estimate the same population means, which is a valid assumption. The Q-statistic requirement is that Q-value should be greater than Chi-square, and the p-value should be less than 0.05. When the null hypothesis of homogeneity is rejected, it indicates that the variation in effect size is due to the variables rather than sampling error (De Masto & Rossi, 2008). It implies that the null hypothesis of homogeneity has been accepted. The variability across impact size is thus less than what

would be predicted based on sampling. If the null hypothesis of homogeneity is rejected, discrepancies in effect magnitude may be ascribed to factors other than sampling, implying that variance heterogeneity exists. The impact was investigated in this study. The following is the equation for calculating the Q statistic: $Q = \sum W_i \ (ES_i - \overline{ES_j})^2$

Where: ES_i is the individual effect size

$\overline{ES_j}$ is the weight mean effect size for each group

W_i is the weight for each effect size

Additionally, the I^2 value estimates the fraction of error variation that cannot be explained to sampling error. The I^2 statistic is a test of heterogeneity. I^2 can be calculated from Cochran's Q (the most commonly used heterogeneity statistic) according to the formula: I^2 = 100% X (Cochran's Q – degrees of freedom). Any negative values of I^2 are considered equal to 0, so that the range of I^2 values is between 0-100%.

3.7 Results and discussions for meta-analysis

The purpose of Hypothesis 1 is to evaluate the relationship between GTL and GHRM practices. There is a correlation ($r = 0.524$, $p < 0.000$, $Q = 91.716$, $\chi^2 = 22.458$) so it has a high effect between GTL and GHRM practices. Besides, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. These findings are consistent with prior research, which found that green transformational leadership has an important role in influencing GHRM practices and, as a result, predicting green innovation in organizations (Singh et al., 2020; Jia et al., 2018; Renwick et al., 2013). Green transformational leadership in organizations is important in the development of supporting GHRM policies and practices (Jia et al., 2018) to aid businesses in delivering on their strategy and aspirations (Carton et al., 2014). Therefore, H1 is

supported and it can be concluded that green transformational leadership has a positive influence on GHRM practices.

Hypothesis H2 examines the effect between green transformational leadership and green innovation. There is a correlation ($r = 0.443$, $p < 0.000$, $Q = 345.844$, $\chi^2 = 48.268$) so it has a high effect between green transformational leadership and green innovation. Furthermore, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. The findings for Hypothesis H2 are consistent with those found in Nusair et al. (2012) and Ahmeda et al (2020), which indicated that GTL can help boost green innovation by inspiring people with their green environmental plans, providing a clear environmental vision, making employees passionate about environmental goals, and, most importantly, encouraging employees to think about and share green ideas and practices. Besides, several studies in the expanding transformational leaders' literature have found a favorable association between transformational leaders and innovation (Choi et al., 2016; Prasad & Junni, 2016; Begum et al., 2022; Wasim & Rehman, 2022). According to Jung et al. (2003), for example, transformational leaders is positively connected with innovation potential because it encourages workers to openly debate and test out creative ideas and techniques. According to Ngo et al. (2022), transformational leader's conduct influences a firm's innovation potential directly or indirectly through enhancing a firm's learning capability. Therefore, H2 is supported and it can come up with a conclusion that GTL has a positive influence on green innovation.

The results display that the variable of GTL has a positive influence on environmental performance ($r = 0.490$, $p < 0.000$, $Q = 70.958$, $\chi^2 = 24.322$). Following the criteria set out in Lipsey and Wilson (2001), this connection has large effect sizes. Furthermore, the Q-value is bigger than the Chi-square value,

indicating that the impact is due to the variation assigned to variables rather than sampling errors. This is identical to the view that the important role of top executies or human resource managers or other functions in improving the organization's environmental performance (Riva et al., 2021; Rizvi & Garg, 2020). Furthermore, transformational leaders promote organizational innovation performance directly or indirectly through openness to innovation (Jia et al., 2018) and positively impacts green performance (Riva et al., 2021; Rizvi & Garg, 2020; Chen et al., 2014). Therefore, H3 is supported and it can be understood that GTL has a positive influence on environmental performance.

Hypothesis H4 focuses on the effect between GHRM practices and green innovation (GI). There is a correlation ($r = 0.333$, $p < 0.000$, $Q = 86.683$, $\chi^2 = 22.458$) so it has a medium effect between GHRM practices and green innovation. Furthermore, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. These outcomes are in line with earlier studies which clarified that GHRM practices have been recognized as a critical role for enhancing green innovation (Song et al., 2021; Malik et al., 2021; Sobaih et al., 2020; Song et al., 2020; Rehman et al., 2021). Several studies indicated that HRM schemes have a beneficial influence on organizational innovation (Alfawaire & Atan, 2021; Cao et al., 2021; Chowhan, 2016). Therefore, H4 is supported and it can bring a close that GHRM practices have a positive influence on green innovation.

Hypothesis H5 underlines the effect between GHRM practices and environmental performance (EP). There is a correlation ($r = 0.436$, $p < 0.000$, $Q = 247.510$, $\chi^2 = 48.268$) so it has a high effect between perceived quality and brand loyalty. Furthermore, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather

than sampling errors. This result supports Yusoff et al. (2020), which stated that the adoption of GHRM practices provides a win-win situation for the organization, stakeholders, and drives organizational environmental performance. Besides, a study conducted by Jabbour and de Sousa Jabbour (2016), for example found that GHRM practices contribute to improved environmental performance of businesses. According to studies, organizations cannot successfully implement environmental management programs unless they have GHRM practices (Anwar et al., 2020; Gilal et al., 2019; Rawashdeh, 2018; Bangwal et al., 2017; Tariq et al., 2016). Therefore, H5 are fully supported and it can bring about a fact that GHRM practices have a positive influence on EP.

Hypothesis H6 examines the effect between GHRM practices and financial performance (FP). There is a correlation ($r = 0.431$, $p < 0.000$, $Q = 27.995$, $\chi^2 = 18.467$) so it has a high effect between brand image and brand loyalty. Furthermore, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. Consistent with previous conceptualizations in the GHRM practices literature (e.g., Úbeda-García et al., 2021; Agyabeng-Mensah et al., 2020; O'Donohue & Torugsa, 2016), GHRM practices are found to positively affect organizational FP. Therefore, H6 is accepted and it can be said that GHRM practices have a positive influence on FP.

Hypothesis H7 examines the effect between green innovation (GI) and environmental performance (EP). There is a correlation ($r = 0.489$, $p < 0.000$, $Q = 64.469$, $\chi^2 = 26.124$) so it has a high effect between GI and EP. Furthermore, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. The results with regard to Hypothesis H7 are in line with those studies results (e.g, Shafique et al., 2020; Kraus et al., 2020; Li et al., 2020; Arshad,

2019), which found that a positive green innovation can be listed as a strong reason for boosting the high environmental performance. Therefore, H7 is supported and it can come up with a conclusion that GI has a positive influence on EP.

Table 3-1 Previous studies used in meta-analysis

Studies Alphabetically by Source and Codes for Hypotheses Tests [a,b]	
Abuelhassan & Elsayed, 2020[17] (GHRMP-EP)	Malik et al., 2021[30] (GHRMP-GI; GI-EP)
Acquah et al., 2021[4] (GHRMP-EP; GHRMP-FP)	Mittal & Dhar, 2016[43] (GTL-GI)
Afsar et al., 2014[8] (GTL-GI)	Moin et al., 2020[5] (GTL-GHRMP)
Afum et al., 2021[4] (GHRMP-FP)	Mousa & Othman 2020[22] (GHRMP-EP)
Aguilera-Caracuel & Ortiz-de-Mandojana, 2013[29] (GI-FP)	Mukherjee & Chandra, 2018[33] (GHRMP-EP)
Aslam et al., 2020[4] (EP-FP)	Nusair et al., 2012[10] (GTL-GI)
Agyabeng-Mensah et al., 2020[36] (GHRMP-FP)	O'Donohue et al., 2015[42] (GHRMP-FP)
Ahmeda et al., 2020[40] (GTL-GI; GHRMP-GI)	Obeidat et al., 2018[20] (GHRMP-EP)
AlZgool 2020[40] (GHRMP-EP)	Ojo et al., 2020[35] (GHRMP-EP)
Arshad 2019[25] (GTL-GHRMP; GTL-GI; GHRMP-EP; GI-EP)	Para-González et al., 2018[6] (GTL-GI)
Baah et al., 2021[39] (EP-FP)	Peng et al., 2020[1] (GTL-GHRMP)
Carton et al., 2014[27] (GTL-GHRMP)	Prasad & Junni, 2016[28] (GTL-GI)
Çop et al., 2021[4] (GTL-EP)	Rawashdeh et al. 2021[9] (GTL-GI; GI-FP)
Chen et al., 2014[37] (GTL-EP)	Rehman et al., 2021[41] (GHRMP-GI; GHRMP-EP; GI-EP; GI-FP)
Choi et al., 2016[31] (GTL-GI)	Ren et al., 2021[14] (GHRMP-EP)
Elshaer et al., 2021[37] (GHRMP-EP)	Riana et al., 2020[34] (GHRMP-GI; GHRMP-EP)
García-Morales et al., 2012[21] (GTL-GI)	Riva et al., 2021[4] (GTL-GI)
Ghouri et al., 2020[16] (EP-FP)	Rizvi & Garg, 2020[4] (GTL-EP; GHRMP-EP)
Guerci et al., 2016[42] (GHRMP-EP)	Roscoe et al., 2019[4] (GHRMP-EP; GTL-EP)
Hameed et al., 2020[15] (GHRMP-EP)	Sakharina et al., 2020[32] (GHRMP-EP)
Haninun et al., 2018[18] (EP-FP)	Singh et al., 2020[41] (GTL-GHRMP; GTL-GI)
Hu et al., 2021[4] (GI-FP)	Sobaih et al., 2020[37] (GHRMP-GI; GHRMP-EP; GI-EP)
Jia et al., 2018[37] (GTL-GHRMP; GTL-GI)	Song et al., 2021[7] (GHRMP-GI)
Jyoti & Dev, 2015[19] (GTL-GI)	Stock & Zacharias, 2011[27] (GI-EP)
Kalyar et al., 2019[38] (EP-FP)	Tahir et al., 2020[26] (GHRMP-EP)
Kim et al., 2019[13](GHRMP-EP; GTL-EP)	Tariq et al., 2019[7] (GI-FP)
Khalili, 2016[28] (GTL-GI)	Teixeira et al., 2016[22] (GHRMP-EP)
Knezović & Drkić, 2020[6] (GTL-GI)	Tipu et al., 2012[24] (GTL-GI)
Kraus et al., 2020[41] (GI-EP)	Trung et al., 2014[12] (GTL-GI)
Le & Lei, 2019[23] (GTL-GI)	Úbeda-García et al., 2021[21] (GHRMP-EP; GHRMP-FP)
Li et al., 2020[22] (GTL-GI)	Wang et al., 2014[43] (GTL-GI)
Li et al., 2020[12] (GTL-GHRMP; GI-EP; GI-FP)	Wei et al., 2011[42] (GHRMP-GI)
Li et al., 2020[19] (GTL-GI)	Weng et al. 2015[37] (GI-EP; GI-FP)
Li et al., 2019[37] (GTL-GI)	Yan & Hu, 2021[15] (GTL-EP)
Lu & Taylor, 2018[2] (EP-FP)	Yasaka, 2017[33] (GTL-EP; GI-EP)
	Yusliza et al., 2020[22] (EP-FP)
	Zafar et al., 2017[14] (GTL-EP)
	Zaid et al., 2018[22] (GHRMP-EP)

**Notes:* [a]Codes in parentheses: GTL=Green Transformational Leadership; GHRMP= Green Human Resource Management Practices; GI= Green Innovation; EP= Environmental

Performance; FP= Financial Performance.

[b]Journals are footnoted in order:

(1) Acta Psychologica Sinica
(2) Asian Review of Accounting
(3) Benchmarking: An International Journal
(4) Business Strategy and the Environment
(5) Current Issues in Tourism
(6) Employee Relations
(7) European Journal of Innovation Management
(8) Industrial Management & Data Systems
(9) International Journal for Quality Research
(10) International Journal of Commerce and Management
(11) International Journal of Environmental Research and Public Health
(12) International Journal of Innovation Management
(13) International Journal of Hospitality Management
(14) International Journal of Management Excellence
(15) International Journal of Manpower
(16) International Journal of Productivity and Performance Management
(17) International Journal on Recent Trends in Business and Tourism
(18) International Journal of Trade and Global Markets
(19) Journal of Asia Business Studies
(20) Journal of Business Ethics
(21) Journal of Business Research
(22) Journal of Cleaner Production
(23) Journal of Knowledge Management
(24) Journal of Management & Organization
(25) Journal of Organization and Business
(26) Journal of Research & Reviews in Social Sciences Pakistan
(27) Journal of the Academy of Marketing Science
(28) Management Decision
(29) Organization & Environment
(30) Pakistan Journal of Commerce and Social Sciences
(31) Personnel Review
(32) Polish Journal of Management Studies
(33) Prabandhan: Indian Journal of Management
(34) Problems and Perspectives in Management
(35) Social Responsibility Journal
(36) Supply Chain Management: An International Journal
(37) Sustainability
(38) Sustainability Accounting, Management and Policy Journal
(39) Sustainable Economics and Accounting Journal
(40) Sustainable Production and Consumption
(41) Systematic Reviews in Pharmacy
(42) Technological Forecasting and Social Change
(43) The International Journal of Human Resource Management
(44) Tourism Management

Source: This Study.

The purpose of Hypothesis H8 is to evaluate the relationship between green innovation (GI) and financial performance (FP). There is a correlation ($r = 0.513$, $p < 0.000$, Q-value = 98.976, $\chi^2 = 22.458$) so it has a high effect between GI and FP. Furthermore, the Q-value is bigger than the Chi-square

value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. These results are in line with previous studies which explained that GI plays critical role to influence FP (Malik et al., 2021; Tahir et al., 2020; Weng et al., 2015; Li et al., 2020; Rehman et al., 2021). Therefore, H8 is supported and it can be concluded that GI has a positive influence on FP.

Table 3-2 Meta-analytic results among the antecedents of environmental performance and its consequence

Hyp	k	N	r	LCI	UCI	p-value	Q-value	I^2-value	Chi-square
1	7	2585	0.524	0.496	0.552	0.000	91.716	93.458	22.458
2	23	8149	0.443	0.425	0.460	0.000	345.844	93.928	48.268
3	8	1397	0.490	0.448	0.529	0.000	70.958	92.954	24.322
4	7	2281	0.333	0.296	0.369	0.000	45.054	86.683	22.458
5	23	5783	0.436	0.415	0.457	0.000	247.510	91.111	48.268
6	5	936	0.431	0.376	0.482	0.000	27.995	85.712	18.467
7	9	1895	0.489	0.454	0.523	0.000	64.469	89.142	26.124
8	7	1624	0.513	0.478	0.546	0.000	98.976	92.928	22.458
9	7	1474	0.644	0.613	0.673	0.000	311.932	98.077	22.458

**Notes:* k is the number of studies in the meta-analysis. N = sample size. r refers to the number of effect sizes. LCI is the lower confidence limit for effect size. UCI is the upper confidence limit for effect size. Chi-square is used to determine the stability of r and to yield appropriate confidence intervals. The Q-value denotes the degree of variance that cannot be explained by sampling error; a statistically significant cue value indicates that there is significant fluctuation in the effect size attributable to moderators. The I^2 value estimates the fraction of error variation that cannot be explained to sampling error.

Source: This Study.

The results show that environmental performance (EP) has a positive influence on financial performance (FP) ($r = 0.644$, $p < 0.000$, Q-value = 311.932, $\chi^2 = 22.458$). Based on the criteria set out in Lipsey and Wilson (2001), this relationship has large effect sizes. Furthermore, the Q-value is bigger than the Chi-square value, indicating that the impact is due to the variation assigned to variables rather than sampling errors. These results are in line with previous studies which explained that EP can enhance organizational FP (Ghouri et al., 2020; Lu & Taylor, 2018; Tahir et al., 2020; Malik et al., 2021; Rehman et al., 2021). Therefore, H9 is supported and it can bring a close that EP has a positive influence on FP.

3.8 Summary for meta-analysis

The current study aims to offer to the literature from the following aspects. This study observes multiple level antecedents of environmental performance at the same time that has yet to be done by earlier studies. Those antecedents consist of GTL, GHRM practices, and green innovation. For the relationship of GTL and GHRM practices, Singh et al. (2020) concluded that GTL has positively influence to GHRM practices including employee's green ability, green motivation, and green opportunity. Besides, drawing from the AMO theory, Jia et al. (2018) discovered that transformational leaders can motivate employees' green hunger through influencing GHRM practices. According to Renwick et al. (2013), transformational leadership completely encompasses the values, attitudes, beliefs, and actions of top managers and has a significant impact on a company's HRM practices. Arshad (2019) also affirmed a positive and significant effect of GTL on GHRM practices.

For the relationship between GTL and green innovation, Choi et al. (2016), and Prasad and Junni (2016) both found evidence that green transformational leadership is linked to employees' creative activities and organizational innovation. Jia et al. (2018) has revealed that green

transformational leadership promotes organizational innovation performance directly or indirectly through openness of innovation. Green transformational leadership, according to Jung et al. (2003), is positively connected with innovation capabilities because it encourages workers to openly debate and test out new ideas and methods. Green transformational leadership's conduct, according to García-Morales et al. (2012), influences a firm's innovation potential directly or indirectly through boosting the firm's learning capability. Li et al. (2019) also showed a significant effect of GTL on innovative work behavior. Rawashdeh et al. (2021) showed that GTL was significantly associated with both organizational innovation and performance. According to Khalili (2016), there are positive and substantial links between transformative leadership and innovation.

Regarding to the relationship between GTL and environmental performance, Irani et al. (2022) confirmed that it has a positive and significant effect of GTL on environmental performance. Besides, GTL has a favorable impact on green and innovative performance (Yang & Yang, 2019). According to Çop et al. (2020), hotels' environmental sustainability is affected by GTL. Riva et al. (2021) found that it had a positive effect of green transformational leadership on environmental performance. Chen et al. (2014) indicated that green transformational leadership positively influences green performance. Zafar et al. (2017), and Adnan et al. (2018) confirmed that GTL has significant and positive influence on green performance. Sharma (2020) indicated that the green transformational leaders are those who excite, stimulate, and inspire people to work toward the organization's green goals, allowing them to contribute to the organization's improved environmental performance.

For the effect of GHRM practices on green innovation, Song et al. (2021) indicated that GHRM practices can positively influence green innovation. According to Chowhan (2016), HRM systems can have a positive

influence on product or process innovation, implying that the combination of HR practices can have a higher impact on innovation than individual HR practices (Shipton et al., 2005). Zhou et al. (2018), and Seeck and Diehl (2017) have demonstrated that human resource management may improve employees' knowledge, skills, and abilities, allowing the company to innovate its products and processes. Rehman et al. (2021) showed that GHRM practices is positively associated with green innovation. Furthermore, it has been established that GHRM practices and individual environmental performance are favorably associated (Paillé et al., 2020), implying that GHRM practices might affect individual employees' environmental awareness and improvement. Riana et al. (2020) also concluded that GHRM practices significantly affects organizational performance and green innovation. Malik et al. (2021) confirmed that GHRM practices has a positive and significant influence on green creativity and green innovation.

Regarding to the relationship between GHRM practices and environmental performance, Ren et al. (2018) indicated that GHRM practices are becoming more broadly acknowledged as a crucial method for applying green practices to improve environmental performance and ensure long-term sustainability. Singh et al. (2020) concluded that GHRM practices had a positively affect to the environmental performance of the organization. Studies in the field of environmental management have revealed that GHRM practices has a favorable and direct impact on environmental performance (Renwick et al., 2013; Kim et al., 2019; Roscoe et al., 2019).

For the influence of GHRM practices on environmental performance, Rizvi and Garg (2021) identified that GHRM practices including green ability, green motivation, and green opportunity positively influence the EP of organizations. Acquah et al. (2021) showed that GHRM practices has positive influence on EP. According to Jabbour and de Sousa Jabbour et al. (2016),

GHRM practices fosters green ideals and principles within a company, improving environmental performance. Thus, GHRM practices, when well-implemented, can improve EP (Singh et al., 2020; Pham et al., 2019; Teixeira et al., 2016; Mousa & Othman, 2020).

For the effect of GHRM practices on financial performance, Agyabeng-Mensah et al. (2020a, b, c, d, e) revealed that GHRM practices has positive influence on financial performance. Úbeda-García et al. (2021) also indicated that GHRM practices has positive effect on financial performance. Jabbour and Santos (2008), and Jabbour et al. (2010) used the AMO theory to survey the extent to which GHRM practices participate to organizations' environmental consequences. For the influence of green innovation on EP, Singh et al. (2020) concluded that GI predicts EP. Arshad (2019) confirmed that GI has a positively effect to EP. Rehman et al. (2021) revealed that GI strategies lead to higher EP. The study's results of Kraus, Rehman and García (2020) showed that environmental strategy and green innovation significantly improve EP.

Regarding to the relationship between GI and financial performance, Tariq, Badir, and Chonglerttham (2019) revealed that GI has a considerable impact on a firm's financial performance, with more green innovation leading to higher profitability and reduced financial risk. Li et al. (2020) showed that GI had an important effect on business sustainability. According to Rawashdeh et al. (2021), innovation has a favorable impact on organizational performance. Furthermore, most past research has demonstrated that GI has a favorable influence on organizational success (Gomes & Wojahn, 2017; Ladokun, 2019; Gunday et al., 2011; Atalay et al., 2013; Shang et al., 2020). Weng et al. (2015) also stated that GI practices influence environmental and business performance.

Finally, the result of this study suggest that EP is strongly influencing financial performance. This result has highlighted on the results of the past

studies. For instance, Shashi et al. (2019), and Baah et al. (2021) implied that EP had a strong impact on financial performance and that businesses should strive to implement environmental policies to examine how they affect company performance. Baah et al. (2021) also stated that as EP improves, financial performance will likely decline in the short term, but that these two outcomes are positively correlated in the long run, and thus recommend that businesses engage in green practices regardless of immediate costs, as it will result in long-term financial and stakeholder benefits. The result of this study is also in line with the study's results of Shashi et al. (2019), and O'Donohue and Torugsa (2016), hence, implementing environmental measures has financial consequences that are both short and long-term.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

The research design and methodology for quantitative research are presented in this chapter. Specifically, the research framework, hypothesis development, constructs measurement, data collection, and data analysis techniques are described in detail.

4.1 Research framework

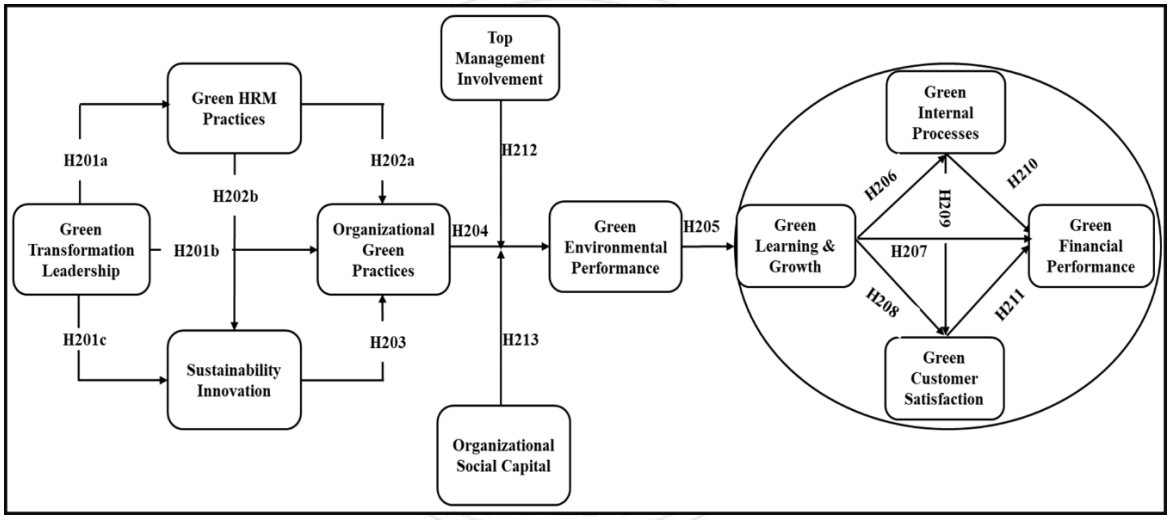

Figure 4- 1 The research framework

Source: This Study.

The curent study argued that GTL, GHRM practices, and sustainability innovation are all interrelated and have a significant impact on organizational green practices. These green practices will promote firm's green environmental performance, which further facilitate the four elements of green BSC, including green learning and growth, green customer satisfaction, green internal process, and green financial performance in consistent with the above research hypotheses, this research developed a research framework as showed in Figure 4-1.

4.2 Hypotheses development

4.2.1 Green transformational leadership, green human resource management practices, organizational green practices, and sustainability innovation

Transformational leaders led advanced levels of inspiration, belief, unity, loyalty, and performance. According to the previous studies, transformational leadership has a significantly positive influence on performance management, talent development, and intellectual competence (Carton et al., 2014). Green components of green human resource management are connected to the green aspect, which practices goals to assist companies in achieving, producing, inspiring, and sustaining green behavior of employees in the organization (Dumont et al., 2017). In this regard, we believe that GTL plays a critical role in developing and implementing policies that support green human resource management (GHRM) in order to assist the company in acting on its goals and strategies that enable green performance (Jia et al., 2018).

Furhermore, GTL emphasizes employees' specific needs, which motivates them to develop and implement GHRM policies in order to inspire and enrich their followers. As a result, we anticipate that GTL will play a significant role in assisting beneficial GHRM activities such as training and development, recruitment and selection, and performance-based incentives, all of which rely on GTL to fulfill the intended goals of companies (Zhu et al., 2005). According to Appelbaum et al. (2000), AMO theory postulates that GTL empowers GHRM to increase employees' talents and motivation while also creating possibilities related to environmental management activities (Singh et al., 2020). Thus, the following hypothesis is proposed:

Hypothesis H1a: Green transformational leadership is positively related to GHRM practices.

Chen and Chang (2013) defined green transformational leadership

(GTL) as the character of a leader who supports and pushes his colleagues to reach sustainability goals which go above and beyond what is desired of them from an environmental standpoint. GTL appeared as a predictor of green creativity and direct positive effects on sustainability (Shah et al., 2020). Furthermore, the green transformational leadership theory suggested that GTL impact on employees' green thinking, creative process engagement, and green innovation. GTL could provide support and encourage their followers to identify environmental problems from many viewpoints, develop waste-reduction methods, and offer unique green alternatives and concepts (Begum et al., 2022). Thus, GTL that encourages team members to conceptualize problems from various viewpoints can motivate organizational green practices, enhance green activities then pursuit sustainable development. Hence, the current research proposes that:

Hypothesis H1b: Green transformational leadership is positively related to organizational green practices.

Transformational leaders have been shown to be influential in motivating followers to do more than just carry out their job responsibilities. Because transformational leaders employ inspirational motivation as well as intellectual stimulation, both of which are required for organizational innovation (Elkins & Keller, 2003). Previous researches showed that transformational leadership has a favorable influence on organizational innovation (Chen et al., 2016; Mokhber et al., 2015). Transformational leaders can foster the development of fresh ideas and inspire their followers to achieve breakthroughs.

Moreover, transformational leaders, according to previous research, play a championship role in successfully stimulating organization-wide innovative conceptions (Singh et al., 2020; Arif & Akram, 2018), therefore, positively affect to sustainable business performance (Zhao & Huang, 2022).

GTL involves behavior, which causes followers to consider green ideas. GTL positively impacts to green product development performance by creating an innovative atmosphere to encourage team members (Begum et al., 2022; Zhou et al., 2018). Hence, we predict that:

Hypothesis H1c: Green transformational leadership is positively related to sustainability innovation.

4.2.2 Green human resource practices, organizational green practices, and sustainability innovation

Green initiatives, according to Shen et al. (2016), are key practices of GHRM that necessitate employee behaviors that aid in the achievement of organizations' green objectives. As a result, it is critical for GHRM to inspire employees to participate in green innovations associated with the organization's corporate vision (Roscoe et al., 2019; Renwick et al., 2016). According to Jackson and Seo (2010), GHRM is a collection of strategies that organizations employ to put policies and procedures that contributes to environmental sustainability. In particular, Renwick et al. (2013) indicated that GHRM practices included three factors: (1) developing green ability (GA); (2) motivating green employees (GM); and (3) providing green opportunities (GO). When the company builds and implements these components successfully through its HRM policies, it can reach sustainable green goals through the green practices above. For example, human resource managers organize green training for workers in order to encourage them to accomplish their green jobs (Tariq et al., 2016). The company can focus on talented employees who strongly support the environment and green mindfulness in their recruitment and selection process. According to the explanation above, we posit that from the results of GHRM practices, the company can receive the consequences for organizational green practices. Moreover, the findings confirm that the strength of the HRM system has a positive effect on the

performance of green product development (Yan & Hu, 2021). Based on these results, the following hypothesis was derived:

Hypothesis H2a: GHRM practices are positively related to organizational green practices.

Yong et al. (2020) examined about how GHRM practices may assist firms integrate their business objectives with the environment. Using the resource-based perspective theory, these researchers gathered cross-sectional data from 112 large-scale manufacturing businesses in Malaysia to analyze the impact of GHRM practices on achievement of sustainable development. The influence of green recruiting and green training on sustainability innovation was also investigated. In green recruitment and selection, for example, applications are processed via online applications, and telephone or multimedia interviews are scheduled to minimize any transportation-related environmental effect. Furthermore, green training empowers individuals to address environmental concerns and create long-term solutions for businesses. Paulet et al. (2021) investigated the relevance of establishing corporate sustainability by designing GHRM practices with a green perspective. Through theirs results, GHRM practices enable the firms to achieve long-term performance by developing green abilities (such as green recruitment and green training), motivating green employees (such as green performance management and green rewards), and providing green opportunities (such as green employee involvement). Besides, GHRM practices assist a company to enhance sustainability in business performance by fostering green awareness and competencies in employees who are responsible for carrying out business operations via green initiatives (Bose & Gupta, 2017). GHRM increases employee environmental awareness and green inventiveness (Renwick et al., 2013; Jia et al., 2018). Previous study has also found that GHRM has an effect on green innovation (Zhou et al., 2018; Chen & Chang, 2013). Based on the

preceding works of literature, this study hypothesizes that the organization may accomplish sustainable innovation through GHRM practices:

Hypothesis H2b: GHRM practices are positively related to sustainability innovation.

4.2.3 Sustainability innovation and organizational green practices

Sustainability development constitutes one of the business challenges nowadays. Because of the competitive business environment, companies strive for sustainability through innovation. Scholars and environmental strategists (Shu et al., 2016; Chiou et al., 2011) have advocated for and recognized the importance of green innovation practices in evolving sustainability performance. They believe that implementing a sustainability innovation is critical in today's business activities in order to address the environmental ambiguity. According to research, the focus of sustainability is shifting away from minimizing the negative effects of operations and toward enabling broader changes that are beneficial to the environment and society (Boons & Lüdeke-Freund, 2013; Schiederig et al., 2012). Furthermore, researchers and scholars consider innovation to be a key driver for achieving sustainability (Ahmadi et al., 2020), improving the environmental, social, and economic performance of the innovated solution (Juntunen et al., 2019), and achieving a feature of operational purpose (e.g., cost reduction, liability claim purging, etc.), as a result of which competitiveness is increased (Xue et al., 2019). Indeed, promoting effective and efficient sustainable innovative methods is an important approach for resource utilization, energy consumption, environmental safety (Van Berkel et al., 1997), and consistent manufacturing, which saves time and other associated expenses. Hence, this study proposes:

Hypothesis H3: Sustainability innovation is positively related to organizational green practices.

4.2.4 Organizational green practices and green environmental

performance

Growing environmental concern, as well as the awareness that companies are major drivers of toxic pollutants and waste, and major consumers of scarce natural resources has led to a growing effort to embrace sustainable products and green processes. According to Singh and Kaur (2021), the most fundamental benefits of green supply chain management are positive long-term benefits that help to improve the organization's financial performance. The authors concluded that these benefits include resource sustainability, cost reduction (increased efficiency), product differentiation and competitive advantage, regulatory compliance and risk reduction, and improved quality products (Singh & Kaur, 2021; Chu et al., 2017). As a result, manufacturing-based SMEs must transform their supply chain management from a strictly functional component to a strategic component in order to comply with current environmental legislation, maintain a consistent competitive advantage through industrial innovation, and increased eco-efficiency (Jo & Kwon, 2022; Singh & Kaur, 2021). Furthermore, NRBV theory contends that businesses should pay much attention to, and gain from, rising natural environmental issues and preservation, as a result of the virtuous link between environmental resources and competitive advantages (Hart & Dowell, 2011). Pollution and emissions, as stated by the NRBV theory, indicate inefficient resource use and are economically wasteful, and pollution avoidance methods can lower operational expenses (Hart & Dowell, 2011). Thus, based on the above arguments, the authors predict that the organizational green practices such as minimizing emissions and waste, designing for recyclability, using a green supply chain, using environmentally friendly raw materials, using organic materials, and building a firm's reputation for green will have a strongly impacts on green environmental performance. Hence, we hypothesize the hypothesis below:

Hypothesis H4: Organizational green practices are positively related to green environmental performance.

4.2.5 Green environmental performance and green balanced scorecards

Positive environmental performance enhances an organization's reputation, allowing it to attract environmentally conscious customers and employees, as well as increase sales (Mehta & Chugan, 2015; Nishant et al., 2012). Improvement in environmental performance, such as reduced emissions, indicates that firms have implemented pollution prevention measures. This strategy necessitates organizations to acquire and implement new technologies (Hollen et al., 2013; Nishant et al., 2012). Acquisition of new technology assets and new processes may assist organizations in gaining a competitive advantage, as new processes were used in organizations to strive for waste reduction and fuel economy. Positive environmental performance is also linked with higher levels of organizational human capital, which may aid in financial performance (Jo & Kwon, 2022; Li et al., 2018; Xu & Gursoy, 2015). Based on the above arguments, in this study, the authors predict that, if the company achieved the green environmental performance, for example, reduced overall costs, reduced the lead times, improved product and/or process quality, improved the company's reputation, and reduced waste within the entire value chain process; it may enhance the organizational GBSC including (i) green learning and growth; (ii) green customer satisfaction; (iii) green internal processes, and (iv) green financial performance.

In detail, a company has higher environmental performance may attain the higher business process innovation, raise the satisfaction level of customer enterprises, achieve the information flow through education, and prepare for the uncertainty and risk of green management, thus, the higher the organizational green learning and growth will be motivated. A company that has a higher environmental performance may achieve a higher organizational

green customer satisfaction by reducing the business handling time and resource waste, reducing the business cycle time and the delivery time, raising the quality level of the product and service, and reducing the cost of goods sold. A company that has higher environmental performance may implement the higher organizational green internal processes to pursue its competitive power such as providing the product and service on time, reducing the inventory cost and the rate of inventory, and improving the productivity and business value. A company that has higher environmental performance may achieve higher green financial performance such as raising the rate of business profits, smoothing cash flow of business, increasing the rate of earnings and sales, and improving the rate of return on capital. According to the NRBV theory, the consequences from organizational green environment can contribute to competitive benefits for enterprises (Hart & Dowell, 2011). Therefore, the following hypothesis is created:

Hypothesis H5: Green environmental performance is positively related to GBSC.

4.2.6 Green learning and growth, green internal process, green customer satisfaction, and green financial performance

Wu, Lee, and Pham (2019) stated that the company can improve customer satisfaction through knowledge-sharing behavior. Sharing knowledge about the environment and green practices is important for attracting environmentally conscious customers because employees will be able to comprehend more about "green customer" needs and the way to deliver green products or services to customers. Employees with sufficient knowledge of the environment and green practices can develop products and services that better meet the needs of "green customers" (Baktash & Talib, 2019). Through higher learning and growth such as green business process innovation, the satisfaction level of customer enterprises, the information flow by the

education, prepared the uncertainty and risk, the company may pursue the higher green internal processes such as improving the competitive power, providing the product and service on time, reducing the inventory cost and the rate of inventory, and improving the productivity and business value. Thus, we hypothesize that:

Hypothesis H6: Green learning and growth is positively related to green internal processes.

With the rapid changes in the business environment, learning organizations have been highlighted as one of the firm's strategies to enhance its sustainability performance, both as individuals and as a corporation (Vargas-Hernández & Ali, 2022). According to Olivera and Argote (1999), organizational learning has three stages: acquisition, sharing, and storage. Organizations gain knowledge in a variety of methods, including 'experiential learning' (Huber, 1991), 'learning by doing' (Levitt & March, 1998), and 'trial-and-error learning' (Miner & Mezias, 1996). Experiments and introspection can generate new knowledge (Miner & Mezias, 1996). The company's green financial performance may improve through organizational green learning and growth, such as achieving information flow through green training or planning for uncertainty and risk. The company's efforts in establishing and implementing a learning organization will result in increased customers' satisfaction and employees' performance, which will eventually lead to profit growth (Hatane, 2015). Besides, according to Yu et al. (2017), green experiences can impact customer satisfaction in the hotel context. Hence, in this study, we predict that:

Hypothesis H7: Green learning and growth is positively related to green financial performance.

Hypothesis H8: Green learning and growth is positively related to green customer satisfaction.

Customer satisfaction reflects a customer's overall attitude toward business (Kermani, 2013) as a result of product and service expectations (Wong & Dioko, 2013). Furthermore, according to Jang et al. (2011), companies that provide their customers with environmental knowledge tend to attract more customer attention and improve green customer satisfaction, and loyalty (Yu et al., 2017) due to the company's use of eco-friendly resources and equipment satisfying both the psychological and emotional needs of the customers about environment protection. Moreover, if employees fully comprehend the organization's green internal process, they will be able to provide customers with the appropriate green products and services. From that result, the green organizational financial performance may increase due to the higher profit. Besides, by providing employees with expert knowledge from green training, businesses can create a green environment by promoting renewable, energy efficiency, and waste management (Tulsi & Ji, 2020), which can improve green customer satisfaction. For instance, by providing the product and service on time, reducing the inventory cost, and the rate of inventory, the company may enhance the green customer satisfaction on business handling time and resource waste or achieve a higher quality level of the green product and green service. Additionally, by increasing the green internal processes, the company may boost the green financial performance. Therefore, we predict that green internal processes may positively effect to green customer satisfaction:

Hypothesis H9: Green internal processes are positively related to green customer satisfaction.

Hypothesis H10: Green internal process is positively related to green financial performance.

According to several studies, customer loyalty and repurchases, word - of - mouth, behavioral intentions, and paying premium pricing are all elements

that contribute to favorable links between customers satisfaction and financial performance (Golovkova et al., 2019; Kim & Huarng, 2011). Furthermore, Lombart and Louis (2012), and Gallarza et al. (2011) asserted that customer satisfaction leads to customer loyalty. Authors argued that better levels of customer satisfaction lead to higher levels of customer loyalty, which in turn helps organizations achieve higher levels of financial performance (Wu et al., 2019; Mokha & Kumar, 2022). In other words, increased "green customer" retention through improved satisfaction may result in a continuous stream of customers that produce predictable income from the market since the customers may be more likely to acquire certain items or services from the given providers based on customers' happiness. Thus, when "green consumers" are happy with green products and/or services, we expect that they will be loyal to a company, boosting the likelihood of the company achieving favorable green financial results. Hence, given the previous discussions it is hypothesized that:

Hypothesis H11: Green customer satisfaction is positively related to green financial performance.

4.2.7 The moderating effect of top management involvement

In the environmental green performance era, organizational consideration with regard to sustainability management is more vital to foster green concepts (Naz et al., 2021). Because senior executives are the people in charge of translating company goals into desired actions including adjusting organizational structures, developing policies based on experiences ideas about market expectations (Dubey et al., 2017). Therefore, the influence of top managers on business performance is still one of the most extensively researched connections in management (Hambrick, 2007). Employees can see their efforts as valuable if corporations are directed by a green shared vision from top management, and they will feel more comfortable communicating

their opinions about possible environmental improvements (Alt et al., 2015).

Furthermore, higher levels of top management belief and participation can result in highly manufacturing systems that may be reconfigured and have a better environmental performance (Dubey et al., 2017). Several directors of operations officers, chief executive officers, product managers, human resource professionals, procurement officers, and finance professionals are involved in the development of environmental protection programs (Javed et al., 2019; Roscoe et al., 2019), pollution reduction (Xu et al., 2019), and environmental management strategy application (Singh, 2018). Besides, under the involvement of top managers, the firms can improve EP in a more proper way (Majid et al., 2020). Furthermore, Lund-Thomsen (2004) asserts that managerial involvement in environmental protection is essential for industrial companies in order to respond to environmental emergencies.

According to learning theory, the firms' leaders and managers transfer their pro-environmentalist ideology to employees via inter-organizational dialogue and learning. TMI and OGP, from this perspective, become a component of fundamental business beliefs and strategic ideals to integrate environmental concern as a vital part of strategic planning. From the leaders and managers green involvement, the employees will learn from them, it will enhance the organizational green practices, therefore, it will improve the green environment performance. As a result of the literature review, we may conclude that TMI can positively moderate the influence of green practices on GEP. Following on from the preceding discussions, we anticipate that TMI not only positively influences EP but also moderates the relationship between OGP and GEP. Hence, we predict:

Hypothesis H12: Top management involvement strengthens the positive relationship between organizational green practices and green environmental performance.

4.2.8 The moderating effect of organizational social capital

An organization with strong social capital has greater trust, information sharing, and a shared vision among its employees (De Clercq & Belausteguigoitia, 2015). Employees in a high-trust environment are more likely to see change strategies as beneficial to the organization and its stakeholders. In a nutshell, employees who have a high level of trust practices on green environment strategies can result in better green environment performance. Trusting relationships facilitate knowledge sharing as well as innovative methods to exploit existing knowledge and explore new knowledge for products and services (Luu, 2017). Thus, if employees have a high level of trust and are eager to share information about green and the environment, the organization's green environmental performance will be improved.

Shared vision is predictable to benefit coordination and lay the groundwork for synergistic action (Curşeu et al., 2014). Employees are more motivated to support green actions built by top management because they share the same views about the organization's current and forthcoming directions, and they share the same beliefs that such green actions will benefit sustainable development, enhance the organization's competitive advantage, and achieve its green goals. Employees become more loyal to the organization to which they belong as their goals align, and they are more likely to commit effort and time in leveraging current techniques as well as creating creative methods to develop processes, goods, and services (Zhang & Chiu, 2012; Nahapiet & Ghoshal, 1998). A common, dominant logic among employees is also produced by a shared vision, including a shared understanding of how the company conducts green practices, therefore, may have a positive effect on organizational green EP.

The social capital theory contends that social relationship is one of the most important resources that can lead to the accumulation of human capital

(Bourdieu, 1986). The social relationship may include social networks, social interaction, social norms, and mutual trust (Nahapiet & Ghoshal, 1998). These social relationships can facilitate collaboration, coordination, and interaction between members, which is extremely important for firms to implement different organizational green practices, and consequently result in higher environmental performance (Hussain et al., 2022). Sarjiyanto (2022) stated that individual empowerment can be improved through synergistic cooperation, social connection, and reciprocal interaction, which is crucial for promoting green activities and business performance. Wu, Sun, and Lin (2016) argued that social capital may promote employees' psychological contracts, which then promote organizational innovation and performance. Based on the above discussion, this study contends that, with the elements of structural capital, relational capital, and cognitive capital, social capital can promote the social network, reciprocal interaction, mutual trust, empowerment, and psychological contract, which are all critical to facilitate synergistic coordination, cooperation, collaboration to initiate OGP, and further beneficial to promote green EP. Thus, we propose that:

Hypothesis H13: Organizational social capital including (H13a) organizational structural social capital, (H13b) organizational relational social capital, and (H13c) organizational cognitive social capital strengthen the positive relationship between organizational green practices and green environmental performance.

4.3 Constructs measurement

This study identified GTL, green HRM practices, sustainability innovation, and OGP as antecedents of green environmental performance. While green learning and growth, green internal process, green customer satisfaction, and green financial performance are identified as consequences of green environmental performance. Furthermore, top management involvement

and organizational social capital are served as two moderating variables that moderate the influence of organizational green practice and green environmental performance.

Based on a literature review and the objective of this study, survey questionnaire items were created. The following constructions' research items were created:

4.3.1 Green transformational leadership

Following Chen and Chang (2013), in this study, GTL is defined as how top managers and human resource professionals inspire subordinates with environmental plans, provide subordinates with a clear environmental vision, encourage subordinates to work on the environmental plan, encourage employees to achieve environmental goals, consider my subordinates' environmental beliefs, and stimulate subordinates to think about and share their green ideas. All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

- GTL1: My top management team inspire subordinates with environmental plan.
- GTL2: My top management team provide subordinates a clear environmental vision.
- GTL3: My top management team encourage subordinates to work on environmental plan.
- GTL4: My top management team encourage employees to attain environmental goals.
- GTL5: My top management team consider environmental beliefs of my subordinates.

- GTL6: My top management team stimulate subordinates to think and share their green ideas.

4.3.2 Green human resource management practices

In this study, GHRM practices is defined as a method of employing human resources to promote the sustainable management of natural resources inside businesses, more crucially, to promote environmental sustainability. Following Sun et al. (2007), and Renwick et al. (2013), this study designs GHRM practices included three factors: (1) developing green ability (GA); (2) motivating green employees (GM); and (3) providing green opportunities (GO). All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

Developing green ability (GA):

- GA1: My company has great effort goes in to select the right person.
- GA2: My company hires those who possess environmental values.
- GA3: My company notices considerable importance given to green staffing process.
- GA4: In my company, every employee undergoes mandatory environmental training.
- GA5: In my company, environmental training is designed to enhance employee's environmental skills and knowledge.
- GA6: In my company, employees to use environmental training in their jobs.

Motivating green employees (GM):

- GM1: My company has performance appraisal records

environmental performance.

- GM2: My company has a performance appraisal includes environmental incidents, responsibilities, concerns, and policy.
- GM3: In my company, the employee gets a reward for environmental management.
- GM4: In my company, the employee gets a reward for acquiring specific environmental competencies.

Providing green opportunities (GO):

- GO1: In my company, employees are involved to become environmentally friendly.
- GO2: In my company, employees use team-work for resolving environmental issues.
- GO3: In my company, employees are encouraged to discuss environmental issues in team meetings.

4.3.3 Sustainability innovation

The notion of sustainability innovation (SI) refers to the incorporation of sustainability principles into the innovation process in this current study. It is broadly defined as the continuous innovation that generates economic value while also having positive environmental consequences. The measurement items of SI are adopted from Hermundsdottir et al. (2021), and Cho et al. (2020). All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

- SI1: My company always focuses on technological improvement.
- SI2: My company always focuses on continuous process improvement.

- SI3: My company always focuses on reducing the consumption of energy, water, other natural resources.
- SI4: My company always focuses on recycling and reuse.
- SI5: My company always focuses on environmental management by adopting of proper standard system.
- SI6: My company always focuses on reducing waste.
- SI7: My company always focuses on using environment-friendly materials.

4.3.4 Organizational green practices

Organizational green practices (OGP) are defined in the current study as promoting pro-environmental behavior in the workplace, which can lead to a considerable reduction of the environmental issues. The measurement items of OGP are adopted from Butler, Henderson and Raiborn (2011). All measurements item was designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

- OGP1: My company focuses on minimization of emissions and waste.
- OGP2: My company try to design for recyclability.
- OGP3: My company use green supply chain.
- OGP4: My company use environmentally friendly raw materials.
- OGP5: My company use organic material.
- OGP6: My company build reputation for green.

4.3.5 Green environmental performance

In this study, green environmental performance (GEP) is defined as the consequence of a firm's strategic actions that manage environmental impacts.

The measurement items of GEP are adopted from Melnyk et al. (2003) and Daily et al. (2007). All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

- GEP1: Green environmental activities in my organization has significantly reduced overall costs.
- GEP2: Green environmental activities in my organization has significantly reduced the lead times.
- GEP3: Green environmental activities in my organization has significantly improved product and/or process quality.
- GEP4: Green environmental activities in my organization has significantly improved reputation of my company.
- GEP5: Green environmental activities in my organization has significantly reduced waste within the entire value chain process.

4.3.6 Green balanced scorecards

Green balanced scorecards are included a set of green financial performance, green customer satisfaction, green internal processes, and green learning and growth, in this study, and which ultimately lead to green financial success via green management. Following Kim and Rhee (2012), this study designs green balanced scorecard including four factors: (1) green learning and growth (GLG); (2) green internal process (GIP); (3) green customer satisfaction (GCS); and (4) green financial performance (GFP). All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

Green learning and growth (GLG):

- GLG1: My company attained the business process innovation by

green management.

- GLG2: My company raised the satisfaction level of customer enterprises by green management.
- GLG3: My company achieved the information flow by the education by green management.
- GLG4: My company prepared the uncertainty and risk by green management.

Green internal process (GIP):

- GIP1: My company improved the competitive power by green management.
- GIP2: My company provided the product and service on time by green management.
- GIP3: My company reduced the inventory cost and the rate of inventory by green management.
- GIP4: My company improved the productivity and business value by green management.

Green customer satisfaction (GCS):

- GCS1: My company reduced the business handling time and resource waste by green management.
- GCS2: My company reduced the business cycle time and the delivery time by green management.
- GCS3: My company raised the quality level of the product and service by green management.
- GCS4: My company reduced the cost of goods sold by green management.

Green financial performance (GFP):

- GFP1: My company raised rate of business profits by green management.
- GFP2: My company smoothed cash flow of business by green management.
- GFP3: My company increased rate of earnings and sales by green management.
- GFP4: My company improved rate of return on capital by green management.

4.3.7 Top management involvement

In this study, top management involvement (TMI) is defined as establishing those responsible and requiring them to account for a wide range of management system procedures. The measurement items of TMI are adopted from Schuhwerk and Lefkof-Hagius (1995); and Souza and Taghian (2005). All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

- TMI1: My top management team concern about environmental issues.
- TMI2: My top management team pay close attention to green appeal information.
- TMI3: My top management team keep a watchful eye on new and popular green products.
- TMI4: My top management team understand that every action will impact the environment.

- TMI5: My top management team am willing to make sacrifices to protect the environment.
- TMI6: My top management team know that the condition of the environment affects the quality of everyone life.

4.3.8 Organizational social capital

Organizational social capital (OSC) refers to the structure as well as the content of interactions between actors that foster internal cohesion. Following Leana and Pil (2006), this study designs organizational social capital including 3 factors: (1) organizational structural social capital (OSSC); (2) organizational relational social capital (ORSC); and (3) organizational cognitive social capital (OCSC). All measurement items were designed in seven-point Likert scales from 1= strongly disagree to 7 = strongly agree. The questionnaire items are as a follow:

Organizational structural social capital (OSSC):

- OSSC1: In my company, employees engage in open and honest communication with one another.
- OSSC2: In my company, employees have no hidden agendas or issues.
- OSSC3: In my company, employees share and accept constructive criticisms without making it personal.
- OSSC4: In my company, employees discuss personal issues if they affect job performance.
- OSSC5: In my company, employees willingly share information with one another.

Organizational relational social capital (ORSC):

- ORSC1: In my company, I can rely on the employees I work with.

- ORSC2: In my company, employees are usually considerate of one another's feelings.
- ORSC3: In my company, employees have confidence in one another.
- ORSC4: In my company, employees show a great deal of integrity.
- ORSC5: In my company, there is no "team spirit" among employees.
- ORSC6: Overall, in my company, employees are trustworthy.

Organizational cognitive social capital (OCSC):

- OCSC1: In my company, employees share the same ambitions and vision for the company.
- OCSC2: In my company, employees enthusiastically pursue collective goals and mission.
- OCSC3: In my company, it has a commonality of purpose among employees.
- OCSC4: In my company, employees are committed to the goals of the company.
- OCSC5: In my company, employees view themselves as partners in charting the company direction.

4.4 Research design

This study employed a quantitative approach to collect data from a large sample size via a questionnaire survey, from which researchers could draw generalizable conclusions and inferences (Kumar, 2014). This research can be classified as descriptive or explanatory based on the research background. The descriptive and explanatory study is designed to observe, obtain, explain, and

describe why and how two aspects of the phenomenon were related. This type of research will assist the researcher in gaining a more in-depth understanding and a more general overview regarding the interrelationship among GTL, GHRM practices, SI, OGP, GEP, GBSC; and the moderating effect of TMI and OSC on the relationship between OGP and GEP. This research will employ a cross-sectional study in terms of time horizon.

Following Burn and Bush (1995), when choosing the sample size, it is important to notice 3 factors: the confidence interval, relative standard error, and proportion. When the population size is unknow, the formula to calculate the sample size is as followed:

$$n = Z^2 \frac{p * q}{e^2}$$

In which:

- n: sample size;
- p: the estimated percentage of population size;
- q = 1 – p;
- e: margin of error (5%);
- Z: the number of standard deviations a given proportion corresponding with the sampling confidence level (If the sampling confidence level is 95%, the Z score is 1.96).

In this study, the p and q are defined as 50%/50%, and e is 0.05. In order to reach the sampling confidence level, the required sampling size is:

$$n = Z^2 \frac{p * q}{e^2} = 1.96^2 \frac{0.5 * 0.5}{0.05^2} = 385$$

Furthermore, Hair et al. (2010) also mentioned that the sample size should be equal or larger than (1) the biggest number of construct-measuring formation indicators in 10 times, or (2) the biggest number of structural paths

directed at a specific construct in the structural model. To meet these criteria, this study collected a valid sample size of 450 from the survey.

4.5 Questionnaire translation

The authors used the back-translation approach to translate the questionnaire from the English version to the Vietnamese version to be used with Vietnamese respondents. The back-translation approach, initially developed by Brislin (1970), is one of the strategies used to evaluate and manage the quality of questionnaire translation in the context of cross-cultural research or worldwide marketing. Initially, two language specialists from a translation service were assigned to work together to perform a forward translation from English to Vietnamese. Following that, the other two specialists were assigned to work individually on back translation. Finally, one translator was in charge of comparing the back-translation version to the original and addressing any changes with the author. The translation procedure took a total of two weeks to complete.

4.6 Data collection

This research focuses on the small and medium enterprises (SMEs) manufacturing sector that have been in operation in Vietnam for at least ten years. These firms were chosen because they are a significant driver of the Vietnamese economic, an emerging market with numerous long-term competitions at the business, industry, and national levels. Based on the Industry Foundation Classes (IFC) (2009) definition, the firms with fewer than 250 employees as SMEs. In the current study, the chosen firms are located in southern Vietnam. SMEs are believed to be unique from large firms in terms of qualities.

Furthermore, in comparing the experimental results, the authors have considered the typical definitions of SMEs in Vietnam, including the

advantages of innovation ability, small scale, simple management instrument, flexible, eagerness to learn, and market-oriented (particularly the young entrepreneurs), which can be advantageous in the process of innovation and willing to keep innovating (OECD, 2021). The authors chose companies that adhere to basic standards such as ISO 9001 (certified quality management system) and ISO 14001 (certified environmental management system) for this study because those enterprises can be able to clearly understand all the constructs in this survey, and accurately answer the questionnaires. Among the list of 450 valid enterprises, the respondents were chosen including senior executives, and human resource managers of companies who are competent and have substantial expertise in running their businesses, as well as economic, environmental insights, and social concerns.

The survey for this study was conducted between November 2021 and February 2022. The questionnaire was sent to respondents by email or Google Drive, which is more convenient for them. This study relied on original data acquired using a questionnaire separated into two portions. The first section provides information from respondents. The second section consists of closed-ended questions on a seven-point Likert scale, with 1 representing "strongly disagree" and 7 representing "strongly agree." Fifteen specialists were asked to assess the questionnaire content to ensure that it was readable. In addition, 50 respondents from the firms with characteristics similar to those of the target companies were picked for pilot testing to ensure the questionnaire's consistency.

The authors worked hard on the following methods to get a high response rate. First, the authors chose samples from one of the most reputable sources (LinkedIn), allowing them to conduct preliminary evaluations during the sampling operation. Second, when the authors delivered the survey questionnaire, the authors included an open letter that clearly stated the purpose

of this study, the potential value that respondents may achieve from a result of this study, and how it benefits their firms. This encourages the respondents to take part in the survey enthusiastically. Third, the authors also created a reminder mode that allows the respondents to actively follow up depend on their progress. Finally, the authors received 430 questionnaires (95.56% response rate), and 427 completed questionnaires remained (94.89% response rate).

4.7 Pilot test

The pilot test was done to check the responsibility, validity, wording, translation quality of the questionnaire. The pre-test was targeted to collect the response of 50 respondents.

4.8 Questionnaire adjustment

The result of Cronbach's Alpha of the pilot test in Table 4-1 ranged from 0.869 to 0.947 which meant the reliability of the questionnaire or the internal consistency of the items was ensured to conduct the subsequent official survey.

Table 4- 1 The reliability test of research constructs

Research Constructs		Cronbach's Alpha coefficient	Cronbach's Alpha based on standardized coefficient	Number of items
Green Transformational Leadership	GTL	.947	.948	6
GHRM Practices	GA	.877	.878	6
	GM	.919	.921	4
	GO	.954	.955	3
Sustainability Innovation	SI	.935	.936	7
Organizational Green Practices	OGP	.939	.941	6
Green Environmental Performance	GEP	.889	.890	5
Green Balanced-Scorecards	GLG	0.929	0.930	4
	GIP	0.933	0.934	4
	GCS	0.915	0.917	4

Research Constructs		Cronbach's Alpha coefficient	Cronbach's Alpha based on standardized coefficient	Number of items
	GFP	0.927	0.928	4
Top Management Involvement	TMI	0.935	0.940	6
Organizational Social Capital	OSSC	0.869	0.870	5
	ORSC	0.872	0.873	6
	OCSC	0.896	0.897	5

Source: This Study.

4.9 Data analysis techniques

To test the proposed hypotheses and analyze the collected data, Smart Partial Least Squares (PLS) 3.0, and SPSS 22.0 was employed. The following data analysis approaches were adopted:

4.9.1 Descriptive statistical analysis

Descriptive statistical analysis was employed to quantitatively explain the features of the data collection. Descriptive statistics, such as frequency, means, and standard deviation for each study variable, as well as cross-tabulation of demographic data were used. Exploratory factor analysis (EFA) is generally used to discover the factor structure of a measure and to examine its internal reliability. EFA is often recommended when researchers have no hypotheses about the nature of the underlying factor structure of their measure. Although we have adopted the questionnaire items from previous studies, we still want to check whether the internal consistency of the questionnaire items is fulfilled or not. If not, then those items with lower factor loadings should be deleted.

4.9.2 Reliability measures and common method variance issue

Several purification techniques, including factor analysis, correlation analysis, and internal consistency analysis (Cronbach's alpha), were used to validate the dimensionality and reliability of the research constructs in this research. The goal of factor analysis is to determine the dimensionality of each

study concept, choose questionnaire questions with high factor loadings, and compare these items to theoretically proposed ones. Item-to-total correlation and coefficient alpha were also calculated to determine the constructs' internal consistency and validity. The number of dimensions retrieved from the main component factor analysis was determined using latent roots (Eigenvalues), the screening test, and other criteria. According to Hair et al. (2010), the following criteria were used in this study: factor loading >0.6; Eigenvalue >1, cumulative explained variance > 0.6, item-to-total correlation > 0.5, and coefficient alpha (α) > 0.7.

Furthermore, to assess the possibility of common method variance, the following validity check was conducted. To begin, a Harmon one-factor test was used, which loaded all variables into a confirmatory factor analysis (Podsakoff & Organ, 1986). Second, discriminating validity was calculated by comparing the square root of the AVE (average variance extracted) to the Pearson correlations between the constructs. All square root of AVE estimations should exceed be higher than inter-construct correlation estimates (Fornell & Lacker, 1981; Hair et al., 2010).

4.9.3 Hypotheses testing techniques

In a theoretical model, the structural model depicted correlational or causal links of latent variables. Hair et al. (2016) identified four key variables for evaluating a structural model: (i) Multicollinearity issue; (ii) The direction coefficient; (iii) R^2; and (iv) The f^2 impact size. Multicollinearity can develop when the Variance Inflation Factor (VIF) coefficient is greater than 5.0. Because VIF is the inverse of the tolerance coefficient, when tolerance was less than 0.2, there was no multicollinearity (Hair et al., 2016). The bootstrapping approach was chosen as the best mechanism for determining the relevance of route coefficients in PLS-SEM research (Chin, 2010). T-statistics were employed to estimate the path coefficients, and the t-significance value's

level was evaluated using a one-tailed or two-tailed distribution (Cho & Abe, 2013). R^2 denotes how much variance in each endogenous component can be explained. The R^2 would be lower with the lowest-value of 0.19, then the moderate effect would occur in the range of 0.672 to 0.33, indicating that-values larger than 0.67 were classed as strong, 0.33 as moderate, and 0.19 as weak (Hair et al., 2013). The f^2 impact size evaluation allows researchers to quantify the amount of influence of exogenous constructions on endogenous constructs. If the values are 0.02, 0.15, and 0.35, f^2 is small, medium, and large (Hair et al., 2016).

CHAPTER FIVE

EMPIRICAL RESULTS

The empirical findings are presented in this chapter. The hypotheses were tested by analyzing the data collected from questionnaire survey.

5.1 Descriptive analysis

As shown in Table 5-1, the characteristics of respondents involved gender, age, education, job title, years on the job with the firm, management systems of the firm, and size of the company. In particular, 52.69 percent of responders were male, while 47.31 percent were female. In terms of age, the 46 to 50 years old age group has the biggest share (49.64 percent), followed by those over 50 (28.11 percent), and finally those aged 40 to 45 years old (22.25 percent). In terms of education, the results show that respondents with a master's degree account for the majority (55.97 percent), followed by those with a bachelor's degree (26.23 percent), and lastly those with a post-degree master's (17.80 percent). When it comes to years of service with their employer, 7 to 10 years accounts for the biggest ratio (57.84 percent), followed by more than 10 years (29.52 percent), and the remaining group from 3 to 6 years (12.64 percent).

Additionally, since ISO standards can help the manufacturing firms as they enable a firm’s ability to effectively design, produce, and deliver quality products and services with fewer impacts on the environment. The combination of quality management in ISO 9001 standards, and environmental management in the ISO 14001 standards can meet changing customer needs by including more top management involvement in, and measurement of manufacturing practices (Zimon et al., 2020). Thus, our respondents are

working work for the firms following these management systems standards, hence, they are qualified for our questionnaires related to management strategy. In detail, the most of respondents who work for the firms are following both ISO 9001, and ISO 14001 standards (73.08 percent), followed by ISO 14001 (20.6 percent), and the ISO 9001 occupied by the smallest (6.32 percent). Finally, this study focuses on SMEs, and the criterion for selecting SMEs is the number of workers (IFC, 2009). The number for the groups of 101 to 150 employees, and 151 to 249 employees are nearly identical, at 42.86 percent, and 39.58 percent, respectively. The remaining group (50-100 employees) accounts for 17.56 percent of the total.

Table 5-1 Profile of respondents

Index	**n = 427**	**Percentage (%)**
Gender		
Male	225	52.69
Female	202	47.31
Age		
40-45 years old	95	22.25
46-50 years old	212	49.64
Over 50 years old	120	28.11
Education		
Bachelor	112	26.23
Master	239	55.97
Post-master's degree	76	17.80
Job Title		
CEO	45	10.54
Senior manager	120	28.10
Manager	135	31.61
Human resource manager	127	29.75
Years on the job with the firm		
3-6 years	54	12.64
7-10 years	247	57.84
Over 10 years	126	29.52

Index	n = 427	Percentage (%)
Management systems of the firm		
ISO 9001	27	6.32
ISO 14001	88	20.60
ISO 9001 & ISO 14001	312	73.08
Size of company		
50-100 employees	75	17.56
101-150 employees	183	42.86
151-249 employees	169	39.58

Source: This Study.

5.2 Measurement results for research variables

Table 5-2 shows descriptive statistics for each of the research variables from 427 respondents, including mean values and standard deviations. The results indicate that all respondents tend to report higher levels (the value of mean all above 5) for most items of the constructs of this research framework. Moreover, many construct items had mean scores over 5.0 on a seven-point scale.

Table 5- 2 Results of mean and standard deviation of items

Research Items	Mean	Std. Dev.
Research Construct: Green Transformational Leadership (GTL)		
[GTL1] My top management team inspire subordinates with environmental plan.	5.695	1.509
[GTL2] My top management team provide subordinates a clear environmental vision.	5.584	1.808
[GTL4] My top management team encourage employees to attain environmental goals.	5.580	1.649
[GTL3] My top management team encourage subordinates to work on environmental plan.	5.576	1.760
[GTL5] My top management team consider environmental beliefs of my subordinates.	5.542	1.691
[GTL6] My top management team stimulate subordinates to think and share their green ideas.	5.269	1.784
Research Construct: Green Human Resource Management Practices		

Research Items	Mean	Std. Dev.
Green Ability (GA)		
[GA1] My company has great effort goes in to select the right person.	5.185	1.902
[GA3] My company notices considerable importance given to green staffing process.	5.662	1.186
[GA4] In my company, every employee undergoes mandatory environmental training.	5.617	1.123
[GA2] My company hires those who possess environmental values.	5.612	1.214
[GA6] In my company, employees to use environmental training in their jobs.	5.687	1.202
[GA5] In my company, environmental training is designed to enhance employee's environmental skills and knowledge.	5.436	1.193
Green Motivation (GM)		
[GM2] My company has a performance appraisal includes environmental incidents, responsibilities, concerns, and policy.	5.762	1.169
[GM1] My company has performance appraisal records environmental performance.	5.674	1.145
[GM4] In my company, the employee gets a reward for acquiring specific environmental competencies.	5.590	1.137
[GM3] In my company, the employee gets a reward for environmental management.	5.451	1.132
Green Opportunities (GO)		
[GO1] In my company, employees are involved to become environmentally friendly.	5.962	1.051
[GO3] In my company, employees are encouraged to discuss environmental issues in team meetings.	5.872	1.056
[GO2] In my company, employees use team-work for resolving environmental issues.	5.737	1.023
Research Construct: Sustainability Innovation (SI)		
[SI1] My company always focus on technological improvement.	5.731	1.351
[SI2] My company always focus on continuous process improvement.	5.723	1.325
[SI3] My company always focus on reducing the consumption of energy, water, other natural resources.	5.697	1.312
[SI4] My company always focus on recycling and reuse.	5.684	1.305
[SI6] My company always focus on reducing waste.	5.643	1.250
[SI7] My company always focus on using environment-friendly materials.	5.402	1.107
[SI5] My company always focus on reducing waste.	5.353	1.104
Research Construct: Organizational Green Practices (OGP)		
[OGP1] My company focus on minimization of emissions and waste.	5.727	1.870
[OGP3] My company use green supply chain.	5.605	1.885
[OGP4] My company use environmentally friendly raw materials.	5.397	1.628
[OGP6] My company build reputation for green.	5.384	1.735
[OGP2] My company try to design for recyclability.	5.358	1.736

Research Items	Mean	Std. Dev.
[OGP5] My company use organic material.	5.256	1.767
Research Construct: Green Environmental Performance (GEP)		
[GEP1] Green environmental activities in my organization has significantly reduced overall costs.	5.787	1.601
[GEP2] Green environmental activities in my organization has significantly reduced the lead times.	5.643	1.621
[GEP3] Green environmental activities in my organization has significantly improved product and/or process quality.	5.611	1.368
[GEP5] Green environmental activities in my organization has significantly reduced waste within the entire value chain process.	5.439	1.407
[GEP4] Green environmental activities in my organization has significantly improved reputation of my company.	5.119	1.512
Research Construct: Green Balanced Scorecards (GBSC)		
Green Learning and Growth (GLG)		
[GLG1] My company attained the business process innovation by green management.	5.160	1.538
[GLG2] My company raised the satisfaction level of customer enterprises by green management.	5.105	1.589
[GLG3] My company achieved the information flow by the education by green management.	5.094	1.250
[GLG4] My company prepared the uncertainty and risk by green management	5.181	1.573
Green Internal Process (GIP)		
[GIP1] My company improved the competitive power by green management.	5.669	1.133
[GIP2] My company provided the product and service on time by green management.	5.603	1.120
[GIP3] My company reduced the inventory cost and the rate of inventory by green management.	5.431	1.098
[GIP4] My company improved the productivity and business value by green management.	5.239	1.056
Green Customer Satisfaction (GCS)		
[GCS1] My company reduced the business handling time and resource waste by green management.	5.563	1.762
[GCS2] My company reduced the business cycle time and the delivery time by green management.	5.534	1.618
[GCS3] My company raised the quality level of the product and service by green management.	5.446	1.524
[GCS4] My company reduced the cost of goods sold by green management.	5.235	1.317

Research Items	Mean	Std. Dev.
Green Financial Performance (GFP)		
[GFP3] My company increased rate of earnings and sales by green management.	5.872	1.125
[GFP1] My company raised rate of business profits by green management.	5.821	1.109
[GFP2] My company smoothed cash flow of business by green management.	5.770	1.289
GFP4 My company improved rate of return on capital by green management.	5.647	1.301
Research Construct: Top Management Involvement (TMI)		
[TMI3] My top management team keep a watchful eye on new and popular green products.	6.214	1.802
[TMI1] My top management team I concern about environmental issues.	6.202	1.705
[TMI2] My top management team pay close attention to green appeal information.	6.113	1.446
[TMI4] My top management team understand that every action will impact the environment.	6.109	1.478
[TMI5] My top management team am willing to make sacrifices to protect the environment.	6.027	1.431
[TMI6] My top management team I know that the condition of the environment affects the quality of everyone life.	6.011	1.215
Research Construct: Organizational Social Capital		
Organizational structural social capital (OSSC)		
[OSSC1] In my company, employees engage in open and honest communication with one another.	5.325	1.359
[OSSC3] In my company, employees share and accept constructive criticisms without making it personal.	5.284	1.318
[OSSC4] In my company, employees discuss personal issues if they affect job performance.	5.280	1.342
[OSSC5] In my company, employees willingly share information with one another.	5.271	1.260
[OSSC2] In my company, employees have no hidden agendas or issues.	5.142	1.291
Organizational Relational Social Capital (ORSC)		
[ORSC1] In my company, I can rely on the employees I work with.	5.165	1.802
[ORSC2] In my company, employees are usually considerate of one another's feelings.	5.162	1.486
[ORSC3] In my company, employees have confidence in one another.	5.157	1.323
[ORSC4] In my company, employees show a great deal of integrity.	5.112	1.230
[ORSC5] In my company, there is no "team spirit" among employees.	5.110	1.302
[ORSC6] Overall, in my company, employees are trustworthy.	5.036	1.133
Organizational Cognitive Social Capital (OCSC)		
[OCSC1] In my company, employees share the same ambitions and vision for the company.	5.732	1.369
[OCSC2] In my company, employees enthusiastically pursue collective goals and mission.	5.634	1.345

Research Items	Mean	Std. Dev.
[OCSC3] In my company, it has a commonality of purpose among employees.	5.580	1.237
[OCSC4] In my company, employees are committed to the goals of the company.	5.459	1.232
[OCSC5] In my company, employees view themselves as partners in charting the company direction.	5.311	1.143

Source: This Study.

5.3 Factor analysis and reliability test

To evaluate the dimension and reliability of the research constructs, three purification methods were used in this work, including factor analysis, item-to-total correlation analysis, and internal consistency analysis (Cronbach's alpha). In factor analysis, items are selected with high loadings and the latent construct are identified. The number of dimensions retrieved from the main component factor analysis was determined by the following criterias.

The study adopted principal component factor analysis as well as varimax rotated methods to extract the relevant factors. According to Hair et al. (2010), eigenvalue should be greater than 1. Item-to-total correlation and coefficient alpha were also calculated to determine the constructs' internal consistency and reliability. Kaiser-Meyer-Olkin Measure (KMO) should be greater than 0.5, Bartlett p-value should be less than 0.05, factor loadings should be higher than 0.6, and the difference of factor loadings between each other should be greater than 0.3. In addition, the following criteria should also be followed: accumulated explained variance > 0.6, item-to-total correlation > 0.5, and coefficient alpha (α) > 0.7 should be also accepted. In the current study, most of the items loading exceeded 0.60. Factor loadings of GTL6, TMI6 were less than 0.5, therefore GTL6, TMI6 were deleted from further analysis. Cronbach's alpha (α) for all factors should be exceeded 0.7. The complete

results of the factor analysis and reliability test were shown from Table 5-3 to Table 5-8.

5.3.1 Green transformational leadership

Table 5-3 Exploratory factor analysis for green transformational leadership

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Green Transformational Leadership (KMO= 0.834, Barlett= 0.000)		**3.443**	**68.863**		**.864**
1. My top management team inspire subordinates with environmental plan.	.877			.783	
2. My top management team provide subordinates a clear environmental vision.	.875			.731	
4. My top management team encourage employees to attain environmental goals.	.824			.723	
3. My top management team encourage subordinates to work on environmental plan.	.812			.715	
5. My top management team consider environmental beliefs of my subordinates.	.801			.707	
* 6. My top management team stimulate subordinates to think and share their green ideas.	Delete				

Source: This Study.

Table 5-3 shows that higher degree of internal consistency for all items of GTL. There is 1 deleted item for GTL because the factor loadings of GTL6 (= 0.438) lower than 0.6. The Eigenvalue extracted from the factor analysis of GTL is 3.443 with the total variance explained of 68.863%. The construct also yields high value of reliability (α = 0.864). All items had a high coefficient of item-to-total correlation (0.707 ~ 0.783), and a high factor loading (0.801 ~ 0.877). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the construct of GTL.

5.3.2 Green human resource management practices

The results showed that for the factor of "Green Ability" KMO was 0.843, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Green Ability is 3.476 with the total variance explained of 57.933%. The Cronbach's alpha (α) value for Green Ability was 0.859. All items had a high coefficient of item-to-total correlation (0.646 ~ 0.734), and a high factor loading (0.763 ~ 0.837). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Ability in GHRM practices construct.

The results showed that for the factor of "Green Motivation" KMO was 0.835, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Green Motivation is 3.452 with the total variance explained of 86.310%. The Cronbach's alpha (α) value for Green Motivation was 0.863. All items had a high coefficient of item-to-total correlation (0.718 ~ 0.748), and a high factor loading (0.816 ~ 0.847). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Motivation in GHRM practices construct.

Table 5-4 Exploratory factor analysis for green human resource management practices

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Green Ability (KMO= 0.843, Barlett= 0.000)		**3.476**	**57.933**		**.859**
1. My company has great effort goes in to select the right person.	.837			.734	
3. My company notices considerable importance given to green staffing process.	.826			.718	

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
4. In my company, every employee undergoes mandatory environmental training.	.814			.703	
2. My company hires those who possess environmental values.	.805			.685	
6. In my company, employees to use environmental training in their jobs.	.789			.661	
5. In my company, environmental training is designed to enhance employee's environmental skills and knowledge.	.763			.646	
Green Motivation (KMO= 0.835, Barlett= 0.000)		**3.452**	**86.310**		**0.863**
2. My company has a performance appraisal includes environmental incidents, responsibilities, concerns, and policy.	.847			.748	
1. My company has performance appraisal records environmental performance.	.842			.743	
4. In my company, the employee gets a reward for acquiring specific environmental competencies.	.835			.732	
3. In my company, the employee gets a reward for environmental management.	.816			.718	
Green Opportunity (KMO= 0.847, Barlett= 0.000)		**2.152**	**71.733**		**0.864**
1. In my company, employees are involved to become environmentally friendly.	.857			.749	
3. In my company, employees are encouraged to discuss environmental issues in team meetings.	.853			.732	
2. In my company, employees use team-work for resolving environmental issues.	.836			.728	

Source: This Study.

The results showed that for the factor of "Green Opportunity" KMO was 0.847, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Green Opportunity is 2.152 with the total variance explained of 71.733%. The Cronbach's alpha (α) value for Green Opportunity was 0.864. All items had a high coefficient of item-to-total correlation (0.728 ~ 0.749), and a high factor loading (0.836 ~ 0.857). Follow the outcome of this factor

analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Opportunity in GHRM practices construct.

5.3.3 Sustainability innovation

Table 5-5 shows that higher degree of internal consistency for the factors of Sustainability Innovation.

Table 5-5 Exploratory factor analysis for sustainability innovation

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item- to-Total	Cronbach's α
Sustainability Innovation (KMO= 0.889, Barlett= 0.000)		**4.293**	**61.328**		**.887**
1. My company always focus on technological improvement.	.880			.783	
2. My company always focus on continuous process improvement.	.877			.778	
3. My company always focus on reducing the consumption of energy, water, other natural resources.	.854			.743	
4. My company always focus on recycling and reuse.	.832			.735	
6. My company always focus on reducing waste.	.821			.682	
7. My company always focus on using environment-friendly materials.	.783			.670	
5. My company always focus on reducing waste.	.748			.655	

Source: This Study.

The Eigenvalue extracted from the factor analysis of Sustainability Innovation is 4.293 with the total variance explained of 61.328%. The construct also yields high value of reliability (α = 0.887). All items had a high coefficient of item-to-total correlation (0.655 ~ 0.783), and a high factor loading (0.748 ~ 0.880). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the construct of Sustainabilty Innovation.

5.3.4 Organizational green practices

Table 5-6 shows that higher degree of internal consistency for the factors of Organizational Green Practices.

Table 5-6 Exploratory factor analysis for organizational green practices

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Organizational Green Practices (KMO= 0.858, Barlett= 0.000)		**3.843**	**64.058**		**.871**
1. My company focus on minimization of emissions and waste.	.857			.737	
3. My company use green supply chain.	.835			.731	
4. My company use environmentally friendly raw materials.	.824			.697	
6. My company build reputation for green.	.816			.698	
2. My company try to design for recyclability.	.807			.653	
5. My company use organic material.	.795			.633	

Source: This Study.

The Eigenvalue extracted from the factor analysis of Organizational Green Practices is 3.843 with the total variance explained of 64.058%. The construct also yields high value of reliability (α = 0.871). All items had a high coefficient of item-to-total correlation (0.633 ~ 0.737), and a high factor loading (0.795 ~ 0.857). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the construct of Organizational Green Practices.

5.3.5 Green environmental performance

Table 5-7 shows that higher degree of internal consistency for the factors of Green Environmental Performance. The Eigenvalue extracted from the

factor analysis of Green Environmental Performance is 3.915 with the total variance explained of 78.326%. The construct also yields high value of reliability (α = 0.882). All items had a high coefficient of item-to-total correlation (0.640 ~ 0.813), and a high factor loading (0.742 ~ 0.877). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the construct of Green Environmental Performance.

Table 5-7 Exploratory factor analysis for green environmental performance

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Green Environmental Performance (KMO= 0.742, Barlett= 0.000)		**3.915**	**78.326**		**.882**
1. Green environmental activities in my organization has significantly reduced overall costs.	.877			.813	
2. Green environmental activities in my organization has significantly reduced the lead times.	.865			.751	
3. Green environmental activities in my organization has significantly improved product and/or process quality.	.844			.672	
5. Green environmental activities in my organization has significantly reduced waste within the entire value chain process.	.795			.675	
4. Green environmental activities in my organization has significantly improved reputation of my company.	.742			.640	

Source: This Study.

5.3.6 Green balanced scorecards

Table 5-9 shows that higher degree of internal consistency for four factors of green balanced scorecards. The results showed that for the factor of "Green Learning and Growth" KMO was 0.896, Bartlett p-value was less than

0.05. The Eigenvalue extracted from the factor analysis of Green Learning and Growth is 3.217 with the total variance explained of 80.425%. The Cronbach's alpha (α) value for Green Learning and Growth was 0.858. All items had a high coefficient of item-to-total correlation (0.715 ~ 0.774), and a high factor loading (0.812 ~ 0.847). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Learning and Growth in GBSC construct.

The results showed that for the factor of "Green Internal Process" KMO was 0.873, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Green Internal Process is 3.143 with the total variance explained of 78.575%. The Cronbach's alpha (α) value for Green Internal Process was 0.862. All items had a high coefficient of item-to-total correlation (0.647 ~ 0.682), and a high factor loading (0.772 ~ 0.821). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Internal Process in GBSC construct.

The results showed that for the factor of "Green Customer Satisfaction" KMO was 0.869, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Green Customer Satisfaction is 3.015 with the total variance explained of 75.375%. The Cronbach's alpha (α) value for Green Customer Satisfaction was 0.884. All items had a high coefficient of item-to-total correlation (0.685 ~ 0.774), and a high factor loading (0.797 ~ 0.876). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Customer Satisfaction in GBSC construct.

The results showed that for the factor of "Green Financial Performance" KMO was 0.881, Bartlett p-value was less than 0.05. The Eigenvalue extracted

from the factor analysis of Green Financial Performance is 2.910 with the total variance explained of 72.751%. The Cronbach's alpha (α) value for Green Financial Performance was 0.873. All items had a coefficient of item-to-total correlation (0.692 ~ 0.732), and a high factor loading (0.796 ~ 0.855). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of Green Financial Performance in GBSC construct.

Table 5-8 Exploratory factor analysis for green balanced scorecards

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Green Learning and Growth (KMO= 0.896, Barlett= 0.000)		**3.217**	**80.425**		**.858**
4. My company prepared the uncertainty and risk.	.847			.774	
1. My company attained the business process innovation by green management.	.834			.757	
2. My company raised the satisfaction level of customer enterprises by green management.	.823			.743	
3. My company achieved the information flow by the education by green management.	.812			.715	
Green Internal Process (KMO= 0.873, Barlett= 0.000)		**3.143**	**78.575**		**0.862**
1. My company improved the competitive power by green management.	0.821			0.682	
2. My company provided the product and service on time by green management.	0.810			0.661	
3. My company reduced the inventory cost and the rate of inventory by green management.	0.798			0.659	
4. My company improved the productivity and business value by green management.	0.772			0.647	
Green Customer Satisfaction (KMO= 0.869, Barlett= 0.000)		**3.015**	**75.375**		**0.884**
1. My company reduced the business handling time and resource waste by green management.	0.876			0.774	

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
2. My company reduced the business cycle time and the delivery time by green management.	0.861			0.752	
3. My company raised the quality level of the product and service by green management.	0.855			0.749	
4. My company reduced the cost of goods sold by green management.	0.797			0.685	
Green Financial Performance (KMO= 0.881, Barlett= 0.000)		**2.910**	**72.751**		**0.873**
3. My company increased rate of earnings and sales by green management.	0.855			0.732	
1. My company raised rate of business profits by green management.	0.850			0.726	
2. My company smoothed cash flow of business by green management.	0.843			0.718	
4. My company improved rate of return on capital by green management.	0.796			0.692	

Source: This Study.

5.3.7 Top management involvement

Table 5-9 Exploratory factor analysis for top management involvement

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Top Management Involvement (KMO = 0.897, Barlett= 0.000)		**3.917**	**78.341**		**.910**
3. My top management keep a watchful eye on new and popular green products.	.890			.824	
1. My top management concern about environmental issues.	.887			.819	
2. My top management pay close attention to green appeal information.	.885			.816	
4. My top management understand that every action will impact the environment.	.881			.811	
5. My top management am willing to make sacrifices to protect the environment.	.880			.805	
*6. My top management know that the condition of the			Delete		

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
environment affects the quality of everyone life.					

Source: This Study.

Table 5-9 shows that higher degree of internal consistency for the factors of Top Management Involvement. There is 1 deleted item for this construct because the factor loadings of TMI6 (= 0.421) lower than 0.7. The Eigenvalue extracted from the factor analysis of Top Management Involvement is 3.917 with the total variance explained of 78.341%. The construct also yields high value of reliability (α = 0.910). The rest items had a high coefficient of item-to-total correlation (0.805 ~ 0.824), and a high factor loading (0.880 ~ 0.890). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the construct of Top Management Involvement.

5.3.8 Organizational social capital

The results showed that for the factor of "Organizational Structural Social Capital" KMO was 0.923, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Organizational Structural Social Capital is 4.267 with the total variance explained of 85.345%. The Cronbach's alpha (α) value for Organizational Structural Social Capital was 0.920. All items had a high coefficient of item-to-total correlation (0.743 ~0.789), and a high factor loading (0.823 ~0.858). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of organizational structural social capital in organizational social capital construct.

The results showed that for the factor of "Organizational Relational Social Capital" KMO was 0.901, Bartlett p-value was less than 0.05. The

Eigenvalue extracted from the factor analysis of Organizational Relational Social Capital is 4.652 with the total variance explained of 77.533%. The Cronbach's alpha (α) value for Organizational Relational Social Capital was 0.913. All items had a high coefficient of item-to-total correlation (0.760~0.840), and a high factor loading (0.851~0.891). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of organizational relational social capital in organizational social capital construct.

Table 5-10 Exploratory factor analysis for organizational social capital

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
Organizational Structural Social Capital (KMO= 0.923, Barlett= 0.000)		**4.267**	**85.345**		**.901**
1. In my company, employees engage in open and honest communication with one another.	.858			.789	
3. In my company, employees share and accept constructive criticisms without making it personal.	.855			.784	
4. In my company, employees discuss personal issues if they affect job performance.	.847			.774	
5. In my company, employees willingly share information with one another.	.834			.757	
2. In my company, employees have no hidden agendas or issues.	.823			.743	
Organizational Relational Social Capital (KMO= 0.901, Barlett= 0.000)		**4.652**	**77.533**		**0.913**
1. In my company, I can rely on the employees I work with.	.891			.840	
2. In my company, employees are usually considerate of one another's feelings.	.890			.839	
3. In my company, employees have confidence in one another.	.886			.833	
4. In my company, employees show a great deal of integrity.	.875			.819	
5. In my company, there is no "team spirit" among employees.	.859			.793	

Research Items	Factor Loading	Eigenvalue	Accumulative Explanation %	Item-to-Total	Cronbach's α
6. Overall, in my company, employees are trustworthy.	.851			.760	
Organizational Cognitive Social Capital (KMO= 0.819, Barlett= 0.000)		**4.015**	**80.306**		**0.850**
1. In my company, employees share the same ambitions and vision for the company.	.844			.726	
2. In my company, employees enthusiastically pursue collective goals and mission.	.831			.711	
3. In my company, it has a commonality of purpose among employees.	.803			.695	
4. In my company, employees are committed to the goals of the company.	.799			.676	
5. In my company, employees view themselves as partners in charting the company direction.	.785			.668	

Source: This Study.

The results showed that for the factor of "Organizational Cognitive Social Capital" KMO was 0.819, Bartlett p-value was less than 0.05. The Eigenvalue extracted from the factor analysis of Organizational Cognitive Social Capital is 4.015 with the total variance explained of 80.306%. The Cronbach's alpha (α) value for Organizational Cognitive Social Capital was 0.850. All items had a high coefficient of item-to-total correlation (0.668~0.726), and a high factor loading (0.785~0.844). Follow the outcome of this factor analysis, it can conclude that the findings of all criterion are adequate, and there is a high degree of internal consistency for the factors of organizational cognitive social capital in organizational social capital construct.

5.4 Evaluation of measurement model

PLS-SEM emphases on maximizing the explained variance of the dependent latent components, whereas covariance-based structural equation modeling focuses on recreating rather than explained variance, use a theoretical covariance matrix. As a result of its capacity to model latent

components under non-normality distributions with small to medium sample sizes, PLS-SEM path modeling has become increasingly popular among marketing researchers (Hair et al., 2011). PLS-SEM has been identified as a useful analytical tool, particularly for investigations that aim to anticipate a result (Chin et al., 2003). PLS-SEM path modeling, according to Hair et al. (2011), can be a "silver bullet" for providing parameters that optimize the explained variance (R^2 value) of the dependent constructs.

According to Hair et al. (2011), there are numerous criteria to assess the measurement model's reliability and validity. R^2 which assesses the total of explained variation of each endogenous latent variable, is the first criteria. R^2 values greater than 0.672 are considered to be substantial, 0.33 are considered moderate, and less than 0.19 are considered weak (Schroer & Herterl, 2009).

The average variance extracted (AVE) is the second criterion for determining convergent validity. AVE should be larger than 0.5 to ensure that latent variables can explain more of the average variance (Henseler et al, 2009). The composite reliability (CR) is the third requirement, and it should be better than 0.6 to demonstrate that the variance shared by the various indicators is stable (Nunnally & Bernstein, 1994). Cronbach's alpha coefficient, which should be more than 0.7 to establish the study construct's internal consistency, is the fourth requirement.

The measurement model's reliability and validity were validated using the criteria listed above. The evaluation of the measuring model was shown in Tables 5-9 and Table 5-10. As shown in Table 5-11, the coefficient of determination (R^2) for the eight constructs are as follows: 0.41 for green transformational leadership, 0.46 for GHRM practices, 0.55 for sustainability innovation, 0.37 for organizational green practices, 0.61 for green environmental performance, 0.65 for green balanced scorecards, 0.49 for top management involvement, and 0.56 for organizational social capital. These R^2

coefficients are considered as moderate, according to Schroer and Herterl (2009). In addition, all CR values exceeded 0.894, satisfying greater than the 0.7 requirement and validating the reliability, according to Table 5-11. The AVEs for the research constructs are ranged from 0.534 to 0.839, which was all greater than the specified benchmark of 0.5 and determined the research constructs' convergent validity. Furthermore, according to Fornell and Larcker (1981), the square root of AVE should be higher than its maximum association with any test construct to ensure the discriminant among research constructs. As indicated in Table 5-12, most of the square root of AVEs are higher than the correlation coefficients between two constructs. Moreover, according to Henseler et al. (2015), discriminant validity of the formative model can be assessed using the heterotrait-monotrait ratio (HTMT) of the correlations. The HTMT ratio should be less than 0.85. We listed all of results from HTMT test in Table 5-13, all of results are less than 0.85 which provides the discriminant validity property. With the two criteria above satisfied, the discriminant validity of the research construct was ensured.

Table 5-11 Reliability and convergent validity assessment

Construct	R^2	AVE	CR	Cronbach's Alpha
GTL	0.41	0.534	0.937	0.864
GHRMP	0.46	0.625	0.926	0.868
SI	0.55	0.697	0.938	0.887
OGP	0.37	0.678	0.894	0.871
GEP	0.61	0.763	0.906	0.882
GBSC	0.65	0.723	0.934	0.889
TMI	0.49	0.839	0.960	0.910
OSC	0.56	0.807	0.918	0.902

**Note:* GTL: green transformational leadership, GHRMP: GHRM practices, SI: sustainability innovation, OGP: organizational green practices, GEP: green environmental performance, GBSC: green balanced scorecards, TMI: top management involvement, OSC: organizational social capital.

Source: This Study.

Table 5-12 Discriminant validity results based on Fornel-Larcker criterion

Construct	1	2	3	4	5	6	7	8
1. GTL	**0.730**							
2. GHRMP	0.598	**0.790**						
3. SI	0.677	0.650	**0.835**					
4. OGP	0.625	0.624	0.705	**0.823**				
5. GEP	0.630	0.618	0.712	0.588	**0.873**			
6. GBSC	0.707	0.527	0.668	0.679	0.788	**0.850**		
7. TMI	0.616	0.791	0.719	0.571	0.523	0.564	**0.916**	
8. OSC	0.509	0.673	0.702	0.771	0.525	0.501	0.845	**0.898**

**Note:* GTL: green transformational leadership, GHRMP: GHRM practices, SI: sustainability innovation, OGP: organizational green practices, GEP: green environmental performance, GBSC: green balanced scorecards, TMI: top management involvement, OSC: organizational social capital.

Source: This Study.

Table 5-13 Discriminant validity results based on HTMT

Construct	1	2	3	4	5	6	7	8
1. GTL	-							
2. GHRMP	0.535	-						
3. SI	0.632	0.657	-					
4. OGP	0.675	0.613	0.662	-				
5. GEP	0.646	0.629	0.621	0.701	-			
6. GBSC	0.587	0.638	0.626	0.612	0.641	-		
7. TMI	0.651	0.669	0.615	0.637	0.607	0.716	-	
8. OSC	0.715	0.582	0.703	0.729	0.674	0.755	0.658	-

**Note:* GTL: green transformational leadership, GHRMP: GHRM practices, SI: sustainability innovation, OGP: organizational green practices, GEP: green environmental performance, GBSC: green balanced scorecards, TMI: top management involvement, OSC: organizational social capital.

Source: This Study.

5.5 Evaluation of structural model

The parameter estimates of the path connecting research components was used to evaluate the structural model. To assess the relevance of each path coefficient in serve of hypotheses testing, a research sample of 427 respondents and a non-parametric bootstrapping procedure were conducted with 5000 sub-sample. The goodness-of-fit (GoF) index is being used to assess the overall fitness of the data and model. According to Vinzi et al. (2010), GoF more than 0.36 is regarded big, 0.25 is considered medium, and 0.10 is considered small. This structural model's GoF is 0.52, which is regarded to be large. This finding validated the structural model's suitability, as evidenced by its excellent predictive power.

5.5.1 Direct effects

Table 5-14 and Figure 5-1 shows standardized path coefficients and t-values for the model. To test the relationship between GTL and GHRM practices, the path coefficient ($\beta = 0.713$, $t = 11.999$, $p < 0.001$) was significant, thus, H1a is supported, which proposes that GTL is positively related to GHRM practices. These findings corroborate prior studies, which revealed that green transformational leadership has an essential role in influencing GHRM practices and, as a result, forecasting green innovation in firms (Farrukh et al., 2022; Singh et al., 2020; Jia et al., 2018; Renwick et al., 2013). The path coefficient ($\beta = 0.419$, $t = 9.159$, $p < 0.001$) was significant, thus, H1b is supported, which proposes a positive relationship between GTL and organizational green practices. The path coefficient ($\beta = 0.526$, $t = 10.628$, $p < 0.001$) was significant, thus, H1c is supported, which proposes a positive relationship between GTL and sustainability innovation. GTL was discovered to be a predictor of green practices and to have direct positive effects on sustainability innovation (Shah et al., 2020; Begum et al., 2022; Zhao & Huang, 2022). This research determines that GTL is positively effect to GHRM

practices, sustainability innovation, and organizational green practices.

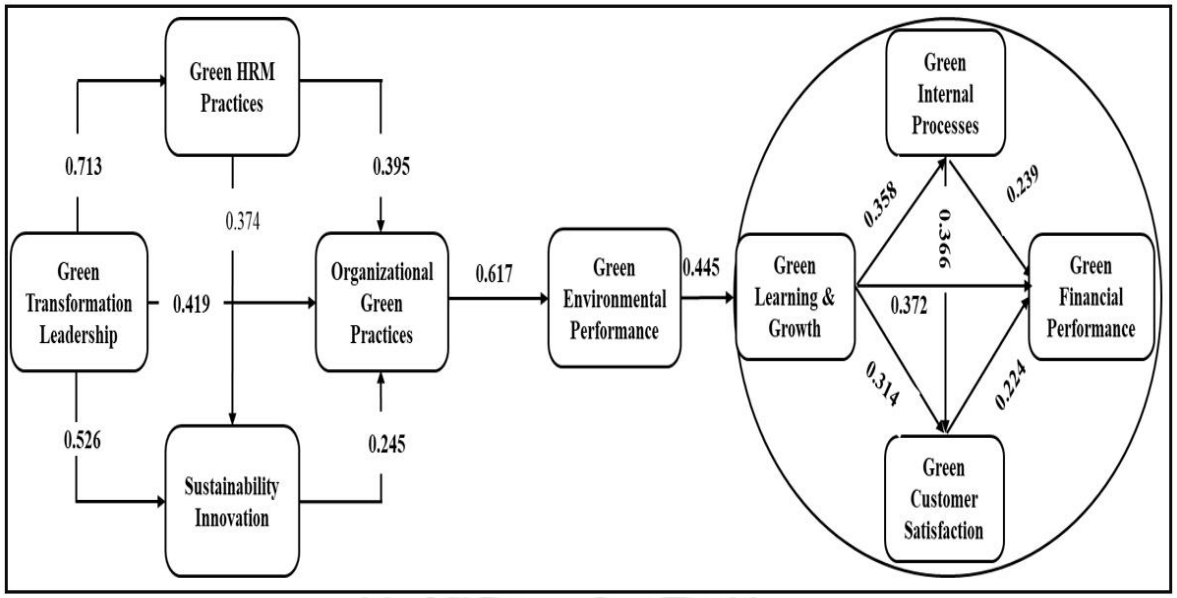

Figure 5-1 Evaluation of structural model and hypothesis testing

Source: This Study.

To test the relationship between GHRM practices and organizational green practices, as expected, the results demonstrate that GHRM practices positively relates to organizational green practices. The path coefficient (β = 0.395, t = 9.449, $p < 0.001$) is significant, therefore H2a is supported, which shows that GHRM practices is positively related to organizational green practices. To test the relationship between GHRM practices and sustainability innovation, as expected, the results demonstrate that GHRM practices positively relates to sustainability innovation. The path coefficient (β = 0.374, t = 7.033, $p < 0.001$) is significant, therefore H2b is supported, which shows that GHRM practices is positively related to sustainability innovation. Furthermore, the path coefficient from sustainability innovation to organizational green practices (β = 0.245, t = 4.826, $p < 0.001$) is significant, thus H3 is supported, which shows that sustainability innovation is positively related to organizational green practices. This result is aligned with the

previous studies such as the research of Ahmadi et al. (2020); Juntunen et al. (2019), and Xue et al. (2019).

To test the relationship between organizational green practices and green environmental performance, as expected, the results demonstrate that organizational green practices positively relates to green environmental performance. The path coefficient ($\beta = 0.617$, $t = 19.198$, $p < 0.001$) is significant, therefore, H4 is supported, which shows that organizational green practices is positively related to green environmental performance. To test the relationship between green environmental performance and green balanced scorecards, as expected, the results demonstrate that green environmental performance positively relates to green balanced scorecards. The path coefficient ($\beta = 0.445$, $t = 7.249$, $p < 0.001$) is significant, therefore H5 is supported, which shows that green environmental performance is positively related to green balanced scorecards.

Lastly, as suggested in the hypotheses, the interrelationship among the dimensions of green balanced scorecards, the empirical results show that green learning and growth has a positive influence on green internal processes, green customer satisfaction, and green financial performance ($\beta = 0.358$, $t = 7.925$, $p < 0.001$; $\beta = 0.314$, $t = 6.013$, $p < 0.001$; and $\beta = 0.372$, $t = 7.086$, $p < 0.001$; respectively), Thus, the hypotheses H6, H7, H8 are supported. For the influence of green internal processes on green customer satisfaction and green financial performance. The empirical results show that green internal processes have a positive influence on green customer satisfaction and green financial performance ($\beta = 0.366$, $t = 6.082$, $p < 0.001$; and $\beta = 0.239$, $t = 4.368$, $p < 0.001$; respectively). Therefore, the hypotheses H9 and H10 are supported. For the relationship between green customer satisfaction and green financial performance, the empirical results show that green customer satisfaction has a positive influence on green financial performance ($\beta = 0.224$, $t = 2.853$, $p <$

0.001). Hence, the hypothesis H11 is supported.

Table 5-14 Results of direct effects

Hypo.	Paths	f^2 value	Standardized Estimate	t-value	p-value	VIF	Remarks
H1a	GTL → GHRMP	0.440	0.713	11.999	***	1.344	Supported
H1b	GTL → OGP	0.126	0.419	9.159	***	1.719	Supported
H1c	GTL → SI	0.287	0.526	10.628	***	1.562	Supported
H2a	GHRMP → OGP	0.032	0.395	9.449	***	1.719	Supported
H2b	GHRMP → SI	0.185	0.374	7.033	***	1.882	Supported
H3	SI → OGP	0.035	0.245	4.826	***	1.726	Supported
H4	OGP → GEP	0.139	0.617	19.198	***	1.563	Supported
H5	GEP → GBSC	0.294	0.445	7.249	***	1.889	Supported
H6	GLG → GIP	0.183	0.358	7.925	***	2.135	Supported
H7	GLG → GFP	0.157	0.372	7.086	***	1.917	Supported
H8	GLG → GCS	0.081	0.314	6.013	***	2.078	Supported
H9	GIP → GCS	0.239	0.366	6.082	***	2.156	Supported
H10	GIP → GFP	0.355	0.239	4.368	***	1.862	Supported
H11	GCS → GFP	0.082	0.224	2.853	***	1.803	Supported

**Note:* 1. Hypo.: Hypotheses

2. GTL: green transformational leadership, GHRMP: GHRM practices, SI: sustainability innovation, OGP: organizational green practices, GEP: green environmental performance, GBSC: green balanced scorecards, GLG: green learning and growth, GCS: green customer satisfaction, GIP: green internal processes, GFP: green financial performance.

3. ***p<0.001

Source: This Study.

5.5.2 Indirect effects

Bootstrapping method (5000 sub-samples) was accessed to evaluate the significance of mediating (Hair et al., 2017). As shown in Table 5-15, the effect of GTL on GHRM practices which was significant ($\beta = 0.713$, $t = 11.999$, $p < 0.001$). The direct effect of GTL on organizational green practices was significant ($\beta = 0.419$, $t = 9.159$, $p < 0.001$). The results also showed that

GHRM practices had a positive effect on organizational green practices (β = 0.395, t = 9.449, p < 0.001). Besides, the result showed that GTL had an impact on organizational green practices through GHRM practices (β = 0.364, t = 5.232, p < 0.001). Thus, according to Zhao et al. (2010) and Hair et al. (2017), the results of this study indicated that GHRM practices partial mediation the relationship between GTL and organizational green practices.

Regarding to the effect of GTL on sustainability innovation which was significant (β = 0.526, t = 10.628, p < 0.001). The effect of GTL on organizational green practices was significant (β = 0.419, t = 9.159, p < 0.001). The direct effect of sustainability innovation on organizational green practices was significant (β = 0.245, t = 4.826, p < 0.001). The results also showed that GTL had an impact on organizational green practices through sustainability innovation (β = 0.254, t = 3.896, p < 0.001). Therefore, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that sustainability innovation partial mediation the relationship between GTL and organizational green practices.

For the effect of GTL on organizational green practices which was significant (β = 0.419, t = 9.159, p < 0.001). The direct effect of GTL on green environmental performance was significant (β = 0.211, t = 4.786, p < 0.001). The results also showed that organizational green practices had a positive effect on green environmental performance (β = 0.617, t = 19.198, p < 0.001). Besides, the result showed that GTL had an impact on organizational green practices through GHRM practices (β = 0.314, t = 5.285, p < 0.001). Thus, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that organizational green practices partial mediated the relationship between GTL and green environmental performance.

Regarding to the effect of GHRM practices on organizational green practices which was significant (β = 0.395, t = 9.449, p < 0.001). The direct

effect of GHRM practices on green environmental performance was significant ($\beta = 0.521$, $t = 11.256$, $p < 0.001$). The results also showed that organizational green practices had a positive effect on green environmental performance ($\beta = 0.617$, $t = 19.198$, $p < 0.001$). Furthermore, the result showed that GHRM practices had an impact on green environmental performance through organizational green practices ($\beta = 0.198$, $t = 2.695$, $p < 0.001$). Thus, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that organizational green practices partial mediated the relationship between GHRM practices and green environmental performance.

Regarding to the direct effect of sustainability innovation on organizational green practices was significant ($\beta = 0.245$, $t = 4.826$, $p < 0.001$). The effect of sustainability innovation on green environmental performance which was significant ($\beta = 0.303$, $t = 5.392$, $p < 0.001$). The effect of organizational green practices on green environmental performance was significant ($\beta = 0.617$, $t = 19.198$, $p < 0.001$). The results also showed that sustainability innovation had an impact on green environmental performance through organizational green practices ($\beta = 0.295$, $t = 4.971$, $p < 0.001$). Therefore, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that organizational green practices partial mediation the relationship between sustainability innovation and green environmental performance.

For the effect of organizational green practices on green environmental performance which was significant ($\beta = 0.617$, $t = 19.198$, $p < 0.001$). The direct effect of organizational green practices on green learning and growth was insignificant ($\beta = 0.08$, $t = 1.78$, $p = 0.32$). The results also showed that green environmental performance had a positive effect on green learning and growth ($\beta = 0.095$, $t = 3.703$, $p < 0.001$). Besides, the result showed that organizational green practices had an impact on green learning and growth

through green environmental performance (β = 0.310, t = 5.655, p < 0.001). Thus, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that green environmental performance fully mediated the relationship between organizational green practices and green learning and growth.

Regarding to the effect of green learning and growth on green internal process which was significant (β = 0.358, t = 7.925, p < 0.001). The direct effect of green learning and growth on green financial performance was significant (β = 0.372, t = 7.086, p < 0.001). The results also showed that green internal process had a positive effect on green financial performance (β = 0.239, t = 4.368, p < 0.001). In addition, the result showed that green learning and growth had an impact on green financial performance through green internal process (β = 0.293, t = 4.932, p < 0.001). Hence, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that green internal process partial mediated the relationship between green learning and growth and green financial performance.

For the effect of green learning and growth on green customer satisfaction which was significant (β = 0.314, t = 6.013, p < 0.001). The direct effect of green learning and growth on green financial performance was significant (β = 0.372, t = 7.086, p < 0.001). The results also showed that green customer satisfaction had a positive effect on green financial performance (β = 0.224, t =2.853, p < 0.001). In addition, the result showed that green learning and growth had an impact on green financial performance through green customer satisfaction (β = 0.251, t = 4.908, p < 0.001). Hence, according to Zhao et al. (2010), and Hair et al. (2017), the results of this study indicated that green customer satisfaction partial mediated the relationship between green learning and growth and green financial performance.

Table 5-15 Results of indirect effects

Paths	Standardized Estimate	t-value	p-value	Remarks
GTL → GHRMP	0.713	11.999	***	Significant
GHRMP → OGP	0.395	9.449	***	Significant
GTL → OGP	0.419	9.159	***	Significant
GTL → GHRMP → OGP	0.364	5.232	***	Partial mediation
GTL → SI	0.526	10.628	***	Significant
SI → OGP	0.245	4.826	***	Significant
GTL → OGP	0.419	9.159	***	Significant
GTL → SI → OGP	0.254	3.896	***	Partial mediation
GTL → OGP	0.419	9.159	***	Significant
OGP → GEP	0.617	19.198	***	Significant
GTL → GEP	0.211	4.786	***	Significant
GTL → OGP → GEP	0.314	5.285	***	Partial mediation
GHRMP → OGP	0.395	9.449	***	Significant
OGP → GEP	0.617	19.198	***	Significant
GHRMP → GEP	0.521	11.256	***	Significant
GHRMP → OGP → GEP	0.198	2.695	***	Partial mediation
SI → OGP	0.245	4.826	***	Significant
OGP → GEP	0.617	19.198	***	Significant
SI → GEP	0.303	5.392	***	Significant
SI → OGP → GEP	0.295	4.971	***	Partial mediation
OGP → GEP	0.617	19.198	***	Significant
GEP → GLG	0.095	3.703	***	Significant
OGP → GLG	0.08	1.78	0.32	Insignificant
OGP → GEP → GLG	0.310	5.655	***	Full mediation
GLG → GIP	0.358	7.925	***	Significant
GIP → GFP	0.239	4.368	***	Significant
GLG → GFP	0.372	7.086	***	Significant
GLG → GIP → GFP	0.293	4.932	***	Partial mediation
GLG → GCS	0.314	6.013	***	Significant
GCS → GFP	0.224	2.853	***	Significant
GLG → GFP	0.372	7.086	***	Significant
GLG → GCS → GFP	0.251	4.908	***	Partial mediation

**Note:* 1. GTL: green transformational leadership, GHRMP: GHRM practices, SI: sustainability innovation, OGP: organizational green practices, GEP: green environmental performance, GBSC: green balanced scorecards, GLG: green learning and growth, GCS: green customer satisfaction, GIP: green internal processes, GFP: green financial performance.

2. ***p<0.001

Source: This Study.

5.5.3 Moderating effects

5.5.3.1 Moderating effect of top management involvement on the relationship of organizational green practices and green environmental performance

To test the moderating effect, Hypothesis H12, which postulated that top management involvement has a positive moderating effect on the relationship between organizational green practices and green environmental performance, was supported ($\beta = 0.191$, $t = 2.852$, $p < 0.001$). The result is shown in Table 5-16. For further understanding of the moderating effects, this research followed the guidance of Aiken, West, and Reno (1991). Figure 5-2 show that both organizational green practices and top management involvement positively influence on green environmental performance, for instance, an increase in green environmental performance is associated with an increase in top management involvement. In particular, as shown in Figure 5-2, the result indicated that the top managers with a higher extent of management involvement tend to display a higher positive organizational green practice and enhance green environmental performance than the top managers who have a lower extent of management involvement. Hence, hypothesis H12 is supported.

Table 5-16 Moderation tests using PLS

Hypotheses	Path coefficient	t-Value	Result	VIF
$H_{12.}$ Top Management Involvement moderates Organizational Green Practices on Green Environmental Performance	0.191	2.852***	Supported	2.357
$H_{13a.}$ Organizational Structural Social Capital moderates Organizational Green Practices on Green Environmental Performance	0.235	3.891***	Supported	2.034

Hypotheses	Path coefficient	t-Value	Result	VIF
$H_{13b.}$ Organizational Relational Social Capital moderates Organizational Green Practices on Green Environmental Performance	0.274	3.050***	Supported	2.535
$H_{13c.}$ Organizational Cognitive Social Capital moderates Organizational Green Practices on Green Environmental Performance	0.157	2.978***	Supported	1.891

**Notes:* ***p<0.001

Source: This Study.

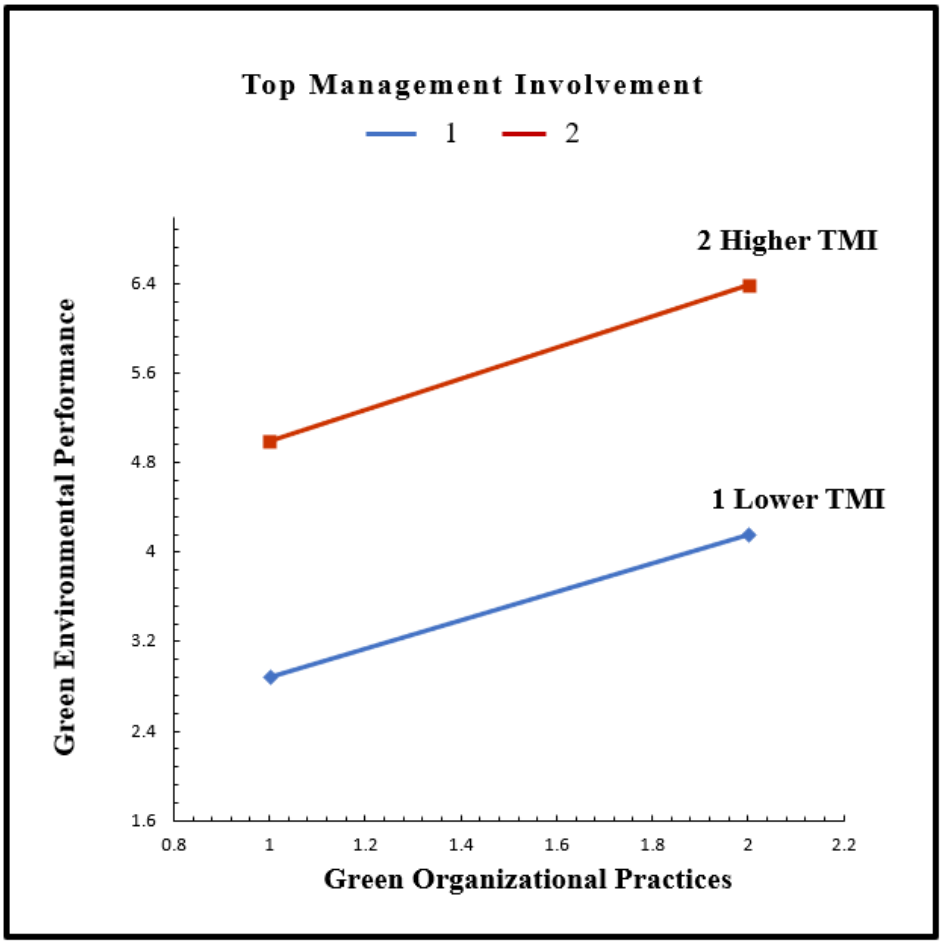

Figure 5-2 The moderating effects of top management involvement

**Notes:* TMI: Top management involvement.

Source: This Study.

5.5.3.2 Moderating effect of organizational social capital on the relationship of organizational green practices and green environmental performance

To test the moderating effect, Hypothesis H13a, which postulated that organizational structural social capital (OSSC) has a positive moderating effect on the relationship between organizational green practices and green environmental performance, was supported ($\beta = 0.235$, $t = 3.891$, $p < 0.001$). The result is shown in Table 5-16. For further understanding of the moderating effects, this research followed the guidance of Aiken, West, and Reno (1991).

Figure 5- 3 The moderating effects of organizational structural social capital

**Note:* OSSC: organizational structural social capital.
Source: This Study.

Figure 5-3 show that both organizational green practices and organizational structural social capital positively influence on green environmental performance, for instance, an increase in green environmental performance is associated with an increase in organizational structural social capital. In particular, as shown in Figure 5-3, the result indicated that higher organizational structural social capital will positively moderate effect to green environmental performance. Therefore, H13a is supported.

To test the moderating effect, Hypothesis H13b, which postulated that organizational relational social capital (ORSC) has a positive moderating effect on the relationship between organizational green practices and green environmental performance, was supported ($\beta = 0.274$, $t = 3.050$, $p < 0.001$). The result is shown in Table 5-16. For further understanding of the moderating effects, this research followed the guidance of Aiken, West, and Reno (1991). Figure 5-4 show that both organizational green practices and organizational relational social capital positively influence on green environmental performance, for instance, an increase in green environmental performance is associated with an increase in organizational relational social capital. In particular, as shown in Figure 5-4, the result indicated that higher of organizational relational social capital will strengthen the positive effect on green environmental performance. Hence, H13b is supported.

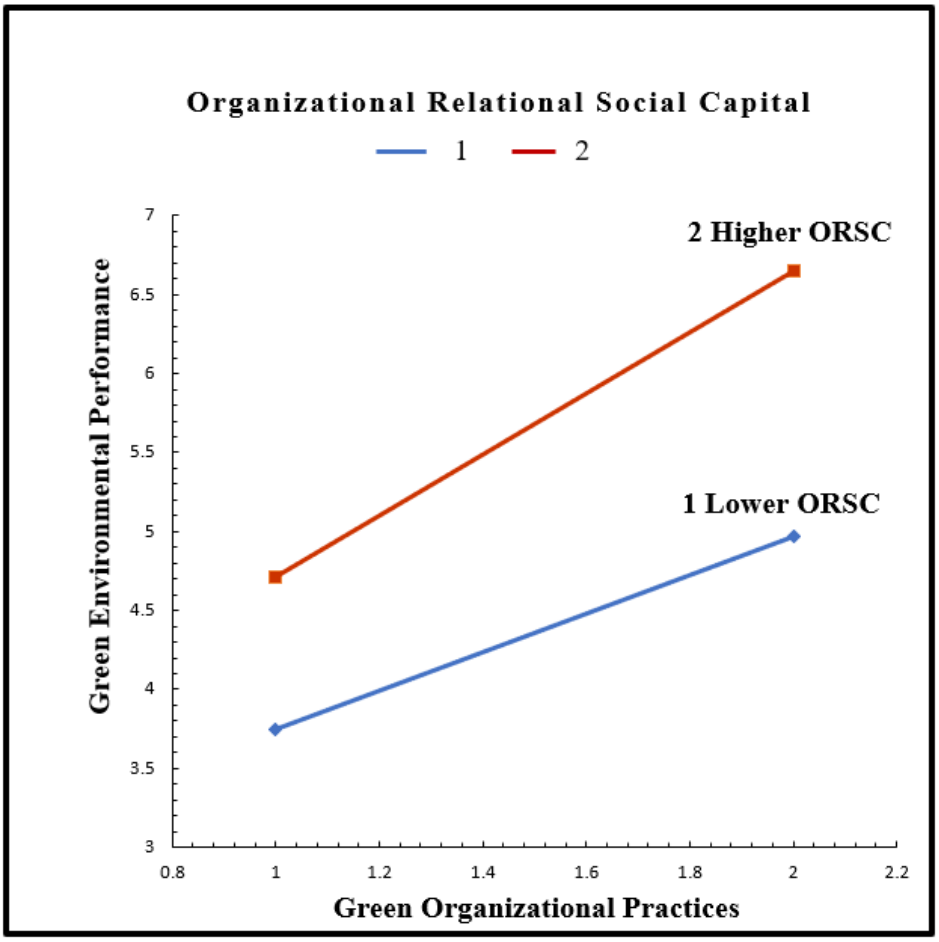

Figure 5- 4 The moderating effects of organizational relational social capital

**Note:* ORSC: organizational relational social capital.

Source: This Study.

To test the moderating effect, Hypothesis H13c, which nominated that organizational cognitive social capital (OCSC) positively moderate effect to green environmental performance, was supported ($\beta = 0.157$, $t = 2.978$, $p < 0.001$). The result is shown in Table 5-16. For further understanding of the moderating effects, this research followed the guidance of Aiken, West, and Reno (1991). Figure 5-5 show that both organizational green practices and organizational cognitive social capital positively influence on green environmental performance, for instance, an increase in green environmental

performance is associated with an increase in organizational cognitive social capital. In particular, as shown in Figure 5-5, the result indicated that higher of organizational cognitive social capital will strengthen the positive effect on green environmental performance. Thus, H13c is supported.

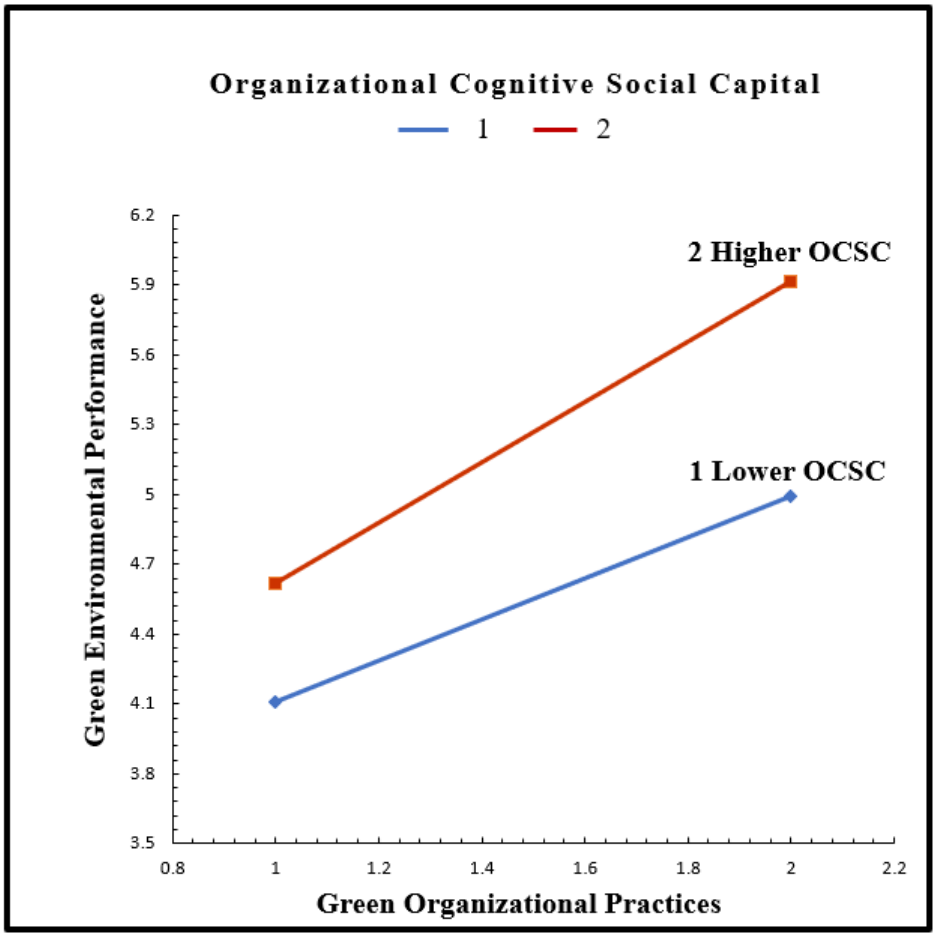

Figure 5- 5 The moderating effects of organizational cognitive social capital

**Note:* OCSC: organizational cognitive social capital.
Source: This Study.

CHAPTER SIX

CONCLUSIONS AND SUGGESTIONS

This chapter comprised of the detailed research conclusion, managerial implication, limitation as well as recommendation for further research. For the first part, the summary of research hypotheses was specified. Additionally, the study results from chapter five was also discussed. Drawing conclusion from those results, academic and managerial implications were presented. Eventually, suggestions for further research and study limitations were addressed.

6.1 Conclusions

6.1.1 Summary of hypotheses

Table 6-1 represents the summary results of each hypothesis testing that proposed in the research framework. The results can explain why each hypothesis was supported. Fourteen hypotheses provide statistically significant results with all value exceeded the threshold such as p-value < 0.05, t-value >1.96, and $\beta > 0.1$, respectively.

Table 6-1 Summary of research hypotheses

Study	Hypothesis	Relationship	Assessment
1	H1	GTL → GHRMP	Supported $r = 0.524$, $p < 0.000$, $Q = 91.716$, $\chi^2 = 22.458$
	H2	GTL → GI	Supported $r = 0.443$, $p < 0.000$, $Q = 345.844$, $\chi^2 = 48.268$
	H3	GTL → EP	Supported $r = 0.490$, $p < 0.000$, $Q = 70.958$, $\chi^2 = 24.322$
	H4	GHRMP → GI	Supported $r = 0.333$, $p < 0.000$, $Q = 86.683$, $\chi^2 = 22.458$
	H5	GHRMP → EP	Supported $r = 0.436$, $p < 0.000$, $Q = 247.510$, $\chi^2 = 48.268$
	H6	GHRMP → FP	Supported $r = 0.431$, $p < 0.000$, $Q = 27.995$, $\chi^2 = 18.467$
	H7	GI → EP	Supported $r = 0.489$, $p < 0.000$, $Q = 64.469$, $\chi^2 = 26.124$

Study	Hypothesis	Relationship	Assessment
	H8	GI → FP	Supported r = 0.513, p < 0.000, Q-value = 98.976, χ^2 = 22.458
	H9	EP → FP	Supported r = 0.644, p < 0.000, Q-value = 311.932, χ^2 = 22.458
2	H1a	GTL → GHRMP	Significant Beta = 0.713; t-value = 11.999; p-value < 0.001
	H1b	GTL → OGP	Significant Beta = 0.419; t-value = 9.159; p-value < 0.001
	H1c	GTL → SI	Significant Beta = 0.526; t-value = 10.628; p-value < 0.001
	H2a	GHRMP → OGP	Significant Beta = 0.395; t-value = 9.449; p-value < 0.001
	H2b	GHRMP → SI	Significant Beta = 0.374; t-value = 7.033; p-value < 0.001
	H3	SI → OGP	Significant Beta = 0.245; t-value = 4.826; p-value < 0.001
	H4	OGP → GEP	Significant Beta = 0.617; t-value = 19.198; p-value < 0.001
	H5	GEP→ GBSC	Significant Beta = 0.445; t-value = 7.249; p-value < 0.001
	H6	GLG → GIP	Significant Beta = 0.358; t-value = 7.925; p-value < 0.001
	H7	GLG→ GFP	Significant Beta = 0.372; t-value = 7.086; p-value < 0.001
	H8	GLG → GCS	Significant Beta = 0.314; t-value = 6.013; p-value < 0.001
	H9	GIP → GCS	Significant Beta = 0.366; t-value = 6.082; p-value < 0.001
	H10	GIP → GFP	Significant Beta = 0.239; t-value = 4.368; p-value < 0.001
	H11	GCS→ GFP	Significant Beta = 0.224; t-value = 2.853; p-value < 0.001
	H12	TMI*OGP → GEP	Supported Beta = 0.191; t-value = 2.852; p<0.001
	H13a	OSSC*OGP → GEP	Supported Beta = 0.235; t-value = 3.891; p<0.001
	H13b	ORSC*OGP → GEP	Supported Beta = 0.274; t-value = 3.050; p<0.001
	H13c	OCSC*OGP → GEP	Supported Beta = 0.157; t-value = 2.978; p<0.001

**Note:* GTL: green transformational leadership, GHRMP: green HRM practices, SI: sustainability innovation, OGP: organizational green practices, GEP: green environmental performance, GBSC: green balanced scorecards, GLG: green learning and growth, GCS: green customer satisfaction, GIP: green internal processes, GFP: green financial performance.

Source: This Study.

6.1.2 Research discussions and conclusions

The major purposes of the current study are firstly to provide a

comprehensive model to investigate the influence of GTL, GHRM practices, sustainability innovation, and organizational green practices on GBSC. Furthermore, the moderating effects of top management involvement and organizational social capital on the influence of customer attitude on organizational green practices and green environmental performance are also evaluated. Several conclusions could be drawn from the results of this study.

Firstly, GTL has direct impacts on GHRM practices, organizational green practices, and sustainability innovation. This result is in line with those previous studies. GTL has a substantial influence on a company's GHRM (Jia et al., 2018; Renwick et al., 2013), as well as encouraging green practices inside the firm (Shah et al., 2020). Moreover, green transformational leadership play a critical role in successfully inspiring innovative ideas within organizations (Singh et al., 2020; Arif & Akram, 2018; Mukonza & Swarts, 2019). Green transformational leadership, in particular, is a crucial source of engagement because it steers people' interpretative schemes to suit corporate interpretive schemes, allowing them to derive meaning from their work (Huang et al., 2021). Because GTL may help or encourage the followers to recognize environmental problems from many viewpoints, this recognition will help them develop waste-reduction solutions, and produce unique green alternatives and ideas (Begum et al., 2022). To achieve the firm competitiveness, green transformational leadership can motivate the sustainability innovation, and boost the green practices in an organization through building or establishing a long-term green policy.

Therefore, GTL is critical in developing and implementing policies that support GHRM in order for the firms to act on their goals and plans and achieve green organizational performance (Jia et al., 2018). According to AMO theory, GTL can promote GHRM to increase employees' talents and motivation, as well as generate possibilities related to environmental management activities

(Haddock-Millar et al., 2016). Sun et al. (2022), and Singh et al. (2020) have found that GTL has an impact on GHRM practices that promote green innovation and improve environmental performance. Firms that inspire their employees to accomplish GHRM through incentives, and chances to harness their potential for green goods (Shahzad et al., 2021; Sun et al., 2022).

Secondly, GHRM practices has direct impacts on organizational green practices and sustainability innovation. Green practices with the goal of eliminating negative environmental consequences can have a huge impact on how firms develop methods to decrease waste, preserve energy, support healthy environmental practices, and so on (Vandenbrande, 2019). GHRM practices increases employee environmental awareness (Renwick et al., 2008, 2013), green creativity (Jia et al., 2018; Chen & Chang, 2013), and green performance of firms (Renwick et al., 2013). GHRM practices also have shown to have an influence on green innovation (Zhou et al., 2018; Chen & Chang, 2013), and green performance (Guerci et al., 2016; O'Donohue & Torugsa, 2016). Prior studies suggest that resolving sustainability-related concerns should result in innovation (Van Holt et al., 2020). The findings show that the GHRM practices have beneficial impacts on green product development performance. Organizations may accomplish sustainable green objectives or green practices using green HRM practices techniques (Yan & Hu, 2021).

Thirdly, sustainability innovation has direct impacts on organizational green practices. Green product innovation is crucial to a company's long-term sustainability (Song et al., 2020). Firms' concerns about the environment can promote the importance of sustainability innovation, and many researchers have discovered how the organizational initiatives can influence green product innovation (Dangelico et al., 2017; Stucki et al., 2018; Zhao et al., 2018). Innovation is being used as a strategy by an increasing number of firms to attain environmental sustainability. This is a win–win method since it lessens the

contradiction between rapid economic expansion, and environmental consciousness (Chang, 2016; Huang et al., 2016). Green innovation, in particular, is conducted to improve the firm's environmental performance, thus, satisfy the demands of environmental management (Chang, 2016).

Fourthly, organizational green practices have direct impacts on green environmental performance. Firm managers may combine organizational resources, and coordinate staff actions to create a green organizational identity, which can improve the atmosphere for green innovation. Finally, if environmental challenges are integrated into the corporate identity, the organization will be in better positioned to execute beneficial environmental operations (Song & Yu, 2018). Implementing green practices necessitates that business leaders pay greater attention to environmental challenges, promote the development of fresh, and original ideas about green innovation, which can foster a creative environment suitable to motivating environmental performance.

Fifthly, GEP has direct impacts on the four elements of green balanced scorecards. This result was also supported by Shashi et al., (2019), who stated that EP is dependent on the implementation of environmental practices, which in turn influence the four elements of green balanced scorecard such as green learning and growth, green internal process, green customer satisfaction, and green financial performance. Furthermore, Zailani et al. (2012), and Shashi et al. (2019) highlighted the importance of engaging in environmental practices that improve EP, as well as environmental reputation, financial performance in the short and long run.

Sixthly, this study results confirm the interrelationship of the four elements in green balanced scorecards. Organizations that use BSC have a better understanding of what needs to be accomplished and how the organization is functioning in terms of these financial and non-financial criteria

(Heavey & Murphy, 2012). These results of this study again show that the four elements of BSC have a connection by green management (Kaplan & Norton, 1996b). In particular, the company may achieve higher green internal processes through higher learning and growth because employees understand about green business process innovation through education from companies, and they are prepared for uncertainty or risk at work. Furthermore, the company's green financial performance may be enhanced in the near future through organizational green learning and growth, such as achieving information flow through green training or preparing for uncertainty or risk. Green customers will be more satisfied as a consequence of the company's efforts to build and operate a learning organization. Furthermore, if employees fully understand the organization's green internal process, they will be able to supply relevant green products and services to consumers. As a result of this, the green organizational financial performance may increase due to the higher profit.

Seventhly, the study explains the moderating role of top management involvement that with a higher level of involvement from the top executies, the influence of organizational green practices on GEP will be much higher than a low level of involvement. The results of this study also align with Dubey et al. (2017), they concluded that higher levels of top management belief and participation can result in highly reconfigurable manufacturing systems and with higher GEP. Under the involvement of top managers, the organizations can improve environmental performance in a more appropriate way (Majid et al., 2020). In addition, when top managers realize the potential benefits of environmental efforts, they will be more willing to participate in steps that will eventually improve environmental performance (Latan et al., 2018).

Finally, the study clarifies the moderating role of organizational social capital on the influence of organizational green practices and green environmental performance will be much higher at the category of high than a

low organizational social capital (Zhang & Chiu, 2012). In another word, employees who feel more comfortable and participate more in organizational green practices, follow the green policy and share the green knowledge practices to the others tend to boost the green environmental performance of firms (Alt et al., 2015). This finding is also adding to the contribution to destination the literature as researchers tend to anticipate more in a direct effect of OSC and ignore the moderating power of this construct. That is, with the elements of structural capital, relational capital, and cognitive capital, organizational social capital can encourage the social media network, mutual recognition interaction, trust and commitment, empowerment, and psychological contract, all of which are essential to facilitate synergistic coordination, cooperation, and cooperation to initiate OGP, and are also helpful to enhance green EP.

6.2 Academic implications

Several academic implications can be drawn from the results of this study. Firstly, in filling the gap of previous studies, this research provides one integrative model of the antecedent, moderating, and consequences of green environmental performance. Secondly, this study integrated several theories to support the research. From the beginning, the transformational leadership theory is used to explain the reason why GTL has to be planned in SMEs as an important element to increase the green practices and sustainability innovation of the company. Moreover, by using AMO theory to explain GHRM practices, the results confirm the importance of company's abilities, motivations, and opportunities in contributing to organizational performance. This is an integrating viewpoint that demonstrates why and how leaders, strategic HRM practices promote firm performance (Colbert, 2004).

Green transformational leadership, also known as environmental transformational leadership, is a style of leadership that aims to motivate

employees to achieve green goals, shape employees' green visions, and encourage sustainable change in the organization (Mittal et al., 2016). Earlier research on green transformational leadership has demonstrated its fundamental influence on workers' environmental responsibility (Zhang et al., 2020), organizational citizenship behavior (Srour et al., 2020) as well as its significance for organizational sustainability (Chen & Chang, 2013). We have used transformational leadership theory in this research to emphasize the role of top managers, to broaden the research on the utility of green transformational leadership to employees' taking charge behavior, and show how green transformational leadership influences taking charge behavior.

This research also introduced NRBV theory, from a nature-resources perspective, primarily discusses which top managers and human resource management measures can be implemented to effectively achieve environmental performance. This research looks at the environmental effect of businesses' resources as well as the processes that use these resources (Hart, 1995; Hart & Dowell, 2010). A successful sustainability innovation from an NRBV should provide a corporation with a competitive edge while also benefiting the natural environment. The research topic of sustainable innovation (SI) is gaining popularity, yet this research has mostly focused on the causes and results of SI. Third, this study addresses organizational green practices as an outcome of SI and may have indirect effect to green environmental performance through organizational green practices.

Finally, the BSC is a strategic management method that is used to match an organization's strategy with its goals (Kaplan & Norton, 1996b). According to Jyoti et al. (2017), it accomplishes this by turning a company's vision and strategy into a tangible set of performance measurements organized into financial, customer, internal business processes, and learning and growth perspectives. Though the four aspects of BSC are routinely used to assess an

organization's financial performance, they are rarely utilized to measure an organization's success in terms of green environment performance. To fulfill this gap, in the current study, we test the effects of green environment performance on the four variables of GBSC including GFP, GCS, GIP, and GLG in organization. This study makes theoretical contributions by adding the green dimension to the concept of sustainability and proposing a direction for future empirical green sustainability research on how to achieve the competitive advantages for the SMEs.

6.3 Managerial implications

This study suggests vital advice to top leaders and senior managers on how to nurture green innovation and use it to improve environmental performance in order to beat market rivals.

First, our findings show that GTL significantly influences GHRM practices, organizational green practices, and sustainable innovation. According to the findings of our study, managers should highlight and encourage green leadership traits that are required for investigating GHRM practices. Besides, GHRM practices are critical for hiring, developing, and retaining people that bring green attitudes and values to work to support the firm's goal of competing with rivals through green processes and green goods. As a result, we propose that a firm's transformational leadership creates a supportive environment for employees with green ability and motivation, as well as opportunities for them to realize their green potential, in order to help the companies, make GI in its processes and practices to remain competitive in the market is very critical.

Second, firms should invest in their GHRM practices and put them as a strategic tool for channeling talented-human into environmental management initiatives. Our study results suggested that GHRM practices reflect the firm's strategic attitude toward environmental management and inspire employees to

participate in organizational green activities to decrease pollution. As a consequence, we recommend that senior management should integrate the firm's environmental management goals with GHRM policies and practices to foster and sustain the green process and product innovation. In addition, the results of this study asserted that GHRM practices demand a progressive culture and a flatter organizational structure in order to stimulate and boost long-term innovation for competitive advantage. Hence, managers should build a green environment by developing green abilities such as green recruitment and green training, motivating green employees such as green performance management and green rewards, and providing green opportunities such as green employee involvement.

Third, our findings suggest that organizational green practices in SMEs can improve green environmental performance. Furthermore, top management involvement and organizational social capital moderate the association between organizational green practices and green environmental performance. As a results, top managers and policymakers should focus more on developing strong organizational social capital and incorporating appropriate approaches to cultivate organizational green practices that enhance employee initiatives, which further contribute to green environmental performance. Furthermore, senior management should aim to amass beneficial and original ideas for the company’s product or service, which can improve organizational innovation capabilities, and allow the firm to maintain a competitive edge.

Fourth, senior executives should regard green environmental performance as a significant facilitator in reaching four factors of balanced scorecards. Firms that pursuing environmental performance can improve green learning and growth, green internal processes, green customer satisfaction, and green financial performance. Besides, the results also show that green learning and growth can indirectly affect green financial performance through green

internal processes and green customer satisfaction. Employees might be taught the information and abilities required to categorize and detect garbage, as well as reduce emissions and preserve water, fuel, and other resources through the organizational green policies. Then they can use the eco-friendly materials, and equipment to meet both the psychological and emotional demands of the customers. Firms that supply their customers with environmental information tend to draw more customer attention and boost green customer satisfaction and loyalty (Jang et al., 2011). Furthermore, if staff fully understand the organization's green internal process, they will be able to supply relevant green products and services to consumers. In addition, by giving staff professional knowledge through green training, firms may promote renewable, energy efficiency, and waste management, which can increase green financial performance (Tulsi & Ji, 2020).

Last, the findings of this study highlight the fact that GTL has an indirect impact on organizational green practices via GHRM practices and sustainability innovation. As a result, senior executives and human resource managers can consider these two components in order to achieve and create an organizational "green workplace". In particular, senior leaders and human resource managers should focus on the organization's green policies, as well as increasing their workers' green competence, passion, and opportunity. Firms should put more effort into GHRM practices as a strategic asset for channeling people's potential into managerial decisions.

6.4 Limitations and further research directions

The current study verified the relationship between GTL, GHRM practices, sustainability innovation, organizational green practices, green environmental performance, and GBSC based on theoretical and empirical validations. Besides, this study also examines the moderating effect of top management involvement and organizational social capital on the relationship

between organizational green practices and green environmental performance. However, there are still several limitations which can suggest for future research directions. First of all, a major limitation of this research is that the survey was conducted online, the sample are including the top managers and HR managers of SMEs in the Southern Vietnam, which cannot generalize the samples to other countries. Further researches may consider to investigate this framework in another countries, or compare the results among several countries, or use the different work position of participations to investigate about antecedents and consequences of green environmental performance. Secondly, in this research, the author introduced many theories and models to explain the path between variables, yet the comparison between these theories is still missing and waiting for future researchers to exploit. Third, although the survey serving this research is designed with an accurate number of respondents, it may not represent the opinion of the population. The notion of GTL, GHRM practices, sustainability innovation, organizational green practices, green environmental performance and GBSC, top management involvement, and organizational social capital is a complicated process and requires participants to have many years of experience in the manufacturing field of expertise and be willing to innovate for sustainability development, therefore, a qualitative and longitudinal investigation is suggested to obtain the most comprehensive research findings. Finally, in this research, there are some hypotheses cannot satisfy other researchers, future study can conduct more researches related to the hypotheses and relevant factors.

REFERENCES

1. Abuelhassan, A. E. & Elsayed, Y. N. M. (2020), The Impact of Employee Green Training on Hotel Environmental Performance in the Egyptian Hotels, International Journal on Recent Trends in Business and Tourism (IJRTBT), Vol. 4, No. 1, pp. 24-33.
2. Acquah, I. S. K., Agyabeng-Mensah, Y. & Afum, E. (2021), Examining the Link Among Green Human Resource Management Practices, Green Supply Chain Management Practices & Performance, Benchmarking: An International Journal, Vol. 28, No. 1, pp. 267-290.
3. Adams, R., Jeanrenaud, S., Bessant, J., Denyer, D. & Overy, P. (2015), Sustainability-oriented Innovation: A Systematic Review, International Journal of Management Reviews, Vol. 18, No. 2, pp. 180-205.
4. Adegbile, A., Sarpong, D. & Meissner, D. (2017), Strategic Foresight for Innovation Management: A Review and Research Agenda, International Journal of Innovation and Technology Management, Vol. 14, No. 4, pp. 1750019.
5. Adnan H. A., Osama, I. & Zaini, A. T. (2018), The Role of Transformational Leadership as a Mediating Variable in Delone and Mclean Information System Success Model: The Context of Online Learning Usage in Yemen, Telematics and Informatics, Vol. 35, pp. 1421-1437.
6. Afsar, B., F. Badir, Y. & Bin Saeed, B. (2014), Transformational Leadership & Innovative Work Behavior, Industrial Management and Data Systems, Vol. 114, No. 8, pp. 1270-1300.

7. Afum, E., Agyabeng-Mensah, Y., Opoku Mensah, A., Mensah-Williams, E., Baah, C. & Dacosta, E. (2021), Internal Environmental Management & Green Human Resource Management: Significant Catalysts for Improved Corporate Reputation and Performance, Benchmarking: An International Journal, Vol. 28, No. 10, pp. 3074-3101.
8. Aguilera-Caracuel, J. & Ortiz-De-Mandojana, N. (2013), Green Innovation and Financial Performance: An Institutional Approach, Organization and Environment, Vol. 26, No. 4, pp. 365-385.
9. Agyabeng-Mensah, Y., Afum, E. & Ahenkorah, E. (2020a), Exploring Financial Performance and Green Logistics Management Practices: Examining the Mediating Influences of Market, Environmental and Social Performances, Journal of Cleaner Production, Vol. 258, pp. 120613.
10. Agyabeng-Mensah, Y., Afum, E., Agnikpe, C., Cai, J., Ahenkorah, E. & Dacosta, E. (2020d), Exploring the Mediating Influences of Total Quality Management and Just in Time Between Green Supply Chain Practices and Performance, Journal of Manufacturing Technology Management, Vol. 32, No. 1, pp. 156-175.
11. Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E. & Owusu, D. (2020c), The Influence of Lean Management and Environmental Practices on Relative Competitive Quality Advantage and Performance, Journal of Manufacturing Technology Management, Vol. 31, No. 7, pp. 1351-1372
12. Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E., Dacosta, E. & Tian, Z. (2020e), Green Warehousing, Logistics Optimization, Social Values and Ethics and Economic Performance: The Role of Supply Chain Sustainability, The International Journal of Logistics Management, Vol. 31, No. 3, pp. 549-574.

13. Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E., Nana Agyemang, A., Agnikpe, C. & Rogers, F. (2020b), Examining the Influence of Internal Green Supply Chain Practices, Green Human Resource Management and Supply Chain Environmental Cooperation on Firm Performance, Supply Chain Management, Vol. 25, No. 5, pp. 585-599.
14. Ahmadi, H. B., Lo, H. W., Gupta, H., Kusi-Sarpong, S. & Liou, J. J. (2020), An Integrated Model for Selecting Suppliers on The Basis of Sustainability Innovation, Journal of Cleaner Production, Vol. 277, pp. 123-261.
15. Ahmeda, U., Mozammelb, S. & Zamanc, F. (2020), Green HRM and Green Innovation: Can Green Transformational Leadership Moderate: Case of Pharmaceutical Firms in Australia, Systematic Reviews in Pharmacy, Vol. 11, No. 7, pp. 616-617.
16. Aiken, L. S., West, S. G. & Reno, R. R. (1991), Multiple Regression: Testing and Interpreting Interactions, Newbury Park: CA: Sage.
17. Alfawaire, F. & Atan, T. (2021), The Effect of Strategic Human Resource and Knowledge Management on Sustainable Competitive Advantages at Jordanian Universities: The Mediating Role of Organizational Innovation, Sustainability, Vol. 13, No. 15, p. 8445.
18. Alt, E., Díez-De-Castro, E. P. & Lloréns-Montes, F. J. (2015), Linking Employee Stakeholders to Environmental Performance: The Role of Proactive Environmental Strategies and Shared Vision, Journal of Business Ethics, Vol. 128, No. 1, pp. 167-181.
19. Alzgool, M. R. H. (2020), Understanding the Dynamic Nexus Between Green Human Resource Management and Environmental Performance: The Moderating Role of Green Leaders' Emotional Intelligence in the Pharmaceutical Sector of Bahrain, Systematic Reviews in Pharmacy, Vol. 11, No. 2, pp. 777-785.

20. Anwar, N., Mahmood, N. H. N., Yusliza, M. Y., Ramayah, T., Faezah, J. N. & Khalid, W. (2020), Green Human Resource Management for Organisational Citizenship Behaviour Towards the Environment and Environmental Performance on a University Campus, Journal of Cleaner Production, Vol. 256, p. 120401.
21. Appelbaum, E., Bailey, T., Berg, P. & Kalleberg, A. (2000), Manufacturing Advantage: Why High-Performance Work Systems Pay Off, Ithaca, Ny: Cornell University Press.
22. Arabkoohsar, A., Khosravi, M. & Alsagri, A. S. (2020), Effect of Various Twisted-Tape Designs on the Thermal and Environmental Performance of Line-Heaters in City Gate Stations, International Journal of Heat and Mass Transfer, Vol. 148, p. 119-123.
23. Argyris, C. & Schon, D. A. (1978), Organisational Learning, MA: Addison-Wesley, Argyris, C., Putnam.
24. Arif, S. & Akram, A. (2018), Transformational Leadership and Organizational Performance: The Mediating Role of Organizational Innovation, Seisense Journal of Management, Vol. 1, No. 3, pp. 59-75.
25. Arshad, M. (2019), The Impact of Green Transformational Leadership on Environmental Performance: Mediating Effect of Green Human Resource Management and Green Innovation, Journal of Organization and Business, Vol. 1, No. 2, pp. 128-143.
26. Atalay, M., Anafarta, N. & Sarvan, F. (2013), The Relationship Between Innovation aand Firm Performance: An Empirical Evidence from Turkish Automotive Supplier Industry, Procedia-Social and Behavioral Sciences, Vol. 75, pp. 226-235.
27. Auh, S. & Menguc, B. (2005), The Influence of Top Management Team Functional Diversity on Strategic Orientations: The Moderating Role of Environmental Turbulence and Inter-Functional Coordination,

International Journal of Research in Marketing, Vol. 22, No. 3, pp. 333-350.

28. Avolio, B. J. & Bass, B. M. (1995), Individual Consideration Viewed at Multiple Levels of Analysis: A Multi-Level Framework for Examining the Diffusion of Transformational Leadership, The Leadership Quarterly, Vol. 6, No. 2, pp. 199-218.
29. Baah, C., Opoku-Agyeman, D., Acquah, I. S. K., Agyabeng-Mensah, Y., Afum, E., Faibil, D. & Abdoulaye, F. A. M. (2021), Examining the Correlations Between Stakeholder Pressures, Green Production Practices, Firm Reputation, Environmental and Financial Performance: Evidence from Manufacturing SMEs, Sustainable Production and Consumption, Vol. 27, pp. 100-114.
30. Bakker, A. B., Hetland, J., Olsen, O. K. & Espevik, R. (2022), Daily Transformational Leadership: A Source of Inspiration for Follower Performance?, European Management Journal, Vol. ahead-of-print No. ahead-of-print.
31. Baktash, L. & Talib, M. A. (2019), Green Marketing Strategies: Exploring Intrinsic and Extrinsic Factors Towards Green Customers' Loyalty, Calitatea, Vol. 20, No. 168, pp. 127-134.
32. Bangwal, D., Tiwari, P. & Chamola, P. (2017), Green HRM, Work-Life and Environment Performance, International Journal of Environment, Workplace and Employment, Vol. 4, No. 3, pp. 244-268.
33. Bansal, P. & Roth, K. (2000), Why Companies Go Green: A Model of Ecological Responsiveness, Academy of Management Journal, Vol. 43, No. 4, pp. 717-736.
34. Barney, J. (1991), Firm Resources and Sustained Competitive Advantage, Journal of Management, Vol. 17, No. 1, pp. 99-120.

35. Begum, S., Ashfaq, M., Xia, E. & Awan, U. (2022), Does Green Transformational Leadership Lead to Green Innovation? The Role of Green Thinking and Creative Process Engagement, Business Strategy and The Environment, Vol. 31, No. 1, pp. 580-597.
36. Berrone, P. & Gomez-Mejia, L. R. (2009), Environmental Performance and Executive Compensation: An Integrated Agency-Institutional Perspective, Academy of Management Journal, Vol. 52, No. 1, pp. 103-126.
37. Bijmolt, T. H. & Pieters, R. G. (2001), Meta-analysis in Marketing When Studies Contain Multiple Measurements, Marketing Letters, Vol. 12, No. 2, pp. 157-169.
38. Bon, A. T., Zaid, A. A. & Jaaron, A. (2018), Green Human Resource Management, Green Supply Chain Management Practices and Sustainable Performance, In 8th International Conference on Industrial Engineering and Operations Management (IEOM), Bandung, Indonesia, pp. 6-8.
39. Boons, F. & Lüdeke-Freund, F. (2013), Business Models for Sustainable Innovation: State-Of-The-Art and Steps Towards a Research Agenda, Journal of Cleaner Production, Vol. 45, pp. 9-19.
40. Bose, I. & Gupta, V. (2017), Green HRM Practices in Private Health Care & Banking Sectors in India, Indian Journal of Industrial Relations, Vol. 53, No. 1, pp. 48-58.
41. Bos-Nehles, A. C., Van Riemsdijk, M. J. & Kees Looise, J. (2013), Employee Perceptions of Line Management Performance: Applying the AMO Theory to Explain the Effectiveness of Line Managers' HRM Implementation, Human Resource Management, Vol. 52, No. 6, pp. 861-877.

42. Bourdieu, P. (1986), The Force of Law: Toward a Sociology of the Juridical Field, Hastings LJ, Vol. 38, p. 805.
43. Boyas, J. & Wind, L. H. (2010), Employment-based Social Capital, Job Stress and Employee Burnout: A Public Child Welfare Employee Structural Model, Children & Youth Services Review, Vol. 32, No. 3, pp. 380-388.
44. Brislin, R. W. (1970), Back-translation for Cross-Cultural Research, Journal of Cross-Cultural Psychology, Vol. 1, No. 3, pp. 185-216.
45. Butler, J. B., Henderson, S. C. & Raiborn, C. (2011), Sustainability and the Balanced Scorecard: Integrating Green Measures into Business Reporting, Management Accounting Quarterly, Vol. 12, No. 2, p.1-10.
46. Camps, J. & Rodríguez, H. (2011), Transformational Leadership, Learning and Employability: Effects on Performance among Faculty Members, Personnel Review, Vol. 40, No. 4, pp. 423-442.
47. Cao, T. T., Le, P. B. & Nguyen, N. T. M. (2021), Impacts of High-Involvement Hrm Practices on Organizational Innovation Capability: The Mediating Mechanism of Tacit and Explicit Knowledge Sharing, International Journal of Innovation Science, Vol. ahead-of-print No. ahead-of-print.
48. Carton, A. M., Murphy, C. & Clark, J. R. (2014), A (Blurry) Vision of The Future: How Leader Rhetoric about Ultimate Goals Influences Performance, Academy of Management Journal, Vol. 57, No. 6, pp. 1544-1570.
49. Chang, C. H. (2016), The Determinants of Green Product Innovation Performance, Corporate Social Responsibility and Environmental Management, Vol. 23, No. 2, pp. 65-76.

50. Chaudhary, R. (2020), Green Human Resource Management and Employee Green Behavior: An Empirical Analysis, Corporate Social Responsibility and Environmental Management, Vol. 27, No. 2, pp. 630-641.
51. Cheema, S. & Javed, F. (2017), The Effects of Corporate Social Responsibility Toward Green Human Resource Management: The Mediating Role of Sustainable Environment, Cogent Business and Management, Vol. 4, No. 1, pp. 1310012.
52. Chen, L., Zheng, W., Yang, B. & Bai, S. (2016), Transformational Leadership, Social Capital and Organizational Innovation, Leadership and Organization Development Journal, Vol. 37, No. 7, pp. 843-859.
53. Chen, W., Zhang, L., Shi, L., Shao, Y. & Zhou, K. (2022), Carbon Emissions Trading System and Investment Efficiency: Evidence from China, Journal of Cleaner Production, Vol. 358, p.131782.
54. Chen, Y. S. & Chang, C. H. (2013), The Determinants of Green Product Development Performance: Green Dynamic Capabilities, Green Transformational Leadership and Green Creativity, Journal of Business Ethics, Vol. 116, No. 1, pp. 107-119.
55. Chen, Y. S., Chang, C. H. & Lin, Y. H. (2014), Green Transformational Leadership and Green Performance: The Mediation Effects of Green Mindfulness and Green Self-Efficacy, Sustainability, Vol. 6, No. 10, pp. 6604-6621.
56. Chin, W. W. (2010), How to Write Up and Report PLS Analyses, In Handbook of Partial Least Squares, Springer, Berlin, Heidelberg, pp. 655-690.
57. Chin, W. W., Marcolin, B. L. & Newsted, P. R. (2003), A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from A Monte Carlo Simulation Study and an

Electronic-Mail Emotion/Adoption Study, Information Systems Research, Vol. 14, No. 2, pp. 189-217.

58. Chiou, T. Y., Chan, H. K., Lettice, F. & Chung, S. H. (2011), The Influence of Greening: The Suppliers and Green Innovation on Environmental Performance and Competitive Advantage in Taiwan, Transportation Research Part E: Logistics and Transportation Review, Vol. 47, No. 6, pp. 822-836.
59. Cho, H. C. & Abe, S. (2013), Is Two-Tailed Testing for Directional Research Hypotheses Tests Legitimate?, Journal of Business Research, Vol. 66, No. 9, pp. 1261-1266.
60. Cho, Y. S. & Linderman, K. (2020), Resource-based Product and Process Innovation Model: Theory Development and Empirical Validation, Sustainability, Vol. 12, No. 3, pp. 913.
61. Choi, S. B., Kim, K., Ullah, S. M. E. & Kang, S.-W. (2016), How Transformational Leadership Facilitates Innovative Behavior of Korean Workers, Personnel Review, Vol. 45, No. 3, pp. 459-479.
62. Chowhan, J. (2016), Unpacking the black box: Understanding the Relationship Between Strategy, HRM Practices, Innovation and Organizational Performance, Human Resource Management Journal, Vol. 26, No. 2, pp. 112-133.
63. Chu, S. H., Yang, H., Lee, M. & Park, S. (2017), The Impact of Institutional Pressures on Green Supply Chain Management and Firm Performance: Top Management Roles and Social Capital, Sustainability, Vol. 9, No. 5, pp. 764.
64. Colbert, B. A. (2004), The Complex Resource-Based View: Implications for Theory and Practice in Strategic Human Resource Management, Academy of Management Review, Vol. 29, No. 3, pp. 341-358.

65. Cooper, H. & Patall, E. A. (2009), The Relative Benefits of Meta-Analysis Conducted with Individual Participant Data Versus Aggregated Data, Psychological Methods, Vol. 14, No. 2, p. 165.
66. Çop, S., Olorunsola, V. O. & Alola, U. V. (2020), Achieving Environmental Sustainability Through Green Transformational Leadership Policy: Can Green Team Resilience Help?, Business Strategy and The Environment, Vol. 30, No. 1, pp. 671-682.
67. Curşeu, P. L., Janssen, S. E. & Meeus, M. T. (2014), Shining Lights and Bad Apples: The Effect of Goal-Setting on Group Performance, Management Learning, Vol. 45, No. 3, pp. 332-348.
68. Daily, B. F. & Huang, S. C. (2001), Achieving Sustainability through Attention to Human Resource Factors in Environmental Management, International Journal of Operations and Production Management, Vol. 21, No. 12, pp. 1539-1552.
69. Dangelico, R. M., Pujari, D. & Pontrandolfo, P. (2017), Green Product Innovation in Manufacturing Firms: A Sustainability-Oriented Dynamic Capability Perspective, Business Strategy and The Environment, Vol. 26, No. 4, pp. 490-506.
70. De Clercq, D. & Belausteguigoitia, I. (2015), Intergenerational Strategy Involvement and Family Firms' Innovation Pursuits: The Critical Roles of Conflict Management and Social Capital, Journal of Family Business Strategy, Vol. 6, No. 3, pp. 178-189.
71. De Matos, C. A. & Rossi, C. A. V. (2008), Word-of-mouth Communications in Marketing: A Meta-Analytic Review of the Antecedents and Moderators, Journal of the Academy of Marketing Science, Vol. 36, No. 4, pp. 578-596.
72. Della Peruta, M. R., Del Giudice, M., Lombardi, R. & Soto-Acosta, P. (2018), Open Innovation, Product Development and Inter-Company

Relationships Within Regional Knowledge Clusters, Journal of the Knowledge Economy, Vol. 9, No. 2, pp. 680-693.

73. Donate, M. J. & De Pablo, J. D. S. (2015), The Role of Knowledge-Oriented Leadership in Knowledge Management Practices and Innovation, Journal of Business Research, Vol. 68, No. 2, pp. 360-370.
74. Dubey, R., Gunasekaran, A., Helo, P., Papadopoulos, T., Childe, S. J. & Sahay, B. S. (2017), Explaining the Impact of Reconfigurable Manufacturing Systems on Environmental Performance: The Role of Top Management and Organizational Culture, Journal of Cleaner Production, Vol. 141, pp. 56-66.
75. Dumont, J., Shen, J. & Deng, X. (2017), Effects of Green HRM Practices on Employee Workplace Green Behavior: The Role of Psychological Green Climate and Employee Green Values, Human Resource Management, Vol. 56, No. 4, pp. 613-627.
76. Elkington, J. (2018), 25 Years Ago, I Coined the Phrase "Triple Bottom Line" Here's Why It's Time to Rethink It, Harvard Business Review, Vol. 25, pp. 2-5.
77. Elkins, T. & Keller, R. T. (2003), Leadership in Research and Development Organizations: A Literature Review and Conceptual Framework, The Leadership Quarterly, Vol. 14, No. 4-5, pp. 587-606.
78. Elshaer, I. A., Sobaih, A. E. E., Aliedan, M. & Azzaz, A. (2021), The Effect of Green Human Resource Management on Environmental Performance in Small Tourism Enterprises: Mediating Role of Pro-Environmental Behaviors, Sustainability, Vol. 13, No. 4, pp. 1956.
79. Epstein, M. J. (1996), Measuring Corporate Environmental Performance, IMA/Mcgraw Hill, San Francisco, CA, USA.
80. Farley, J. U. & Lehmann, D. R. (1986), Meta-analysis in Marketing: Generalization of Response Models, Lexington, MA: Lexington Books.

81. Farrukh, M., Ansari, N., Raza, A., Wu, Y. & Wang, H. (2022), Fostering Employee's Pro-Environmental Behavior Through Green Transformational Leadership, Green Human Resource Management and Environmental Knowledge, Technological Forecasting and Social Change, Vol. 179, p. 121643.
82. Ferraron, R., Backman, M. & Djupenström, A. (2010), Sustainability Practices and Triple-Helix Collaboration in Regional Innovation Systems, in Facilitating Sustainable Innovation through Collaboration, Springer, Dordrecht, pp. 17-39.
83. Ferreira, L. M. D. F., Silva, C. & Azevedo, S. G. (2016), An Environmental Balanced Scorecard for Supply Chain Performance Measurement (Env_Bsc_4_Scpm), Benchmarking: An International Journal, Vol. 23, No. 6, pp. 1398-1422.
84. Fichter, K. & Tiemann, I. (2018), Factors Influencing University Support for Sustainable Entrepreneurship: Insights from Explorative Case Studies, Journal of Cleaner Production, Vol. 175, pp. 512-524.
85. Florida, R. & Davison, D. (2001), Gaining from Green Management: Environmental Management Systems Inside and Outside the Factory, California Management Review, Vol. 43, No. 3, pp. 64-84.
86. Fornell, C. & Larcker, D. F. (1981), Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics, Journal of Marketing Research, Vol. 18, No. 3, pp. 382-388.
87. Gallarza, M. G., Gil-Saura, I. & Holbrook, M. B. (2011), The Value of Value: Further Excursions on the Meaning and Role of Customer Value, Journal of Consumer Behaviour, Vol. 10, No. 4, pp. 179-191.
88. García-Morales, V. J., Jiménez-Barrionuevo, M. M. & Gutiérrez-Gutiérrez, L. (2012), Transformational Leadership Influence on Organizational Performance through Organizational Learning and

Innovation, Journal of Business Research, Vol. 65, No. 7, pp. 1040-1050.

89. Gerhart, B. & Fang, M. (2015), Pay, Intrinsic Motivation, Extrinsic Motivation, Performance and Creativity in the Workplace: Revisiting Long-Held Beliefs, Annual Review of Organizational Psychology and Organizational Behavior, Vol. 2, No. 1, pp. 489-521.
90. Ghouri, A. M., Mani, V., Khan, M. R., Khan, N. R. & Srivastava, A. P. (2020), Enhancing Business Performance Through Green Human Resource Management Practices: An Empirical Evidence from Malaysian Manufacturing Industry, International Journal of Productivity and Performance Management, Vol. 69, No. 8, pp. 1585-1607.
91. Gilal, F. G., Ashraf, Z., Gilal, N. G., Gilal, R. G. & Channa, N. A. (2019), Promoting Environmental Performance Through Green Human Resource Management Practices in Higher Education Institutions: A Moderated Mediation Model, Corporate Social Responsibility and Environmental Management, Vol. 26, No. 6, pp. 1579-1590.
92. Golovkova, A., Eklof, J., Malova, A. & Podkorytova, O. (2019), Customer Satisfaction Index and Financial Performance: A European Cross-Country Study, International Journal of Bank Marketing, Vol. 37, No. 2, pp. 479-491.
93. Gomes, G. & Wojahn, R. M. (2017), Organizational Learning Capability, Innovation and Performance, Study in SMEs, Revista De Administracao, Vol. 52, pp. 163-175.
94. Gravier, C., Fayolle, J., Bayard, B., Ates, M. & Lardon, J. (2008), State of the Art About Remote Laboratories Paradigms-Foundations of Ongoing Mutations, International Journal of Online Engineering, Vol. 4, No. 1.

95. Guerci, M., Longoni, A. & Luzzini, D. (2016), Translating Stakeholder Pressures into Environmental Performance - The Mediating Role of Green HRM Practices, The International Journal of Human Resource Management, Vol. 27, No. 2, pp. 262-289.
96. Gully, S. M., Phillips, J. M., Castellano, W. G., Han, K. & Kim, A. (2013), A Mediated Moderation Model of Recruiting Socially and Environmentally Responsible Job Applicants, Personnel Psychology, Vol. 66, No. 4, pp. 935-973.
97. Gunday, G., Ulusoy, G., Kilic, K. & Alpkan, L. (2011), Effects of Innovation on Firm Performance, International Journal of Production Economics, Vol. 133, No. 2, pp. 662-676.
98. Gürlek, M. & Tuna, M. (2018), Reinforcing Competitive Advantage through Green Organizational Culture & Green Innovation, The Service Industries Journal, Vol. 38, No. 7-8, pp. 467-491.
99. Haddock-Millar, J., Sanyal, C. & Müller-Camen, M. (2016), Green Human Resource Management: A Comparative Qualitative Case Study of a United States Multinational Corporation, The International Journal of Human Resource Management, Vol. 27, No. 2, pp. 192-211.
100. Hair Jr, J. F., Sarstedt, M., Hopkins, L. & Kuppelwieser, V. G. (2014), Partial Least Squares Structural Equation Modeling (PLS-SEM): An Emerging Tool in Business Research, European Business Review, Vol. 26, No. 2, pp. 106-121.
101. Hair, J. F., Celsi, M., Ortinau, D. J. & Bush, R. P. (2010), Essentials of Marketing Research, New York, NY: Mcgraw-Hill/Irwin, 2.
102. Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M. & Thiele, K. O. (2017), Mirror, Mirror on The Wall: A Comparative Evaluation of Composite-Based Structural Equation Modeling Methods, Journal of The Academy of Marketing Science, Vol. 45, No. 5, pp. 616-632.

103. Hair, J. F., Ringle, C. M. & Sarstedt, M. (2011), PLS-SEM: Indeed, a Silver Bullet, Journal of Marketing Theory and Practice, Vol. 19, No. 2, pp. 139-152.
104. Hambrick, D. & Mason, P. (1984), Upper Echelons: The Organization as a Reflection of Its Top Managers, Academy of Management Review, Vol. 9, No. 2, pp. 193-206.
105. Hambrick, D. C. (2007), Upper Echelons Theory: An Update, Academy of Management Review, Vol. 32, No. 2, pp. 334-343.
106. Hameed, Z., Khan, I.U., Islam, T., Sheikh, Z. & Naeem, R.M. (2020), Do Green HRM Practices Influence Employees' Environmental Performance?, International Journal of Manpower, Vol. 41, No. 7, pp. 1061-1079.
107. Hameed, Z., Naeem, R. M., Hassan, M., Naeem, M., Nazim, M. & Maqbool, A. (2021), How GHRM is Related to Green Creativity? A Moderated Mediation Model of Green Transformational Leadership and Green Perceived Organizational Support, International Journal of Manpower, Vol. Ahead-Of-Print, No. Ahead-Of-Print.
108. Han, J., Han, J. & Brass, D. J. (2014), Human Capital Diversity in the Creation of Social Capital for Team Creativity, Journal of Organizational Behavior, Vol. 35, No. 1, pp. 54-71.
109. Haninun, H., Lindrianasari, L. & Denziana, A. (2018), The Effect of Environmental Performance and Disclosure on Financial Performance, International Journal of Trade & Global Markets, Vol. 11, No. 1-2, pp. 138-148.
110. Hart, S. L. & Dowell, G. (2011), Invited Editorial: A Natural-Resource-Based View of The Firm: Fifteen Years After, Journal of Management, Vol. 37, No. 5, pp. 1464-1479.

111. Hart, S. L. (1995), A Natural-Resource-Based View of the Firm, Academy of Management Review, Vol. 20, No. 4, pp. 986-1014.
112. Hatane, S. E. (2015), Employee Satisfaction and Performance as Intervening Variables of Learning Organization on Financial Performance, Procedia - Social and Behavioral Sciences, Vol. 211, pp. 619-628.
113. Hawkem, P., Lovin, A. B. & Lovins, L. H. (1999), Natural Captalisim: Creating the Next Industrial Revolution, Little, Brown: Boston, MA, USA.
114. Heavey, C. & Murphy, E. (2012), Integrating the Balanced Scorecard with Six Sigmas, The TQM Journal, Vol. 24, No. 2, pp. 108-122.
115. Hedges, L. V. & Cooper, H. (1994), Research Synthesis as a Scientific Enterprise, The Handbook of Research Synthesis, pp. 285-299.
116. Henseler, J. & Sarstedt, M. (2013), Goodness-of-fit Indices for Partial Least Squares Path Modeling, Computational Statistics, Vol. 28, No. 2, pp. 565-580.
117. Henseler, J., Hubona, G. & Ray, P. A. (2016), Using PLS Path Modeling in New Technology Research: Updated Guidelines, Industrial Management & Data Systems, Vol. 116, No. 1, pp. 2-20.
118. Henseler, J., Ringle, C. M. & Sinkovics, R. R. (2009), The Use of Partial Least Squares Path Modeling in International Marketing, Sinkovics, R. R. and Ghauri, P. N. (Ed.) New Challenges to International Marketing (Advances in International Marketing, Vol. 20), Emerald Group Publishing Limited, Bingley, pp. 277-319.
119. Hermundsdottir, F. & Aspelund, A. (2021), Sustainability Innovations and Firm Competitiveness: A Review, Journal of Cleaner Production, Vol. 280, pp. 124715.

120. Hollen, R. M., Van Den Bosch, F. A. & Volberda, H. W. (2013), The Role of Management Innovation in Enabling Technological Process Innovation: An Inter-Organizational Perspective, European Management Review, Vol. 10, No. 1, pp. 35-50.
121. Howard-Grenville, J., Buckle, S. J., Hoskins, B. J. & George, G. (2014), Climate Change and Management, Academy of Management Journal, Vol. 57, No. 3, pp. 615-623.
122. Hsu, Y. L. & Liu, C. C. (2009), Environmental Performance Evaluation and Strategy Management Using Balanced Scorecard, Environmental Monitoring and Assessment, Vol. 170, No. 1-4, pp. 599-607.
123. Huang, S. Y., Ting, C. W. & Li, M. W. (2021), The Effects of Green Transformational Leadership on Adoption of Environmentally Proactive Strategies: The Mediating Role of Green Engagement, Sustainability, Vol. 13, No. 6, pp. 3366.
124. Huang, T. C., Chen, C. C. & Chou, Y. W. (2016), Animating Eco-Education: To See, Feel, and Discover in an Augmented Reality-Based Experiential Learning Environment, Computers & Education, Vol. 96, pp. 72-82.
125. Huber, G. P. (1991), Organizational Learning: The Contributing Processes and The Literatures, Organization Science, Vol. 2, No. 1, pp. 88-115.
126. Hunter, J. E. & Schmidt, F. L. (2004), Methods of Meta-analysis: Correcting Error and Bias in Research Findings, Sage.
127. Hussain, Y., Abbass, K., Usman, M., Rehan, M. & Asif, M. (2022), Exploring the Mediating Role of Environmental Strategy, Green Innovations, and Transformational Leadership: The Impact of Corporate Social Responsibility on Environmental Performance, Environmental Science and Pollution Research, pp. 1-17.

128. Ikram, M., Zhang, Q., Sroufe, R. & Ferasso, M. (2020), The Social Dimensions of Corporate Sustainability: An Integrative Framework Including Covid-19 Insights, Sustainability, Vol. 12, No. 20, pp. 8747.
129. Ilyas, S., Hu, Z. & Wiwattanakornwong, K. (2020), Unleashing the Role of Top Management and Government Support in Green Supply Chain Management and Sustainable Development Goals, Environmental Science and Pollution Research, Vol. 27, No. 8, pp. 8210-8223.
130. Irani, F., Kiliç, H. & Adeshola, I. (2022), Impact of Green Human Resource Management Practices on The Environmental Performance of Green Hotels, Journal of Hospitality Marketing and Management, pp. 1-31.
131. Jabbar, M. H. & Abid, M. (2014), GHRM: Motivating Employees Towards Organizational Environmental Performance, MAGNT Research Report, Vol. 2, No. 4, pp. 267-278.
132. Jabbour, C. J. C. & De Sousa Jabbour, A. B. L. (2016), Green Human Resource Management and Green Supply Chain Management: Linking Two Emerging Agendas, Journal of Cleaner Production, Vol. 112, Part 3, pp. 1824-1833.
133. Jabbour, C. J. C., Santos, F. C. A. & Nagano, M. S. (2010), Contributions of HRM Throughout the Stages of Environmental Management: Methodological Triangulation Applied to Companies in Brazil, The International Journal of Human Resource Management, Vol. 21, No. 7, pp. 1049-1089.
134. Jackson, S. E. & Seo, J. (2010), The Greening of Strategic HRM Scholarship, Organization Management Journal, Vol. 7, No. 4, pp. 278-290.
135. Janadari, M., Sri Ramalu, S. & Wei, C. (2016, December), Evaluation of Measurment and Structural Model of The Reflective Model

Constructs in PLS-SEM, In Proceedings of the 6th International Symposium-2016 South Eastern University of Sri Lanka (SEUSL), Oluvil, Sri Lanka, pp. 20-21.

136. Jang, Y. J., Kim, W. G. & Bonn, M. A. (2011), Generation Y Consumers' Selection Attributes and Behavioral Intentions Concerning Green Restaurants, International Journal of Hospitality Management, Vol. 30, No. 4, pp. 803-811.
137. Javed, A., Yasir, M. & Majid, A. (2019), Is Social Entrepreneurship a Panacea for Sustainable Enterprise Development?, Pakistan Journal of Commerce and Social Sciences, Vol. 13, No. 1, pp. 1-2.
138. Jia, J., Liu, H., Chin, T. & Hu, D. (2018), The Continuous Mediating Effects of GHRM On Employees' Green Passion via Transformational Leadership and Green Creativity, Sustainability, Vol. 10, No. 9, pp. 32-37.
139. Jo, D. & Kwon, C. (2022), Structure of Green Supply Chain Management for Sustainability of Small & Medium Enterprises, Sustainability, Vol. 14, No. 1, pp. 50.
140. Jung, D. I., Chow, C. & Wu, A. (2003), The Role of Transformational Leadership in Enhancing Organizational Innovation: Hypotheses and Some Preliminary Findings, The Leadership Quarterly, Vol. 14, No. 4-5, pp. 525-544.
141. Juntunen, J. K., Halme, M., Korsunova, A. & Rajala, R. (2019), Strategies for Integrating Stakeholders into Sustainability Innovation: A Configurational Perspective, Journal of Product Innovation Management, Vol. 36, No. 3, pp. 331-355.
142. Jyoti, J. & Dev, M. (2015), The Impact of Transformational Leadership on Employee Creativity: The Role of Learning Orientation, Journal of Asia Business Studies, Vol. 9, No. 1, pp. 78-98.

143. Jyoti, J., Kour, S. & Sharma, J. (2017), Impact of Total Quality Services on Financial Performance: Role of Service Profit Chain, Total Quality Management & Business Excellence, Vol. 28, No. 7-8, pp. 897-929.
144. Kapil, K. (2015), Green HRM: Trends and Prospects, International Journal of Management Research, Vol. 3, No.1, pp. 43-55.
145. Kaplan, R. S. & Norton, D. P. (1996), Using the Balanced Scorecard as a Strategic Management System, Harvard Business Review.
146. Kerlinger, F. N. & Lee, H. B. (2000), Foundations of Behavioral Research, Orlando, Fl: Harcourt College Publishers.
147. Kermani, Z. Z. (2013), A Study of The Linking Between Job Satisfaction and Customer Satisfaction: A Case Study of Iran Insurance, Kerman, Iran, Journal of Marketing Development and Competitiveness, Vol. 7, No. 4, pp. 104-109.
148. Khalid, S. K., Beattie, C. & Sands, J. S. (2021), Barriers and Motivations to Integrating Environmental Performance in the BSC: A Case Study in Health Care, Sustainability Accounting, Management and Policy Journal, Vol. 13, No. 2, pp. 297-319.
149. Khalili, A. (2016), Linking Transformational Leadership, Creativity, Innovation and Innovation-Supportive Climate, Management Decision, Vol. 54, No. 9, pp. 2277-2293.
150. Kiesnere A. L. & Baumgartner R. J. (2020), Top Management Involvement and Role in Sustainable Development of Companies, In: Leal Filho W., Azul A.M., Brandli L., Özuyar P.G., Wall T. (Eds) Responsible Consumption and Production, Encyclopedia of The Unsustainable Development Goals, Springer, Cham.
151. Kim, S. H. & Huarng, K. H. (2011), Winning Strategies for Innovation and High-Technology Products Management, Journal of Business Research, Vol. 64, No. 11, pp. 1147-1150.

152. Kim, Y. J., Kim, W. G., Choi, H. M. & Phetvaroon, K. (2019), The Effect of Green Human Resource Management on Hotel Employees' Eco-Friendly Behavior and Environmental Performance, International Journal of Hospitality Management, Vol. 76, Part A, pp. 83-93.
153. Kitazawa, S. & Sarkis, J. (2000), The Relationship Between ISO 14001 and Continuous Source Reduction Programs, International Journal of Operations & Production Management, Vol. 20, No. 2, pp. 225-248.
154. Knezović, E. & Drkić, A. (2021), Innovative Work Behavior in SMES: The Role of Transformational Leadership, Employee Relations, Vol. 43, No. 2, pp. 398-415.
155. Kraus, S., Rehman, S. U. & García, F. J. S. (2020), Corporate Social Responsibility and Environmental Performance: The Mediating Role of Environmental Strategy and Green Innovation, Technological Forecasting and Social Change, Vol. 160, pp. 120-262.
156. Kumar, A., Mitra, K., Nagarajan, S. & Poudel, B. (2014), Factors Influencing Medical Students' Choice of Future Specialization in Medical Sciences: A Cross-Sectional Questionnaire Survey from Medical Schools in China, Malaysia and Regions of South Asian Association for Regional Cooperation, North American Journal of Medical Sciences, Vol. 6, No. 3, pp. 119.
157. Kuzma, E., Padilha, L. S., Sehnem, S., Julkovski, D. J. & Roman, D. J. (2020), The Relationship Between Innovation and Sustainability: A Meta-Analytic Study, Journal of Cleaner Production, Vol. 259, pp. 120745.
158. Ladokun, I. (2019), Product Innovation as a Panacea to Manufacturing Organization Performance: Evidence from Nigerian Breweries PLC, Asian Journal of Advanced Research and Reports, Vol. 4, No. 4, pp. 1-10.

159. Latan, H., Jabbour, C. J. C., de Sousa Jabbour, A. B. L., Wamba, S. F. & Shahbaz, M. (2018), Effects of Environmental Strategy, Environmental Uncertainty and Top Management's Commitment on Corporate Environmental Performance: The Role of Environmental Management Accounting, Journal of Cleaner Production, Vol.180, pp. 297-306.
160. Le, P. B. & Lei, H. (2019), Determinants of Innovation Capability: The Roles of Transformational Leadership, Knowledge Sharing and Perceived Organizational Support, Journal of Knowledge Management, Vol. 23, No. 3, pp. 527-547.
161. Leal Filho, W., Brandli, L. L., Becker, D., Skanavis, C., Kounani, A., Sardi, C., Papaioannidou, D., Paço, A., Azeiteiro, U., De Sousa, L. O., Raath, S., Pretorius, R. W., Shiel, C., Vargas, V., Trencher, G. & Marans, R. W. (2018), Sustainable Development Policies as Indicators and Pre-Conditions for Sustainability Efforts at Universities: Fact Or Fiction?, International Journal of Sustainability in Higher Education, Vol. 19, No. 1, pp. 85-113.
162. Leana, C. R. & Pil, F. K. (2006), Social Capital and Organizational Performance: Evidence from Urban Public Schools, Organization Science, Vol. 17, No. 3, pp. 353-366.
163. Leana, C. R. & Van Buren, H. J. (1999), Organizational Social Capital and Employment Practices, Academy of Management Review, Vol. 24, No. 3, pp. 538-555.
164. Levitt, B. & March, J. G. (1988), Organizational Learning, Annual Review of Sociology, Vol. 14, No. 1, pp. 319-338.
165. Li, H., Sajjad, N., Wang, Q., Muhammad Ali, A., Khaqan, Z. & Amina, S. (2019), Influence of Transformational Leadership on Employees' Innovative Work Behavior in Sustainable Organizations: Test of

Mediation and Moderation Processes, Sustainability, Vol. 11, No. 6, pp. 1594.

166. Li, L., Msaad, H., Sun, H., Tan, M. X., Lu, Y. & Lau, A. K. (2020), Green Innovation and Business Sustainability: New Evidence from Energy Intensive Industry in China, International Journal of Environmental Research and Public Health, Vol. 17, No. 21, pp. 7826.
167. Li, W., Bhutto, T. A., Xuhui, W., Maitlo, Q., Zafar, A. U. & Bhutto, N. A. (2020), Unlocking Employees' Green Creativity: The Effects of Green Transformational Leadership, Green Intrinsic and Extrinsic Motivation, Journal of Cleaner Production, Vol. 255, pp. 120229.
168. Li, Y., Ye, F., Sheu, C. & Yang, Q. (2018), Linking Green Market Orientation and Performance: Antecedents and Processes, Journal of Cleaner Production, Vol. 192, pp. 924-931.
169. Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., ... & Moher, D. (2009), The PRISMA Statement for Reporting Systematic Reviews and Meta-Analyses of Studies that Evaluate Health Care Interventions: Explanation and Elaboration, Journal of Clinical Epidemiology, Vol. 62, No. 10, e1-e34.
170. Lin, N. (1999), Building a Network Theory of Social Capital, Social Capital, Vol. 22, pp. 28-51.
171. Lipsey, M. W. & Wilson, D. B. (2001), Practical Meta-analysis, SAGE publications, Inc.
172. Lober, D. J. (1996), Evaluating the Environmental Performance of Corporations, Journal of Managerial Issues, Vol. 8, No. 2, pp. 184-205.
173. Lombart, C. & Louis, D. (2012), Consumer Satisfaction and Loyalty: Two Main Consequences of Retailer Personality, Journal of Retailing and Consumer Services, Vol. 19, No. 6, pp. 644-652.

174. Longoni, A., Luzzini, D. & Guerci, M. (2018), Deploying Environmental Management Across Functions: The Relationship Between Green Human Resource Management and Green Supply Chain Management, Journal of Business Ethics, Vol. 151, No. 4, pp. 1081-1095.
175. Lu, L. W. & Taylor, M. E. (2018), A Study of the Relationships among Environmental Performance, Environmental Disclosure and Financial Performance, Asian Review of Accounting, Vol. 26, No. 1, pp. 107-130.
176. Lund-Thomsen, P. (2004), Towards a Critical Framework on Corporate Social and Environmental Responsibility in the South: The Case of Pakistan, Development, Vol. 47, No. 3, pp. 106-113.
177. Luu, T. T. (2017), Ambidextrous Leadership, Entrepreneurial Orientation and Operational Performance: Organizational Social Capital as a Moderator, Leadership and Organization Development Journal, Vol. 38, No. 2, pp. 229-253.
178. Macke, J. & Genari, D. (2019), Systematic Literature Review on Sustainable Human Resource Management, Journal of Cleaner Production, Vol. 208, pp. 806-815.
179. Majid, A., Yasir, M., Yasir, M. & Javed, A. (2020), Nexus of Institutional Pressures, Environmentally Friendly Business Strategies and Environmental Performance, Corporate Social Responsibility and Environmental Management, Vol. 27, No. 2, pp. 706-716.
180. Malik, M. S., Ali, K., Kausar, N. & Chaudhry, M. A. (2021), Enhancing Environmental Performance through Green HRM and Green Innovation: Examining the Mediating Role of Green Creativity and Moderating Role of Green Shared Vision, Pakistan Journal of Commerce and Social Sciences (PJCSS), Vol. 15, No. 2, pp. 265-285.

181. Marcoulides, G. A. & Saunders, C. (2006), Editor's Comments: PLS: A Silver Bullet?, Mis Quarterly, Vol. 34, No. 2, pp. iii–ix.
182. Marhatta, S. & Adhikari, S. (2013), Green HRM and Sustainability, International Ejournal of Ongoing Research in Management and IT, Vol. 2.
183. Markey, R., Mcivor, J. & Wright, C. F. (2016), Employee Participation and Carbon Emissions Reduction in Australian Workplaces, The International Journal of Human Resource Management, Vol. 27, No. 2, pp. 173-191.
184. Masri, H. A. & Jaaron, A. A. (2017), Assessing Green Human Resources Management Practices in Palestinian Manufacturing Context: An Empirical Study, Journal of Cleaner Production, Vol. 143, pp. 474-489.
185. Maurer, I., Bartsch, V. & Ebers, M. (2011), The Value of Intra-Organizational Social Capital: How It Fosters Knowledge Transfer, Innovation Performance and Growth, Organization Studies, Vol. 32, No. 2, pp. 157-185.
186. May, D. R. & Flannery, B. L. (1995), Cutting waste with employee involvement teams, Business Horizons, Vol. 38, No. 5, pp. 28-39.
187. Mccomb, S. A., Kennedy, D. M., Green, S. G. & Compton, W. D. (2008), Project Team Effectiveness: The Case for Sufficient Setup and Top Management Involvement, Production Planning and Control, Vol. 19, No. 4, pp. 301-311.
188. Mehta, K. & Chugan, P. K. (2015), Green HRM in Pursuit of Environmentally Sustainable Business, Pursuit of Environmentally Sustainable Business, Universal Journal of Industrial and Business Management, Vol. 3, No. 3, pp. 74-81.

189. Miner, A. S. & Mezias, S. J. (1996), Ugly Duckling No More: Pasts and Futures of Organizational Learning Research, Organization Science, Vol. 7, No. 1, pp. 88-99.
190. Mishra, R. S. (2017), Thermal Modeling of Three Stage Vapour Compression Cascade Refrigeration System Using Entropy Generation Principle for Reducing Global Warming and Ozone Depletion Using Ecofriendly Refrigerants for Semen Preservation, International Journal of Engineering and Innovation, Vol. 1, No. 2, pp. 22-28.
191. Mittal, S. & Dhar, R. L. (2016), Effect of Green Transformational Leadership on Green Creativity: A Study of Tourist Hotels, Tourism Management, Vol. 57, pp. 118-127.
192. Moin, M. F., Omar, M. K., Wei, F., Rasheed, M. I. & Hameed, Z. (2021), Green HRM and Psychological Safety: How Transformational Leadership Drives Follower's Job Satisfaction, Current Issues in Tourism, Vol. 24, No. 16, pp. 2269-2277.
193. Mokha, A. K. & Kumar, P. (2022), Examining the Interconnections Between E-CRM, Customer Experience, Customer Satisfaction and Customer Loyalty: A Mediation Approach, Journal of Electronic Commerce in Organizations (JECO), Vol. 20, No. 1, pp. 1-21.
194. Mokhber, M., Bin Wan Ismail, W. K. & Vakilbashi, A. (2015), Effect of Transformational Leadership and Its Components on Organizational Innovation, Iranian Journal of Management Studies, Vol. 8, No. 2, pp. 221-241.
195. Molina-Azorín, J. F., Claver-Cortés, E., Pereira-Moliner, J. & Tarí, J. J. (2009), Environmental Practices and Firm Performance: An Empirical Analysis in The Spanish Hotel Industry, Journal of Cleaner Production, Vol. 17, No. 5, pp. 516-524.

196. Moriano, J. A., Molero, F., Topa, G. & Mangin, J. P. L. (2014), The Influence of Transformational Leadership and Organizational Identification on Intrapreneurship, International Entrepreneurship and Management Journal, Vol. 10, No. 1, pp. 103-119.
197. Mousa, S. K. & Othman, M. (2020), The Impact of Green Human Resource Management Practices on Sustainable Performance in Healthcare Organisations: A Conceptual Framework, Journal of Cleaner Production, Vol. 243, pp. 118595.
198. Mukherjee, B. & Chandra, B. (2018), Conceptualizing Green Human Resource Management in Predicting Employees' Green Intention and Behaviour: A Conceptual Framework, Prabandhan: Indian Journal of Management, Vol. 11, No. 7, pp. 36-48.
199. Mukonza, C. & Swarts, I. (2020), The Influence of Green Marketing Strategies on Business Performance and Corporate Image in The Retail Sector, Business Strategy and The Environment, Vol. 29, No. 3, pp. 838-845.
200. Nahapiet, J. & Ghoshal, S. (1998), Social Capital, Intellectual Capital and The Organizational Advantage, Academy of Management Review, Vol. 23, No. 2, pp. 242-266.
201. Naz, S., Jamshed, S., Nisar, Q. A. & Nasir, N. (2021), Green HRM, Psychological Green Climate and Pro-Environmental Behaviors: An Efficacious Drive Towards Environmental Performance in China, Current Psychology, pp. 1-16, doi:10.1007/s12144-021-01412-4.
202. Ngo, X. T., Le, H. A. & Doan, T. K. (2022), The Impact of Transformational Leadership Style and Employee Creativity on Organizational Innovation in Universities During the Covid-19 Pandemic, Humanities and Social Sciences Letters, Vol. 10, No. 1, pp. 36-53.

203. Nisar, Q. A., Haider, S., Ali, F., Jamshed, S., Ryu, K. & Gill, S. S. (2021), Green Human Resource Management Practices and Environmental Performance in Malaysian Green Hotels: The Role of Green Intellectual Capital & Pro-Environmental Behavior, Journal of Cleaner Production, Vol. 311, pp. 127504.
204. Nishant, R., Teo, T., Goh, M. & Krishnan, S. (2012), Does Environmental Performance Affect Organizational Performance? Evidence from Green It Organizations, Thirty Third International Conference on Information Systems, Orlando.
205. Nunnally, J. C. & Bernstein, I. H. (1994), Psychometric Theory (3rd Ed), New York: Mcgraw-Hill.
206. Nusair, N., Ababneh, R. & Kyung Bae, Y. (2012), The Impact of Transformational Leadership Style on Innovation as Perceived by Public Employees in Jordan, International Journal of Commerce and Management, Vol. 22, No. 3, pp. 182-201.
207. Obeidat, S. M., Al Bakri, A. A. & Elbanna, S. (2018), Leveraging "Green" Human Resource Practices to Enable Environmental and Organizational Performance: Evidence from The Qatari Oil and Gas Industry, Journal of Business Ethics, Vol. 164, No. 2, pp. 371-388.
208. O'donohue, W. & Torugsa, N. (2016), The Moderating Effect of 'Green' HRM on The Association Between Proactive Environmental Management and Financial Performance in Small Firms, The International Journal of Human Resource Management, Vol. 27, No. 2, pp. 239-261.
209. Ojo, A. O., Tan, C. N.-L. & Alias, M. (2020), Linking Green HRM Practices to Environmental Performance through Pro-Environment Behaviour in The Information Technology Sector, Social Responsibility Journal, Vol. 18, No. 1, pp. 1-18.

210. Olivera, F. & Argote, L. (1999), Organizational Learning and New Product Development: CORE Processes, Shared Cognition in Organizations: The Management of Knowledge, pp. 297-326.
211. Oltra, V., Donada, C. & Alegre, J. (2022), Facilitating Radical Innovation Through Secret Technology-Oriented Skunkworks Projects: Implications for Human Resource Practices, Human Resource Management Journal, Vol. 32, No. 1, pp. 133-150.
212. Paillé, P., Valéau, P. & Renwick, D. W. (2020), Leveraging Green Human Resource Practices to Achieve Environmental Sustainability, Journal of Cleaner Production, Vol. 260, p. 121137.
213. Para-González, L., Jiménez-Jiménez, D. & Martínez-Lorente, A. R. (2018), Exploring the Mediating Effects Between Transformational Leadership and Organizational Performance, Employee Relations, Vol. 40, No. 2, pp. 412-432.
214. Paulet, R., Holland, P. & Morgan, D. (2021), A Meta-Review Of 10 Years of Green Human Resource Management: Is Green HRM Headed Towards A Roadblock Or A Revitalisation?, Asia Pacific Journal of Human Resources, Vol. 59, No. 2, pp. 159-183.
215. Peng, J., Yin, K., Hou, N., Zou, Y. & Nie, Q. (2020), How to Facilitate Employee Green Behavior: The Joint Role of Green Transformational Leadership and Green Human Resource Management Practice, Acta Psychologica Sinica, Vol. 52, No. 9, pp. 1105.
216. Peterson, R. A. & Brown, S. P. (2005), On the Use of Beta Coefficients in Meta-analysis, Journal of Applied Psychology, Vol. 90, No. 1, p. 175.
217. Pham, N. T., Hoang, H. T. & Phan, Q. P. T. (2019), Green Human Resource Management: A Comprehensive Review and Future Research Agenda, International Journal of Manpower, Vol. 41, No. 7, pp. 845-878.

218. Pinzone, M., Guerci, M., Lettieri, E. & Huisingh, D. (2019), Effects of 'Green'training on Pro-Environmental Behaviors and Job Satisfaction: Evidence from The Italian Healthcare Sector, Journal of Cleaner Production, Vol. 226, pp. 221-232.
219. Podsakoff, P. M. & Organ, D. W. (1986), Self-reports in Organizational Research: Problems and Prospects, Journal of Management, Vol. 12, No. 4, pp. 531-544.
220. Prasad, B. & Junni, P. (2016), CEO Transformational and Transactional Leadership and Organizational Innovation, Management Decision, Vol. 54, No. 7, pp. 1542-1568.
221. Prasad, R. S. (2013), Green HRM-Partner in Sustainable Competitive Growth, Journal of Management Sciences and Technology, Vol. 1, No. 1, pp. 15-18.
222. Ragas, S. F. P., Tantay, F. M. A., Chua, L. J. C. & Sunio, C. M. C. (2017), Green Lifestyle Moderates GHRM's Impact on Job Performance, International Journal of Productivity and Performance Management, Vol. 66, No. 7, pp. 857-872.
223. Ramayah, T., Lee, J. W. C. & In, J. B. C. (2011), Network Collaboration and Performance in The Tourism Sector, Service Business, Vol. 5, No. 4, pp. 411-428.
224. Rao, A. S. & Abdul, W. K. (2015), Impact of Transformational Leadership on Team Performance: An Empirical Study in UAE, Measuring Business Excellence, Vol. 19, No. 4, pp. 30-56.
225. Rauter, R., Globocnik, D., Perl-Vorbach, E. & Baumgartner, R. J. (2019), Open Innovation and Its Effects on Economic and Sustainability Innovation Performance, Journal of Innovation and Knowledge, Vol. 4, No. 4, pp. 226-233.

226. Rawashdeh, A. (2018), The Impact of Green Human Resource Management on Organizational Environmental Performance in Jordanian Health Service Organizations, Management Science Letters, Vol. 8, No. 10, pp. 1049-1058.
227. Rawashdeh, A. M., Almasarweh, M. S., Alhyasat, E. B. & Al-Rawashdeh, F. (2021), Examining the Effect of Transformational Leadership to Organizational Performance through Quality Innovation: A Developing Country Perspective, International Journal for Quality Research, Vol. 15, No. 1, pp. 353-368.
228. Rehman, S. U., Kraus, S., Shah, S. A., Khanin, D. & Mahto, R. V. (2021), Analyzing the Relationship Between Green Innovation and Environmental Performance in Large Manufacturing Firms, Technological for Ecasting and Social Change, Vol. 163, pp. 120481.
229. Reinhardt, F. L. (1999), Bringing the Environment Down to Earth, Harvard Business Review, Vol. 77, No. 4, pp. 149-149.
230. Ren, S., Tang, G. & Jackson, S.E. (2021), Effects of Green HRM and CEO Ethical Leadership on Organizations' Environmental Performance, International Journal of Manpower, Vol. 42, No. 6, pp. 961-983.
231. Renwick, D. W., Jabbour, C. J., Muller-Camen, M., Redman, T. & Wilkinson, A. (2016), Contemporary Developments in Green (Environmental) HRM Scholarship, International Journal of Human Resource Management, Vol. 27, No. 2, pp. 114-128.
232. Renwick, D. W., Redman, T. & Maguire, S. (2013), Green Human Resource Management: A Review & Research Agenda, International Journal of Management Reviews, Vol. 15, No.1, pp. 1-14.

233. Renwick, D., Redman, T. & Maguire, S. (2008), Green HRM: A Review, Process Model and Research Agenda, University of Sheffield Management School Discussion Paper, Vol. 1, pp. 1-46.
234. Riana, I. G., Suparna, G., Suwandana, I. G. M., Kot, S. & Rajiani, I. (2020), Human Resource Management in Promoting Innovation and Organizational Performance, Problems and Perspectives in Management, Vol. 18, No. 1, pp. 107.
235. Riva, F., Magrizos, S. & Rubel, M. R. B. (2021), Investigating the Link Between Managers' Green Knowledge & Leadership Style and Their Firms' Environmental Performance: The Mediation Role of Green Creativity, Business Strategy and The Environment, Vol. 30, No. 7, pp. 3228-3240.
236. Rizvi, Y. S. & Garg, R. (2020), The Simultaneous Effect of Green Ability-Motivation-Opportunity and Transformational Leadership in Environment Management: The Mediating Role of Green Culture, Benchmarking: An International Journal, Vol. 28, No. 3, pp. 830-856.
237. Robinson, S. & Stubberud, H. A. (2013), Green Innovation in Germany: A Comparison by Business Size, Journal of International Business Research, Vol. 12, No. 1, pp. 47-56.
238. Rodrigues, M., Franco, M., Silva, R. & Oliveira, C. (2021), Success Factors of SMEs: Empirical Study Guided by Dynamic Capabilities and Resources-Based View, Sustainability, Vol. 13, No. 21, pp. 12301.
239. Roscoe, S., Subramanian, N., Jabbour, C. J. C. & Chong, T. (2019), Green Human Resource Management and The Enablers of Green Organisational Culture: Enhancing A Firm's Environmental Performance for Sustainable Development, Business Strategy and The Environment, Vol. 28, No. 5, pp. 737-749.

240. Ruepert, A., Keizer, K., Steg, L., Maricchiolo, F., Carrus, G., Dumitru, A., …& Moza, D. (2016), Environmental Practices in The Organizational Context: A Pathway to Pro-Environmental Behaviour at Work, Energy Research and Social Science, Vol. 17, pp. 59-70.
241. Sakharina IK, S. I., Kadarudin, K., Patittingi F, P. F., Hasrul M, H. M., Latif B, L. B. & Palutturi S, P. S. (2020), The Impact of Green Human Resource Practices on Environmental Performance, Polish Journal of Management Studies, Vol. 22, No. 2, pp. 470-486.
242. Sanders, M., Lewis, P. & Thornhill, A. (2009), Research Methods for Business Studies, New York, Pretince Hall.
243. Sarjiyanto, S. (2022), Moderating Effect of Social Capital on Community Empowerment and Economic Well-Being, Journal Perspektif Pembiayaan dan Pembangunan Daerah, Vol. 9, No. 6, pp. 479-492.
244. Sarker, B., Keya, K. N., Mahir, F. I., Nahiun, K. M., Shahida, S. & Khan, R. A. (2021), Surface and Ground Water Pollution: Causes and Effects of Urbanization and Industrialization in South Asia, Scientific Review, Vol. 7, No. 3, pp. 32-41.
245. Schaltegger, S. & Wagner, M. (2011), Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions, Business Strategy and The Environment, Vol. 20, No. 4, pp. 222-237.
246. Schiederig, T., Tietze, F. & Herstatt, C. (2012), Green Innovation in Technology and Innovation Management–An Exploratory Literature Review, R and D Management, Vol. 42, No. 2, pp. 180-192.
247. Schmitt, A., Den Hartog, D. N. & Belschak, F. D. (2016), Transformational Leadership and Proactive Work Behaviour: A Moderated Mediation Model Including Work Engagement and Job

Strain, Journal of Occupational and Organizational Psychology, Vol. 89, No. 3, pp. 588-610.

248. Schroer, J. & Hertel, G. (2009), Voluntary Engagement in an Open Web-Based Encyclopedia: Wikipedians And Why They Do It, Media Psychology, Vol. 12, No. 1, pp. 96-120.
249. Sekaran, U. & Bougie, R. (2010), Research Methods for Business: A Skill Building Approach (5th edition), New Jersey: John Wiley and Sons.
250. Shah, A. K., Jintian, Y., Sukamani, D. & Kusi, M. (2020), How Green Transformational Leadership Influences Sustainability? Mediating Effects of Green Creativity and Green Procurement, Journal on Innovation and Sustainability Risus, Vol. 11, No. 4, pp. 69-87.
251. Shahzad, K., De Sisto, M., Rasheed, M. A., Bajwa, S. U., Liu, W., & Bartram, T. (2021), A Sequential Relationship Between Entrepreneurial Orientation, Human Resource Management Practices, Collective Organisational Engagement and Innovation Performance of Small and Medium Enterprises, International Small Business Journal, doi: 02662426211056460.
252. Shahzad, M., Qu, Y., Zafar, A. U. & Appolloni, A. (2021), Does the Interaction Between the Knowledge Management Process and Sustainable Development Practices Boost Corporate Green Innovation?, Business Strategy and The Environment, Vol. 30, No. 8, pp. 4206-4217.
253. Shang, T. T., Miao, X. M., Lu, D. & Xin, X. H. (2020), The Evolutionary Process of Disruptive Green Innovation in China: Evidence from the Electric Bicycle Sector, Technology Analysis & Strategic Management, Vol. 32, No. 8, pp. 910-922.

254. Shashi, S., Centobelli, P., Cerchione, R. & Singh, R. (2019), The Impact of Leanness and Innovativeness on Environmental and Financial Performance: Insights from Indian SMEs, International Journal of Production Economics, Vol. 212, pp. 111-124.
255. Shen, J., Dumont, J. & Deng, X. (2016), Employees' Perceptions of Green HRM and Non-Green Employee Work Outcomes the Social Identity and Stakeholder Perspectives, Group and Organization Management, Vol. 43, No. 4, pp. 594-622.
256. Shu, C., Zhou, K. Z., Xiao, Y. & Gao, S. (2016), How Green Management Influences Product Innovation in China: The Role of Institutional Benefits, Journal of Business Ethics, Vol. 133, No. 3, pp. 471-485.
257. Siangchokyoo, N., Klinger, R. L. & Campion, E. D. (2020), Follower Transformation as The Linchpin of Transformational Leadership Theory: A Systematic Review and Future Research Agenda, The Leadership Quarterly, Vol. 31, No. 1, pp. 101341.
258. Singh, C. D. & Kaur, H. (2021), Sustainable Green Development and Manufacturing Performance through Modern Production Techniques, CRC Press.
259. Singh, S. K. (2018), Sustainable Business and Environment Management, Management of Environmental Quality: An International Journal, Vol. 30, No. 1, pp. 2-4.
260. Singh, S. K., Del Giudice, M., Chierici, R. & Graziano, D. (2020), Green Innovation and Environmental Performance: The Role of Green Transformational Leadership and Green Human Resource Management, Technological for Ecasting and Social Change, Vol. 150, pp. 119762.

261. Sobaih, A. E. E., Hasanein, A. & Elshaer, I. (2020), Influences of Green Human Resources Management on Environmental Performance in Small Lodging Enterprises: The Role of Green Innovation, Sustainability, Vol. 12, No. 24, pp. 10371.
262. Song, W. & Yu, H. (2018), Green Innovation Strategy and Green Innovation: The Roles of Green Creativity and Green Organizational Identity, Corporate Social Responsibility and Environmental Management, Vol. 25, No. 2, pp. 135-150.
263. Song, W., Wang, G. Z. & Ma, X. (2020), Environmental Innovation Practices and Green Product Innovation Performance: A Perspective from Organizational Climate, Sustainable Development, Vol. 28, No. 1, pp. 224-234.
264. Song, W., Yu, H. & Xu, H. (2021), Effects of Green Human Resource Management and Managerial Environmental Concern on Green Innovation, European Journal of Innovation Management, Vol. 24, No. 3, pp. 951-967.
265. Srour, C. K. G. E. K., Kheir-El-Din, A., & Samir, Y. M. (2020), The Effect of Green Transformational Leadership on Organizational Citizenship Behavior in Egypt, Academic Journal of Interdisciplinary Studies, Vol. 9, No. 5, pp. 1-1.
266. Steg, L., Bolderdijk, J. W., Keizer, K. & Perlaviciute, G. (2014), An Integrated Framework for Encouraging Pro-Environmental Behaviour: The Role of Values, Situational Factors and Goals, Journal of Environmental Psychology, Vol. 38, pp. 104-115.
267. Stock, R. M. & Zacharias, N. A. (2011), Patterns and Performance Outcomes of Innovation Orientation, Journal of The Academy of Marketing Science, Vol. 39, No. 6, pp. 870-888.

268. Stucki, T., Woerter, M., Arvanitis, S., Peneder, M. & Rammer, C. (2018), How Different Policy Instruments Affect Green Product Innovation: A Differentiated Perspective, Energy Policy, Vol. 114, pp. 245-261.
269. Subramanian, N., Abdulrahman, M. D., Wu, L. & Nath, P. (2016), Green Competence Framework: Evidence from China, The International Journal of Human Resource Management, Vol. 27, No. 2, pp. 151-172.
270. Sun, L., Niu, D., Wang, K. & Xu, X. (2021), Sustainable Development Pathways of Hydropower in China: Interdisciplinary Qualitative Analysis and Scenario-based System Dynamics Quantitative Modeling, Journal of Cleaner Production, Vol. 287, p. 125528.
271. Sun, X., El Askary, A., Meo, M. S., Zafar, N. U. A. & Hussain, B. (2022), Green Transformational Leadership and Environmental Performance in Small and Medium Enterprises, Economic Research-Ekonomska Istraživanja, pp. 1-19.
272. Tahir, M., Safwan, N., Usman, A. & Adnan, A. (2020), Green HRM As Predictor of Firms' Environmental Performance and Role of Employees' Environmental Organizational Citizenship Behavior as A Mediator, Journal of Research and Reviews in Social Sciences Pakistan, Vol. 3, No. 1, pp. 699-715.
273. Tariq, A., Badir, Y. & Chonglerttham, S. (2019), Green Innovation and Performance: Moderation Analyses from Thailand, European Journal of Innovation Management, Vol. 22, No. 3, pp. 446-467.
274. Tariq, S., Jan, F. A. & Ahmad, M. S. (2016), Green Employee Empowerment: A Systematic Literature Review on State-Of-Art in Green Human Resource Management, Quality and Quantity, Vol. 50, No. 1, pp. 237-269.

275. Teixeira, A. A., Jabbour, C. J. C., De Sousa Jabbour, A. B. L., Latan, H. & De Oliveira, J. H. C. (2016), Green Training & Green Supply Chain Management: Evidence from Brazilian Firms, Journal of Cleaner Production, Vol. 116, pp. 170-176.
276. Tipu, S. A. A., Ryan, J. C. & Fantazy, K. A. (2012), Transformational Leadership in Pakistan: An Examination of The Relationship of Transformational Leadership to Organizational Culture and Innovation Propensity, Journal of Management and Organization, Vol. 18, No. 4, pp. 461-480.
277. Trung, N. N., Nghi, P. T., Soldier, L. L., Hoi, T. V. & Kim, W. J. (2014), Leadership, Resource and Organisational Innovation: Findings from State and Non-State Enterprises, International Journal of Innovation Management, Vol. 18, No. 05, pp. 1450034.
278. Tulsi, P. & Ji, Y. (2020), A Conceptual Approach to Green Human Resource Management and Corporate Environmental Responsibility in The Hospitality Industry, The Journal of Asian Finance, Economics and Business, Vol. 7, No. 1, pp. 195-203.
279. Úbeda-García, M., Claver-Cortés, E., Marco-Lajara, B. & Zaragoza-Sáez, P. (2021), Corporate Social Responsibility & Firm Performance in The Hotel Industry and The Mediating Role of Green Human Resource Management and Environmental Outcomes, Journal of Business Research, Vol. 123, pp. 57-69.
280. Uthes, S., Matzdorf, B., Müller, K., & Kaechele, H. (2010), Spatial Targeting of Agri-Environmental Measures: Cost-Effectiveness and Distributional Consequences, Environmental Management, Vol. 46, No. 3, pp. 494-509.
281. Van Berkel, R., Willems, E. & Lafleur, M. (1997), Development of An Industrial Ecology Toolbox for The Introduction of Industrial Ecology

in Enterprises, International Journal of Cleaner Production, Vol. 5, No. 1-2, pp. 11-25.

282. Van Holt, T., Statler, M., Atz, U., Whelan, T., Van Loggerenberg, M. & Cebulla, J. (2020), The Cultural Consensus of Sustainability-Driven Innovation: Strategies for Success, Business Strategy and The Environment, Vol. 29, No. 8, pp. 3399-3409.
283. Vandenbrande, W. W. (2019), Quality for a Sustainable Future, Total Quality Management & Business Excellence, pp. 1-9.
284. Vargas-Hernández, J. G. & Ali, M. M. (2022), Organizational Culture, Knowledge, Learning Organizations, and Innovation on Sustainable Organizations: Strategic Implications, In Smart Cities, Citizen Welfare, and the Implementation of Sustainable Development Goals, IGI Global, pp. 239-263.
285. Voelker, K. E., Rakich, J. S. & French, G. R. (2001), The Balanced Scorecard in Healthcare Organizations: A Performance Measurement and Strategic Planning Methodology, Hospital Topics, Vol. 79, No. 3, pp. 13-24.
286. Walls, J. L., Berrone, P. & Phan, P. H. (2012), Corporate Governance and Environmental Performance: Is There Really A Link? Strategic Management Journal, Vol. 33, No. 8, pp. 885-913.
287. Wang, C. J., Tsai, H. T. & Tsai, M. T. (2014), Linking Transformational Leadership and Employee Creativity in The Hospitality Industry: The Influences of Creative Role Identity, Creative Self-Efficacy and Job Complexity, Tourism Management, Vol. 40, pp. 79-89.
288. Wang, F. J., Chich-Jen, S. & Mei-Ling, T. (2010), Effect of Leadership Style on Organizational Performance as Viewed from Human Resource Management Strategy, African Journal of Business Management, Vol. 4, No. 18, pp. 3924-3936.

289. Wasim, S. S. & Rehman, M. U. (2022), Role of Transformational Leadership Style of Accounting Professionals towards Subordinates Performance, OCB, and Innovation: Mediating Effect of Integrity and Thriving, Journal of Entrepreneurship, Management, and Innovation, Vol. 4, No. 1, pp. 1-26.
290. Wei, L. Q., Liu, J. & Herndon, N. C. (2011), Shrm and Product Innovation: Testing the Moderating Effects of Organizational Culture and Structure in Chinese Firms, The International Journal of Human Resource Management, Vol. 22, No. 01, pp. 19-33.
291. Weng, H. H. R., Chen, J. S. & Chen, P. C. (2015), Effects of Green Innovation on Environmental and Corporate Performance: A Stakeholder Perspective, Sustainability, Vol. 7, No. 5, pp. 4997-5026.
292. Wernerfelt, B. (1984), A Resource-Based View of the Firm, Strategic Management Journal, Vol. 5, No. 2, pp. 171-180.
293. Wong, I. A. & Dioko, L. D. A. (2013), Understanding the Mediated Moderating Role of Customer Expectations in The Customer Satisfaction Model: The Case of Casinos, Tourism Management, Vol. 36, pp. 188-199.
294. Wu, W. Y., Lee, L. Y. & Pham, T. T. (2019), Examining the Influence of Expatriates' Social Capital and Knowledge-Sharing Behavior on Financial Performance, International Journal of Organizational Analysis, Vol. 28, No. 3, pp. 557-577.
295. Xu, X. & Gursoy, D. (2015), A Conceptual Framework of Sustainable Hospitality Supply Chain Management, Journal of Hospitality Marketing and Management, Vol. 24, No. 3, pp. 229-259.
296. Xue, M., Boadu, F. & Xie, Y. (2019), The Penetration of Green Innovation on Firm Performance: Effects of Absorptive Capacity and

Managerial Environmental Concern, Sustainability, Vol. 11, No. 9, pp. 2455.

297. Yan, J. & Hu, W. (2021), Environmentally Specific Transformational Leadership & Green Product Development Performance: The Role of a Green HRM System, International Journal of Manpower, Vol. Ahead-Of-Print, No. Ahead-Of-Print.
298. Yang, H. & Yang, J. (2019), The Effects of Transformational Leadership, Competitive Intensity and Technological Innovation on Performance, Technology Analysis and Strategic Management, Vol. 31, No. 3, pp. 292-305.
299. Yang, K. (2007), Individual Social Capital and Its Measurement in Social Surveys, Survey Research Methods, Vol. 1, No. 1, pp. 19-27.
300. Yang, M. G., Hong, P. & Modi, S. B. (2011), Impact of Lean Manufacturing and Environmental Management on Business Performance: An Empirical Study of Manufacturing Companies, International Journal of Production Economics, Vol. 129, No. 2, pp. 251-261.
301. Yong, J. Y., Yusliza, M. Y., Ramayah, T., Chiappetta Jabbour, C. J., Sehnem, S. & Mani, V. (2020), Pathways towards Sustainability in Manufacturing Organizations: Empirical Evidence on the Role of Green Human Resource Management, Business Strategy and the Environment, Vol. 29, No.1, pp. 212-228.
302. Yu, W., Chavez, R., Feng, M., Wong, C. Y. & Fynes, B. (2020), Green Human Resource Management and Environmental Cooperation: An Ability-Motivation-Opportunity and Contingency Perspective, International Journal of Production Economics, Vol. 219, pp. 224-235.

303. Yu, Y., Li, X. & Jai, T. M. C. (2017), The Impact of Green Experience on Customer Satisfaction: Evidence from TripAdvisor, International Journal of Contemporary Hospitality Management, Vol. 29, No. 5, pp. 1340-1361.
304. Yusliza, M. Y., Yong, J. Y., Tanveer, M. I., Ramayah, T., Faezah, J. N. & Muhammad, Z. (2020), A Structural Model of The Impact of Green Intellectual Capital on Sustainable Performance, Journal of Cleaner Production, Vol. 249, pp. 119334.
305. Yusoff, Y. M., Nejati, M., Kee, D. M. H. & Amran, A. (2020), Linking Green Human Resource Management Practices to Environmental Performance in Hotel Industry, Global Business Review, Vol. 21, No. 3, pp. 663-680.
306. Zafar, A., Nisar, Q. A., Shoukat, M. & Ikram, M. (2017), Green Transformational Leadership and Green Performance: The Mediating Role of Green Mindfulness and Green Self-Efficacy, International Journal of Management Excellence, Vol. 9, No. 2, pp. 1059-1066.
307. Zaid, A. A., Jaaron, A. A. M. & Talib Bon, A. (2018), The Impact of Green Human Resource Management and Green Supply Chain Management Practices on Sustainable Performance: An Empirical Study, Journal of Cleaner Production, Vol. 204, pp. 965-979.
308. Zailani, S. H. M., Eltayeb, T. K., Hsu, C. C. & Tan, K. C. (2012), The Impact of External Institutional Drivers and Internal Strategy on Environmental Performance, International Journal of Operations & Production Management, Vol. 32, No. 6, pp. 721-745.
309. Zhang, W., Xu, F., & Wang, X. (2020), How Green Transformational Leadership Affects Green Creativity: Creative Process Engagement as Intermediary Bond and Green Innovation Strategy as Boundary Spanner, Sustainability, Vol. 12, No. 9, p. 3841.

310. Zhang, Y. & Chiu, C.Y. (2012), Goal Commitment and Alignment of Personal Goals Predict Group Identification Only When the Goals Are Shared, Group Processes and Intergroup Relations, Vol. 15, No. 3, pp. 425-437.
311. Zhao, W. & Huang, L. (2022), The Impact of Green Transformational Leadership, Green HRM, Green Innovation and Organizational Support on the Sustainable Business Performance: Evidence from China, Economic Research-Ekonomska Istraživanja, pp. 1-21.
312. Zhao, X., Lynch, Jr., J. G. & Chen, Q. (2010), Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis, Journal of Consumer Research, Vol. 37, No. 2, pp. 197-206.
313. Zhao, Y., Feng, T. & Shi, H. (2018), External Involvement and Green Product Innovation: The Moderating Role of Environmental Uncertainty, Business Strategy and the Environment, Vol. 27, No. 8, pp. 1167-1180.
314. Zhou, S., Zhang, D., Lyu, C. & Zhang, H. (2018), Does Seeing "Mind Acts Upon Mind" Affect Green Psychological Climate and Green Product Development Performance? The Role of Matching Between Green Transformational Leadership and Individual Green Values, Sustainability, Vol. 10, No. 9, pp. 3206.
315. Zhu, W., Chew, I. K. & Spangler, W. D. (2005), CEO Transformational Leadership & Organizational Outcomes: The Mediating Role of Human–Capital-Enhancing Human Resource Management, The Leadership Quarterly, Vol. 16, No. 1, pp. 39-52.
316. Zimon, D., Madzik, P. & Sroufe, R. (2020), The Influence of ISO 9001 & ISO 14001 on Sustainable Supply Chain Management in the Textile Industry, Sustainability, Vol. 12, No. 10, p. 4282.

APPENDIX

Appendix I Questionnaire (Vietnamese version)

Hướng tới một Mô hình Tích hợp về Thực hành Xanh của Tổ chức và Hiệu suất Môi trường Xanh: tiền đề, điều tiết và hệ quả

Kính chào Anh/Chị,

Tôi là Phạm Thị Thật, hiện đang theo học chương trình Tiến sĩ Quản trị kinh doanh tại Đại học Nam Hoa, Đài Loan. Tôi thực hiện nghiên cứu về "Hướng tới một Mô hình Tích hợp về Thực hành Xanh của Tổ chức và Hiệu suất Môi trường Xanh: tiền đề, điều tiết và hệ quả" như một phần của quá trình hoàn thành chương trình học.

Anh/Chị sẽ tham gia cuộc khảo sát này với tư cách là những quản lý cấp cao với vai trò điều hành công ty, chuyên viên nhân sự có kiến thức về "xanh hóa" và hướng đến sự phát triển xanh, bền vững của doanh nghiệp. Câu trả lời của Anh/Chị sẽ đóng góp rất lớn vào sự hoàn thiện của nghiên cứu này. Bảng câu hỏi này bao gồm 2 phần và sẽ mất khoảng 10 phút để hoàn thành. Tất cả các câu trả lời của Anh/Chị sẽ được giữ ẩn danh.

Chúng tôi vô cùng cảm ơn sự hợp tác của Anh/Chị.

Trân trọng,

Wann-Yih Wu, Ph. D	Phạm Thị Thật
Giáo sư chủ nhiệm và Phó hiệu trưởng trường Đại học Nam Hoa	Nghiên cứu sinh, chương trình tiến sĩ khoa Quản trị kinh doanh tại Đại học Nam Hoa

Phần 1: Thông tin cá nhân

1. Giới tính

□ Nam □ Nữ □ Khác

2. Tuổi

□ 40-45 □ 46-50 □ Trên 50

3. Trình độ học vấn cao nhất

□ Đại học hoặc tương đương

□ Thạc sĩ hoặc tương đương

□ Tiến sĩ hoặc tương đương

4. Chức vụ

□ CEO

□ Giám đốc cấp cao

□Giám đốc/quản lý

□Quản lý/chuyên gia nhân sự

5. Số năm công tác:

□ 3-6 năm

□ 7-10 năm

□ Trên 10 năm

6. Tổng số nhân sự của công ty

□ 50 – 100 người

□ 101 – 150 người

□ 151 – 249 người

7. Hệ thống quản lý mà công ty đang sử dụng là:

□ ISO 9001

□ ISO 14001

□ ISO 9001 & ISO 14001

Phần 2: Nội dung nghiên cứu

Mục đích của nghiên cứu này là để khảo sát ý kiến của anh/chị về những yếu tố tác động, điều tiết đến việc thực hành xanh và hiệu suất môi trường cũng như hiệu quả kinh doanh của doanh nghiệp. Do đó, vui lòng sử dụng kiến thức và kinh nghiệm quản lý của mình để trả lời toàn bộ những câu hỏi được liệt kê bên dưới:

Khoanh tròn vào mức độ Anh/Chị đồng tình với các khẳng định dưới đây về lãnh đạo chuyển đổi xanh:	Mức độ đồng tình						
	Hoàn toàn không đồng ý	Không đồng ý	Không đồng ý một phần	Trung lập	Đồng ý một phần	Đồng ý	Hoàn toàn đồng ý
Lãnh đạo chuyển đổi xanh							
[GTL1] Tôi truyền cảm hứng cho cấp dưới bằng kế hoạch bảo vệ môi trường.	1	2	3	4	5	6	7
[GTL2] Tôi cung cấp cho cấp dưới một tầm nhìn rõ ràng về môi trường.	1	2	3	4	5	6	7
[GTL3] Tôi khuyến khích cấp dưới làm việc theo kế hoạch bảo vệ môi trường.	1	2	3	4	5	6	7
[GTL4] Tôi khuyến khích nhân viên đạt được các mục tiêu về môi trường.	1	2	3	4	5	6	7
[GTL5] Tôi coi trọng niềm tin về môi trường của cấp dưới.	1	2	3	4	5	6	7
[GTL6] Tôi kích thích cấp dưới suy nghĩ và chia sẻ những ý tưởng xanh của họ.	1	2	3	4	5	6	7
Khoanh tròn vào mức độ Anh/Chị đồng tình với các khẳng định dưới đây về thực hành quản lý nguồn nhân lực xanh:	Mức độ đồng tình						

	Hoàn toàn không đồng ý	Không đồng ý	Không đồng ý một phần	Trung lập	Đồng ý một phần	Đồng ý	Hoàn toàn đồng ý
Thực hành quản lý nguồn nhân lực xanh							
Phát triển cho nhân viên khả năng thực hiện các hoạt động thân thiện với môi (GA)							
[GA1] Công ty của tôi đã rất nỗ lực để chọn đúng người.	1	2	3	4	5	6	7
[GA2] Công ty của tôi thuê những người có giá trị về môi trường.	1	2	3	4	5	6	7
[GA3] Công ty của tôi nhận thấy tầm quan trọng đáng kể của quy trình nhân sự xanh.	1	2	3	4	5	6	7
[GA4] Trong công ty của tôi, mọi nhân viên đều phải trải qua khóa đào tạo bắt buộc về môi trường.	1	2	3	4	5	6	7
[GA5] Trong công ty của tôi, đào tạo về môi trường được thiết kế để nâng cao kỹ năng và kiến thức về môi trường của nhân viên.	1	2	3	4	5	6	7
[GA6] Trong công ty của tôi, nhân viên sử dụng đào tạo về môi trường trong công việc của họ.	1	2	3	4	5	6	7
Thúc đẩy nhân viên thực hiện các hoạt động thân thiện với môi (GM):							
[GM1] Công ty của tôi có hồ sơ đánh giá kết quả hoạt động môi trường.	1	2	3	4	5	6	7
[GM2] Công ty của tôi có đánh giá hoạt động bao gồm các sự cố môi trường, trách nhiệm, mối quan tâm và chính sách.	1	2	3	4	5	6	7
[GM3] Ở công ty tôi, nhân viên được thưởng về quản lý môi trường.	1	2	3	4	5	6	7
[GM4] Trong công ty của tôi, nhân viên nhận được phần thưởng khi đạt được những năng lực môi trường cụ thể.	1	2	3	4	5	6	7
Cung cấp cơ hội cho nhân viên thực hiện các hoạt động thân thiện với môi trường (GO):							
[GO1] Trong công ty của tôi, các nhân viên đều tham gia vào các hoạt động để trở nên thân thiện với môi trường.	1	2	3	4	5	6	7

[GO2] Trong công ty của tôi, nhân viên sử dụng làm việc nhóm để giải quyết các vấn đề môi trường.	1	2	3	4	5	6	7
[GO3] Trong công ty của tôi, nhân viên được khuyến khích thảo luận về các vấn đề môi trường trong các cuộc họp nhóm.	1	2	3	4	5	6	7

Khoanh tròn vào mức độ Anh/Chị đồng tình với các khẳng định dưới đây về đổi mới bền vững:	Mức độ đồng tình						
	Hoàn toàn không đồng ý	Không đồng ý	Không đồng ý một phần	Trung lập	Đồng ý một phần	Đồng ý	Hoàn toàn đồng ý
Đổi mới bền vững							
[SI1] Công ty của tôi luôn tập trung vào việc cải tiến công nghệ.	1	2	3	4	5	6	7
[SI2] Công ty của tôi luôn tập trung vào cải tiến quy trình liên tục.	1	2	3	4	5	6	7
[SI3] Công ty của tôi luôn tập trung vào việc giảm tiêu thụ năng lượng, nước và các tài nguyên thiên nhiên khác.	1	2	3	4	5	6	7
[SI4] Công ty của tôi luôn tập trung vào việc tái chế và tái sử dụng.	1	2	3	4	5	6	7
[SI5] Công ty của tôi luôn tập trung vào quản lý môi trường bằng cách áp dụng những hệ thống tiêu chuẩn phù hợp.	1	2	3	4	5	6	7
[SI6] Công ty của tôi luôn tập trung vào việc giảm thiểu chất thải.	1	2	3	4	5	6	7
[SI7] Công ty của tôi luôn chú trọng đến việc sử dụng các vật liệu thân thiện với môi trường.	1	2	3	4	5	6	7
Khoanh tròn vào mức độ Anh/Chị đồng tình với các khẳng định dưới đây về những nhận định sau đây.	Mức độ đồng tình						

	Hoàn toàn không đồng ý	Không đồng ý	Không đồng ý một phần	Trung lập	Đồng ý một phần	Đồng ý	Hoàn toàn đồng ý
Thực hành xanh cho tổ chức (OGP)							
[OGP1] Công ty của tôi tập trung vào việc giảm thiểu khí thải và chất thải.	1	2	3	4	5	6	7
[OGP2] Công ty của tôi cố gắng thiết kế để có thể tái chế.	1	2	3	4	5	6	7
[OGP3] Công ty của tôi sử dụng chuỗi cung ứng xanh.	1	2	3	4	5	6	7
[OGP4] Công ty của tôi sử dụng nguyên liệu thân thiện với môi trường.	1	2	3	4	5	6	7
[OGP5] Công ty của tôi sử dụng vật liệu hữu cơ.	1	2	3	4	5	6	7
[OGP6] Công ty của tôi xây dựng danh tiếng về việc xanh hóa	1	2	3	4	5	6	7
Hiệu suất môi trường xanh							
[GEP1] Các hoạt động môi trường xanh trong tổ chức của tôi đã giảm đáng kể chi phí tổng thể.	1	2	3	4	5	6	7
[GEP2] Các hoạt động môi trường xanh trong tổ chức của tôi đã giảm đáng kể thời gian thực hiện.	1	2	3	4	5	6	7
[GEP3] Các hoạt động môi trường xanh trong tổ chức của tôi đã cải thiện đáng kể chất lượng sản phẩm và / hoặc quá trình.	1	2	3	4	5	6	7
[GEP4] Các hoạt động môi trường xanh trong tổ chức của tôi đã nâng cao đáng kể danh tiếng của công ty tôi.	1	2	3	4	5	6	7
[GEP5] Các hoạt động môi trường xanh trong tổ chức của tôi đã giảm thiểu đáng kể chất thải trong toàn bộ quy trình chuỗi giá trị.	1	2	3	4	5	6	7
Thẻ điểm cân bằng xanh							
Học tập và tăng trưởng xanh (GLG)							
[GLG1] Công ty của tôi đã đạt được sự đổi mới trong quy trình kinh doanh nhờ quản lý xanh.	1	2	3	4	5	6	7
[GLG2] Công ty của tôi đã nâng cao mức độ hài lòng của các doanh nghiệp khách hàng bằng cách quản lý xanh.	1	2	3	4	5	6	7

[GLG3] Công ty của tôi đạt được luồng thông tin nhờ giáo dục bằng quản lý xanh.	1	2	3	4	5	6	7
[GLG4] Công ty của tôi đã chuẩn bị cho sự không chắc chắn và rủi ro bằng quản lý xanh.	1	2	3	4	5	6	7
Quy trình nội bộ xanh (GIP)							
[GIP1] Công ty của tôi đã cải thiện sức mạnh cạnh tranh bằng quản lý xanh.	1	2	3	4	5	6	7
[GIP2] Công ty của tôi đã cung cấp sản phẩm và dịch vụ đúng hạn bởi ban quản lý xanh.	1	2	3	4	5	6	7
[GIP3] Công ty của tôi đã giảm chi phí hàng tồn kho và tỷ lệ hàng tồn kho bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GIP4] Công ty của tôi đã cải thiện năng suất và giá trị kinh doanh bằng cách quản lý xanh.	1	2	3	4	5	6	7
Sự hài lòng của khách hàng về mức độ xanh (GCS)							
[GCS1] Công ty của tôi đã giảm thời gian xử lý kinh doanh và lãng phí tài nguyên bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GCS2] Công ty của tôi đã giảm thời gian chu kỳ kinh doanh và thời gian giao hàng bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GCS3] Công ty của tôi đã nâng cấp chất lượng của sản phẩm và dịch vụ bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GCS4] Công ty của tôi đã giảm giá vốn hàng bán bằng cách quản lý xanh.	1	2	3	4	5	6	7
Hiệu quả tài chính xanh (GFP)							
[GFP1] Công ty của tôi đã nâng tỷ lệ lợi nhuận kinh doanh bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GFP2] Công ty của tôi đã điều chỉnh dòng tiền kinh doanh bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GFP3] Công ty của tôi đã tăng tỷ lệ thu nhập và doanh số bằng cách quản lý xanh.	1	2	3	4	5	6	7
[GFP4] Công ty của tôi đã cải thiện tỷ suất lợi nhuận trên vốn bằng cách quản lý xanh.	1	2	3	4	5	6	7
Sự tham gia của lãnh đạo cao nhất (TMI)							
[TMI1] Tôi quan tâm đến các vấn đề môi trường.	1	2	3	4	5	6	7
[TMI2] Tôi rất chú ý đến thông tin kháng cáo xanh.	1	2	3	4	5	6	7
[TMI3] Tôi luôn theo dõi các sản phẩm xanh mới và phổ biến.	1	2	3	4	5	6	7
[TMI4] Tôi hiểu rằng mọi hành động sẽ tác động đến môi trường.	1	2	3	4	5	6	7
[TMI5] Tôi sẵn sàng hy sinh lợi ích cá nhân để bảo vệ môi trường.	1	2	3	4	5	6	7

[TMI6] Tôi biết rằng điều kiện của môi trường ảnh hưởng đến chất lượng cuộc sống của mọi người.	1	2	3	4	5	6	7
Vốn xã hội của tổ chức (OSC)							
Vốn xã hội có cấu trúc của tổ chức (OSSC)							
[OSSC1] Trong công ty của tôi, các nhân viên tham gia giao tiếp cởi mở và trung thực với nhau.	1	2	3	4	5	6	7
[OSSC2] Trong công ty của tôi, nhân viên không có vấn đề hay chương trình nghị sự nào bị che giấu.	1	2	3	4	5	6	7
[OSSC3] Trong công ty của tôi, nhân viên chia sẻ và chấp nhận những lời phê bình mang tính xây dựng mà không làm cho nó mang tính cá nhân.	1	2	3	4	5	6	7
[OSSC4] Trong công ty của tôi, các nhân viên thảo luận về các vấn đề cá nhân nếu chúng ảnh hưởng đến hiệu quả công việc.	1	2	3	4	5	6	7
[OSSC5] Trong công ty của tôi, các nhân viên sẵn sàng chia sẻ thông tin với nhau.	1	2	3	4	5	6	7
Vốn quan hệ xã hội của tổ chức (ORSC)							
[ORSC1] Trong công ty của tôi, tôi có thể tin tưởng vào những nhân viên mà tôi làm việc cùng.	1	2	3	4	5	6	7
[ORSC2] Trong công ty của tôi, các nhân viên thường quan tâm đến cảm xúc của nhau.	1	2	3	4	5	6	7
[ORSC3] Trong công ty của tôi, các nhân viên tin tưởng lẫn nhau.	1	2	3	4	5	6	7
[ORSC4] Trong công ty của tôi, nhân viên thể hiện rất nhiều tính chính trực.	1	2	3	4	5	6	7
[ORSC5] Trong công ty của tôi, không có "tinh thần đồng đội" giữa các nhân viên.	1	2	3	4	5	6	7
[ORSC6] Nhìn chung, trong công ty của tôi, nhân viên là những người đáng tin cậy.	1	2	3	4	5	6	7
Vốn nhận thức xã hội của tổ chức (OCSC)							
[OCSC1] Trong công ty của tôi, các nhân viên đều có chung tham vọng và tầm nhìn đối với công ty.	1	2	3	4	5	6	7
[OCSC2] Trong công ty của tôi, các nhân viên nhiệt tình theo đuổi các mục tiêu và sứ mệnh tập thể.	1	2	3	4	5	6	7
[OCSC3] Trong công ty của tôi, nó có một điểm chung là mục đích giữa các nhân viên.	1	2	3	4	5	6	7
[OCSC4] Trong công ty của tôi, nhân viên cam kết thực hiện các mục tiêu của công ty.	1	2	3	4	5	6	7
[OCSC5] Trong công ty của tôi, các nhân viên coi mình như những đối tác trong việc vạch ra hướng đi của công ty.	1	2	3	4	5	6	7

Appendix II Questionnaire (English version)

Toward an Integrative Model of Organizational Green Practices and Green Environmental Performance: An Assessement of Antecedents, Mediators, Moderators, and Consequences

Dear Respondents:

This academic questionnaire is to investigate the Antecedents, Moderators, and Consequences between Organizational Green Practices and Green Environmental Performance. Moreover, we are anxious to understand whether top management team involvement and organizational social capital will serve as a moderating role on the relationship between Organizational Green Practices and Green Environmental Performance or not.

You have been reported as one of the interested respondents for this study. We have taken the liberty of your joining to request your viewpoint about these issues. Your countenance and assistance will be greatly appreciated. We sincerely invite you to spend a maximum of 10 minutes to complete the questionnaire below. No personal information will be made public. Please be assured that your answers will be kept in strict confidentiality and take the time to fill out this questionnaire as accurately as possible. Your help is crucial for this research and also for future understanding about these issues. We deeply appreciate your kind cooperation.

Faithfully Yours,

Wann-Yih Wu, Ph. D.	Ph. D. candiade: Pham Thi That
Chair Professor, Dean of Department of Business Administration, Nanhua University, Taiwan	Department of Business Administration, Nanhua University, Taiwan

Part 1: Personal Information

1. Gender

□ Male □ Female □ Other

2. Age

□ 40-45 □ 46-50 □ Trên 50

3. Education

□ Bachelor

□ Master

□ Post-master's degree

4. Job Title

□ CEO

□ Senior manager

□ Manager

□ Human resource manager

5. Years of working for the company

□ 3-6 years

□ 7-10 years

□ Over 10 years

6. Size of company

□ 50 – 100 employees

□ 101 – 150 employees

□ 151 – 249 employees

7. Management systems of the firm:

□ ISO 9001

□ ISO 14001

□ Both ISO 9001 & ISO 14001

Part 2: Research content

The purpose of this study is to survey your opinion about the factors that affect and regulate green practices and environmental performance as well as business performance of enterprises. Therefore, please use your management knowledge and experience to answer all of the questions listed below:

Please take a short look on the questions below related to Green Transformational Leadership, and then **CIRCLE** the level of agreement on each of the items below based on your opinion.	**Levels of Agreement**						
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral Somewhat Agree	Somewhat Agree	Agree	Strongly Agree
Green Transformational Leadership (GTL)							
[GTL1] My top management team inspire subordinates with environmental plan.	1	2	3	4	5	6	7
[GTL2] My top management team provide subordinates a clear environmental vision.	1	2	3	4	5	6	7
[GTL3] My top management team encourage subordinates to work on environmental plan.	1	2	3	4	5	6	7
[GTL4] My top management team encourage employees to attain environmental goals.	1	2	3	4	5	6	7
[GTL5] My top management team consider environmental beliefs of my subordinates.	1	2	3	4	5	6	7
[GTL6] My top management team stimulate subordinates to think and share their green ideas.	1	2	3	4	5	6	7
Please take a short look on the questions below related to Green HRM Practices, and then **CIRCLE** the level of agreement on each of the items below based on your opinion.	**Levels of Agreement**						

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral Somewhat Agree	Somewhat Agree	Agree	Strongly Agree
Green Human Resource Management Practices (GHRMP)							
Developing Green Ability (GA):							
[GA1] My company has great effort goes in to select the right person.	1	2	3	4	5	6	7
[GA2] My company hires those who possess environmental values.	1	2	3	4	5	6	7
[GA3] My company notices considerable importance given to green staffing process.	1	2	3	4	5	6	7
[GA4] In my company, every employee undergoes mandatory environmental training.	1	2	3	4	5	6	7
[GA5] In my company, environmental training is designed to enhance employee's environmental skills and knowledge.	1	2	3	4	5	6	7
[GA6] In my company, employees to use environmental training in their jobs.	1	2	3	4	5	6	7
Motivating Green Employees (GM):							
[GM1] My company has performance appraisal records environmental performance.	1	2	3	4	5	6	7
[GM2] My company has a performance appraisal includes environmental incidents, responsibilities, concerns, and policy.	1	2	3	4	5	6	7
[GM3] In my company, the employee gets a reward for environmental management.	1	2	3	4	5	6	7
[GM4] In my company, the employee gets a reward for acquiring specific environmental competencies.	1	2	3	4	5	6	7
Providing Green Opportunities (GO):							
[GO1] In my company, employees are involved to become environmentally friendly.	1	2	3	4	5	6	7
[GO2] In my company, employees use team-work for resolving environmental issues.	1	2	3	4	5	6	7
[GO3] In my company, employees are encouraged to discuss environmental issues in team meetings.	1	2	3	4	5	6	7

Please take a short look on the questions below related to Sustainability Innovation (SI), and then **CIRCLE** the level of agreement on each of the items below based on your opinion.	**Levels of Agreement**						
	Strongly Disagree	Disagree	Somewhat Disagree	Neutral Somewhat Agree	Somewhat Agree	Agree	Strongly Agree
Sustainability Innovation (SI)							
[SI1] My company always focuses on technological improvement.	1	2	3	4	5	6	7
[SI2] My company always focuses on continuous process improvement.	1	2	3	4	5	6	7
[SI3] My company always focuses on reducing the consumption of energy, water, other natural resources.	1	2	3	4	5	6	7
[SI4] My company always focuses on recycling and reuse.	1	2	3	4	5	6	7
[SI5] My company always focuses on environmental management by adopting of proper standard system.	1	2	3	4	5	6	7
[SI6] My company always focuses on reducing waste.	1	2	3	4	5	6	7
[SI7] My company always focuses on using environment-friendly materials.	1	2	3	4	5	6	7
Please take a short look on the questions below and then **CIRCLE** the level of agreement on each of the items below based on your opinion.	**Levels of Agreement**						

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral Somewhat Agree	Somewhat Agree	Agree	Strongly Agree
Organizational Green Practices (OGP)							
[OGP1] My company focuses on minimization of emissions and waste.	1	2	3	4	5	6	7
[OGP2] My company try to design for recyclability.	1	2	3	4	5	6	7
[OGP3] My company use green supply chain.	1	2	3	4	5	6	7
[OGP4] My company use environmentally friendly raw materials.	1	2	3	4	5	6	7
[OGP5] My company use organic material.	1	2	3	4	5	6	7
[OGP6] My company build reputation for green.	1	2	3	4	5	6	7
Green Environmental Performance (GEP)							
[GEP1] Green environmental activities in my organization has significantly reduced overall costs.	1	2	3	4	5	6	7
[GEP2] Green environmental activities in my organization has significantly reduced the lead times.	1	2	3	4	5	6	7
[GEP3] Green environmental activities in my organization has significantly improved product and/or process quality.	1	2	3	4	5	6	7
[GEP4] Green environmental activities in my organization has significantly improved reputation of my company.	1	2	3	4	5	6	7
[GEP5] Green environmental activities in my organization has significantly reduced waste within the entire value chain process.	1	2	3	4	5	6	7
Green Balanced Scorecard (GBSC)							
Green learning and growth (GLG):							
[GLG1] My company attained the business process innovation by green management.	1	2	3	4	5	6	7
[GLG2] My company raised the satisfaction level of customer enterprises by green management.	1	2	3	4	5	6	7
[GLG3] My company achieved the information flow by the education by green management.	1	2	3	4	5	6	7

[GLG4] My company prepared the uncertainty and risk by green management.	1	2	3	4	5	6	7
Green internal process (GIP):							
[GIP1] My company improved the competitive power by green management.	1	2	3	4	5	6	7
[GIP2] My company provided the product and service on time by green management.	1	2	3	4	5	6	7
[GIP3] My company reduced the inventory cost and the rate of inventory by green management.	1	2	3	4	5	6	7
[GIP4] My company improved the productivity and business value by green management.	1	2	3	4	5	6	7
Green customer satisfaction (GCS):							
[GCS1] My company reduced the business handling time and resource waste by green management.	1	2	3	4	5	6	7
[GCS2] My company reduced the business cycle time and the delivery time by green management.	1	2	3	4	5	6	7
[GCS3] My company raised the quality level of the product and service by green management.	1	2	3	4	5	6	7
[GCS4] My company reduced the cost of goods sold by green management.	1	2	3	4	5	6	7
Green financial performance (GFP):							
[GFP1] My company raised rate of business profits by green management.	1	2	3	4	5	6	7
[GFP2] My company smoothed cash flow of business by green management.	1	2	3	4	5	6	7
[GFP3] My company increased rate of earnings and sales by green management.	1	2	3	4	5	6	7
[GFP4] My company improved rate of return on capital by green management.	1	2	3	4	5	6	7
Top Management Involvement (TMI)							
[TMI1] My top management team concern about environmental issues.	1	2	3	4	5	6	7
[TMI2] My top management team pay close attention to green appeal information.	1	2	3	4	5	6	7
[TMI3] My top management team keep a watchful eye on new and popular green products.	1	2	3	4	5	6	7
[TMI4] My top management team understand that every action will impact the environment.	1	2	3	4	5	6	7
[TMI5] My top management team am willing to make sacrifices to protect the environment.	1	2	3	4	5	6	7
[TMI6] My top management team know that the condition of the environment affects the quality of everyone life.	1	2	3	4	5	6	7

Organizational Social Capital (OSC)							
Organizational Structural Social Capital (OSSC)							
[OSSC1] In my company, employees engage in open and honest communication with one another.	1	2	3	4	5	6	7
[OSSC2] In my company, employees have no hidden agendas or issues.	1	2	3	4	5	6	7
[OSSC3] In my company, employees share and accept constructive criticisms without making it personal.	1	2	3	4	5	6	7
[OSSC4] In my company, employees discuss personal issues if they affect job performance.	1	2	3	4	5	6	7
[OSSC5] In my company, employees willingly share information with one another.	1	2	3	4	5	6	7
Organizational Relational Social Capital (ORSC)							
[ORSC1] In my company, I can rely on the employees I work with.	1	2	3	4	5	6	7
[ORSC2] In my company, employees are usually considerate of one another's feelings.	1	2	3	4	5	6	7
[ORSC3] In my company, employees have confidence in one another.	1	2	3	4	5	6	7
[ORSC4] In my company, employees show a great deal of integrity.	1	2	3	4	5	6	7
[ORSC5] In my company, there is no "team spirit" among employees.	1	2	3	4	5	6	7
[ORSC6] Overall, in my company, employees are trustworthy.	1	2	3	4	5	6	7
Organizational Cognitive Social Capital (OCSC)							
[OCSC1] In my company, employees share the same ambitions and vision for the company.	1	2	3	4	5	6	7
[OCSC2] In my company, employees enthusiastically pursue collective goals and mission.	1	2	3	4	5	6	7
[OCSC3] In my company, it has a commonality of purpose among employees.	1	2	3	4	5	6	7
[OCSC4] In my company, employees are committed to the goals of the company.	1	2	3	4	5	6	7
[OCSC5] In my company, employees view themselves as partners in charting the company direction.	1	2	3	4	5	6	7

This the end of the questionnaire, we fully appreciate you to complete this questionnaire. If you have any further comments, please fill in the following space.