ADVANCING ENVIRONMENTAL SUSTAINABILITY:

INTEGRATING ESG STRATEGIES

IN THE GLOBAL MOBILITY AND RELOCATION INDUSTRY

by

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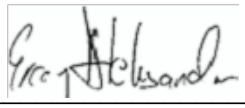
APPROVED BY 

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Dedication

I would like to dedicate this dissertation to my family. Most notably, my dear wife, Ali, who is my best friend and who has encouraged my passion in the Sustainability and ESG space. This journey of life would just not be the same without you. You inspire me to be a better leader, husband, father, researcher, and environmental advocate.

To my children, Clark, Parker, and Ivy, for whom I hope to leave a lasting imprint and legacy for. I believe there are examples where far too many times in history, good men did not do enough to stop pervasive issues entering society which had a profoundly negative impact.

As I have made it my vocation to help reduce the suffering of the most vulnerable and to protect nature, I want to continue to do my part in ensuring a viable, healthy world for future generations like yours.

I hope this dissertation shows the commitment of many who live today and who work diligently to combat climate change. No matter what industry one is in during the time this was written, we all had a choice to either raise awareness for change, or, to sit idly by and watch our beautiful planet suffer the consequences of climate change.

I want you to always know that you do have a voice. You can make a difference – it takes consistency and daily action to achieve your goals. The choice is yours to make as to what impact you want to leave!

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ABSTRACT
ADVANCING ENVIRONMENTAL SUSTAINABILITY:
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Matthew Eschrich
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The Relocation and Global Mobility industry was formed in 1969 as a catalyst to support enterprise mobility solutions for human capital deployment globally. As our world has continued to become increasingly globalized, it is imperative for the industry to evaluate current practices as it relates to environmental protection, as part of a holistic approach to preserving the environment for future generations. The Global Mobility industry market size is expected to reach $28.35bn by the year 2030, of which $17.66bn will originate from the United States. The United States has also historically seen that on average, 1.6%+ of eligible workers have relocated for a new job annually (Coherent Market Insights 2023). The industry has prioritized components of ESG, focusing primarily on the Social and Governance pieces. However, it has often overlooked the *Environmental* adoption. The industry produces substantial greenhouse gas emissions due to the procurement of relocation services for corporate mobility programs. This research project focuses on discovering the link between corporate mobility programs and their necessary coexistence within a sustainable framework which is critical for the future. It will evaluate whether environmental adoption within the industry is feasible for long-term growth while prioritizing people, the planet, and profits.

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INTRODUCTION

1.1 Introduction

As the world grapples with the increasing acceleration of climate change, it is important to review how industries such as global mobility and relocation can foster change. This change should have a direct, positive impact on reducing the amount of greenhouse gases being emitted into the environment. It is no secret to objective observers that these emissions are prevalent in the lifecycle of an individual's corporate relocation.

For many U.S- headquartered corporations, a global mobility program is seen as a key talent driver and retainer for new hires and internal transfers who may be deployed to new geographic locations. This is driven largely by organizational needs and strategic development within an organization.

Global mobility and relocation programs have had burgeoning growth as the overall business climate has become more globalized. Coupled with population growth from the 1960s era, Global mobility and relocation became a recognized industry with the formation of the Employee Relocation Real Estate Advisory Council (ERREAC), now formally known as the Worldwide Employee Relocation Council or WERC (WERC, 2023).

What was once an emerging industry with only sixty companies attending the first ERREAC conference has blossomed into an industry network association represented by

over 1,600 global corporations and 10,000 service industry partners across Europe, the Middle East and Africa, Asia, and the Americas.

With this type of growth in mind, it becomes imperative that global mobility and relocation industry leaders look at the carbon footprint that the industry is responsible for by way of procured services through the global mobility supply chain and the employee relocation lifecycle for all types of corporates moves. Whether it is an intern assignment, a short or long-term assignment, a rotation, or a one-way permanent move to a new host location, greenhouse gas emissions are a negative byproduct of corporate relocation programs.

In a report titled: "Enough – A Review of Corporate Sustainability, in a World Running out of Time" in partnership with Ernst & Young Australia, Carrel et al. (2022) noted that corporate sustainability may seem to be a benign frontier of the global environmental and humanist movement; in reality, however, it is one of the most urgent and consequential topics of our time.

Carrel et al. (2022) pointed out that if sustainable finance, ESG and other private sector-led sustainability vehicles are to play a significant role in the sustainable reorganization of the global economy, then the concept of corporate sustainability needs to be fundamentally revisited throughout an organization's structure and strategy.

This begs the question of where global mobility and relocation have a role in a corporate sustainability framework. Through research and analysis already completed, it is safe to say that the industry has contributed substantially to greenhouse gas emissions. This is primarily due to the downstream impact of the procured services for corporate

relocation programs. These programs are set up to support the deployment of human capital globally for some of the largest multi-national corporations (MNCs). It is an essential service for MNCs that are tasked with finding the right talent and deploying that talent to the right location to execute organizational goals and contribute to the bottom line. However, as this dissertation will point out, there is a need and an opportunity to look at prioritizing what is known as the *triple bottom line*, which is a framework for measuring an organization's impact in three areas: social, environmental, and economic. It is otherwise known as the "three Ps" – profit, people, and the planet.

This concept was first introduced by British author and consultant John Elkington in his 1997 book *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Elkington's pioneering framework has been widely discussed in academia and has also helped organizations reevaluate and reprioritize their stakeholder values. Stakeholder value is defined through the Stakeholder Theory and was first presented by author R. Edward Freeman in his 1984 book *Strategic Management: A Stakeholder Approach*. This theory and Elkington's triple bottom line are foundational for organizations to understand as they look to integrate Sustainability and ESG strategies into their overall framework and culture (Freeman, 2010).

The global mobility and relocation industry is ripe for disruption in the environmental, social, and governance (ESG) space. Since its inception, the industry has continued to evolve from a logistics-based approach to a strategic human-capital deployment function focused on streamlining and execution of talent management initiatives for large, multinational enterprises.

The global mobility industry is robust and consists primarily of global mobility management teams under an organization's human resources department, along with outsourced relocation management companies (RMCs) responsible for supply chain management. These relocation providers work with their supply chain partners, who have specific domains for services performed during the relocation or assignment process.

The downstream service level providers are responsible for coordinating relocation management provisions outlined in a company's relocation program. These provisions typically consist of the policies that are drafted to meet the company's unique relocating or assignment population–i.e., they could be one-way permanent moves to a new destination location, short or long-term assignments, rotations, interns and college graduates, and U.S. domestic homeowners, etc.

Contained within these relocation and assignment policies are a suite of benefits that the relocating and assignment-based populations can utilize to transition to their new destination location. The advent of employee-sponsored benefits for corporate relocation first started in 1969 through the formulation of the Employee Relocation Real Estate Advisory Council, otherwise known today as the Worldwide Employee Relocation Council (WERC). WERC is a non-profit, industry affiliation entity supporting the global mobility and relocation industry. As the industry has grown over the last five decades, so too, has the environmental impact due to the carbon footprint of these employee sponsored benefits. In a typical policy, a set of relocation benefits may include:

- Transition airfare from the origin to the destination for the relocating employee and family.

- A household goods move from an employee's primary residence to their new destination location.
- Destination Services provides support for relocating employees and their families. Primarily, this service occurs at the destination for the relocating expatriate employee and provides them with a comprehensive tour of the destination city and other pertinent settling-in services that are paid for by the organization sponsoring the move.
- Temporary housing for an interim period–typically, this may last anywhere from 30 to 90 days to help the employee, spouse, partner, and family settle into their new location.
- Home sale and home purchase assistance. In the U.S., this is commonly known in the industry as a home sale program with destination purchase assistance, executed through the Relocation Management Company (RMC). The RMC oversees ensuring the home sale program is IRS tax compliant and meets the requirements of an arms-length transaction for both the relocating employee and the sponsoring employer.

There are other provisions in relocation and assignment policies, too, including but not limited to school search support, spousal support, pet transportation, rental car, miscellaneous allowance, reimbursement of out-of-pocket expenses, etc. Each policy is uniquely tailored within an organization to accommodate the needs of their populations who are taking on new roles and moving into different localities–whether a neighboring city, a new state/province, or an entirely new country.

However, out of all the possible available provisions, the major four core provisions outlined—airfare, household goods, temporary housing, and destination services support—have the most environmental impact. The industry has not historically prioritized curbing the greenhouse gas emissions that these provisions produce as a byproduct of human capital deployment.

In turn, this has had a significant environmental impact on corporate relocation programs. Inherently, these programs are set up as a support mechanism designed to assist employee and family transitions to new locations on behalf of the corporation that sponsors the move. The juxtaposition between the duty of care for relocating employees and their families while maintaining a program that is cognitive of the environmental impact of relocation services is a research area that is just starting to be explored further within the industry councils.

Following the turn of the new millennium, "ESG" was first utilized in 2005 as an umbrella term to cover a wide disparity of issues that have either a direct or indirect impact to financial relevance to firms (ESG, 2022). Specifically, firms have started to review the literature around environmental, social, and governance as part of a corporate sustainability strategy, which has evolved as firms have recognized the importance of creating sustainable, long-term investments that promote corporate social responsibility.

In a joint report published by the United Nations Environment Programme Finance Initiative (UNEPFI) and the World Business Council for Sustainable Development (WBCSD), Atan et al. (2016) cited that it is becoming more relevant to incorporate environmental, social, and governance (ESG) elements as well as

sustainability in making critical corporate decisions that mitigate risk in the business environment.

1.2 Research Problem

As pressure begins to mount for individuals and businesses to become more sustainable, it is imperative that the global mobility and relocation industry reevaluate what is being offered in corporate mobility program policies. Industry practitioners should look at how they may develop new and innovative policy offerings that consider the carbon footprint generated by these provisions in an effort to mitigate the environmental impact these provisions cause.

The industry has focused on aspects of ESG; however, it has primarily focused on the social and governance components. There is a lack of research, development, and tangible investment into strategies to mitigate the carbon footprint that relocation programs and their associated provisions have caused.

Many corporations that offer a relocation program do so with the oversight of a global mobility team. Generally speaking, these global mobility teams have not yet been tasked with addressing the specific environmental impact of the relocation program, even if the company they are employed for has an ESG program or environmental impact report.

Along with corporate clients, the Global Mobility industry as a whole has often overlooked the need to reduce greenhouse gas emissions, which is evident in the corporate relocation policy provisions managed in partnership by Relocation Management Companies (RMCs).

Specifically, the following research questions need to be addressed to continue the improvement and prioritization of sustainability initiatives within the industry:

1. How is environmental sustainability adoption viewed by the Global Mobility industry in the current state?

2. What is the quantifiable impact of relocation policy provisions in the current state?

3. What alternatives exist, or what new models and frameworks could be developed to address the growing environmental impact of the industry?

4. How will upcoming legislation in the U.S. and/or globally impact the industry in the next decade?

5. Is it worth the investment now for the industry to tackle this challenge before any government mandates require it?

1.3 Purpose of Research

The primary purpose of this research is to confirm whether the nature of the environmental impact problem is as pervasive as it appears to be in the industry. Additionally, the research will focus on filling in the gaps in the knowledge and practical application of sustainable mobility practices and policies, which can be developed to mitigate the carbon impact of an individual's sponsored relocation or assignment. Particularly, the study will also break down the sub-objectives:

- To provide a comprehensive review of environmental adoption within the industry and answer whether fiscal investment is warranted to combat greenhouse gas emissions.

- To develop a new model and framework focusing on environmental adoption or "greener" mobility policies.
- To review current industry practices and provisions that may have an opportunity for refinement to be more sustainable.
- To outline practical steps that the corporate client, relocation management companies, and downstream suppliers can take to develop a sustainable relocation program.

The results of this study will provide practical insights to industry practitioners and key stakeholders within multinational corporations who have a vested interest in their company's ESG strategy, development, and execution (e.g., sustainable procurement).

The research objectives addressed in this dissertation sought to validate or reject the premise that focusing on environmental sustainability within the global mobility industry is a viable endeavor–both for corporations participating in this space with the deployment of their human capital around the globe and for downstream supplier partners who are tasked with the benefits administration of the global mobility program.

Through the research objectives posed, a series of surveys were administered through the author's relocation management company, which asked corporate clients and supplier partners pointed questions regarding their organization's appetite to absorb ESG initiatives. This included questions as to whether industry participants have an ESG program or strategy of their own internally, and if so, to what extent either the "E," "S," or "G" components were the most important to them. The survey also gathered

information on whether their company and/or mobility program has ESG goals in mind for 2023 or beyond.

Additionally, a supplier survey focused on whether suppliers in the relocation and global mobility industry have a current ESG program in place to measure, track, and report greenhouse gas emissions, and if so, whether suppliers could elaborate further on their goals and future plans and initiatives to support curbing greenhouse gas emissions.

From there, a broader blind survey of questions was posed to industry participants as part of a global mobility conference summit. This survey included questions around the adoption of ESG with a focus on the environment to validate whether a statistically significant response exists regarding ESG impacts on global mobility programs and whether there are internal goals within the mobility leader's organizations that are seeking to address climate change.

Last, a mix of qualitative and quantitative analyses were completed to measure the possible impact of adopting mobility strategies that incorporate measurement of environmental impact across individual companies and the industry. The implications of these research questions will help to identify whether corporations that value implementing ESG strategies are better positioned in the marketplace compared to other corporations that do not implement ESG practices, as continued investment is prioritized by stakeholders internally and externally.

According to Hussen (2018), pollution is an inevitable byproduct of economic activities. However, if an ecosystem or economy can moderate the decomposing aspects of pollution through assimilative capacity, it can then allow natural environments to

decompose in a more sustainable way, thereby reducing the risk associated with human-caused climate change.

This premise supports that organizations need to adopt ESG, based on the necessity for ecological sustainability to be prioritized by society, broadly speaking. Resource management is a necessity to ensure the viability of humanity's only currently inhabitable planet; and. businesses have an obligation to create shared value for society as they create economic value (Porter et al., 2011).

It is the author's point of view that reducing carbon output, in an industry otherwise known to be an emission-heavy industry, is particularly important to maintaining a responsible social and governance approach to the long-term viability of the industry itself.

As technology has changed the way the industry work, so too should ESG strategies change the way natural capital and environmental resources are used to relocate individual employees and families on behalf of the corporate clients who make up the relocation and global mobility economy.

It is of underscore concern that industries such as relocation and global mobility has not yet fully addressed the impact of continued environmental pollution exposure is prevalent throughout the supply chain services rendered for each relocating customer.

If carbon emissions from the industry continue to go unchecked, unchanged, or unfunded for mitigation strategies, there is a very real risk that the number of emissions will continue to grow exponentially relative to industry size as human capital continues to relocate for companies.

According to recent market research conducted by IBISWorld (2023), the market size, measured by revenue, of the moving services industry was valued at $22.5bn in 2022. In the U.S. alone, the industry increased size by 10.2% in 2022 and averages 2.4% annually.

This creates a pressing need to adopt ESG strategies that look at the full cost of environmental impact due to relocation services to understand and create mitigation strategies to ensure long-term viability then fully.

1.4 Significance of the Study

As our global society grapples with the impact of climate change, it is imperative that firms in the relocation and global mobility space respond to this pressing issue, especially in the United States, as a majority of relocation management providers, suppliers, and corporate client's headquarters are based in this geographic region and conduct most of the business from within it.

A key strategic initiative shared from an organization's main corporate headquarters can function as a useful catalyst for driving larger ESG adoption for U.S.-headquartered multi-national corporations and/or companies that control supply chain interests with global implications.

Furthermore, with the arrival of proposed ESG legislation, both federally and by state within the U.S., it is imperative that global mobility industry leaders come together to support a holistic framework to support initiatives proactively before they become governmental mandates.

According to Houston et al. (2023), lawmakers in at least thirteen states have already started to introduce bills since the beginning of 2023, which are progressing through the legislative process at varying speeds.

Another primary reason to focus on this industry is the nature of the work that the industry conducts, which has a direct correlation with increased carbon emissions, primarily from household goods moving (domestically and internationally), airfare coordination for relocating employees, and housing options that are either limited term or long-term and may or may not be energy efficient.

McNulty et. al. (2017) reinforced this view by stating that there is a growing global imperative perception of sustainability in global mobility, primarily aimed at improving social, environmental, and economic (ESG) health—both now and for future generations; and that it requires the cooperative efforts of the public, for-profit, and non-profit sectors.

These important pieces of a relocation policy for corporate clients should be addressed for their climate impact—to facilitate strategies to help curb as many emissions as possible in the future.

It is also important to note that relocation management companies (RMCs) have a direct impact on the "E" in ESG, by virtue of participation in Scope 2 and 3 emissions, which are either direct consumption of energy or indirect consumption of energy through procured services on behalf of corporate client's global mobility programs.

The framework for Scope 1, 2, and 3 emissions was created by the Greenhouse Gas Protocol, born out of a 20-year partnership between the World Resources Institute

(WRI) and the World Business Council for Sustainable Development (WBCSD). According to GHG Protocol (2023, para. 1), the standards created helped to establish: "comprehensive global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions."

Additionally, the World Economic Forum points out that by dividing emissions into three groups, the intent is to help measure progress in making the necessary reductions needed to limit global temperature rises to well below 2°C–which has been the central aim of the Paris Agreement (Di Battista et al., 2023)

It is also of note that the U.S. rejoined the Paris Agreement when President-elect Joe Biden signed the accord on his first day of office in January 2021, thereby validating the necessity for U.S. firms to refocus their efforts on sustainability. A figure of Scope 1, 2, and 3 emissions is illustrated by the United States Environmental Protection Agency (EPA), in partnership with Greenhouse Gas Protocols as one can see in Figure 1:

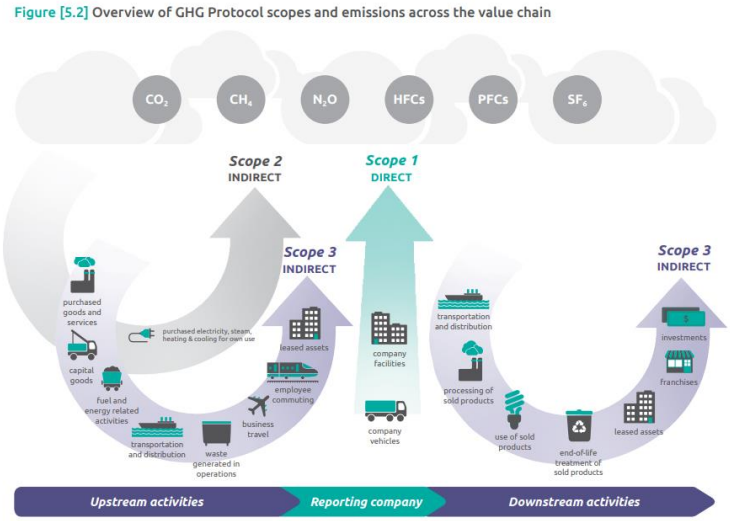


Figure 1: Greenhouse Gas Protocol (WRI/WBCSD, 2011)

The RMC's supply chain consists heavily of supplier partners who are in the business of transporting human capital (i.e., relocating employees and their families) and their relocating customers' goods via air, freight, or surface containers via ocean vessels. This puts these supply chain partners in Scope 3, primarily, as procured services on behalf of a corporate client's mobility program.

The impact that these supply chain participants–namely, domestic household goods moving companies, international freight forwarding companies, and travel coordination companies—have is profound on an industry that may account for up to 56.8 million expatriates globally. Of these, over 62.6% are thought to be individual workers and 3.3% are expatriates for corporations as evidenced by Finacord Ltd. (2004).

An industry study already completed, which focused on the impact of investing in renewable services and technologies within the Relocation and Global Mobility industry by Ernst and Young in conjunction with the Worldwide Employment and Relocation Council (WERC, 2022), the organization representing the Relocation and Global Mobility Industry. In this study, WERC (2022, p. 2) noted that:

> "Corporations are leveraging their supplier networks to devise and deliver on sustainability goals, with fifty-six percent (56%) encouraging or requiring suppliers and business partners to meet specific sustainability criteria. For the largest companies—those with more than 50,000 employees—utilizing the buyer-supplier relationship is the most common tactic, being reported by 61% of respondents."

This dissertation is focused on answering the question of whether investing in the "E" of ESG, is a worthwhile endeavor for firms in the global mobility and relocation industry such as relocation management companies and their supply chain partners.

The author of this dissertation has a personal stake in environmental sustainability as a catalyst for change within the industry. As a subject matter expert with over a decade of experience in the industry, the author has seen a shift in the way that relocation policies are being created and maintained, with an emphasis, particularly on ESG incorporation within the global mobility policy framework for corporate clients through corporate client procurement partners tasked with auditing client contracts.

Furthermore, industry associations have started to emphasize the importance of recognizing the environmental impact of the services being offered and procured within relocation program management, which has a significant impact on the type of investment that the industry, suppliers, and corporate clients are willing to absorb in the name of reducing greenhouse gas emissions wherever possible.

From the author's point of view, it is critical that the relocation and global mobility industry continue to focus on ESG strategy adoption as part of a comprehensive approach to a viable, sustainable relocation model.

1.5 Research Purpose and Questions

When developing the research purpose, the questions needed to be asked to industry participants, corporate clients, and supplier partners covered the value of ESG and primarily, whether environmental adoption is seen as an integral part of the company's Talent Mobility strategy both now and in the future.

In addition, the case study was formulated to provide insight and outline the current practices and procedures that the author's current organization is taking to prioritize environmental adoption within a sustainability framework—which is focused on renewable energy adoption and carbon emission reductions within the industry vertical in which it operates.

The first survey conducted focused on a broader industry cohort of randomized participants that are either on the corporate relocation, Relocation Management Company, or supply chain side to ask the following two questions to see if any correlation of statistically significant data exists within the broader industry mix of supply chain partners and clients. The survey poll focused on two distinct questions to analyze through Chi Tests, with a proportional variation for question two for E, S, and G categories.

1. Does your company and/or Mobility program have ESG goals in mind now or in the future?
2. As the Relocation & Global Mobility industry continues to evolve, where do you see ESG impacting your company/mobility program the most – is there a larger focus on E, S, or G currently or in the future?

Based on compiled data, the Chi Tests were run to compare the categorical variables presented in the data against the second study to review whether any statistically significant data exists that can be positively correlated with the author's hypothesis about the importance of implementing strategies to support environmental adoption within the industry. The second study measured the author's organizational

readiness of its supply chain to determine whether the supply chain vendors have an ESG strategy already in place. The study also illuminated whether or not these suppliers are part of an accredited body for tracking greenhouse gas emissions and what their targets for reduction are.

The questions included:

Q1: Does your organization have an Environmental, Social, and Governance program?

Q1: sub-question: If yes, please describe the strategy and goals of the program, including how ESG information is measured and reported. Please include your most recent annual ESG report and ESG policy.

Q2: Is your organization certified by or a member of a globally recognized certification program?

Q2: sub-question: If yes, please name all programs in which you participate, e.g., UN Global Compact, Science Based Targets initiative (SBTi), EcoVadis, CDP, etc. and include reports/scorecards.

Q3: Is your organization currently collecting Greenhouse Gas Emissions data?

Q4: If you are not currently collecting Greenhouse Gas Emissions, do you have plans and initiatives to?

Q5: Does your organization have any Greenhouse Gas emissions targets?

Q5: sub-question: If yes - what are your targets and dates for achieving them? Example: 50% reduction by 2025 and 100% reduction by 2030.

Based on the survey results, the author sought to determine whether there are differences between groups of suppliers based on Chi Tests, specifically ones that measured goodness of fit for questions three and five regarding ESG greenhouse collection and reporting, and greenhouse gas emission targets within the supply chain.

The primary questions analyzed in this survey were questions one, three, and five, as they demonstrated null hypothesis and alternative hypothesis that would either support the theory that supply chain partner organizations in the relocation industry are or are not prioritizing ESG programs as a whole; and more specifically, prioritizing environmental adoption through the collection and reporting of greenhouse gas emissions, in addition to, supporting the creation of greenhouse gas emissions reduction targets.

The last study focused on the author's own organizational client portfolio to determine whether the clients serviced by the organization are under the auspice of ESG initiatives that are currently impacting or will impact their global mobility and relocation program.

The study asked client partners to rate, on a 0-100 scale, the impact of each ESG component variable on their specific program–whether it has higher or lower impact on the Environmental, Social, or Governance variables.

This data was then sorted and calculated to evaluate the degrees of influence in each variable and analyzed using a Chi Test to determine if there is statistically significant data evident in the environmental, social, or governance variables within the client portfolio.

Furthermore, a regression analysis was completed by creating a “total impact score” (dependent variable) for the scored variables of “Environmental,” “Social,” and “Governance” to demonstrate whether the predictor variables have significant relationships with the dependent variable.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Literature Review Overview

The literature review conducted by the author indicates that ESG has been a newly researched buzz topic over the last two decades; however, no conclusive study has demonstrated, through a case study or otherwise, why firms in the relocation and global mobility space should continue to focus on ESG adoption.

Research into the environmental aspect, including the impact from disclosures of emissions data for Scope 1, 2, and 3 greenhouse gas emissions, for industry participants has been primarily non-existent for most companies.

Scope 1, 2, and 3 greenhouse gases are produced by either company facilities or vehicles (Scope 1), direct purchased electricity (Scope 2), or indirect emissions from procured services (Scope 3). Ilze et al. (2022) confirmed in their article that ESG adoption across corporations globally has surged during the last decade.

A KPMG Survey of Sustainability Reporting in 2020 also revealed that sustainability reporting by the largest 100 firms across 52 countries has rapidly amplified, from 18% in 2002 to 75% in the 2017 survey, up to 80% in 2020 (Impact, 2020).”

However, until the last few years, research on the impact of the global mobility and relocation industry has focused more heavily on the social and governance components of ESG than on the environment (E). The industry has seen a shift in the last few years, as new research and data has emerged, to show the importance of environmental wellbeing as part of a complete ESG framework.

This point is coupled with the necessity of increased corporate client demand for downstream suppliers to focus on environmental adoption, along with proposed legislation in the U.S. that may start to require ESG disclosures as part of a firm's finance performance and investment opportunities.

Deloitte's U.S. and Global Leader of Global Employer Services (GES), Jim Pickett (2022, para. 10), emphasized this point when he stated:

> "The challenge is that the role the mobility function plays in driving the sustainability agenda is not always obvious. When you start to go beyond basic measures like adjusting the number of assignments or counting carbon offsets, the science can often be confusing. Making decisions for the future, therefore, will require mobility leaders to either understand the science themselves, or find a specialist they can trust to help them with the more technical aspect."

This is an important distinction to call out, as external stakeholders, such as consulting firms and large, multinational corporations, are partnering with relocation management companies and downstream supply chain partners to start to examine the long-term impact on sustainability.

According to Pickett (2022), Deloitte's recent survey on the matter suggested that nearly 90% of CXOs agree that there is a climate crisis, and that the world is at a tipping point to act for the best interest of future generations.

Worldwide ERC (2022) also stated in a 2021 survey that senior executives accounted for 78% of agreement in relation to the statement that ESG priorities could directly support their company's financial performance.

As the relocation and global mobility industry has started to emphasize a focus on ESG adoption within a mobility program framework, it's important to illuminate the point that academic research within this space is burgeoning; however, it is not yet fully established in terms of practical strategies and applications for industry professionals and alike to adhere to or maintain.

A significant goal of this dissertation is to outline: 1 – why the need for ESG prioritization is important within the industry, 2 – the current impact on the environment within the relocation and global mobility industry, and 3 – the practical impact of prioritizing an ESG strategy within the relocation and global mobility industry as it relates to greenhouse gas emissions reduction.

A literature review reveals that most research within the global mobility industry landscape has been focused on the social and governance pieces of ESG versus environmental adoption. Ommen et al. (2022) noted that there are at least 238 expatriate management articles that can be classified into one of the 17 United Nations sustainable development goals; however, the research is dominated by social issues (nearly 80%), followed by economic literature (up to 19%), leaving environment/biosphere issues at only (1%).

This gap in the literature needs to be addressed as part of educating mobility practitioners and organizational stakeholders about the ever-growing need for environmental adoption within corporate mobility programs.

Other literature research indicates that more studies are needed to pulse the industry as only a select few research and consulting firms have started to beg the

question of whether environmental adoption or ESG strategy development is something that the global mobility industry should address. WERC did sponsor a study related to ESG adoption; in conjunction, there has been work done by firms such as Ernst & Young. However, there has been a lack of sufficient research done that posits any tangible strategies that can be implemented for Mobility programs that show a quantifiable reduction in the amount of carbon emissions within an individual's relocation or assignment.

In the Ernst & Young report titled: "Enough–A Review of Corporate Sustainability, in a World Running out of Time," Carrel et al. (2022) noted that corporate sustainability may seem to be a benign frontier of the global environmental and humanist movement. It is one of the most urgent and consequential. Carrel et al. (2022) made the argument that if sustainable finance, ESG, and other private sector-led sustainability vehicles are to play a vital role in the sustainable reorganization of the global economy, then the concept of corporate sustainability needs to be fundamentally revisited.

This then begs the question of where global mobility and relocation has a role in a corporate sustainability framework, given the industry has contributed significantly to greenhouse gas emissions as part of the downstream impact for corporate relocations and deployment of human capital globally.

The United Nations Global Compact (UN Global Compact, 2023), created by the United Nations (UN) on July 26th, 2000, was designed as a framework and non-binding pact for global organizations to adopt sustainable policies and to report on their implementation.

The UN Global Compact is seen as the largest governing body on sustainability and corporate social responsibility initiatives, with over 13000 corporations and stakeholders spanning over 170 countries. The organization comprises a global entity within and local outlets for each country.

In development from the global compact framework, the United Nations Development Programme (UNDP), sustainable development goals (SDG's) were adopted by the United Nations in 2015 as part of a universal call to action to end poverty, protect the climate, and ensure that by the year 2030, all global citizens can enjoy peace and prosperity. As these goals are integrated into one another, it has been recognized that interdependencies exist and must be balanced as part of a global mindset that prioritizes social, economic, and environmental sustainability.

Many corporations, including this author's case study, have started to develop sustainability roadmaps based on the identification and prioritization of their organization's agreed-upon SDGs. The link for the Global Mobility & Relocation industry can be found in the UN's SDGs by recognizing, for instance, that goals numbered 7, 9, 11, 12, 13, 14, 15, and 17 in Figure 2 below, have a place within the sustainability conversation and strategy planning for an industry that is just starting to fully adopt sustainable practices within the supply chain domain.

Figure 2: United Nations Sustainable Development Goals (UN, 2015)

The theory presented will seek to establish a correlation between sustainable development goals and the necessity of organizations to adopt sustainable practices in the Global Mobility & Relocation industry as part of a continued investment into the macroeconomic environment and the value that firms within this industry posit for their multinational clientele.

In summary of the literature review, many articles and journals exist that articulate that sustainability is of paramount importance within the business community at large; however, there is a need for specific research on the relocation and global mobility industry, and its role in the fight against climate change.

Fiksel (2006) posited that a comprehensive and systematic approach is paramount for effective decision-making regarding sustainability because industrial, social, and ecological systems are intricately linked. Further, despite efforts to reduce unsustainability, global resource consumption continues to grow, exacerbating the finite

issue of sustainable resources and the development of innovative technologies and processes to optimize resource consumption.

Fiksel (2006) further stated that there is a critical need to better understand dynamic systems' adaptive and complex behavior and their resilience in the face of disruptions. By recognizing that steady-state sustainability models are simplistic, integrating them and assessing the broad impacts of policy and technology choices creates a daunting challenge, which is exemplified in life-cycle analyses of the inherent implications of alternative energy and mobility technologies, as an example.

To develop on this point more specifically within the sustainability landscape, Magnér (2020) explained that sustainability indices and ratings have expanded over the past decade due primarily to the growing perception of social responsibility and environmental issues. Additionally, measurement of the non-financial performance of corporations is now seen as essential, as pressure from stakeholders has meant that new business strategies have needed to be developed and implemented.

This, in turn, has been a large influencing factor in the new wave of ESG-based investing and part of the criterion for public organizations to focus and strengthen. It is also a part of the framework for sustainable investment strategy along with corporate disclosures, which largely had been lacking in the past and not necessarily an integral portion of corporate disclosures for securities.

As ESG performance indexes are now seen as a link to the relationship between sustainable investment and financial performance (Khan et al., 2016; Li et al., 2020), the relationship between corporate social irresponsibility and financial risks has shown, for

instance, that negative press on the environmental, social, and governance (ESG) issues likely increases the credit risks of enterprises and can lead to increased exposure and financial risks for enterprises (Kölbel et al., 2017; Li et al., 2020).

Specifically, as it relates to the global mobility and relocation industry, literature exists to reinforce that although the terms "sustainable" and "green" global mobility are now becoming more widely discussed concepts, they have not yet been largely integrated into a sustainable expatriate management framework, nor has the industry adopted a specific, targeted approach to develop criterion for "green moves" (Ommen et al., 2022).

Utilizing a conceptual framework illustration, Ommen et al. (2022) highlight in Figure 3 below, that the environment is an overarching layer of sustainable expatriate management, or as the author is referring to, global mobility and relocation management firm's role in procurement of services that are heavily emitters of greenhouse gasses.

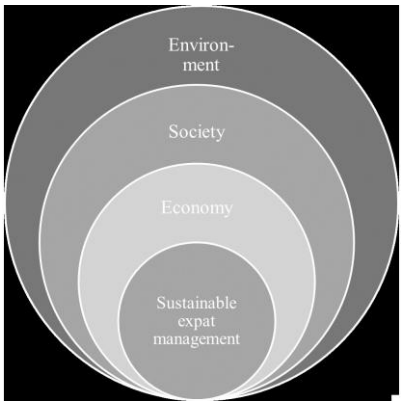


Figure 3: Sustainable Expatriate Management (Ommen et al. 2022)

This finding underscores the need for more research related to the environmental impact of the global mobility and relocation industry in expatriate management and managed relocation services procured through less sustainable means.

It also highlights the gap that exists between the United Nations sustainable development goals (SDGs) and the link between firm performance and fiscal impact as it relates to ESG metrics and investment within the global business community.

2.2 Theoretical Framework

It is important to view the survey data results through the lens of the primary research objective, which is to validate or reject the premise that focusing on the environment within the global mobility industry is a viable endeavor.

As the narrative for environmental adoption continues to be written, the qualitative and quantitative lenses provide a framework for identifying the answer to the research question through a practical discussion and discovery of the current industry climate relative to the external factors of the macroeconomic environment which can influence ESG adoption for all firms including those within the Global Mobility and Relocation industry.

In a consumer-based industry research paper published in Sustainability, Hojnik et al. (2020) posited that protecting the environment has become a tantamount issue during recent decades and that firms need to adhere to certain environmental regulations if they want to operate and remain active players in the market.

Through their research which was based on a conceptual framework of the *Theory of Planned Behavior* – a theory that considers human beings as rational and postulates that attitudes, subjective norms, and perceived behavioral control determine intentions, it was concluded that if consumers have a baseline understanding of renewable energy initiatives, it can drive the connection between consumers' sense of social responsibility

and attitude towards renewable energy. This translates into an enhanced relationship that enhances the consumers' willingness to pay more for such energy.

In this example, if a "green consumerism" mindset is considered for the global mobility and relocation industry, one could infer that the strategic link. For ESG adoption within the industry occurs first through the corporate MNC as the "buyer" of relocation services and secondarily through the relocating/expatriate customer, who may be more apt to opt-into "greener" mobility options through their relocation policy if options are available and presented.

As such, a heightened demand for sustainable options through ESG adoption, primarily focused on the environmental aspect, could become a focal point for MNCs in the corporate global mobility space in the future, as it may tie into a broader strategy for reducing carbon footprint within the organization and downstream through the global mobility program.

This, in turn, would drive further "green consumerism" in the global mobility and relocation industry and have reverberating impact for supply chain partners including relocation management companies and affiliated sub-suppliers in the travel, household goods, destination services, and ancillary services space to necessitate the creation of "green relocation offerings."

Based on research findings presented through the series of surveys completed and illustrated within the author's research, it is clear that education for corporate MNC clients on the value of ESG adoption within their program is key if the industry is going to take a holistic approach in having supply chain partners also adopt ESG programs and

principles, which consist of not only reducing their organizational scopes 1, 2, 3, but also, to create new and innovative "green" offerings that support wider adoption based on MNC client and consumer demand.

2.3 Discussion of Research Sub-Question One

How is environmental sustainability adoption viewed by the Global Mobility industry in its current state?

Based on the data collated through the research, the answer to this question is twofold. Firstly, it is important to distinguish what population comprises the Global Mobility and Relocation industry. As demonstrated in the research, the industry consists of corporate multi-national companies (MNCs), which are typically large enterprise firms employing thousands to hundreds of thousands of employees and who also have a Global Mobility program for human capital deployment around the world.

The MNC is known as the "buyer" of relocation services, traditionally procured through a Relocation Management Company that has its own vertical of supply chain partners to support the corporate client's Global Mobility program. As the MNC is the "buyer" of outsourced relocation management services, the "service" side, also known as the "provider" side, executes the logistics involved in the individual's relocation or expatriate assignment.

When it comes to ascertaining a pulse on the current prioritization of environmental sustainability within the global mobility industry, the data in the research presented posited that corporate MNCs do in fact have targeted ESG goals; however,

environmental adoption continues to be seen as a secondary or tertiary driver to other components of ESG that are primarily focused on “social” and “governance” aspects.

In fact, the data collated through the industry cohort survey and the corporate MNC-only survey, indicated that environmental adoption and environmental impact relative to the total impact score were seen as a lower factor than the social and governance aspects of ESG.

Further, the supplier-only survey showed a wider disparity between supply chain participation in ESG programs in addition to greenhouse gas emissions targets, which were more widely acknowledged to exist if a supplier had an ESG program. The data did suggest that supply chain participants may be tracking greenhouse gas emissions regardless of whether a formal adoption of ESG prioritization was taking place. However, goals were not indicative unless ESG prioritization was championed within the supplier’s organization.

The inference this brings into question is, “Why is the industry not as focused on environmental adoption for sustainability?” Further research into this question would be an appropriate next step for researchers to uncover the underlying hesitancy between MNC and supply chain participants; however, in reference back to “green consumerism,” it could be said that the current appetite from the corporate MNC lens is not as great as it is for the other components of ESG.

Therefore, this lack of demand may be a large primary reason why supply chain partners are not focused on providing more adoption for environmental sustainability, including “greener” global mobility options within the service components of the

relocation benefits administered on the provider side. If this were to change from the corporate MNC perspective, it would certainly cause a downstream shift for suppliers to focus on further environmental adoption.

2.4 Discussion of Research Sub-Question Two

What is the quantifiable greenhouse gas emissions impact of relocation policy provisions in the current state?

To quantify the impact of the global mobility and relocation industry policy provisions, extrapolation of carbon dioxide (CO2) output needs to be conducted for each relocation policy provision that a corporate relocating customer is availing. For the purposes of illustration, a typical U.S. domestic relocation illustration can be useful in showing an average greenhouse gas emission metric based on the major services that are typically offered in a global mobility program policy.

From there, the data can be exponentially equated to show the magnitude of scale for greenhouse gas emissions in the U.S. due to corporate relocation and, more, broadly, for global moves, which typically have a larger footprint due to the geographical origin and destination location of corporate relocations.

Utilizing a U.S. domestic framework, a breakdown of major relocation benefits offered are classified as follows:

1. One-way airfare for the employee and spouse/partner or family.
2. Household goods move.
3. Temporary housing for up to 30 days in the destination location.
4. Destination services support (i.e., area orientation)

To convert these services into a quantitative number for greenhouse gas emissions, one can utilize the United States Environmental Protection Agency's greenhouse gas emissions calculator to determine the carbon footprint for an average move with these four core relocation services on an average 1,000 mile or 1,609 KM move. The EPA calculator assumptions for electricity consumption are as follows:

Emission Factor:

852.3 lbs. CO2/MWh × 1 metric ton/2,204.6 lbs. × 1/(1-0.073) MWh delivered/MWh generated × 1 MWh/1,000 kWh = 4.17 × 10-4 metric tons CO2/kWh

(EPA.gov, 2024 eGRID, U.S. annual CO2 total output emission rate [lb./MWh])

For gallons of gasoline equivalency:

Calculation:

*8,887 grams of CO2/gallon of gasoline = 8.887 × 10-3 metric tons CO2/gallon of gasoline (*EPA.gov, 2024*).*

For the relocation assumptions, they are broken down as follows:

1. Utilizing an assumption of a 1,000 mile or 1,609 KM relocation from point A to point B, the average plane produces 500 lbs. of carbon dioxide per passenger per 1,000 miles of flying (Terrapass, 2024). This is equivalent to .227 metric tons of CO2; or, .525 barrels of oil consumed.
2. Utilizing the same assumption of 1,000 miles or 1,609 KM journey for a household goods moving van line, the typical 26-foot moving truck holds sixty gallons of gasoline with an average of ten miles per gallon (Lee, 2024). Utilizing

one hundred gallons of gasoline from point A to point B yields an .889 metric ton equivalent of CO2, which is 2.1 barrels of oil consumed.

3. For temporary housing, assuming a kilowatt-hour usage of 37 kWh per day, 1,100 kWh per month for 30 days (Freedom Solar Power, 2023), the metric ton equivalent of CO2 is .459 or 1.1 barrels of oil.
4. For destination services support, assuming a 1-day area orientation tour in a gas-powered vehicle, the assumption of covering half the square miles in an average U.S. city of 355 square miles (Rickman, 2015) with an average of 28 miles per gallon (Fuel Economy, 2024), it would require 6.3 gallons of gasoline (.0136 barrels of oil) or .059 metric ton of CO_2 to complete the tour.

In total, this brings the average metric ton of CO2 for core relocation benefits to: 2.159 metric tons of CO_2, which would require an average of 2.3 acres of U.S. forestland to sequester and offset an equivalent amount (EPA.gov, 2024).

If this data is compounded by the average amount of Americans moving each year being 25.6 million (North American Van Lines, 2023), the number, if using a conservative 25% estimation that the move for work was sponsored by the corporate MNC Global Mobility program with the core benefits outlined, that is near 627,000 individual employees each year moving under a corporate relocation program.

This number is calculated by utilizing the average amount of relocations in the U.S. annually, which is 25.6 million (North American Van Lines, 2023), divided by the United States Census data, which is visualized in Figure 4 below for the reasons why Americans relocated citing employment as the reason for 9.8%.

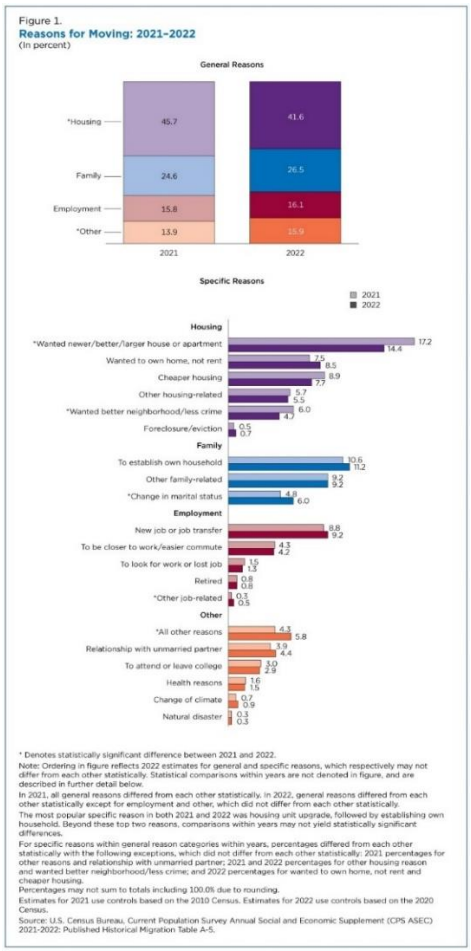


Figure 4: U.S. Census Figure (Kerns-D'Amore, 2023)

Out of that 9.8%, an assumption for a conservative 25% estimation of corporate relocation services being fully utilized with the four benefits listed above provided the conservative estimation of the total number of relocations for this example.

The carbon output of 627,000 relocations annually multiplied by the average of 2.159 CO_2 per individual, yielded a figure of 1,353,693 tons of CO_2 annually. To put this number in perspective, that is the equivalent of 2,843,194 barrels of oil used. It is also the same amount of energy used by 242,363 homes in the U.S. annually.

To offset or sequester this greenhouse gas emission total from the environment, it would take: 20,305,905 mature trees planted (at least 10 years old) or 1,433,784 acres of U.S. forestland, or 323 wind turbines running for a year (EPA.gov, 2024).

2.5 Discussion of Research Sub-Question Three

What alternatives exist or what new models and frameworks could be built to address the growing environmental impact of the industry?

For the broader industry to change the tides of the climate impact of relocation activities, it must first identify what new models and frameworks can be integrated into both the corporate MNC's global mobility program and what other downstream suppliers can incorporate and scale without compromising shareholder return or quality of service(s) available.

As ESG programs continue to evolve, it is important that the global mobility and relocation industry participants take hold of the ESG principles and start to incorporate strategies that support continued scalability in all components, most notably, for the environment. Not only are outside investments starting to factor in ESG metrics for continued investment and growth into companies, but it also makes business sense through the lens of continuous improvement.

Research published in sustainability stated that multiple international associations, bodies, and organizations have proposed a litany of KPIs for ESG reporting. A sampling of these organizations includes the European Commission, the European Federation of Financial Analysts, the Global Reporting Initiative, the Sustainability Accounting Standards Board, along with an array of financial data platform providers, including

Bloomberg and consulting firms such as KPMG, and ERP providers such as (SAP Nielsen, 2023).

This point highlights that late adopters of ESG programs and greenhouse gas reporting have multiple resources to draw from as they start to develop their own roadmaps for environmental adoption and carbon dioxide reduction from their own scopes 1, 2, and 3.

Further, Nielson (2023) posits that organizations can reconcile corporate social responsibility and ESG by pursuing mutually cohesive strategies, including Seeking sustainability as a strategy to stay resilient, adopting emission-efficiency perspectives, creating ethical behavior as a sustainability trait, and sharing in stewardship-based sustainability.

These strategies can be pursued in conjunction with one another by utilizing a framework. Nielson identifies the REGS model for sustainability as a conceptual framework demonstrated in Figure 5:

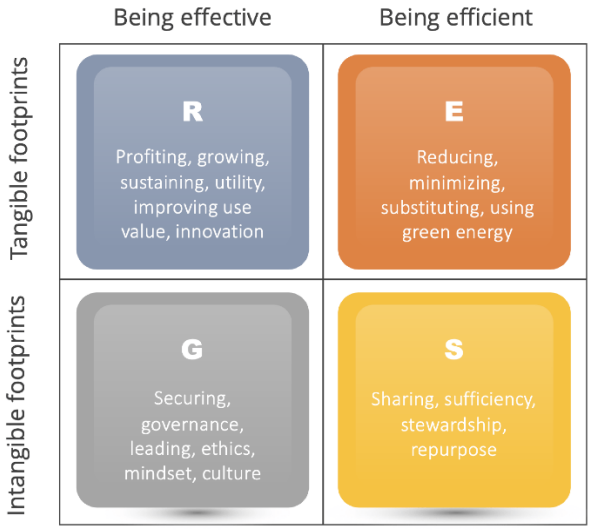


Figure 5: The REGS Model for Sustainability (Nielsen, 2023)

At the height of the COVID-19 pandemic, remote work was hailed as a viable, necessary option for most white-collar companies. According to Selmer et al. (2021), the COVID-19 pandemic also provided the global mobility and relocation industry a new opportunity to reinvent what it supported–which is primarily human capital deployment all over the globe.

The idea of virtual global mobility and virtual expat relocations and assignments has merit in the context of reducing environmental impact and embracing environmental adoption as a scalable global mobility activity.

Selmer et al. (2021) argued that although considerable research has been devoted to virtual Global Mobility (VGM) in the context of global virtual teams, the application that the COVID-19 pandemic provided yielded positive results for organizations through the use of virtual technology to teach and train in a global environment, without the need for the organizational employee to physically relocate.

In other words, if global mobility could adopt an intentional, hybrid approach to physical and virtual global mobility, thereby reducing assignments for non-critical infrastructure needs, it could support a reduction of carbon dioxide emissions from relocation activities in addition, having other non-primary benefits such as more local talent investment and elevated "trust" in local populations to be responsible for specific activities.

Selmer et al. (2021) stated that while this might trigger more VGM work at the onset, it might mean a shift towards fewer global workers (i.e., more locals filling these

roles) either going on extended business travel, rotations, assignments, or permanent relocating to a new destination.

From a supplier the provider's point of view. Another framework that can be adopted is the use of carbon emissions reporting to identify organizational scopes that negatively impact the environment.

For instance, if a household goods provider who oversees the movement of domestic goods or international goods via surface (ocean) containers or through van-line (moving trucks) invested the time and resources into greenhouse gas emission reporting, it could start to identify what major components within their sub-supply chain are in need of refinement to help curb greenhouse gas emissions.

Research conducted by Khaire et al. (2024) regarding household goods terminal performance related to ESG integration discovered that port terminals are essential for seaborne trade and worldwide exchange; more than 80% of all international trade by volume is conducted through the sea.

Given this fact, their research focused on *System Dynamics* methodology for developing a container terminal operation model that considered all variables of import, export, vessel movement, environmental, social, governance, idle time, information, and maintenance to support the development of a causal loop diagram that analyzes the biggest pain points within a terminal’s operating capacity and efficiency.

The idea is that if a port could become more efficient by identifying the causal loop components that cause delays, it would support the environmental prioritization by reducing the routes of vessels (i.e., the most direct routes), berthing time, idling time of

port trucks, and use of machines to load, unload, and transport containers with goods. This causal loop diagram can be seen in Figure 6 below.

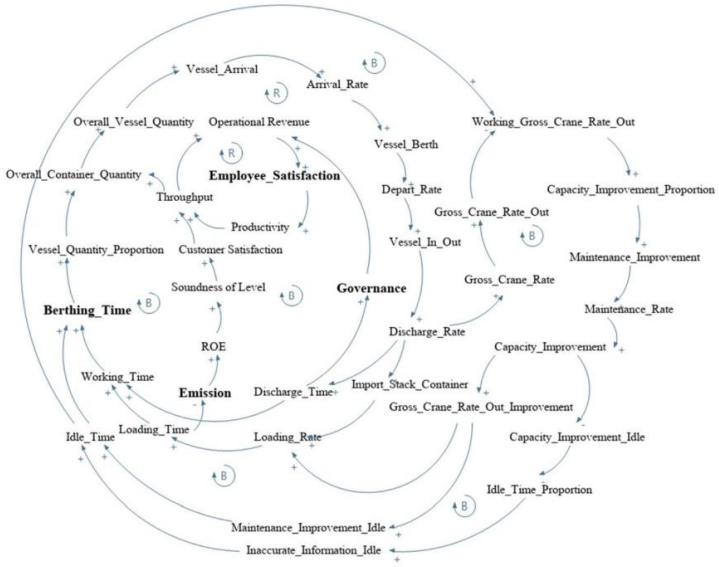


Figure 6: Causal Loop Diagram for Port Terminals: Khaire et al. (2024)

According to the model run in the research, which took place over a 365-day period, the data suggests that this new modeling reduced environmental emissions from 3.32 to 2.95 tons/day. The berthing time was also reduced from 27 to 20 hours per vessel (Khaire et al., 2024).

In summary, if Global Mobility and Relocation moving suppliers who are responsible for the movement of household goods globally worked with their industry counterparts to identify efficiencies through models such as through *System Dynamics*, it could help pave the way for further adoption of environmentally friendly business practices. Simultaneously, they could reap the benefits of optimized processes and reduced overall costs which could increase their shareholder's profits. It would require a larger conversation and cooperation between the conventional relocation division of

household goods movement within the commercial shipping business lines; however, it could serve as a catalyst to create more efficiencies and reduce the overall freight shipping costs.

Remaining in the household goods vertical, another model that can be integrated into the supply chain is the idea of discarding or donating household goods that typically may be moved from origin to destination. The conceptual framework suggests that relocating customers would adopt a green solution as part of "green consumerism" to reduce the amount of goods and weight they need to be transported to their new destination location.

Some pioneering companies within the industry are focusing on this value-added, green solution at a cost that is neutral to the corporate MNC or, in some cases, saving dollars through consolidation of goods sponsored by the global mobility program. Industry participants should prioritize this type of entrepreneurial endeavor and review it for further consideration in their global mobility program.

Corporate MNCs are also starting to see the value of providing an "allowance" for furniture/houseware purchases at the destination versus providing a traditional, full-service move of their relocating employee's goods. These refinements to global mobility policy offerings should continue to be promoted and encouraged through corporate MNCs' global mobility and supporting casts, including relocation management companies and downstream suppliers.

Moving from household goods transportation, another greener model for environmental adoption in the global mobility and relocation industry is through

corporate travel providers and their role in administering the relocation or assignment flights for global mobility program participants and their families.

The data suggested on average, for one-way flights, 500 lbs. of carbon dioxide is emitted per passenger per 1,000 miles or 1,609 kilometers, the role that corporate travel providers purvey is integral to prioritize and optimization of carbon footprint reduction.

There are two solutions to the airfare challenges are presented in the global mobility and relocation industry. The first and most pragmatic approach is for corporate travel providers to not only start their own ESG program if they have not yet, but also to start to develop metrics around greenhouse gas emissions for individual options when agents are providing preferred routes for airfare travel coordination for the relocating or expatriate employee.

From there, corporate MNCs should also review the data of their groups of populations being relocated to ensure it is the most efficient route. Additionally, corporate MNCs can dictate as part of their global mobility policies and/or in combination with the organization's business travel policy, that the most direct route with the fewest number of emissions is the default standard.

For many corporate MNCs, when it comes to corporate business travel, the focal point has been on the lowest cost for the organization within a relatively reasonable timeframe for the corporate employee. However, if corporate MNC's were to take a proactive approach to address possible gaps in the global mobility or corporate business travel policies and started to dictate a prioritization of reducing carbon emissions as much

as possible per flight, it would inevitably result in reducing the carbon emissions from both their business travel and global mobility travelers.

The other solution to the corporate travel dilemma is the work of other green companies investing in the research and development of sustainable business aviation fuels. Although this is a longer-term solution, according to the global business travel industry (GBT), the use of sustainable aviation fuels (SAF) as a primary driver for sustainable air travel should be realized within the next two decades (GBT, 2023). Until then, corporate MNCs and travel partners alike should focus on limiting the number of emissions with each new request by providing consumers with an informed choice of emissions savings and by creating a default in policies that stipulate that the most direct and least carbon-emitting option is the company preferred option.

An often talked about strategy for many large MNCs is the advent of climate credits to help support offsetting greenhouse gas emissions for companies who are just starting their ESG journey. Mathews (2008) research concluded that although the term "carbon credit" has been seen as ubiquitous, at least during its infancy, a perspective based on the creation and use of carbon credits could provide a means of avoiding the shock of abrupt industrial change.

Further, Mathews (2008) pointed out that between the time of a one-year span of 2007 to 2008, the World Bank estimated that the global carbon market had grown to a value of $64 billion–this underscores the point that carbon credits have at least played an important role in investment potential for industries as they start to develop longer-term strategies to mitigate greenhouse gas emissions. De (2006) also called out that buyers of

climate credits, whether private or corporate, need to make sure that the emission cuts that they pay for would not otherwise occur.

If, for example, a measure is already required by law, the addition of project dollars from a climate credit investment, compared with business as usual, is not guaranteed to make any real impact. De (2006) stated that Sascha Lafeld, of the Frankfurt-based company Climate Change Consulting (3C), references that a key distinction for buyers of climate credits is to check that the project being funded via the climate credit purchase requires external funding.

However, as appealing as climate credits may be, it is also important to recognize that climate credit adoption is not seen as a viable, long-term option. Diamond et al. (2023) noted that is possible that some forms of market mechanisms may be appropriate as part of an overall coordinated strategy by linking shorter-term solar climate interventions and longer-term carbon dioxide removal (Lockley et al., 2019). It is imperative that climate credits, such as the most popular solar climate interventions, should function as a complement to mitigation and removal of carbon dioxide versus acting as a substitute for them.

Diamond et al.'s (2023) research suggested that since solar climate interventions do not directly decrease the amount of CO_2 in the atmosphere, they are incapable of substantially improving ocean acidification as demonstrated in their modeling represented in Figure 7 below.

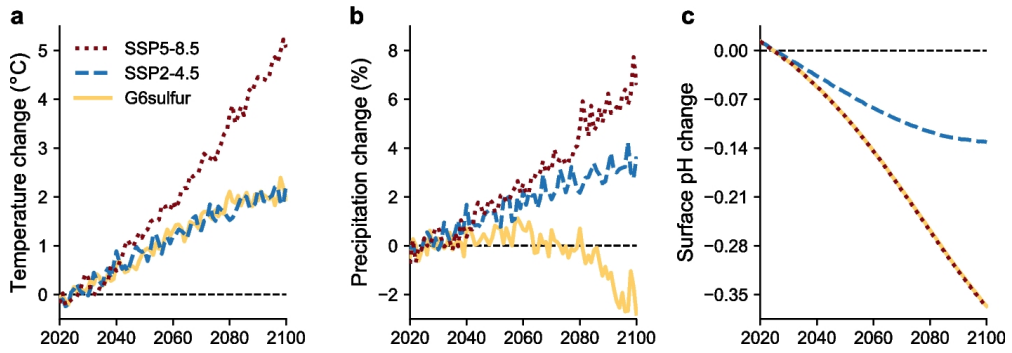


Figure 7: "Cooling credits" are not a viable climate solution (Diamond et al., 2023)

However, it was noted that solar climate intervention would reduce the stressor of warming, potentially increasing resiliency in the face of continued acidification. Research suggests that by breaking the historical link between global temperatures, radiation, and atmospheric CO_2, ecological systems may find themselves in environmental conditions for which there is no recent analogue, with as-yet unknown consequences (Diamond et al. 2023; Zarnetske et al. 2021).

In other words, the most popular "cooling credit" mechanism (Stratospheric Aerosol Injection (SAI) and Marine Cloud Brightening (MCB) is seen as unquantifiable for impact in the medium-term and, due to the differences between the environmental consequences of greenhouse gases and aerosols (Diamond et al., 2023).

The last forward-thinking model that global mobility and relocation industry professionals can start to build is the use of artificial intelligence (AI) for ESG programs. As the quantity of available data keeps growing exponentially in this digital age, it has become increasingly challenging for investors, companies, and state agencies to make informed decisions about addressing ESG issues (Burnaev et al., 2023).

This challenge is well suited for machine learning and AI algorithms which can help transform quantifiable data into qualitative insights for organizations to pursue further strategies. In the case of global mobility, if industry participants are linked to the United Nations Sustainable Development Goals, AI could help position where a specific firm is currently meeting the mark or needs to optimize change.

Referring to the study done by Burnaev et al. (2023), the team focused on querying AI tools to demonstrate the validity of information available for firms to focus on. The results of the rigorous AI study demonstrated to the researchers that AI could generate information on relevant SDG targets. The AI algorithm also showed practical examples of ESG adoption. AI also selected a case study to closely analyze and illustrate technology capabilities. Last, it provided a concise summary of the subsection.

Although their study focused on the physical characteristics of AI modeling and its impact on geographic ecology, the impact that AI can have on environmental adoption for the global mobility and relocation industry could be profound. If one could imagine a series of inputs for greenhouse gas emissions data on an organizational level being analyzed and synthesized by AI tools, there is a limitless number of strategies that could be positively positioned to reduce the carbon emissions through the use of machine learning algorithms.

Further, as AI has started to take shape within marketing channels, it can be used to help raise awareness through industry-targeted campaigns, organizational resource groups, social media, and industry coalitions.

In an article published by author and legal professional Karen Adaare, titled: *Role of Artificial Intelligence in ESG reporting*, she argued that many of the ESG reporting frameworks, namely: corporate sustainability reporting directive (CSRD), the corporate sustainability due diligence directive (CSDDD), and the global reporting initiative (GRI), do offer a structured approach to ESG reporting.

However, as ESG includes a wide range of aspects within an organization (especially related to environmental reports), it leads to a significant amount of data that needs to be recorded and analyzed. Many organizations face a challenge in this respect, as the data often needs to be parsed from various systems. This makes it difficult to access and analyze efficiently without the use of AI tools.

Adaare (2024) argued that organizations could efficiently collect data from diverse sources by using AI algorithms. AI is capable of managing and processing large volumes of complex information and simplifying them. Through natural language processing (NLP), for instance, organizations can filter references and extract pertinent information, thereby enhancing the effectiveness of data analysis.

In summary, the themes of new frameworks and models for Global Mobility can be identified and classified through the following:

Frameworks for the industry:

- Industrywide ESG program adoption
    - GHG emissions reporting platforms for corporate MNCs and suppliers

    - New modeling on service lines such as household goods to increase efficiency and reduce carbon emission activities (i.e., routes, scheduling, berthing, etc.)
- Raising awareness through AI and social media:
    - Greenhouse gas emission modeling and optimization strategy creation through machine learning
    - Promotion of the creation of The Coalition for Greener Mobility
    - Providing green consumerism options
    - Promoting Employee Resource Groups that focus on ESG

Mobility Models:

- Focusing on “green consumerism” in corporate relocation program policies including:
    - Renewable energy within domains such as temporary housing
    - Discard and donation of household goods
    - Flights: requiring the most direct route and looking at CO2 impact per flight to take the greenest option; carbon offsets by MNC (short term); sustainable aviation fuels (long term).
    - Other incentives for green choices – relocation dollars, increased benefits for EV car rentals, a home purchases with solar, furniture allowances, climate-positive programs.

2.6 Discussion of Research Sub-Question Four

How will upcoming U.S. and/or global environmental legislation impact the industry in the next decade?

In order to answer this question, it is imperative to identify which countries in the world have the most progressive stance on environmental adoption and reduction of greenhouse gas emissions through legislative bodies that govern the country's business climate. Research conducted by author Aldar Molnar reviewed, through a comparative analysis, the mandatory ESG reporting requirements between Brazil, the United States and Europe.

Molnar (2022) identified that legislation enacted in 2005 created the Bovespa Corporate Sustainability Index (ISE), which seeks to analyze IBOVESPA companies' performance from the sustainability lens.

Further, in 2014, the BACEN (Central Bank) published Resolution No. 4,327 which regulates the establishment and implementation of the Social and Environmental Responsibility Policy by financial institutions. Although progressive in nature, these policies did not start to impact Brazil's ESG infrastructure until the critical mass of environmental responsibility for large companies started to take shape.

Much like the EU, Brazil adopted a new set of rules for fund classification reports through ANBIMA (Brazilian Financial and Capital Markets Association). Large companies focusing on ESG investments needed an adjustment period for the funds to receive suffixes such as "ESG," "green," "sustainable," etc.

As a result, some companies with a few billion assets and ESG components needed to be refined and formalized within a new methodology to be compliant.

This shift in Brazil started the transition from large MNC disclosure to setting the framework for small and medium-size enterprises to follow suit. This trend of large MNC disclosure is similar to the global mobility and relocation industry, as the data in the surveys suggested that corporate MNCs hold a lot of influence in the ESG adoption within operation models along with continued investment of downstream supplier partners in the Global Mobility and Relocation industry.

In reference back to Molnar's research, on top of individual state legislation that has been approved, such as California's SB-25 in 2018 and Vermont's S-23 in 2019, the U.S. Securities and Exchange Commission has been embarking on an ESG disclosure mandate starting in 2021, when House Democratic Representative Juan Vargas introduced to Congress, bill #1187–otherwise known as the "ESG Disclosure Simplification Act," which dictates disclosure requirements regarding ESG and climate-related risks for public companies.

This framework by the Securities and Exchange Commission continued to evolve from 2021 through 2024. Clarkin et al. (2024) noted in the Harvard Law School on Corporate Governance that as recent as March 6, 2024, the Securities and Exchange Commission ("SEC"), in a 3-to-2 vote, adopted a landmark climate-related disclosure rules (noted as "Final Rules"), which significantly expand the climate-related information that U.S. public companies as well as foreign private issuers (other than Canadian issuers

reporting on Form 40-F) will be required to disclose in their periodic reports and registration statements.

These “Final Rules” delineate between small, medium, and large companies who are either “Large Accelerated Filers,” “Accelerated Filers,” or smaller companies who fall into the “non-accelerated" category. A visualized breakdown by law firm Sullivan & Cromwell shows the deadlines for these types of public MNCs obligations for mandated ESG disclosures in Figure 8 below.

Filer Type	Disclosure and Financial Statement Effects Audit		GHG Emissions / Assurance			Electronic Tagging
	All Requirements (Except As Otherwise Specified)	*Financial Statement Disclosures Pertaining to Material Expenditures*[6]	*Scope 1 and 2 Metrics*	*Limited Assurance*[7]	*Reasonable Assurance*[8]	*Inline XBRL tagging for subpart 1500*[9]
Large Accelerated Filer	Fiscal Year 2025	Fiscal Year 2026	Fiscal Year 2026	Fiscal Year 2029	Fiscal Year 2033	Fiscal Year 2026
Accelerated Filer	Fiscal Year 2026	Fiscal Year 2027	Fiscal Year 2028	Fiscal Year 2031	N/A	Fiscal Year 2026
Smaller Reporting Company, Emerging Growth Company and Non-Accelerated Filer	Fiscal Year 2027	Fiscal Year 2028	N/A	N/A	N/A	Fiscal Year 2027

Figure 8: “Final Rules” Compliance Timeline (Sullivan & Cromwell LLP, 2024)

Sullivan & Cromwell also provide a table breakdown of the “Final Rules” and their implications for large and medium-sized public MNC’s The short synopsis related to the environmental disclosures demonstrates that the Securities and Exchange Commission’s view on Scope 1 and Scope 2 greenhouse gas emissions data is of particular importance as a beginning framework for environmental adoption.

In the global mobility and relocation industry, this means that in current state, most suppliers who could be seen as Scope 3 providers for MNCs, do not yet have a

mandate to start disclosures on greenhouse gas emissions and strategies for mitigation; however, that could soon change in the next 3-5 years if the Securities and Exchange Commission builds on the framework and compliance timeline that has been approved for large MNCs. A breakdown of the environmental portion of the "Final Rules" is housed in Figure 9 below.

Topic	Final Rules	Comparison with Proposed Rules
Scope 1 & 2 Metrics	*Trigger*: Disclose Scope 1 & 2 emissions if such emissions are material; smaller reporting companies and emerging growth companies are exempted	*Trigger*: Proposed Rules would have required that all companies provide Scope 1 & 2 emissions disclosures without regard to materiality and without exemptions
	Constituent gas reporting: GHG emissions must be (i) expressed on a carbon dioxide-equivalent basis and (ii) if any constituent gas is individually material, disclose such gas on an disaggregated basis	*Constituent gas reporting*: Proposed Rules would have required Scope 1 & 2 reporting disaggregated among seven separate gases without regard to materiality
	Initial compliance date: For large accelerated filers, disclosure required from the first year after the initial compliance date; for accelerated filers, disclosure required from the second year after initial compliance date for the general disclosure requirements (see above)	*Initial compliance date*: Proposed Rules would have required disclosure of Scope 1 & 2 metrics on the same initial compliance date as the general reporting requirements
	Attestation: Limited assurance required from the third year after the initial Scope 1 & 2 reporting compliance date (for both large accelerated filers and accelerated filers) Reasonable assurance only required for large accelerated filers, and will be required from the seventh year after the initial Scope 1 & 2 reporting compliance date	*Attestation*: For both large accelerated filers and accelerated filers, limited assurance would have been required one year after initial compliance date Reasonable assurance would have been required three years after initial compliance date
Fiscal Years	Apply to all years included in the company's audited consolidated financial statements, unless historical periods prior to the current fiscal year have not been previously disclosed or were not required to be disclosed	Proposed Rules would have required GHG emissions metrics to be presented for all historical periods included in the company's consolidated financial statements, if reasonably available
Methodology	None prescribed	Consistent with Proposed Rules
Scope 3 Metrics	Not required under the Final Rules	Proposed Rules would have required Scope 3 reporting if (i) such emissions are material or (ii) the company has set a GHG emissions reduction target or goal that includes Scope 3 emissions

Figure 9: Greenhouse Gas Emissions "Final Rules" (Sullivan & Cromwell, 2024)

Turning attention to Europe, the EU has enacted significant legislation on the heels of U.S. counterparts as part of the European Green Deal. According to a report by Resilinc, a technological company focusing on AI for supply chain verticals, the EU's Corporate Sustainability Reporting Directive (CSRD) is seen as a new regulation recently initiated on January 1, 2024.

It expands the scope of mandatory ESG reporting requirements for large public companies in the EU and its goal is to improve transparency and accountability around companies' sustainability impacts to support the EU's climate and environmental objectives under The European Green Deal

This new legislation will replace the existing Non-Financial Reporting Directive (NFRD) and increase the number of companies required to report from 11,700 to 49,000. Large corporations must disclose a CSRD report according to sustainability reporting standards for their 2024 fiscal year. Additionally, all EU Member States must comply with the CSRD by July 6, 2024 (Resilinc, 2024).

Despite some pushback from some states in the U.S. and abroad through "anti-ESG" legislation that has made its way through local governments large countries such as Brazil, the United States, and member states of the European Union have adopted ESG legislation into the framework of their corporate governance. Many more countries are starting to follow suit as well.

According to data from Verdani Partners (2024), ESG legislation is up 155% and is starting to reshape corporate strategy for public and private companies. A visualization into the global impact of ESG legislation can be viewed through Figure 10.

Figure 10: Global ESG Regulation Snapshot (Verdani Partners 2024)

This leads to the next research question as to whether investment now into ESG programs, with a focus on environmental adoption, is worth it for companies in the Global Mobility and Relocation industry.

2.7 Discussion of Research Sub-Question Six

Is it worth the investment now for the industry to tackle this challenge before any government mandates dictate that they do?

As ESG legislation continues to take hold across the globe, the advent of ESG investment by companies could be seen as a daunting, expensive task for some. However, companies that have embarked on an ESG path and embraced the identification, collection, reporting, and mitigation of their greenhouse gas emissions have already started to see favorable financial results from their early adoption.

According to research compiled by Verdani Partners, successful implementation of sustainability processes and policies should be seen as something that sets a company apart from peers and provides it with a key competitive advantage. It not only enhances a firm's attractiveness, but it also aligns with increasing investor and board requirements.

In a study published during the Liberec Economic Forum in 2023 held in the Czech Republic, Svermovaa et al. (2023) discussed the necessity of utilizing sustainability framework tools created by NYU Stern Climate Business School for the Return on Sustainable Investments 5-step-methodology (ROSI™) along with Harvard's Impact Weighted Accounts project to determine internal actions and external actions a firm can and should take for further ESG adoption.

The ROSI framework, depicted in Figure 11, follows five unique steps for internal corporate action when determining ESG investment strategies.

1	Identify Material ESG Issues & Strategies
	Identify material sustainability challenges (referencing frameworks such as SASB and GRI) and how the business addresses associated risks and/or opportunities.
2	Assess Practices
	Determine which practices have been implemented to address sustainability strategies.
3	Define Benefits
	Define the types of economic benefits that could be expected from the changed practices through the ROSI mediating factors.
4	Quantify Benefits
	Estimate the magnitude of those benefits and when they could be realized.
5	Monetize
	Translate the benefits into economic value, stress test, and then forecast ROI.

Figure 11: ROSI Framework for Monetizing Sustainable Activities (Svermovaa et al., 2023)

Utilization of this framework can help organizations through an initial collection of information about all of the steps an organization is taking to mitigate risks and identify opportunities for improvement on sustainability initiatives.

The second step posits an assessment of the measures implemented for sustainability development. The third step assesses the benefits of development efforts through a review of meditative factors before step four, quantifying the costs and benefits of the steps taken for data collection and sustainable processes developed.

From there, Svermovaa et al. (2023) stated that the costs of sustainable practices need to be calculated when aiming for the net benefit, which can be converted into economic value utilizing accounting options such as Earnings Before Interest and Taxes (EBIT) or the net present value contemplation (Atz et al., 2021; Svermovaa et al., 2023).

As the ROSI demonstrates tangible economic value through internal corporate actions for sustainability development, the impacted weighted accounts methodology developed by Harvard helps support external decision makers who then are not able to "ignore impacts on employees, customers, the environment and the broader society" (Serafeim et al., 2019, p. 5) through a three pillar of prioritization approach of: environment, employment, and product as evidenced in Figure 12.

Environment	**Employment**	**Product**
Total GHG Emissions	Location	Affordability
Total Water Withdrawal	Diversity	Uderserved
Total Water Discharged	Wage quality	Health and Safety
Suplhur Oxide Emissions	Opportunity	Basic Need
Nitrogen Oxide Emissions	Career Advancement	Effectiveness
VOC Emissions	Health and Wellbeing	Optionality
Carbon Offsets		Environmental Usage
		Recyclability

Figure 12: IWA Impact Criterion (Svermovaa et al., 2023)

Svermovaa et al.'s. (2023) study demonstrated both tools in action in the review of a cited study done by Whelan et al. (2021) for the automotive industry. The research uncovered that the ROSI and IWA tools could be applied simultaneously in practice and have a complimentary synergy, when looked at with a holistic lens.

Svermovaa et al. (2023) and Whelan et al.'s (2021) research consisted of looking at three areas of sustainability within the automotive industry: recalls, waste management, and volatile organic compounds (VOC) emissions. Out of these three domains, the result of the tangible economic value that could be captured by utilizing these conceptual framework tools resulted in $675 million for recalls, up to $995 million for waste management, and up to $92 million per automotive corporation.

One could argue that based on the modeling assumption done in the research by Whelan et al. (2021), if this similar set of tools were invested in by companies in the global mobility and relocation industry, monetary economic value could be tangibly recognized and supported further value to organizations within the space.

It would not only help streamline internal operations and produce fewer emissions, but it could also serve as a social investment attraction tool for investors looking to incorporate ESG principles within their own portfolio holdings. It makes long-term economic sense for global mobility and relocation industry organizations to focus on environmental adoption as part of a broader ESG strategy to improve their organization's performance and attract more investment capital from like-minded investors.

Gassmann et al. (2021) wrote in their published article: "Are You Ready for the ESG Revolution?" published by accounting firm PriceWaterhouseCoopers (PWC), that

leading ESG companies have begun to reorient their business toward a value creation ecosystem that includes environmental sustainability, employee engagement, external partnerships, along with broader societal impacts to financial outcomes as measures of success.

These companies that have earned high ratings on ESG indexes also have produced measurable returns for investors, including asset managers such as Norges Bank; tech companies such as Adobe, Salesforce, and Microsoft; and consumer-oriented firms such as Procter & Gamble and Best Buy. Gassman et al. (2021) display this framework through their three dimensions of ESG revolution depicted in Figure 13.

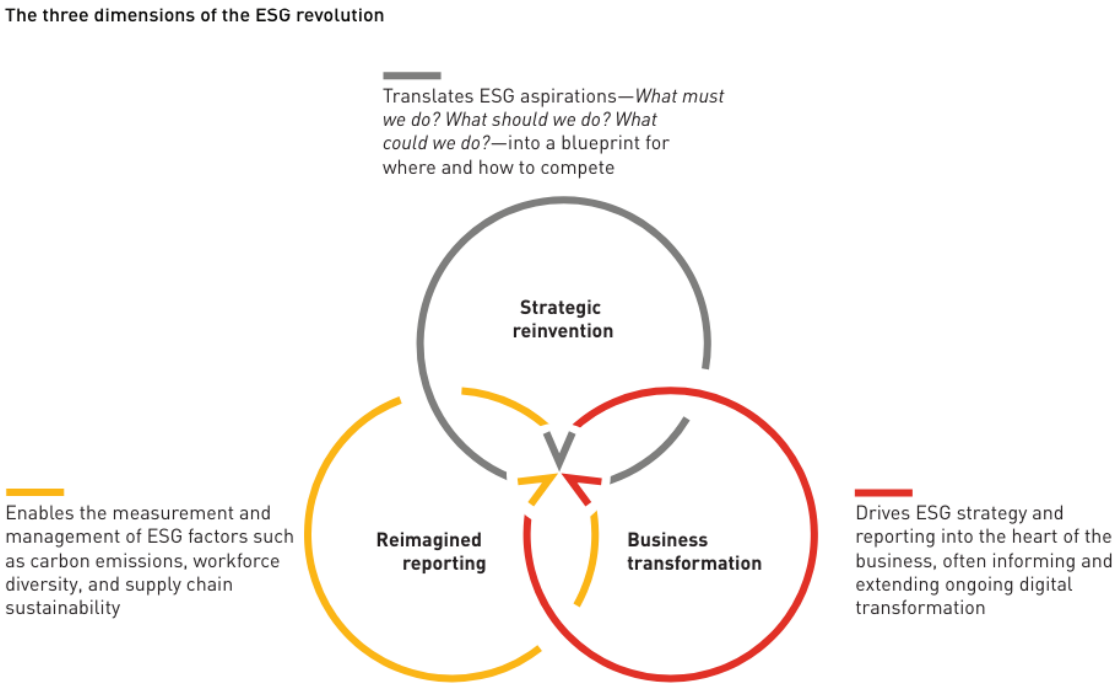


Figure 13: The ESG agenda encompasses reporting, strategy, and business transformation (Gassmann et al., 2021)

According to Gassmann et al. (2021), the implications of the Venn diagram are threefold:

1. Business transformation–Businesses that choose to redefine and transform their strategy to incorporate environmental sustainability adoption through ESG will need to define objectives to manage reporting against nonfinancial metrics (e.g., greenhouse gas emissions). This means that reporting on progress and outcomes requires senior management buy-in if they are going to effect change and drive shareholder value through ESG.
2. Reporting – uniform reporting requirements, platforms, and targets need to be continually prioritized by organizations in conjunction with world governments and NGOs who focus on sustainability leadership. A large barrier for companies is the lack of clarity around which sustainability frameworks and platforms they should adopt. However, it should not stop organizations from pursuing an establishment of their baseline reporting metrics for greenhouse gas emissions and other ESG metrics. In fact, 90% of S&P 500 companies published sustainability reports in 2019 (Gassmann et al., 2021).
3. Strategic Reinvention–Gassmann et al. (2021, p.8) cogently concluded that: "Whether the cause is new disclosure requirements, stakeholder scrutiny, climate risk, or green growth opportunities, at some point, ESG issues will bring leaders to the heart of their strategy". If this holds true, then it is of underscore importance for global mobility and relocation industry

practitioners to recognize the inevitable change that ESG is going to bring about in the way that organizations capture economic value while balancing the doing good mantra for the environment.

Kubiski (2021) conducted a study to assess the causal relationship between ESG and firm value that analyzed whether government mandated ESG disclosures had a positive or negative impact on firm value. The study helped determine if organizations that practice more rigorous adoption of ESG and proactively respond positively to mandated disclosures had a competitive advantage compared to controlled companies that may not have the same values.

The result of the study, which consisted of 515 "treatment group" companies from eight countries in Europe: United Kingdom, France, Germany, Netherlands, Sweden, Spain, Italy, and Belgium against 1,472 "control group" companies across the globe, resulted in a statistically significant output through a Tobin's Q analysis that did validate the premise that governmental demand for ESG disclosure is not value-destroying for the Organizations; in fact, it's just the opposite.

Organizations impacted by the EU Directive 2014/95/ (i.e., mandated disclosures) presented a significant increase in their value, measured by Tobin's Q, compared against firms in both control groups.

Kubiski (2021) also notes that their cost of capital, which the implied cost of capital measured, also presented a significant reduction; and, as ESG disclosures tend to increase an organization's transparency and availability of information on environmental, social, and governance practices, organizations with higher level of ESG performance

may have a stronger impact on their overall value than firms with a lower ESG performance.

The point shows a correlation effect for the opposite, too, in which there may also start to be a negative perception issue for organizations that are not practicing ESG adoption. It could quickly start to have a value-decreasing effect on those organizations as it becomes more public that the organization(s) is showing negative adoption or increased resistance to incorporating ESG principles into their overall strategy.

Segal (2024) underpinned this point in the review of a survey conducted by Deloitte, wherein it was noted that Sustainability considerations are becoming an increasingly larger focal point in the mergers and acquisitions dealmaking process. Segal (2024) referenced that more than 70% of the 500 global M&A leaders surveyed reported abandoning possible acquisitions over ESG concerns - a vast majority also stated they would be willing to pay more for targets with strong ESG attributes.

A visualization of the Deloitte study in Figure 14, indicates that three-quarters (78%) of organizations who have clearly defined measurement metrics say they have a remarkably high confidence in their ability to evaluate a target's ESG profile when evaluating for possible mergers (Lightle, 2024).

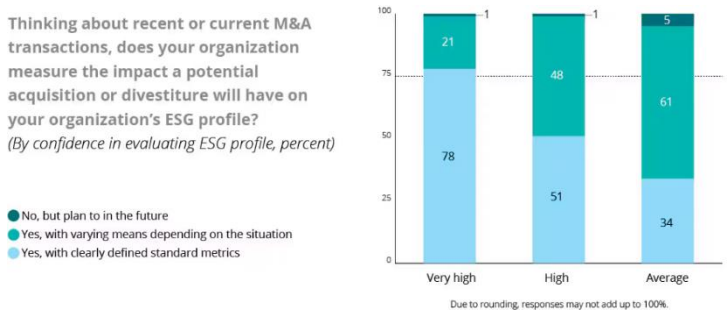


Figure 14: 2024 Deloitte ESG in M&A Trends Survey – Rising influence of ESG (Lightle, 2024)

2.8 Theory of Sustainable Global Mobility & Relocation as a Key Component for Corporate Sustainability

The theory of sustainable global mobility and relocation as a key component for corporate sustainability is driven by the notion that as relocations continue to progress and increase in volume and investment, the widening cap of carbon emissions prevalent within global mobility and relocation programs need to be addressed as part of a fiduciary duty by corporate executives as part of an overall, holistic framework of corporate sustainability.

In reference back to Carrel et al. (2022), corporate sustainability requires not only a complete systemic review of sustainability frameworks within an organization but also a layer deeper to have a genuine embedment of sustainability in the structure and strategy of private and corporate enterprises.

For much of the last five decades, the global mobility and relocation industry, the focus has been on deploying human capital on behalf of corporate clients and less so on

how it is done, or the implications of the services being rendered within a corporate relocation program.

According to a Worldwide Employee Relocation Council survey of over 900 chief human resource officers and senior human resource professionals, Moran (2022) noted was designed to support global mobility and relocation professionals in better understanding and planning for further financial commitment to sustainable business practices, Worldwide Employee Relocation Council (2023) acknowledged work done by financial services firm, Morningstar, which advocated that sustainable funds attracted a record investment of over $69.2 billion dollars in 2021. This represents a 35% increase over the prior record set in 2021.

Furthermore, it was noted that CEOs in every industry sector are looking to their executive teams and their supplier partners to collaborate and find creative solutions to the rising challenge of increased greenhouse gas emissions.

2.9 Summary

As evidenced by the author's research, most ESG literature on global mobility and relocation is focused primarily on the social and governance aspects. Further adoption of rnvironmental prioritization needs to be considered and constructed through continued research into the industry's viability and necessity.

Through a series of surveys completed by the author, quantitative analysis shows that a critical mass of adoption may be burgeoning within the industry. However, empirical research is only one component of a holistic view for organizations when considering the absolute value of environmental adoption.

Qualitative analysis is also a necessary component to review in developing a framework that encompasses both a capitalistic view to enrich an organization's shareholders while simultaneously operating under viable business models that incorporate ESG strategies for the continued viability and growth of an organization and its industry.

In the next section of the author's research, the quantitative analysis methodology is discussed in order to set the groundwork for determining whether statistical models support the supposition of Environmental adoption by corporate and supplier partners within the Global Mobility and Relocation industry.

From this perspective, qualitatve analysis is then implemented to yield a 360-degree purview for organizations as they look for recommendations into the pragmatism of environmental adoption for their company and industry.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

An overview of the research problem can be dissected into three main populations. The first category was classified as a mixed population of industry professionals to determine if ESG is considered an important component of their organization's global mobility strategy.

A second population of the research problem focused on supply chain partners who are not seen as the large, multinational corporations (MNCs) that are the "buyers" of relocation services.

The last population to address are the large MNCs, who may or may not have a current or future prioritzation on Environmental adoption.

Fundamentally, if research into ESG literature has inferred that a primary focus is on the Social and Governance components, the research problem must then addressed in practice, as was the case in the current Relocation and Global Mobility climate.

The primary research method for this study is a case study using the author's current organization to determine the viability of environmental adoption with a relocation management company, its supply chain, and its client partners. The study posited quantitative data collected through 2023 industry surveys, corporate client surveys, and supply chain surveys that focus on current ESG strategy development, prioritization, and lens on necessity to the participant's organization.

It also includes questions to solicit feedback on whether further investment is warranted from the corporation and Mobility team's perspective. From this data, qualitative insights were extrapolated and explored that sought to identify the answers to the research questions posed in the study.

3.2 Operationalization of Theoretical Constructs

If the answer to the premise posited that dnvironmental adoption is yet to be fully accepted and embraced is confirmed, it then begs the question as to what will it take for the industry to start prioritizing environmental adoption, along with how and where to start.

These questions are answered in chapter six of this research dissertation, where the author looks at practical strategies, new technologies, and innovations that can help support MNCs and supplier partners alike in their journey to becoming more sustainable in their global mobility and felocation programs.

3.3 Research Purpose and Questions

The research purpose is primarily set up to assess the current temperature and appetite of the global mobility and relocation industry's adoption and priorization of ESG strategy as a holistic baseline for their business model. Further, the research purpose helps to illuminate and ultimately understand the industry's environmental priorization and adoption if an ESG program has been constructed.

The research questions posed to participants through a series of surveys gauged whether or not: an ESG program was in existence at their organization, whether greenhouse gas emissions were being tracked or reported, whether if the organization had

any goals towards ESG and to what extent, and whether they believed ESG would impact their organization now, in the future, or not at all.

3.4 Research Design

The research design consisted of analyzing survey respondent answers and performing statistical analysis through a series of Chi-Square test and Chi-Square Goodness of Fit tests, along with a regression analysis completed on the client survey to posit whether there was a positive correlation to the categories and variables presented in the data and whether the null hypothesis of each survey was statistically relevant and could be accepted or rejected along with an alternative hypothesis.

Additionally, data analyzed utilizing the Chi-Square Goodness of Fit test was calculated to determine whether observed frequencies differed from expected frequencies. The research design helped to demonstrate the validity of whether companies are focusing on ESG programs as a whole, specifically whether environmental components of ESG were more or less focused on and what their perceived impact is both now and in the future.

3.5 Population and Sample

The population and sample size of each survey varied depending on which population the survey was being sent to, but consisted of secondary data harvested from the author's organization.

In the first survey, the author conducted an anonymous pulse survey during an industry conference with audience members to solicit feedback as to whether the

participant's organization or mobility program has ESG goals in mind now or in the future.

The second question focused on where the participant saw ESG impacting their organization or mobility program the most–asking if there was a larger focus on environmental, social, or governance currently or in the future. The sample size for this survey was 48 respondents.

The second survey, participation was garnered through the organization's supply chain. The survey had 85 respondents. The survey focused on suppliers only, not MNCs, in order to identify whether there was a gap in priorization and adoption from the supplier's point of view.

The last survey conducted focused on the organization's client portfolio of MNCs. The MNC participation was 44 respondents.

Considering the threshold of net respondents was >30 for all surveys, according to the central limit theorem, this represents a sampling distribution that can be used as an approximate standard normal distribution on assumptions about the population.
The results can be applied to determine a probability distribution that is seen as statistically valid (Kwak et al., 2017). Kwak et al. (2017) also stated that in statistics, a population is determined to be a set of all items, people, or events of interest. However, in reality, collecting all such elements of the population requires considerable effort and is often not possible. Therefore, a sample size that is sufficient and is randomly selected can be used to estimate utilizing inferential statistics.

3.6 Participant Selection

Participant selection focused on three distinct populations:

1. A mixed industry cohort of relocation management, supply chain management, and MNC global mobility and/or human resources management professionals. This represented the industry vertical for the survey framework to be analyzed.
2. A supply chain management professional's only perspective, representing multiple various domains of supply chain within the global mobility space including, but not limited to: household goods moving providers, destination services providers, real estate providers, cultural training providers, language providers.
3. An MNC corporate client management professional-only perspective. The author's client portfolio consisted of many professional global mobility managers across various MNC industries including, technology, financial, pharmaceutical, logistics, real estate, manufacturing, retail, and non-profit.

3.7 Instrumentation

All instrumentation was done through anonymous, blind surveys that were completely voluntary and provided no incentives for participants to take part. Participants were not promised any research findings. nor were they compensated for their time in responding.

Furthermore, the first survey was conducted in person at an industry conference with a closed survey type. The second and third surveys were conducted digitally through

online surveying software. Both the second and third surveys had a mix of closed questions and open questions in the form of a free-text field(s).

3.8 Data Collection Procedures

Primary data collection through the form of surveys was conducted for this research through a mix of quantitative and qualitative lenses. For qualitative, descriptive responses such as “yes” or “no,” a binary allocation was added in order to transnumerate into quantiative data for analysis.

3.9 Data Analysis

The primary data analysis conducted consisted of a series of Chi-Square tests, including Goodness of Fit, along with a regression analysis on the third survey. The primary data collected was analyzed for specific, relevant questions within the surveys in order to confirm or reject the various null hypotheses and alternative hypotheses constructed to validate or invalidate the research questions.

Specifically, for the first industry survey, a Chi-Square test was conducted on the first question: “Does your company and/or Mobility program have ESG goals in mind for 2023 or beyond?” In addition, a Chi-Square Goodness of Fit test was conducted on the second question: “As our industry continues to evolve, where do you see ESG impacting your company/mobility program the most? Is there a larger focus on E, S, or G currently or in the future?”

For the second supplier survey, a Chi-Square test was conducted on the first, third, and fifth questions:

Question 1: “Does your organization have an Environmental, Social, and Governance program?”.

Question 3: “Is your organization currently collecting Greenhouse Gas Emissions data?”.

Question 5: “Does your organization have any Greenhouse Gas emissions targets?”

For the last survey, a Chi-Square test was conducted on the following question: “How does your organization’s environmental, social, and governance (ESG) initiatives impact your global mobility program?”

Additionally, a regression analysis was completed for a sliding scale question that asked participants to rate, on a scale of 0 to 100, the extent to which their mobility program included Environmental, Social, and Governance components.

The regression analysis provided a breakdown of the multiple R, R Square, adjusted R square, and standard error. In addition, an ANOVA table output was computed to summarize the decomposition variance and statistical significance of the regression model. Lastly, a normal probability plot was generated alongside the 25-line and residual plots.

3.10 Research Design Limitations

The research design limitations were as follows: for all surveys, there is a risk of response bias wherein participants may have felt that the audience participation or supplier or client participation needed to show favorable results to be socially accepted or accepted by the author’s organization.

Wetzel et al. (2016) noted that this type of socially desirable responding (SDR) bias has mainly been assessed by applying questionnaires designed to measure the propensity to respond in a socially desirable fashion. As ESG could be argued to be a socially desirable strategy to employ, there was an inherent risk that socially desirable responding was a factor. However, as survey data on the industry was completely anonymous, this risk factor was diminished.

In the regression analysis, in particular, multicollinearity was not factored as a variable inflation risk.

Environmental, Social, and Governance variables were used as independent variables, and their aggregate as a dependent variable, so there is a risk of multicollinearity since the independent variables are not sufficiently independent. A variance inflation factor (VIF) was not run to help check for multicollinearity; however, the data suggest a strong correlation of the coefficients, which suggests stability (Kim, 2019).

3.11 Conclusion

Turhan (2020) conveyed that Chi-Square tests are used to find if there is any correlation among non-numeric variables that are frequently used in statistical studies (Kothari, 2007). Further, Turhan (2020) stated that the significance of the Chi-Square distribution of Pearson is that statisticians can use statistical methods that are not dependent on normal distribution in order to interpret findings.

He cites that the significance of the Chi-Square value is determined by using the suitable degree of freedom and degree of significance and consulting a Chi-Square table (Moore, 1994).

To put it succinctly, the two special purposes of the Chi-Square test are to support the hypothesis that there is no correlating amongst two or more groups, populations, or criteria and to test to what extent the observed data distribution fits the expected distribution (Turhan 2020).

This point is underscored in the data collated and calculated in the three surveys completed for analysis, as null hypotheses and alternatives needed to be validated or rejected based on the series of questions posed to individual groups with differing criteria. Chapter five of this dissertation will discuss these findings in further detail.

Additionally, when reviewing the significance of the regression analysis completed on the third survey, it is important to distinguish that this test was chosen because it is one of the most widely used statistical tools providing simple methods for establishing functional relationships among variables (Chatterjee, 2015).

By allowing the overall impact score of “environmental,” “social,” and “governance” to be calculated by these variables as noted by each respondent, insights can then be extrapolated to identify how each factor contributes to the overall perceived impact. This supports the identification of dimensions of the environmental, social, and governance variables that stakeholders perceive as most impactful, which, in turn, can serve as a tool for strategy development. This application will also be discussed in chapter five.

CHAPTER IV:

RESULTS

4.1 Research Survey No. 1 (Industry Cohort Population)- Question One

"Does your company and/or Mobility program have ESG goals in mind for 2023 or beyond?"

This question provided the following null hypothesis and alternative hypothesis for the Chi-Square Goodness of Fit test:

Null Hypothesis: Most companies in the relocation industry do not have ESG goals now or in the future.

Alternative: Most companies in the relocation industry do have ESG goals now or in the future.

Table 1: Chi-Square Goodness of Fit Calculation for Research Survey No. 1 – Question 1

Category	Observed Frequency	Expected Frequency		Difference	Difference Sq.	Diff. Sq. / Exp Fr.
Have ESG Goals	42	23		17.00	289.00	12.57
Do Not have ESG Goals	8	25		-17.00	289.00	11.56
The Chi^2 value is 24.125.	The p-value is < .00001.	The result is significant at p < .05.				24.125

The expected frequency for Table 1 was calculated for a majority (i.e. greater than 50% or less than 50%), resulting in the calculation of for the expected frequency of those not having goals to be: 48/2 = 24 + 1 expected (to reach a majority) = 25 or 52% versus those having goals to be: 48/2 = 24 or 50% - 1 expected = 23 or 47.91%.

The Difference and Difference Squared columns represent the observed differences between expected and actual values (Minitab, 2024), with 17 squared equaling 289. Squaring the differences is seen as a normal practice to ensure the test handles both negative and positive differences evenly. The Diff. Sq. / Exp Fr. (Difference Squared / Expected Frequency) column divides the squared difference by an expected frequency or values (12.57, 11.56). These values are then added to the sum of values to total of 24.125.

When the value of 24.125 is then compared against the degrees of freedom (which in this calculation was 2 categories (variables) minus 1 = 1), using a Chi-Square distribution table noted in Figure 15, with a .05 significance level, the critical value was observed to be 3.84 for 1 degree of freedom, indicating that the value of 24.125 is highly significant as it falls well outside this value.

	Probability level (alpha)					
df	**0.5**	**0.10**	**0.05**	**0.02**	**0.01**	**0.001**
1	0.455	2.706	3.841	5.412	6.635	10.827
2	1.386	4.605	5.991	7.824	9.210	13.815
3	2.366	6.251	7.815	9.837	11.345	16.268
4	3.357	7.779	9.488	11.668	13.277	18.465
5	4.351	9.236	11.070	13.388	15.086	20.517

Figure 15: Probability level (alpha) for Chi-Square distribution table (Rana et al. 2015)

4.2 Research Survey No. 1 (Industry Cohort Population) - Question Two

"As our industry continues to evolve, where do you see ESG impacting your company/mobility program the most – is there a larger focus on E, S, or G currently or in the future?"

This question provided the following null hypothesis and alternative hypothesis for the Chi-Square Goodness of Fit test:

Null Hypothesis: The observed proportions of focus on E, S, G, Multiple, and None match the expected proportions.

Alternative: The observed proportions of focus on E, S, G, Multiple, and None do not match the expected proportions.

Table 2: Chi-Square Goodness of Fit Calculation for Research Survey No. 1 – Question 2

Category	Observed Frequency	Expected Frequency	Difference	Difference Sq.	Diff. Sq. / Exp Fr.
"E" Focus	25	12.5	12.50	156.25	12.50
"S" Focus	11	15	-4.00	16.00	1.07
"G" Focus	2	5	-3.00	9.00	1.80
Multiple Focus	7	15	-8.00	64.00	4.27
No Focus	5	2.5	2.50	6.25	2.50
The Chi^2 value is 22.133.	The p-value is .00019	The result is significant at $p < .05$			22.133

The expected frequency for Table 2 was quantified and calculated based on the following expected frequency as a percentage:

E: 25%

S: 30%

G: 10%

Multiple: 30%

None: 5%

Quantified:

E: 12.5 (.25 *.50)

S: 15 (.30 *.50)

G: 5 (.1 *.50)

Multiple: 15 (.3 *.50)

None: 2.5 (.05 * 50)

The expectation of "E" at 25% was to positively or negatively correlate whether less companies are focusing primarily just on the "E" portion (i.e. <50%), as literature presented earlier had suggested that there is an emphasis on either "S" or multiple components of ESG.

Similarly, the "S" was calculated as a higher percentage expectation along with the "multiple" category to correlate whether current literature on ESG adoption within Global Mobility, which infers that many companies may not yet be focusing primarily on "E" only and may still be focusing more on "S" or multiple components, would be positively validated in the data using the same expectation of greater or less than 50%.

The variables of “G” and “none” were selected with lower expressed percentage expectations to fulfill the 100% value to run the calculation.

Utilizing similar logic to Table 1 to look at the degrees of freedom, relative to the difference squared value of 22.13, it was determined that the degrees of freedom were 4 (5 categories/variables –1 = 4), and the critical value was determined to be 9.488 at a significance level of .05. This indicates that the there is a significant difference between the observed and expected frequencies, therefore, we could reject the null hypothesis.

4.3 Summary of Findings

In a review of both Chi-Square Goodness of Fit calculations, it was evident that the p value was <.05. For the first null hypothesis, the observations for whether companies did not have ESG goals was proven to be statistically significant at .0001.

The data also shows a low p value of .00019 for the second null hypothesis, which is statistically significant enough to reject the null hypothesis.

4.4 Conclusion for Survey 1:

For both questions in which the null hypothesis and alternatives were made available, it is clear from the Chi-Square Goodness of Fit calculations that the null hypotheses should be rejected and the alternatives should be accepted or considered.

Question one asked participants if they had ESG goals now, in the future, or none, It was broken down into a binary set of variables for analysis. Following the logic of the Chi-Square Goodness of Fit, the alternative hypothesis indicates that a majority Global Mobility and Relocation industry participants do have some form of ESG goals.

Question two asked participants to rank the variable impact of E, S, or G for their Relocation or Mobility program. The null hypothesis expressed a low sentiment value of only 25% for E in particular; however, the calculation showed strong data to support the E variable; thereby invalidating the null hypothesis that industry participants are not focusing on the environmental aspect of ESG and instead are focusing on it or a combination of E plus another variable such as S or G.

4.5 Research Survey No. 2 (Supplier Only Survey) - Question One

"Does your organization have an Environmental, Social, and Governance program?"

This question provided the following null hypothesis and alternative hypothesis for the Chi-Square Goodness of Fit test:

Null Hypothesis: Most supply-chain companies in the relocation industry are not focusing on ESG.

Alternative: Most supply-chain companies in the relocation industry are focusing on ESG.

Table 3: Chi-Square Goodness of Fit Calculation for Research Survey No. 2 – Question 1

Category	Observed Frequency	Expected Frequency	Difference	Difference Sq.	Diff. Sq. / Exp Fr.
ESG focus: Yes	50	41.65	8.35	69.72	1.67
ESG focus: No	35	43.35	-8.35	69.72	1.61
The Chi^2 value is 3.282	The p-value is .07003	The result is not significant at $p < .05$			3.282

The expected frequency for the Table 3 calculation was calculated by taking the total observations (85) and multiplying it by the expected frequency percentage – in this case, 49% (85*0.49) expected for suppliers who are focusing on ESG and 51% for those who are not (85*0.51). This expected frequency percentage seeks to validate or reject the null hypothesis by identifying whether or not a majority of suppliers are or are not focusing on ESG program adoption within their company.

The degrees of freedom, calculated as (2 categories/variables – 1 = 1) resulted in a critical value of 3.84 based on .05 significance level. When compared to the Chi-Square value of 3.282, it indicated a close association of the values along with the P value, in

which observed frequencies do not differ significantly from the expected frequencies; thereby, not rejecting the null hypothesis.

4.6 Research Survey No. 2 (Supplier Only Survey) - Question Three

"Is your organization currently collecting Greenhouse Gas Emissions data?"

This question provided the following null hypothesis and alternative hypothesis for the Chi-Square Goodness of Fit test:

Null Hypothesis: There is no association between having an ESG program and focusing on the "Environmental" aspect of the relocation industry.

Alternative: There is an association between having an ESG program and focusing on the "Environmental" aspect of the relocation industry.

Table 4: Chi-Square Goodness of Fit Calculation for Research Survey No. 2 – Question 3

Category	Observed Frequency	Expected Frequency	Difference	Difference Sq.	Diff. Sq. / Exp Fr.
Collecting GHG Emissions: Yes	21	26	-5.00	25.00	0.96
Collecting GHG Emissions: No	29	24	5.00	25.00	1.04
The Chi^2 value is 2.003	The p-value is .15697	The result is not significant at $p < .05$			2.003

Similar to Table 3's calculation, the expected frequency calculated for Table 4 sought to understand whether there is an association between suppliers who are focusing on ESG and whether they are collecting GHG emissions. By confirming whether a majority of suppliers (51%) are focusing on GHG emissions or not, a second layer of analysis could be completed to show whether these two variables are independent and show no association; or, whether there is a stronger correlation between suppliers who are focusing on ESG and focusing on GHG collection as an integral part of it. The expected frequency for those collecting GHG emissions was 50/2 = 25 + 1 = 26 or 51% to show a majority; conversely, for those who are not collecting 50/2 = 25 – 1 = 24 or 48%.

Utilizing the same calculation for the difference squared to compare against the degrees of freedom, the critical value for this Chi-Square test with 1 degree of freedom at a 0.05 significance level was also 3.84. Since the Chi-Squared value was 2.003, it was less than this critical value, so the result is not significant at the 0.05 level. Further, the p-value of 0.15697 supported the fact that the result is not significant at the 0.05 level. As such, the conclusion was to not reject the null hypothesis at the 0.05 level since the observed frequencies did not significantly differ from the expected frequencies.

4.7 Research Survey No. 2 (Supplier Only Survey) - Question Five

"Does your organization have any greenhouse gas emissions targets?"

This question provided the following null hypothesis and alternative hypothesis for the Chi-Square Goodness of Fit test:

Null Hypothesis: There is no association between having an ESG program and focusing on the GHG emission targets in the relocation industry.

Alternative: There is an association between having an ESG program and focusing on the GHG emission targets in the relocation industry.

Table 5: Chi-Square Goodness of Fit Calculation for Research Survey No. 2 – Question 5

Category	Observed Frequency	Expected Frequency	Difference	Difference Sq.	Diff. Sq. / Exp Fr.
Greenhouse Emissions Targets: Yes	17	26	-9.00	81.00	3.12
Greenhouse Emissions Targets: No	33	24	9.00	81.00	3.38
The Chi^2 value is 6.49.	The p-value is .01085	The result is significant at $p < .05$			6.49

The expected frequency calculated for Table 5 follows the same logic in Table 4. In this calculation, it was sought to determine whether there was an association of the two variables to determine if a majority (51%) of suppliers had ESG goals or did not (48%), independent of their association between having ESG goals or collecting GHG emissions data. The calculation followed the same calculation as Table 4: 50/2 = 25 + 1 = 26 or 51% to show a majority; conversely, for those who are not collecting 50/2 = 25 – 1 = 24 or 48%.

Utilizing the same calculation framework presented earlier for the Chi-Squared tests, the Chi-Squared value of 6.49, compared against the degrees of freedom obtained (2-1=1), the critical value was observed to be 3.84. Since the value of 6.49 is greater than 3.84, the null hypothesis was rejected at the significance level of .05, as the observed frequencies differed from the expected frequencies.

4.8 Summary of Findings

In review of question one, "Does your organization have an Environmental, Social, and Governance program?" The Chi-Square Goodness of Fit calculation demonstrated a p-value is .07003. As such, the conclusion of the p-value being greater than 0.05 indicates that the observed frequencies are not significantly different from the expected frequencies, and therefore, the null hypothesis is not rejected.

Secondly, for the third question analyzed: "Is your organization currently collecting Greenhouse Gas Emissions data?" The Chi-Square Goodness of Fit calculation demonstrated a p-value of .15697. This is statistically insignificant as it is over the threshold of $p < .05$. Therefore, the null hypothesis is accepted.

Last, for the fifth question analyzed "Does your organization have any Greenhouse Gas emissions targets?" The p-value was .01085, which positively correlates with the null hypothesis rejected and the alternative hypothesis, that there is indeed an association between having an ESG program and focusing on the GHG emission targets in the global mobility and relocation industry.

4.9 Conclusion for Survey 2

The conclusion that can be drawn from the supplier-only survey is threefold. First, it is clear from the analysis completed on question one that most supplier companies in the global mobility and relocation industry are not formally focused on ESG as they do not have an ESG program in place.

In a review of the third question posed in the supplier-only survey, the Chi-Square Goodness of Fit calculation made it clear that regardless of whether a supplier has a formal ESG program, collecting and collating greenhouse gas emissions data is an independent variable for most supplier companies in the industry. This can be taken as a positive sign and trending in the right direction for the maturation of corporate social responsibility in the ESG space for the industry.

Last, the fifth question analyzed: "Does your organization have any Greenhouse Gas emissions targets?" had a significant p-value of .01085. This can be intrepreted then to state that the null hypothesis of having no association between having an ESG program and focusing on the GHG emission targets in the relocation industry is false.

To put it succinctly, the likelihood of focusing on GHG emission targets is indeed wholly dependent on whether a supplier has established a formal ESG program.

4.10 Research Survey No. 3 (Client MNC Survey) - Question One

In a review of the client MNC survey questionnaire, which asked participants the question: ***"How does your organization's environmental, social, and governance (ESG) initiatives impact your global mobility program?" and "To what extent do each of the following components impact your mobility program?"*** which was set for a sliding scale of equal proportions of 0-100 for each categorical variable: "Environmental," "Social,"

and “Governance,, the survey received 44 individual responses from corporate client MNC contacts and 21 responses on the sliding scale across each variable.

The survey data was collated, and a Chi-Square Goodness of Fit test was conducted to validate or invalidate the null hypothesis, which was stated as follows:

Null hypothesis: A majority of clients see no impact of ESG on their program.

Alternative: A majority of clients do see the impact of ESG on their program.

Table 6: Chi-Square Goodness of Fit Calculation for Research Survey No. 3 (Client MNC only)

Category	Observed Frequency	Expected Frequency	Difference	Difference Sq.	Diff. Sq. / Exp Fr.
ESG Makes No Impact or No ESG Program	22	23	-1.00	1.00	0.04
ESG Makes Minimal or Some Impact	19	10.5	8.50	72.25	6.88
ESG Makes Significant Impact	3	10.5	-7.50	56.25	5.36
The Chi^2 value is 12.282	The p-value is .00215	The result is significant at $p < .05$			12.282

In light of the calculations performed on earlier Chi-Squared tests conducted, the same calculation logic was applied to Table 6, which had an output of 5.991 for the critical value, based on 2 degrees of freedom obtained (3 category variables – 1 = 2 at .05 significance level. This resulted in the rejection of the null hypothesis based on the value of 12.282 being significantly different. The p-value also indicated significance at less than 0.05 (.00215).

Furthermore, for the second question, a regression analysis was performed by adding up the values of the independent variables for "Environmental," "Social," and "Governance" to determine and provide insights into each variable's contribution to the overall perceived impact of ESG program components. The analysis supported the identification of the variables that could be seen as the most impactful for corporate client MNCs.

The tabulated results for 21 observations recorded for each component of the ESG variable resulted in an average score of the following: 47.38% average impact weighting for the impact that the "E" variable has on client programs, 49.95% average impact weighting for the "S" variable, and 52.09% average impact weighting for the "G" variable. This data infers that out of all ESG components that a corporate MNC perceives will impact their Mobility program the most, the environmental component scored the lowest at 47.38%, followed by the social component at 49.95% and the governance component at 52.09%.

This data also reinforces the premise that although ESG may be a component of MNC strategies, inclusive perhaps of some Global Mobility and Relocation programs,

too, it is still not seen as a primary driver of importance. One can also correlate that this could be a contributing factor to the lack of environmental sustainability adoption within the industry from downstream supply chain partners, as corporate global mobility teams have yet to fully realize or embrace the impact of environmental sustainability within their program. They have also not pressured their supply chain partners to report their greenhouse gas emissions or develop a holistic ESG strategy as part of their overall corporate social responsibility program.

Along with the regression analysis completed, an ANOVA table output was also calculated to summarize the variance of decomposition along with the statistical significance of the regression model itself.

Last, a normal probability plot was created to determine whether the data fell into a normal distribution, posited against 25-line and 50-line plots also created to verify if the data points closely followed the normal distribution. This helped to determine the veracity and statistical validity of the assumptions made in the statistical model.

If there were to be significant deviations from normality observed in the data set, it could infer errors of the normality assumption. This would mean that accuracy and reliability of the regression analysis results could be called into question (Field & Miles, 2010; Ghasemi, 2012; Öztuna, 2006).

Table 7: Regression Analysis for Research Survey No. 3 (Client MNC only)

Regression Statistics	
Multiple R	0.999477487
R Square	0.998955246
Adjusted R Square	0.998770878
Standard Error	2.811982831
Observations	21

The Regression Analysis in Table 7 shows strong levels of fit in both the Multiple and R square values. A value close to 1 indicates a positive linear relationship between the variables. The Adjusted R Square value also shows a strong output close to a 1 value, which suggests a fit (Nau, 2020). The standard error measures the average distance of the observed values relative to the regression line. Although the number of observations was small in this data set, the high R values indicate a strong fit. However, given the limited number of observations, it is important to state that this data set cannot be validated fully and further observations would be necessary to fully confirm and generalize the findings.

Table 8: Regression Analysis ANOVA Table for Research Survey No.3 (Client MNC only)

ANOVA					
	Df	SS	MS	F	Significance F
Regression	3	128530.5292	42843.50972	5418.258382	0
Residual	17	134.4232065	7.90724744		
Total	20	128664.9524			

The Regression Analysis ANOVA table in Table 8 was used to determine the overall significance of the regression model. When observing the Degrees of Freedom, the regression number of Df output was 3, which are the independent variables in the model. Each variable or predictor is counted as one degree of freedom. The Residual Df is “17”, which was calculated by taking the total number of observations (21) minus the Df value (3) of variables, minus 1 = 21-3-1 = 17.

The Sum of Squares (SS) measures variations within the Regression Analysis. In this calculation, the Regression SS is much larger than the Residual SS, which means that the model is a good fit to validate the variation seen (Minitab, 2016).

Additionally, the F-statistic of 5418.26 and the Significance F of 0 are statistically significant, given a higher F-statistic is a ratio that shows how well a Regression model explains variability in the independent variable compared to the residuals. This suggests that variation of the dependent variable is less likely to be explained by pure chance of the data (Frost, 2024).

Table 9: Regression Analysis Plot Table (Coefficients) for Research Survey No.3 (Client MNC only

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-0.46685913	1.295991512	-0.360233168	0.723109466	-3.20116218	2.267443929	-3.20116183	2.267443929
50	0.996971713	0.043866222	22.72754902	0	0.904422075	1.089522135	0.904422075	1.089522135
25	1.012211179	0.052866053	19.14672529	0	0.900674169	1.123749411	0.900674169	1.123749411
25	0.996403474	0.028643058	34.78690952	0	0.935971904	1.056835043	0.935971904	1.056835043

The Coefficients Table 9 is used to summarize the results for each predictor variable in a regression model. It includes: the estimated coefficients, the standard errors, the t-statistics, the p-values, and confidence intervals (Minitab, 2024)

When reviewing the data, the most pertinent observations are the values of P at 0.72, which suggests that the intercept is not statistically significant. Additionally, the value of the standard error of 1.29 indicates reliability within the model, as a larger number usually indicates less precise estimations. Further, the coefficient is negative at -.46 However, it is seen as the baseline, and given the Lower and Upper 95% values have

a wider range of figures with zero inclusion, it indicates the intercept is not significantly different than zero.

The t Stat value of -0.36 is calcuated by taking the coefficient and dividing by the standard deviation. It can be compared against zero to see if it is significantly different. In this case, it is not which shows validity that the intercept is not statistically significant.

Last, the 25-line and 50-line plot predictor figures shown in Figure 16, confirm a positive correlation on the dependent variable, as they have higher t-values and low P-values, indicating that they contribute to explaining the dependent variable with a high confidence level.

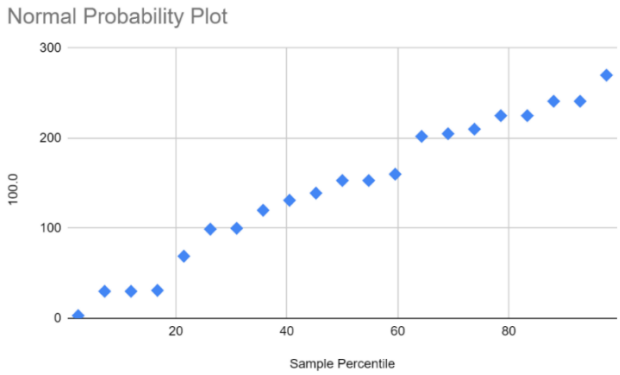


Figure 16: Regression Analysis Normal Probability Plot for Research Survey No.3 (Client MNC only)

The Normal Probability Plot calculated for the Regression Analysis in Figure 17 shows normality in the data as the data follows a typical 45-degree diagonal line, indicating a normal distribution. A Normal Probability Plot can serve as a useful tool to ensure from both a visual standpoint and a goodness of fit perspective, that the data is normally distributed as expected (PennState, 2024)

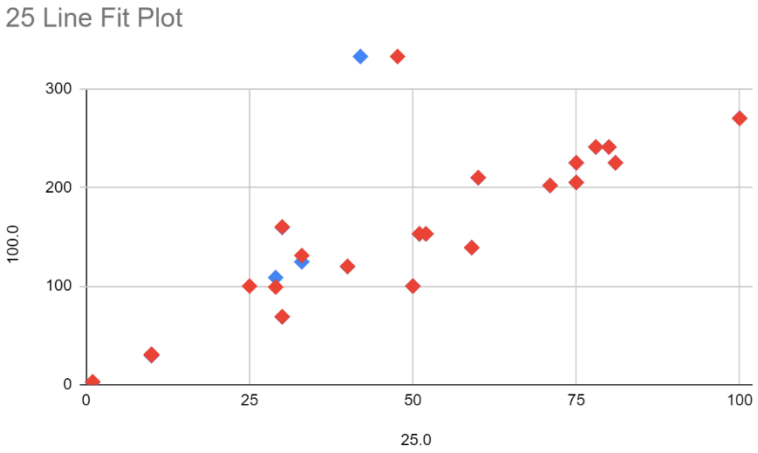


Figure 17: Regression Analysis 25 Line Plot for Research Survey No.3 (Client MNC only)

Similarly, for the 25-line plot, the data in 50-Line Plot noted in Figure 18 follows the 45-degree line with limited skewness, as indicated in the Regression Model output. If the data in the 25th percentile or first quartile deviated significantly, an analysis of the tails to identify whether the data was heavier or lighter than the normal distribution could help the tool understand where the model deviated.

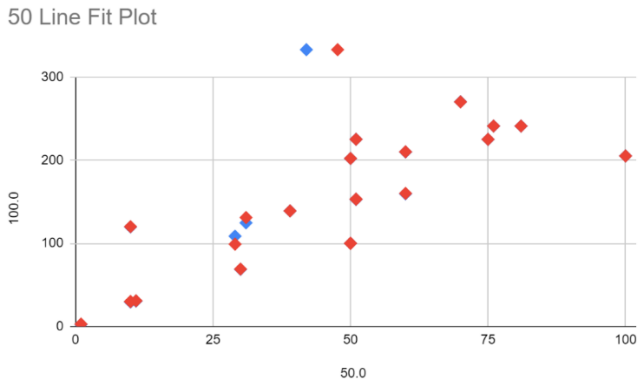


Figure 18: Regression Analysis 50 Line Plot for Research Survey No.3 (Client MNC only)

Figure 18 for 50-Line Plot for Research Survey also shows a general distribution pattern similar to the expected 45-degree line. The 50-Line Plot is also known as the median, and if the data points deviated significantly, it would indicate skewness. In this figure, the data is skewed slightly above and below; however, it does not indicate that the normal distribution was significantly different or needs more detailed analysis.

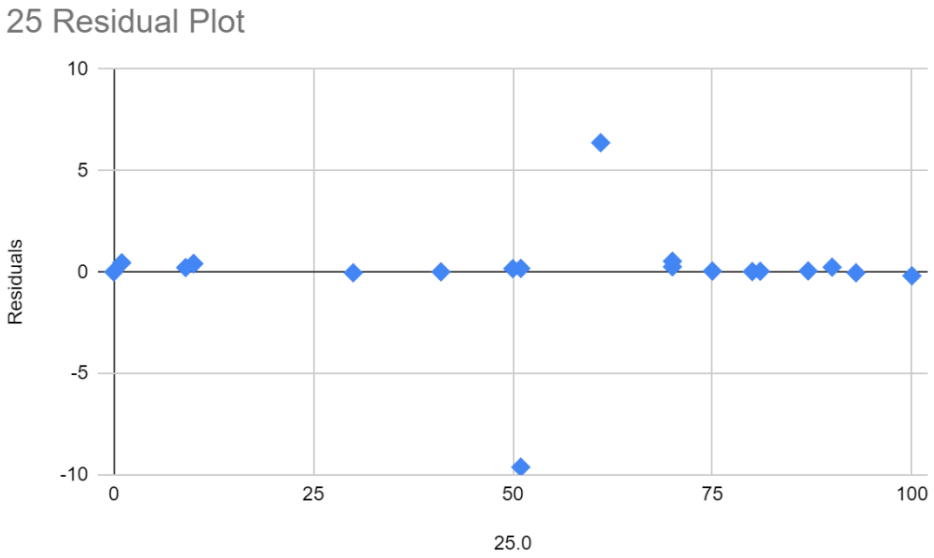


Figure 19: Regression Analysis 25 Residual Plot for Research Survey No.3 (Client MNC only)

Figure 19 of 25 Residual Plot showed a normal distribution that did not significantly deviate from the linearity expected with the normal distribution. There were a couple of outlier points noted; however, they fell within the standard deviation expected for the confidence level.

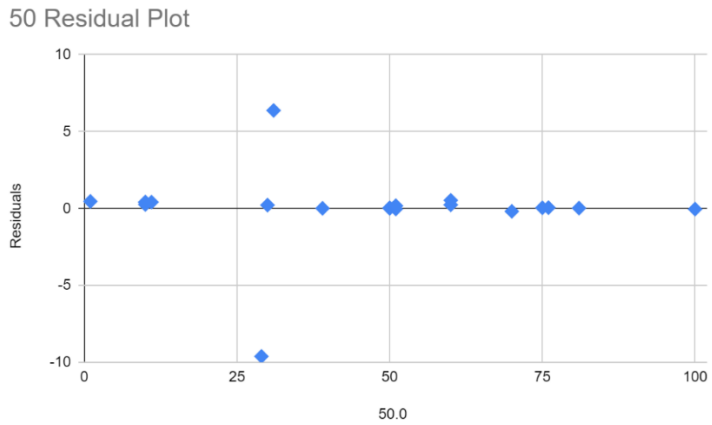


Figure 20: Regression Analysis 50 Line Plot for Research Survey No.3 (Client MNC only)

Similarly to Figure 19, the 50-Line Residual Plot for Figure 20 also fell into the normal distribution with slight skewness of a couple of data points, which again were also accounted for with the standard deviation within the Regression Analysis.

4.11 Summary of Findings

After reviewing the Chi-Square Goodness of Fit calculation, the data showed a p-value of .00215, which is statistically significant. Therefore, the conclusion is to reject the null hypothesis that a majority of clients see no impact of ESG on their program and accept the alternative hypothesis that, in fact, they do.

For the regression analysis and ANOVA table along the normal and 25, 50-line, and residual plots, the data output suggests a statistically signifcant amount of validation.

The high values for multiple R and R-squared validate that the regression model fits the data very well. The variables of “E”, “S”, and “G” are the predictors and when amalgamized, do justify the variance in the total impact score.

The estimate's standard error is also lower, which indicates that the model's predictionality is relatively close to the actual values. This value helps to determine the relationship between the variables “E,” “S,” and “G” alongside the total impact score with reliability.

Additionally, the regression model shows significance with the F-statistic and a p-value of 0. The coefficients table also provides an estimate of the relationship between the “E,” “S,” and “G” variables with the “Total Impact Score” as the dependent variable. This can be translated to mean that as the p values are zero, the coefficients are validated as equal parts of influence for the total impact score.

When reviewing the probability plots and 25, 50-line, and residiual plots, the charts do show a strong correlation at the 25^{th} and 50^{th} quantiles, which supports the premise that the data is normally distributed and does not have a higher or lower skewness. This serves as a validation tool for the assumptions within the model and demonstrate clearly that the data is significant.

4.12 Conclusion for Survey 3

The last survey conducted in the research, focus was primarily on the corporate MNC client view as to whether ESG is going to have significant impact on their Global Mobility program.

Further, the regression analysis supported 21 observations on the impact of “E,” “S,” and “G” variables and whether they had a direct influence on the overall “impact score” for clients.

The data suggests that corporate MNCs clients feel that ESG will significantly impact their global mobility program. This point was evidenced in the Chi-Square calculation, which showed a significant p-value, thereby, invalidating the null hypothesis, which stated the contrary view that ESG would not impact global mobility programs.

The regression analysis also showed a strong correlation between the variables of "E," "S," and "G" and their independent distribution, which influences the total "Impact Score" in the corporate MNC client's perspective. A further analysis of the independent variables showed that, on average, the "E" or Environmental variable scored the lowest for direct impact to the total score with an average rating of 45.27, followed by "S" or Social at 47.72, and "G" or Governance at 49.77%.

4.13 Conclusion for All Surveys:

One could then infer through the statistical modeling done in all three surveys the following observations:

1. In a mixed-population survey of industry cohorts of MNCs and supply chain partners, including Relocation Management Companies, most companies in the Global Mobility and relocation industry do have ESG goals.
2. Most companies in the survey for industry cohorts are not primarily focusing on Environmental adoption; however, they may be incorporating some component of environmental initiatives in addition to components for social and governance.

3. For supply chain partners who took part in survey two, they are not focusing on ESG initiatives through a formal ESG program and may not have an ESG program established.
4. Suppliers may be collecting greenhouse gas emissions; however, they may be doing so either outside of a formal ESG program or through a formal program. There was no correlation between companies with an ESG program collecting greenhouse gas emissions versus those who do not have a program.
5. Suppliers who do have an ESG program tend to focus on goals for greenhouse gas emissions targets than those who may be collecting greenhouse gas emissions outside of a formal ESG program. One could speculate that this indicates that suppliers may informally collect greenhouse gas emissions as a reactive response to corporate MNCs or relocation management company's requirements; however, they may not have a formal goal to actually reduce targets currently.
6. The last survey focused on corporate MNC contacts in the global mobility industry, the data collected indicated that majority of MNCs do believe that ESG is impacting or will impact their Global Mobility program now or in the future.
7. MNC global mobility contacts also posited that the variables of environmental, social and governance do have independent weight to the total perceived impact to their global mobility program. On average, the social and governance variables scored higher than the environmental component. This

would indicate that corporate client contacts feel that ESG is important, However, they have not felt a dramatic shift of priorization internally within their organization, industry, or macro-environment that would cause them to believe that environmental adoption is the most important aspect of ESG for them to being focusing on currently.

Table 10 below outlines each hypothesis formulated from the survey questions and identifies whether the hypothesis was accepted or rejected.

Table 10: Table for Overall Results of Hypotheses & Analysis

Survey #	Hypothesis	Supported/Rejected	Paragraph
#1 (Mixed population) H1	Most companies in the relocation industry do not have ESG goals now or in the future.	*Rejected*	4.1, 4.4, 4.13
#1 (Mixed population) H2	The observed proportions of focus on E, S, G, Multiple, and None match the expected proportions	*Rejected*	4.2, 4.4, 4.13
#2 (Supplier partners) H1	Most supply-chain companies in the relocation industry are not focusing on ESG	*Supported*	4.5, 4.9, 4.13
#2 (Supplier partners) H2	There is no association between having an ESG program and focusing on	*Supported*	4.6, 4.9, 4.13

	the "Environmental" aspect in the relocation industry		
#2 (Supplier partners) H3	There is no association between having an ESG program and focusing on the GHG emission targets in the relocation industry	*Rejected*	4.7, 4.9, 4.13
#3 (Client/MNC's) H1/A	A majority of clients see no impact of ESG on their Global Mobility program	*Rejected*	4.10, 4.12, 4.13
#3 (Client/MNC's) H1/B	Regression analysis for each variable's contribution in factoring the overall perceived impact of ESG program components. Results: 47.38% impact for "E", 49.95% impact for "S", 52.09% for "G"	*Supported*	4.10, 4.12, 4.13

CHAPTER V:

DISCUSSION

5.1 Discussion and Implications for the Global Mobility and Relocation Industry

The landscape of global mobility and relocation continues to evolve. With the advent of "green consumerism," the continued focus and prioritization of ESG investment by private equity firms, the various global legislations being enacted, and the continued societal shift to changes in technology through the use of sophisticated tools such as artificial intelligence (AI), the industry will need to embrace the focus of ESG prioritization. With an emphasis on sustainable environmental adoption, supply chain organizations within the industry will be able to continue to provide key relocation services to corporate MNCs, with an essential focus on investment into new solutions that increase the organization's value and effectiveness.

In a study by Jung et al. (2022), it was noted that by strengthening an organization's ESG practice, it not only becomes an attractive tool for investment but also helps to improve the performance of the organization overall. In their study on measuring satisfaction and effectiveness within an organization, the collated results suggested that internal ESG education and promotion of ESG practice internally is necessary and should be incorporated into an organization's management strategy to strengthen the shared value theory.

By taking an introspective approach and committing organizational values to align with ESG prioritization, there was a realized impact on the organizational member's awareness of social responsibility activities through organizational commitment.

Specifically on the environmental impact, Jung et al. (2022) posit that heightened commitment to environmental responsibility activities, in addition to social responsibility activities and governance activities, all had a positive effect on management performance. Secondly, prioritization of environmental responsibility activities, in conjunction with social responsibility activities and governance activities, also had a positive effect on organizational effectiveness. Additionally, the behavior of corporate members outside of their organization changed for the better, as awareness of social responsibility activities increased through their organizational commitments (Jung et al., 2022; Kim Hae-ryong et al., 2010).

As ESG was initially created as a construct framework from which sustainable investment principles were targeted and implemented, it has become increasingly important to integrate the environmental, social, and governance factors into the holistic development of enterprises (Li et al., 2022). There is symbiosis and an interactive relationship between its dimensions. Regarding the interaction of the Environmental ("E") component of ESG, Li et al. (2022) stated that the environment has been an integral problem from academia's concerns; however, less so for business as it is commonly wrapped into the social ("S") dimension as an attribute to measurements and research within organizations. By properly bifurcating this this dimension out and focusing more intentionally on the environmental aspect of ESG, organizations will start to draw more attention from executive stakeholders, which can improve not only corporate governance ("G") but also have a direct impact on the environment. Further, stakeholders both within and outside the organization will start to see better investment capabilities as return-on-

investment (ROI) is achieved on sustainable initiatives, which is attractive for further investment (Flammer et al., 2019; Li et al., 2022).

The industry can adapt to these new challenges and opportunities through continued internal focus and investment within each organization to become more sustainable today than ever before.

5.2 Creating a Culture of Sustainability

An integral part of starting the focus on environmental adoption is through creating a culture of Sustainability within the organization. By identifying and promoting the criticality of Sustainability internally, members of the organization will start to see a mindset shift in the way the company's leadership puts forth the vision of sustainability within the company. Incorporating these principles requires internal stakeholders to do an audit on their current philosophy for sustainability, in addition to identifying where on the spectrum of sustainable development they are excelling in or need improvement for.

Bertels et al. (2010) defined the corporate term for "sustainability" through the often-cited definition by World Council on Economic Development, which states that organizations should be operating in ways that "meet the needs of the present without compromising the ability of future generations to meet their own needs" (Bertels et al., 2010; Brundtland, 1987, p. 9). Bertels et al. (2010) posited that this is done through the lens of the triple bottom line approach, which includes organizational decision-making with consideration for the financial, social and environmental risks, obligations, and opportunities to build a viable, well-connected, and economically value-driven enterprise. Bertel et al. (2010) stated that these types of organizations thrive in perpetuity due to their

intimate connection to healthy economic, social, and environmental systems. In a review of the term "culture," Bertels et al. (2010, p. 10) utilized their own definition which is a "sense of identity to its members about 'who we are' and 'what we do.'" Their overarching definition of sustainable culture is one in which "organizational members hold shared assumptions and beliefs about the importance of balancing economic efficiency, social equity and environmental accountability."

Utilizing the definition of Bertels et al. (2010), a conceptual framework identified in Figure 21 for culture inclusion of sustainable cultural development is laid out in three distinct categories, referencing the model developed by Soini et al. (2016). The first category is "culture in sustainability," followed by "culture for sustainability," and lastly "culture as sustainability." This model is helpful in distinguishing the foundational picture of how sustainable cultures are formed, as it tangibly provides a conceptual lens from which to draw for leaders who are looking to develop a culture of sustainability.

Table 1. The three approaches and eight structuring dimensions for exploring the culture-sustainability relations. In the figure (adapted from [31]) on the second row the light grey circles represent the three pillars (ecological, economic, and social) of sustainability, and the dark grey culture. Culture is "a fourth pillar" (left diagram), culture mediates between the three pillars (central diagram) and culture is the foundation for transformation towards sustainability (right diagram), where arrows indicate the ever-changing dynamics of culture and sustainability.

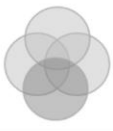
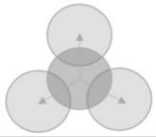
	First: Culture *in* Sustainability	Second: Culture *for* Sustainability	Third: Culture *As* Sustainability
			
Definition of culture	culture as a capital	culture as a way of life	culture as a semiosis
Culture and development	culture as an achievement in development	culture as a resource and condition for development	development as a cultural process
Value of culture	intrinsic	instrumental and intrinsic	embedded
Culture and society	complementing	affording	transforming
Culture and nature	human perspective on nature	interaction of culture andnature	nature constituent of culture
Policy sectors	cultural policies	all policies	new policies
Modes of Governance	hierarchical governance, 1st order	co-governance, 2nd order	self-governance, meta-governance
Research approach	mainly mono- and multidisciplinary	mainly multi- and interdisciplinary	mainly inter-and transdisciplinary

Figure 21: Sustainable Development Pillar Model (Soini et al., 2016)

Soini's et al. (2016) worked on the sustainable development pillars are useful as the first pillar ("culture in sustainability"), is identified as the process of intellectual, spiritual and aesthetic development. The second pillar ("culture for sustainability") stresses culture as a way of life–using cultural theorist Raymond Williams' definition of culture (i.e., that it regulates all spheres of life; reflects and gives meaning to the environment). The third pillar ("culture as sustainability") expands the broadest perspective of viewing human and social life as a wholly integrated semiosis or fabric of existence. Through this lens, organizational leadership has an opportunity to introspectively review how their organization's mission, vision, and values align with the creation of a Sustainable culture and what, if any, barriers exist that would preclude them from reaching their sustainability goals.

Leaders also have the ability to identify internal culture champions for Sustainability within organizations, which Galpin et al. (2015) underscored in their research where they found that 59% of employee respondents agreed or strongly agreed with the statement "Sustainability is included in my company's values…" (Galpin et al. 2015, p. 6, 2012). They also posited that progressive leaders of organizations today are increasingly recognizing that sustainability should be an important part of their organizational values and priorities and that these leaders are taking steps to ensure their employees are aware of their efforts.

Another model presented by Galpin et al. (2015) breaks down the organizational culture dimensions utilizing a "narrative synthesis" framework that has become increasingly regarded as an acceptable technique across disciplines, including

organizational management when conveying new or complex information in a distilled fashion for a best-practice approach. Galpin et al. (2015) displayed this model in Figure 22 below.

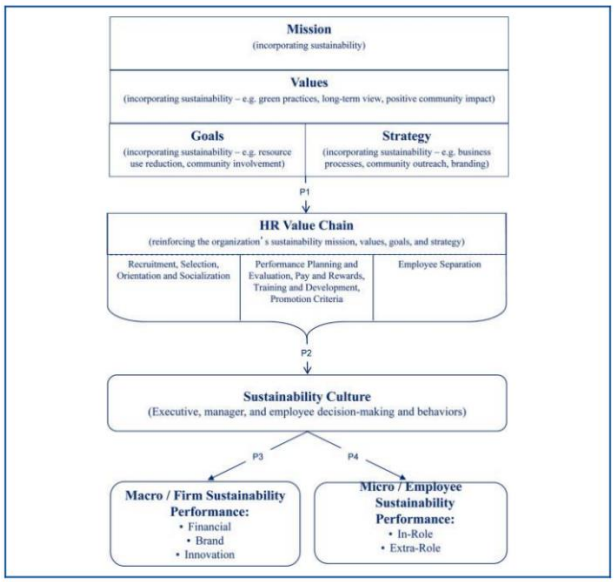


Figure 22: Culture of Sustainability Model (Galpin et al. 2015),

In the Galpin et al. (2015) model, the starting point at which organizational design for integration of sustainability and all other components of ESG starts at the top with the mission, values, goals, and strategy – all of which feed downstream in a linear format with what Galpin et al. (2015) remarked as a series of iterations to support the evolution of fostering a culture of sustainability.

For most organizations, this fundamental step of establishing and making iterative improvements on the mission, value, goals, and strategy starts at the top with the senior-level executive team, including the CEO and board of directors. As such, it is imperative that organizations that are looking to drive changes in sustainable development within their organization start at the top and raise awareness through a candid, self-audited

assessment, to answer the question of how their company operates and what their current cultural standpoint is on all things sustainability related. When this question is answered, it can set the groundwork for implementing necessary changes to drive Sustainability within the context of ESG implementation with a focus on environmental impact.

5.3 Leadership Influence on ESG Integration within Organizations

Creating a culture of sustainability within an organization is not an easy undertaking. Organizations within the global mobility and relocation industry that are looking to become change agents for environmental impact will face challenges in incorporating new paradigm shifts within their companies., However, it is not untenable if the change is done in phases. Epstein et al. (2010) argued that too often, organizations do not have the necessary formal (hard) and informal (soft) systems in place to integrate and align with one another. Epstein et al. (2010) posited that the need for processes, performance measurement, and reward systems (formal systems) to measure success are integral to providing internal and external accountability. On the other side of the equation, organizations also need the leadership, culture, and people (informal systems) to support the implementation of sustainable business practices. This is where leadership can set the foundation for future progress.

Epstein et al. (2010) developed a model for corporate sustainability in Figure 23 that goes one step further than Galpin's et. al. (2015) in that the model shows the granularity of inputs and outputs that contribute to implementing sustainability within an organization.

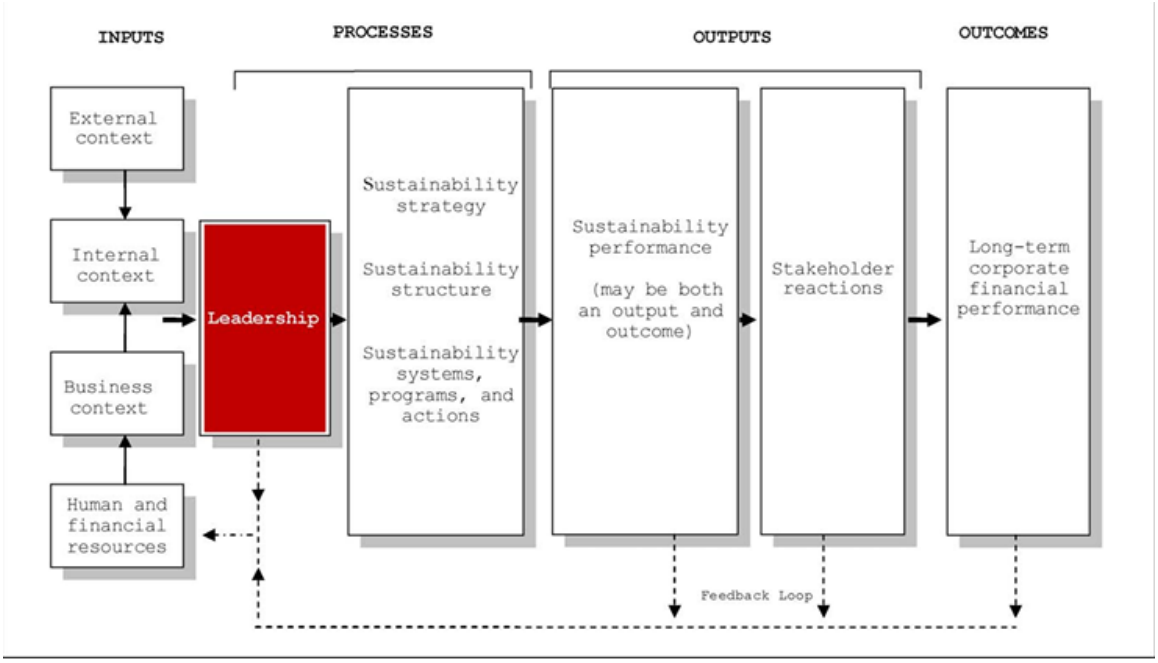


Figure 23: The Epstein Corporate Sustainability Model

This model and most others, including Galpin et al. (2015) and Soini et al. (2022), inferred that leadership holds the key to organizational buy-in of strategy development and execution of organizational sustainability. Research on ESG integration within a sustainability framework, compiled by Inzilya (2022), involved surveying a sample of 81 Russian companies listed on the Moscow Exchange index, which comprised of comprising 123 CEOs. In this survey, analysis was conducted on the influence of CEOs as it relates to their organization's ESG disclosures, as well as, whether the tenure and financial background or literacy of a CEO made a difference to the market's perception of the organization's value when considering companies who have invested in ESG adoption. Inzilya's (2022) study displayed a positive correlation as the analysis showed that a CEO's position in the firms overall rating, which takes into consideration financial

indicators as well as ESG indicators, exerted a positive impact on market capitalization and return on assets – two commonly measured performance indicators for investors.

Additionally, the data identified that a CEO's tenure related positively to the market capitalization and return on assets performance measures, which Inzilya (2022) hypothesized is because those with longer term tenure have undoubtedly more rapport and trust with stakeholders; and, thereby, more influence on the company's direction as it relates to overall strategic initiatives including ESG investment.

In a separate quantitative study completed by Popov et al. (2022), 70 empirical papers were analyzed on the impact of governing boards for organizations related to their impact on ESG adoption and quality of disclosures. It was noted that despite board size, organizations that valued the diversity of board members, and, the degree of independence of the board members from the organizations (less duality or vested self-interest), were found to have a positive impact on ESG performance and disclosure quality. Additionally, Popov et al. (2022) noted that some of the empirical literature analyzed indicated that a CEOs organizational power may enhance the ESG transition, due to a faster implementation of board decisions that align with this strategy.

Referencing a broad cultural change schema created in a three-dimensional perspective parity modeled by Meyersen et al. (1987), Martin (1992), and Weerts et al. (2018) posited that other researchers, including Cramer (2005) notated that CEOs and top management are the ones primarily accountable for the creation of a vision and mission that aligns with the goals of corporate social responsibility (CSR), which is an umbrella term for where Sustainability and ESG integration can be attributed to falling under.

Weerts et al. (2018) connected that through the work of Cramer and Van Der Heijden et al. (2010), there is a necessity for solid leadership in determining the balance between people, planet, and profit. By creating a sense of warranted ambiguity (i.e., "what happens if we do not pursue this?"), it can stimulate individuals within an organization to move from "novel" thoughts to tangible "action" (Van Der Heijden et al. 2010; Weerts et al. 2018). At this point, Weerts et al. (2018) argued that corporate cultural change can happen as the initial 'shocks' take place, which is visualized in Figure 24 below.

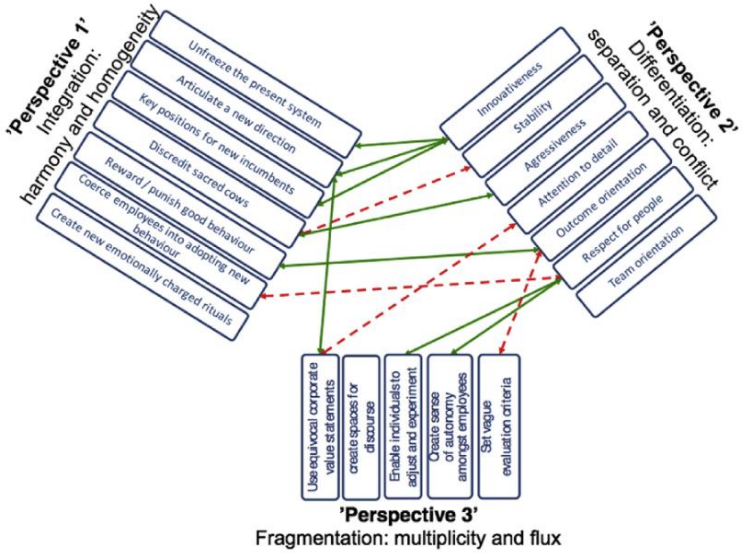


Figure 24: Key differences and commonalities of three perspectives of organisational change (Martin, 1992; Meyerson et al., 1987; Weerts et al., 2018)

Another crucial element in this effect on positive cultural change for sustainability, can also be seen through level of the board members diversified professional expertise, including any specialized education or experience, for the effective monitoring of managers' performance.

In reference back to Popov et al. (2022), it was noted that there is a growing interest in the role of board sustainability committees, which requires professional expertise for developing environmental and social strategies (i.e., resource-based theory). It is clear to see that the value propositions created by sustainability and ESG integration within an organization should have particular importance to senior-level leadership and organizational boards who are tasked with providing direction and fiduciary duty, including investment into ESG adoption, within the company's they are supporting.

Furthermore, Bertels et al. (2010), cite that both practitioners and researchers have agreed that the commitment of senior management and the board are seen as critical success factors for embedding sustainability within one's organization. So much so, Bertels et al. (2010) also posited that leadership from senior management and the board regarding sustainability objectives gives credibility to the goals pursued throughout the organization. This commitment and signaling to others within the organization help to foster a sense of interconnectedness and shared value alignment, which can serve as a motivational tool to downstream organizational members to encourage them to act in accordance with the direction of the organization as it relates to the creation of sustainable cultures.

5.4 ESG Awareness, Training, & Education for Global Mobility Industry Professionals

Research into green-skilled labor has shown tremendous growth in the United States since 2010, according to an analysis completed by Li et al. (2024) and in reference to work completed by Curtis et al. (2022). This demand for green-skilled labor was evident to Li et al. (2024) when researching the impact of China's environmental tax law changes, and its impact on business within the country. It was noted that firms in the United States who hired more employees with green skills saw an impact in overall profitability as well as green patents (Darendeli et al., 2022; Li et al., 2024). This notion of green skilled workers being in demand in the U.S. made for a viable comparison to workers in China, based on new regulations to curb environmental emissions.

Li et al. (2024) found that, as regulation was enacted to target the largest contributors of polluting firms, job postings in China significantly increased, seeking those who could support newly created green jobs. The green job postings analyzed validated Li's et al.'s (2024) parrel-trend assumption, which was supported by data collated within the study that represented a sharp increase in green demand for skilled workers based on analysis completed post-enacted legislation.

What this could mean for the global mobility and relocation industry is that as global organizations continue to see a ramp-up of new legislation both in the U.S. and abroad, which is targeted at curbing emissions, it could become increasingly important for organizations in the industry to start to upskill workers within their companies to tackle the increased demand for green skills within the industry.

One way that organizations can increase training for ESG adoption within the industry is first by introducing ESG within their organization by driving what Jin et al. (2022) and Nekhili et al. (2021a) term ESG Activity Recognition. This term encompasses the level to which organizational employees recognize the corporate ESG strategy and commitment. Jin et al. (2022) argued that as awareness and recognition increase within the employee base, ESG corporate activities can be executed more effectively. The need to induce this recognition can be achieved through explicit recognition of ESG within the organization along with celebration of participative attitudes (Lin et al. 2021;Nekhili et al., 2021b).

Jin et al. (2022) also stated that another way to promote ESG integration within an organization is by looking at job crafting with a bent on ESG initiatives and tying job performance to ESG metrics. By reviewing the scope of job descriptions refining existing and simultaneously creating new positions that require an element(s) of green skilling, an organization can start to educate their workforce on what skills they need to start to develop to be successful in the future. Job crafting also implies that employees have a say in their role by aligning their goals and desires to their work experience, which, if leveraged effectively through ESG Activity Recognition, can boost the morale, acceptance, and performance of ESG-related tasks within an employee's job duties.

A framework developed by Jin et al. (2022) visualizes ESG Activity Recognition through two theories of change support behavior, which is the behavior that organization employees accept and actively participate decide to participate in. It is seen as an

essential factor for organizational change success (Jin et al., 2022; Oinas-Kukkonen, 2013) along with innovative organizational culture creation.

Innovative organizational culture is defined as explained that innovative organizational culture is a culture that stresses the importance on innovation, creativity, growth, and dynamism. Based on the hypothesis of change, which states that employees are motivated by the importance of work or ideal appeal, growth, and external legality (Hogan et al., 2014; Jin et al., 2022), the implication of this theory shown in Figure 25, that Jin et al. (2021) and Tan et al. (2022) concluded, is that if ESG management activities are to be accepted as an exciting, new challenge or as a substantial change in strategic direction, then employees must adapt to a new environment in order to be successful.

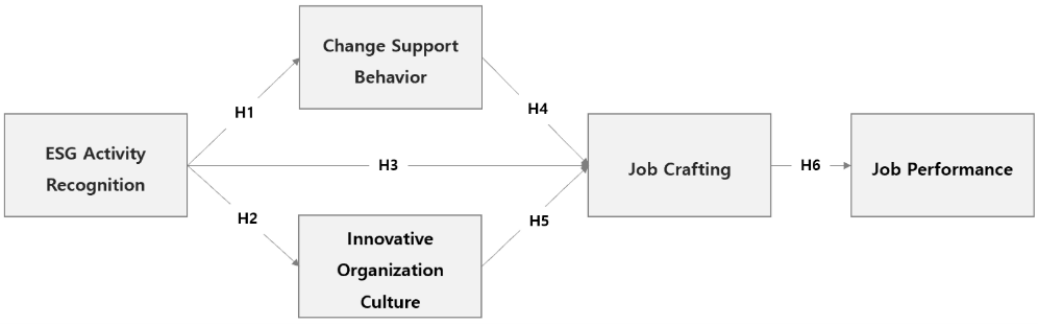


Figure 25: ESG Activity Recognition Research Model (Jin et al., 2021)

Once ESG Activity Recognition is created, an organization can take a step further by promoting opportunities for green training (GT). Through the research completed by Jain et al. (2023) and Tang et al. (2018), it was noted that firms that practice green training do so to reduce the organization's impact on the environment. Green training may look different in practical application from industry to industry; however, in the case

of Jain et al.'s (2023) research concerning the impact on the manufacturing of the apparel industry in India, empirical data collected and analyzed showed a significant improvement for organizational green manufacturing (GM) initiatives, green managerial innovation (GMI), and pressure (P) constructs that organization face.

These constructs were developed and expanded on by other researchers including Shang et al. (2010), Sarkis et al. (2010), Daily et al. (2012), Henrique et al. (1996), Wang et al. (2012), and Cheng (2014), to classify organization changes to innovation and forces of pressure faced by shareholders. The research completed by Jain et al. (2023) quantitatively showed the impact of green training within an industry with global manufacturing and supply chain components that need refinement to their operational processes to make them more sustainable.

As it relates to the global mobility and relocation industry, training for professionals will look different. However, it should comprise research and development principles for innovation into supply chain verticals, which primarily make up the industry participants. Specifically, as it relates to relocation management companies (RMC's) that are seen as the stakeholder closest to the downstream relocating customer and the corporate client, special attention should be paid to fostering employee engagement and motivation of ESG initiatives. As the RMCs are at the forefront of supply chain management on behalf of relocation programs for the world's largest companies, it is imperative that ESG strategy are built by leadership and acceptance by engaged employees remain at the forefront of leaders' goals to execute.

Education opportunities, through academic and private enterprises, could also be seen as the right starting point for global mobility industry practitioners. In the book *Digital Disruption and Environmental, Social, & Governance*, Author Dr. Narayanan states that the training and development aspect of ESG adoption is crucial for organizations to successfully implement and that an organization needs to create new internal rules and guides on training and development frameworks related to ESG adoption including responsibility towards the environment (Narayanan, 2022). He also stresses the importance of assessing ESG training opportunities by utilizing Kirkpatrick's four-level training evaluation model (reaction, learning, behavior, and results), which is a widely accepted model in both academia and business, created by Dr. James Kirkpatrick, is useful for organizations looking to foster change.

Additionally, Global Mobility and Relocation industry leaders can utilize practical sources for ESG training, including curriculum developed by leading ESG reporting platforms such: as EcoVadis, Carbon Disclosure Project (CDP), ISOS Group, or other non-profit enterprises including the United Nations Department of Economic and Social Affairs, who implemented an ESG Young Professionals Training Program through The Jane Goodall Institute in Hong Kong.

Additionally, there are other programs the UN offers, such as The One UN Climate Change Learning Partnership (UN CC:Learn), which is a joint initiative of over 30 multilateral organizations that seek to achieve climate change action both through general climate literacy and applied skills development (UN CC: e-learn 2024). Or

through the United Nations Institute for Training and Research, which manages a catalog of courses organizations and individuals can take for ESG-focused education.

Last, global mobility and relocation industry leaders in the U.S. could look into sponsoring practical ESG-related certifications for their organizational employees, depending on job function. For example, ESG certifications exist for finance professionals through organizations such as the Corporate Finance Institute and the International Financial Reporting Standards Foundation (IFRS). Those responsible for governance, reporting, or administration may find value in the European Federation of Financial Analysts Societies Certified ESG Analyst (CESGA) program developed in partnership with EFFAS Academy. Other notable ESG certification programs exist for supply chain professionals and corporate executives within top-tier U.S. universities, including MIT, Cornell, and the University of Pennsylvania's Wharton Business School.

Additionally, with the advent of ISO 14001, which is globally recognized as the standard that provides a framework for organizations to establish and maintain an environmental management system (EMS), organizations in the Global Mobility and Relocation industry would benefit from ensuring that key employees have training opportunities for ISO 14001 readiness if their organization has been credentialed itself.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

As Global Mobility and international mobility require a wide range of stakeholder groups, it's unlikely that corporate MNCs will ever choose to take back the function of downstream relocation activities in-house (Shortland, 2023).

This point underscores the criticality of the global mobility and relocation industry cooperation through all facets of the supply chain. Downstream suppliers take on a focal role in support of the relocation or assignment of an MNC's human capital across the globe. With this responsibility comes the need to prioritize what is not only good for business but what is also scalable, sustainable, and mutually beneficial for corporations and society.

Since global mobility's function serves as a catalyst for talent deployment for large MNCs, it is essential that the human element of Global Mobility never be taken for granted. For humans to thrive, they need an environment that is condusive to thrive. The data presented in this thesis confirms that a general understanding of ESG is known within the industry; however, there is a need to focus more on integrating enrivonmental sustainability into the strategies both on the corporate client's end and through the supply chain.

Through the research presented in this author's thesis, there has been a clear distinction between the current prioritization of environmental adoption of ESG, and the

future advancement that needs to happen to continue to foster a viable, sustainable industry.

Through the use of new technologies, frameworks, and resources, the global mobility and relocation industry can start to turn the tide of greenhouse gas emissions that it is responsible for as a by-product of human capital management and deployment.

Shortland (2019) acknowledged this point in an article written for *Relocate,* which she stated that there continues to be a strong business case for global mobility and relocation industry professionals to engage in corporate social responsibility (CSR) activities. An emerging population of industry professionals, including myself, would agree with this premise. In fact, this point was largely the catalyst for why this thesis was written. The more that this topic of environmental sustainabilty and ESG integration is understood and embraced in the industry, the more opportunities there will be to create new value that supports the *triple bottom line.*

As much as there is a business case, Shortland (2019) argued that there is also a moral and social justice case for industry professionals to play a key role in supporting good CSR practices in the deployment of personnel across the globe. In discussions with many practitioners in the industry, I have come across a growing number of professionals on both the corporate client and supply chain vertical who support doing business in an environmentally-ethical way. Many of these individuals have been interested in learning more about integrating ESG into their global mobility practice and have expressed optimism that the industry would be headed in the right direction if it starts to prioritize adoption of enrivonmentally sustainable practices.

Another point of consideration for organizations in the industry is the buy-in that needs to be prioritized from senior leadership down to individual contributors in the organization. Gözlügöl (2022) highlighted this point when discussing the premise of negative consequences of the net zero transition in companies for their employees, which may make them unwilling and actively resistant to climate action. It is worth noting from Gözlügöl's (2022) perspective, that many employees may not be vehement deniers of climate change or do not accept scientific facts. They also may not be necessarily against climate action. However, when climate change is taken seriously within an organization and strategies are implemented which may have a downstream impact on employee's self-interest, whether directly or indirectly, the acknowledgement of climate change initiatives and the support for climate action may not translate into a frictionless transition for organizations pursuing environmentally friendly policies.

Gözlügöl's (2022) research showed, through a survey among a large sampling of private sector employees in Germany, that employees who were principally in favor of climate protection measures in companies had a significant drop in support when they became directly impacted.

Further, the risk of cognitive biases or a lack of understanding of climate change's impact across an organization's employee base is a challenge the many organizations in the global mobility and relocation industry will need to address to successfully adopt and implement sustainable strategies that prioritize the environmental aspect of ESG.

Thankfully, this has not been as large of a challenge within my own organization; however, the point is well understood and throughout the supply chain vertical, some

suppliers have expressed reservation in adopting green practices based on the conception that it may necessitate a substantial initial investment of capital before seeing a return on investment.

Referencing back to this author's own organization, I can also attest to the point made on the impact that senior leadership has in the creation and execution of ESG strategies within the company. Over the course of the last few years, the organization I am a part of has created intentionality within its ESG strategy and has solicited support from top-down from senior management to individual team members within the organization. The downstream impact of this approach has been profound.

The organization first started by creating an ESG committee that is represented by domain leaders within the company on a global scale. Through this committee, a body of work was established which has had an impact on the organization, its clients, and its supply chain partners alike.

As an example for employee engagement, the organization created a Team Member Resource Group (TMRG), focused solely on promoting environmental sustainability. The group, fittingly named: *Leaning in for the Environment (LIFE)*, has a mission to raise awareness with team members and inspire action to make positive environmental decisions. Through this platform, the committee has been able to establish a sustainability link within the organization. All team members throughout the organization are encouraged to join this TMRG for lively discussion and educational opportunities on a monthly basis.

Another example from the supply chain domain within the organization, are the pilot programs created with supply chain partners that focuses on climate impact (i.e. tree planting) and climate positive programs (i.e. donations to climate positive organizations).

Additionally, through the work of the ESG committee, the organization has been able to start measuring and reporting on Scope 1, 2, and 3 emissions, has created net-zero targets, and has put together the company's first ESG Annual Report in 2024 to be able to share with clients and the marketplace. This body of work would not have been possible without the buy-in of senior leadership who integrated ESG into facets of the company's mission, vision, and values. This focus has helped raise awareness internally for team members, many of whom, have supported the initiative especially after they were educated about the long-term ramifications of not pursuing ESG integration and net-zero goals.

6.2 Implications

The global mobility and relocation industry is at a critical juncture as human capital deployment continues to be a strategic business driver for large MNCs while simultaneously, world leaders are looking at many heavy carbon-emitting industries in an effort to reduce greenhouse gas emissions for the environment.

The industry is starting to see a shift from "social" and "governance" prioritzation to "environment". However, the acceleration of this adoption needs to move with the same haste as other leading industries, such as automotive, which has taken hold of the "environmental" aspect of ESG and made it a key competence in the fight against climate change, resource efficiency, and environmental degradation (Rossi et al., 2020).

As organizational performance has shown consistent evidence to support the theory that involvement in the environmental and social spheres is a driving factor for financial performance, a correlated effort of central governments, equity markets, and international financial institutions could help to support the creation of generally accepted ESG measures which could become instrumental in the investment decisions proactivity of adoption for many organizations (Abdi et al., 2022; Dinca et al., 2022) including those in the global mobility and relocation industry. Pragmatically speaking, I would agree with this point as well, as it has been discussed within the industry and is a contributing factor in the "wait and see approach" that some organizations have taken their stance on.

6.3 Recommendations for Future Research

Through the qualitative literature review perspective, it is clear that much of the current ESG literature, as it pertains to the global mobility and relocation industry, has been focused on the "social" and "governance" functions, and less so on the "environmental" aspect. Future research should look to incorporate more literature into the prioritzation of the environmental aspect of ESG along with the impact of the industry on the environment through the many supply-chain verticals that support the industry.

For instance, car shipment and rental car services, which may be offered for a short period of time for one-way moves and for the full length of time for a traditional expatriate assignment, could be quantified to demonstrate the impact that petrol/gasoline vehicles have on the environment versus the reduced impact it could have by shifting to a new model to incorporate more hybrid or electric vehicle options.

By continuing to focus research on identifying and the quantifying emittive nature of the global mobility and relocation industry, researchers and key stakeholders alike can start to explore ways to adapt to the climate change crisis through continuing education and visibility on the impact the industry has on the environment. Organizations should also be encouraged by, and actively promote, the creation of an industry-led Coalition for Greener Mobility, which was founded in 2022 by CERC (Canadian Employee Relocation Council), CHPA (Corporate Housing Providers Association), EuRA, FIDI Global Alliance, IAM (International Association of Movers) and Worldwide ERC (WERC). The goal of the coalition is to provide the Global Mobility and Relocation industry with a roadmap and to align collective action towards achieving environmental sustainability (Coalition, 2024).

Further research also needs to address the specific lack of climate goals for net-zero or climate-positive initiatives within supply chain verticals. This will help us understand the biggest hindrances to the adoption of environmentally sound policies and procedures and the biggest supply chain contributors to greenhouse gas emissions, and it will help us prioritize strategies to mitigate the highest carbon-emitting services.

Specifically, as it relates to the movement of household goods for both international and domestic movements, further research into logistical planning and port efficiency through sophisticated models such as System Dynamics methodology could be applied to other verticals and refinements made to household goods movement in particular.

Fiksel (2006) noted that several research groups are starting to see the value of dynamic modeling techniques. These includes biocomplexity, system dynamics, and thermodynamic analysis, which are used to investigate the impacts on ecological and human systems of major shifts such as climate change along with the associated policy and technology responses.

A lifecycle analysis of corporate relocation activities is also paramount for future research. This will identify where there may be efficiency gains that could also help to reduce greenhouse gas emissions. Research into the totality of the lifecycle of a relocation or assignment and its greenhouse gas emissions impact would be an important step in understanding the global scale of the industry's footprint and pave the way for change.

For example, in an industry white paper published by supply chain company *ExpatRide*, an analysis completed by Løvendahl et al. (2024) showed that if corporate MNC' mandated the use of electric vehicles (EVs) for expatriate employees who are on assignment and eligible for this benefit for a duration of their assignment, there could be a significant lowering carbon dioxide. A hypothetical calculation of 3,500 expatriate assignments yielded a potential "saving" of up to 1 million trees from the need to sequester the carbon from the environment.

Lastly, research into the strategic link between MNC's Sustainable Procurement teams and/or the MNC's overall strategy within the Global Mobility function could help key stakeholders understand and identify integration opportunities for corporate MNC Global Mobility teams.

The data in the research presented suggested that corporate MNC global mobility programs may impact on the strategy of downstream supplier partners including Relocation Management Companies and their sub-supply chain's. By priorizing ESG and specifically environmental adoption on the large corporate MNC Global Mobility level, it could have a significant impact on the adoption of smaller organizations that make-up the supply-chain.

If sustainable procurement professionals helped global mobility prioritize or mandate the use of "green" options with the global mobility and relocation industry, it could also serve as a welcome benchmark for further research into the quantifiable savings the industry on behalf of the corporate client which could be accounted for in the MNCs corporate sustainability disclosures. Meehan et al. (2011) noted that companies who are focusing on the *triple bottom line* approach should see the value of Procurement as a key driver of policies and practices that extend beyond an organization's boundaries by incorporating the whole supply chain into the mix for guideline creation of ESG initiatives.

In reference back to my own organization, we have seen a tangible impact with some corporate clients who have had Procurement already invovled in the discussion of ESG integration with their suppliers. These clients tend to be forward-looking and proactive in their involvement of supply chain partners such as RMC's. In a future-state, this may become the new *motus operandi* for global mobility programs. If so, it would behoove those in the industry to integrate ESG initiatives within their organizational strategy on a go-forward basis.

Research conducted by Islam et al. (2017) also quantitatively showed a positive correlation for company financial performance through the mediating effects of nonfinancial performance processes that were directly attributed to the role of sustainable procurement within the organization.

This point is also reinforced by Ghadge et al. (2019), whose study reinforced the hypothesis that the stakeholder closest to the end customer needs to have the most comprehensive sustainability performance; and, that large companies will continue to exert pressure on upstream tiers in the supply chain–in this case, the relocation management companies and their downstream suppliers–to execute the requirements from sustainable procurement from criteria created in the selection process.

As large companies navigate and prioritize ESG adoption within their sustainability framework, it is clear that sustainable procurement is a burgeoning topic from both the academia and enterprise perspective in the last two decades. In a study published by Walker et al. (2012), the number of questions being asked by researchers and published papers on sustainable procurement grew between 2000-2010, of which 69% of the analyzed 115 papers with 330 measures indicated that 69% of the literature focused on environmental and green measures for sustainable procurement research. The consensus view from Walker et al. (2012) and Melnyk et al. (2010) is that a primary outcome of the "supply chains of tomorrow" should be one that focuses on sustainability. As such, further research into the strategic link between sustainable procurement and its role in the global mobility and relocation industry should be explored.

6.4 Conclusion

As the global mobility and relocation industry continues to do important work in redeployment of human capital in the U.S. and abroad, the need for environmental adoption crescendos as many governments and world coalitions grapple with mitigating carbon output in an effort to slowdown greenhouse gas emissions.

The data presented in the research confirms that much of the current literature for the global mobility and relocation industry has focused on “social” and “governance” aspects of ESG, but less so with the “environmental” aspect. The data also showed, through three unique surveys and statistical analyses, that corporate MNC Global Mobility professionals may have an ESG program and goals; however, this has yet to make a significant impact on the strategy and adoption of supply-chain partners, who are critical to the success of the industry through the nature of the work they do.

As large MNCs are starting to feel more pressure from legislation that is either already enacted or in the legislation approval process, should should serve as a catalyst for industries such as global mobility and relocation to prioritize the advancement of environmental adoption through ESG program creation with an emphasis on creating a sound enviromnetal policy to mitigate their scope 1, 2, and 3 greenhouse gas emissions.

However, supply chain partners within the industry would be wise to start the conversation internally with their stakeholders, as many early adopters of ESG have already started to see the return on their efforts to create meaningful, sustainable changes within their businesses.

Not only is it a good environment for organizations to focus on environmental adoption, but it also provides increased value to firms, and can draw positive attention to an organization as a key competitive advantage to attract new business and investment.

As all organizations are tasked with creating shareholder value, ESG programs and environmental adoption make good business sense, good climate sense, and good people sense. The research on investment value already completed on ESG across other industries and presented in this case study provides support to answer that, unequivocally, organizations in the global mobilty and relocation industry can make business decisions that mutually value profits, people, and the planet.

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