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TOWARD THE MICRO-FOUNDATIONS OF ENVIRONMENTAL SUSTAINABILITY: FOSTERING PRO-ENVIRONMENTAL BEHAVIOR AMONG EMPLOYEES TO BOOST CORPORATE ENVIRONMENTAL PERFORMANCE IN THE UNITED ARAB EMIRATES

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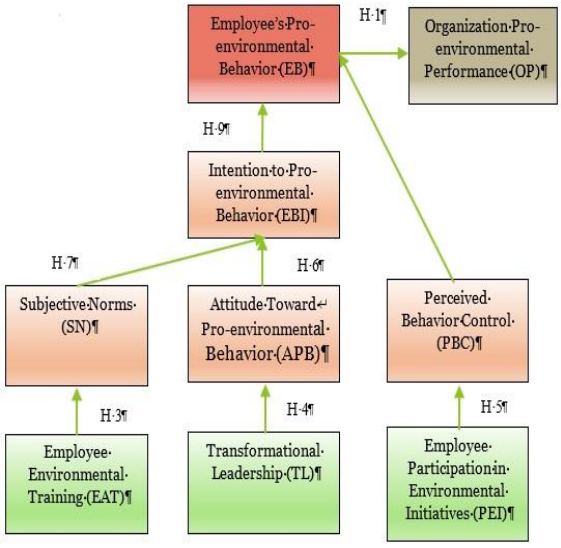

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Tareq Zaal Suhail Muftah Al-Ali

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Cover: Image related to Dissertation framework exhibiting the determinants of employees' pro-environmental behavior. Based on the theory of planned behavior.

(Photo: By Tareq Zaal Suhail Muftah Al-Ali)

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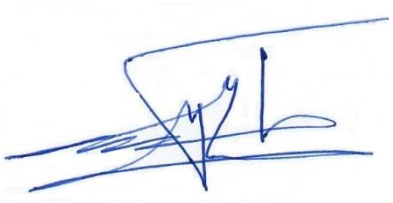
Declaration of Original Work

I, Tareq Zaal Suhail Muftah Al-Ali, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this dissertation, entitled "*Toward the Micro-Foundations of Environmental Sustainability: Fostering Pro-Environmental Behavior among Employees to Boost Corporate Environmental Performance in the United Arab Emirates*", hereby, solemnly declare that this dissertation is my own original research work that has been done and prepared by me under the supervision of Dr. Muhammad Omer Farooq, in the College of Business and Economics at the UAEU. This work has not been previously formed as the basis for the award of any academic degree, diploma, or a similar title at this or any other university. Any materials borrowed from other sources, whether published or unpublished and relied upon or included in my dissertation, have been properly cited and acknowledged in accordance with appropriate academic conventions. I also declare that there is no potential conflict of interest in conducting this study regarding research topic, data collection, and presentation of findings, authorship, and publishing of this dissertation.

Student's Signature: 

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Abstract

Today, the world is still struggling to find ways to control pollution, greenhouse gas emissions, and climate change. Consequently, environmental sustainability has become an essential concept in the global business environment. This study examined the factors that can influence the environmental sustainability performance of organizations. While previous studies have examined the role of regulatory frameworks, industry standards, innovation, and the use of clean technologies in achieving environmental sustainability, little attention has been paid to the role of employees in improving a company's environmental performance. This study examined how employees' pro-environmental beliefs and behaviors are triggered in the workplace. It then examines how employees influence the environmental sustainability performance of their organizations. This research project consists of two independent studies: (1) Investigating the determinants of employees' pro-environmental behavior. Based on the theory of planned behavior, it is hypothesized that employees' participation in environmental training, environmental initiatives, and leadership roles related to environmental values will induce subjective norms, pro-environmental attitudes, and pro-environmental behavioral controls in employees, in turn, has a positive effect on their pro-environmental behavior, and (2) How employees' pro-environmental behavior can influence the environmental performance of organizations? Both studies provided an understanding of the micro-foundations of corporate environmental sustainability, responding to recent calls for bridging the micro and macro domains in the field of environmental sustainability. A structural equation model (SEM) was used to test the proposed theoretical framework. For this purpose, a survey was conducted among 309 employees and managers of public and private sector organizations in the United Arab Emirates (UAE). Research findings show a significant positive relationship between employee environmental behavior and organizational performance when cost-effective factors such as environmental training, transformational leadership, and employee participation in decision-making processes are supported by organizations.

Keywords: Pro-environmental Behavior, Environmental Initiatives, Participation in Decision Making, Transformational Leadership, Organization Pro-environmental Performance, Environmental Training, Perceived Behavior Control, UAE.

Title and Abstract (in Arabic)

نحو الأسس الدقيقة للاستدامة البيئية: تعزيز السلوك المؤيد للبيئة بين الموظفين لتعزيز الأداء البيئي للشركات في دولة الإمارات العربية المتحدة

الملخص

اليوم، لا يزال العالم يكافح من أجل إيجاد طرق للسيطرة على التلوث وانبعاثات غازات الاحتباس الحراري وتغير المناخ. وبالتالي، أصبحت الاستدامة البيئية مفهوماً أساسياً في بيئة الأعمال العالمية. يحاول هذا البحث استكشاف العوامل التي قد تؤثر على أداء الاستدامة البيئية للمؤسسات. على الرغم من أن الدراسات الموجودة قد استكشفت دور الأطر القانونية، ومعايير الصناعة، والابتكار، واستخدام التقنيات النظيفة لتحقيق الاستدامة البيئية، إلا أنها لم تهتم كثيرًا بأدوار الموظفين في زيادة الأداء البيئي للشركة. لذلك، بحثت هذه الدراسة أولاً عن كيفية تنشيط معتقدات وسلوكيات الموظفين المؤيدة للبيئة في مكان العمل. ثانيًا، بحثت في كيفية تأثير الموظفين على أداء الاستدامة البيئية لمؤسساتهم. ويتكون هذا المشروع البحثي من دراستين مستقلتين. أولاً، فحص محددات سلوكيات الموظفين المؤيدة للبيئة. باستخدام نظرية السلوكيات المخططة، ونفترض أن مشاركة الموظفين في التدريب البيئي، والمشاركة في المبادرات البيئية، والأدوار القيادية المتعلقة بالقيم البيئية تحفز المعايير الذاتية، والمواقف المؤيدة للبيئة، وضوابط السلوك المتصورة بيئيًا بين الموظفين، والتي بدورها قد تؤثر بشكل إيجابي على سلوكياتهم المؤيدة للبيئة. ثانيًا، استكشف كيفية تفاعل سلوكيات الاستدامة البيئية للموظفين على أداء الاستدامة البيئية للمؤسسات. وقد مكنتنا كلتا الدراستين من فهم الأسس الدقيقة للاستدامة البيئية للشركات، وبالتالي الرد على الدعوات الأخيرة لسد الفجوات الجزئية والكليّة في مجال الاستدامة البيئية. تم تطبيق نموذج المعادلة الهيكلية لاختبار الإطار النظري المقترح باستخدام استبانة تم إجراؤه على 309 موظفًا ومديرا من المؤسسات العاملة في الإمارات العربية المتحدة في القطاعين العام والخاص. أخيرا، قدمت نتائج البحث علاقة إيجابية مهمة بين السلوك البيئي للموظف وأداء الاستدامة البيئية للمؤسسات عندما يتم مساندة فعاليات قليلة التكلفة، مثل التدريب البيئي والقيادة المحفزة للبيئة ومشاركة الموظفين في صنع القرار في مجال البيئة.

مفاهيم البحث الرئيسية: السلوك المؤيد للبيئة، المبادرات البيئية، المشاركة في صنع القرار، القيادة التحويلية، أداء المنظمة المؤيد للبيئة، الموقف من السلوك المؤيد للبيئة، التحكم في السلوك المدرك، التدريب البيئي، الإمارات العربية المتحدة.

Author's Contribution

The contribution of Tareq Al Ali to the dissertation was as follows:

I. Participated in planning of the work, had the main responsibility for the data collection and processing, and evaluation of results.

II. Participated in planning of the work and had the main responsibility for the experimental work, data collection, processing, and evaluation of results.

III. The sole responsibility for planning the research and conducting the experiments.

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Eventually, I would like to thank my brothers and sisters. My extended gratefulness goes to my mother for her constant encouragement. I appreciate my lovely wife's sacrifice, patience, persistent encouragement, and enthusiastic support with brilliant ideas to complete my DBA degree study. I am loudly saying a big sincere thank-you to all of them.

Dedication

To my great nation, the UAE, to which I am proud to belong and serve.

To our late father, Sheikh Zayed Bin Sultan Al Nahyan, for his inspiration to conserve nature.

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List of Abbreviations

APB	Attitude Toward Pro-Environmental Behavior
EAT	Environmental Awareness Training
EBI	Environmental Behavior Intention
PDM	Employees' Participation in Decision Making
PEI	Employees' Participation in Environmental Initiatives
TL	Environmental Transformational Leadership
OP	Organizational Environmental Performance
PBC	Perceived Behavior Control
PB	Pro-Environmental Behavior
SN	Subjective Norms

Chapter 1: Introduction

1.1 Background

The process of environmental destruction has continued for the past few centuries in numerous ways, such as polluting the air, soil erosion, and loss of biodiversity, resulting in a reduction in the world's renewable resources. The depletion of these resources is faster than the rate at which they can be replenished naturally, and this is a genuine concern for the survival of human beings (Hasnat et al., 2018). According to Stern et al. (1996), the Environmental Kuznets Curve reflects the historical regularity in the rate of deforestation and pollution. Moreover, it was noted that pollution and deforestation are declining in developed countries compared to emerging market countries. Furthermore, deforestation and pollution have decreased the quality of life for people worldwide over the years.

Likewise, the rationale behind the increased rate of pollution in developing countries is that those countries require resources to fuel their growth. Moreover, several sources of pollution have been discovered over the years that affect the atmosphere, groundwater, and soil, further augmenting the associated pollution problems (Stern et al., 1996). Therefore, increased atmospheric pollution from industrial and municipal discharges has led to a rise in global warming. According to Erlandson (2008), an increase in global temperature due to global warming has created severe drought-like conditions in several parts of the world. Moreover, combined with the growing population, no country has been spared from the current water crisis because of changes over the past few centuries.

According to Willow (2014), environmental degradation can be explained as the disruption of the natural geophysical processes that change the ecosystems of all species that live in the environment. The increase in sea surface temperature due to global warming has directly impacted the amount of precipitation the land receives around the globe. Several researchers and scholars have indicated that sea levels have increased by over 120 centimeters during the 20th century, resulting in the inundation of several islands and coastal regions worldwide, forcing their inhabitants to migrate inwards

(Erlandson, 2008). Furthermore, one of the most controversial forms of environmental degradation is extracting fossil fuels using fracking. The fracking process is known to destroy several layers of rock formation and uses vast amounts of water.

As suggested by Stern et al. (1996), on a global scale, environmental degradation can be viewed as a collective endeavor of different countries and global organizations to destroy the environment. Moreover, it is perceived that environmental degradation was lower during the industrial revolution in the 1900s than today. In contrast, the multinational organizations' increased demand for raw materials has fuelled the rate at which environmental degradation has occurred since then worldwide. According to Harte (2007) and Rice (2009), population growth is another reason behind the increase in environmental degradation. Also, the ever-increasing global population has motivated these organizations to increase their production capacity. Therefore, organizations took drastic steps to achieve higher production without recognizing the impact on the world's environment.

Across the world, for the last few decades, tropical and temperate forests have been used for agricultural purposes. Also, most deforestation has been done due to the pressure to meet the world's growing food demands (Harte, 2007). Likewise, deforestation has damaged biodiversity and long-term climate change and has contributed to global warming. Additionally, overpopulation has led to a rise in the consumption pattern of the world, which has contributed to environmental degradation. A few centuries ago, forests and oceans were known to remove at least half of the carbon dioxide in the world's atmosphere. However, in the present scenario, only a third of the carbon dioxide produced by industries is absorbed by forests and oceans, which has led to an increase in the average global temperature (Harte, 2007).

The campaign against global warming goes back to the 1900s. In 1904, Arrhenius Svante, a Swedish chemo-physicist, noticed in his investigations the effects of variations in carbon dioxide on the global climate (Anderson et al., 2016). In contrast, several scientists in the early 1950s refused to believe that global industries' Greenhouse Gas (GHG) emissions would credibly affect the global climate, as they thought that the oceans would absorb additional carbon dioxide emissions. Conversely, Hans Suess, a chemist,

discovered a higher concentration of carbon in the rings of trees in recent periods than in the samples of older periods. Roger Revelle, an American oceanographer, collaborated to discover whether seawater was absorbing carbon dioxide from the atmosphere and whether there was no threat of the greenhouse effect (Hlebica, 2001).

According to Munk and Frieman (1992), Revelle discovered that different ocean water layers do not mix easily. Hence, the carbon dioxide introduced into the top layer might remain there for an extended time. Moreover, the scientists concluded in their research that GHG emissions might stay in the atmosphere for at least several years before the oceans or forests absorb them. Reveille et al.'s findings encouraged other scientists to conduct further research on the issue. Revelle estimated that emissions would increase as the world's population hit nine billion by 2050; however, the world population reached about six billion in 2000. Revelle quoted that the problem "*may become significant during future decades if industrial fuel combustion continues to rise exponentially*".

In the mid-1970s, Al Gore, a student of Revelle and a congressman from Tennessee, played a significant role in campaigning against global warming. He organized the first congressional hearings on climate change, co-sponsored a hearing on toxic waste and global warming in the U.S. Congress, and continued lecturing and lobbying against global warming throughout his career. He was also awarded the Nobel Peace Prize, shared with the Intergovernmental Panel on Climate Change (IPCC) in 2007, for their role in the agitation against global warming (Anderson, 2009). He also participated in the appointment of Rajendra Pachauri as president of the IPCC.

Walker (2007) also revealed that Pachauri worked with the former president of the U.S., Barack Obama, to introduce policies to protect the environment from climate change. However, over 2300 lobbyists in Washington D.C. opposed these policies to continue their usual practices. Furthermore, lobbyists oppose such initiatives to increase awareness and implement affirmative environmental plans because, generally, these policies penalize organizations that engage in practices that pollute the environment and cause irreparable damage.

As stated by Breidenich et al. (1998), the UN was one of the first institutions to pay attention to the warnings given by scientists about the impact on the Earth's climate due to GHG emissions by countries and global organizations. Therefore, the UN established the IPCC in 1988 to analyze and document the impact of GHG emissions on the environment. The research of IPCC yielded that an increase in GHG in the world's atmosphere would increase the world's average temperature and melt the polar ice caps, raising global sea levels and inundating islands and coastal regions. Moreover, the United Nations Framework Convention on Climate Change (FCCC) was established in 1992 to address global warming. Likewise, the FCCC identified the responsibilities the countries would need to execute to achieve the desired level of climate sustainability.

Moreover, nearly 160 countries signed the Kyoto protocol and were obligated to uphold its provisions regarding their emissions targets (Breidenich et al., 1998). The protocol seeks to establish five-year budget periods for the countries to help them reduce their emissions systematically. It includes ordinary emissions like carbon dioxide, nitrogen dioxide, methane, and synthetic emissions that destroy the ozone layer. The protocol also encouraged industrialized countries to develop new policies or implement strategies on a broader scale to achieve their targets and honor their commitments to all the other FCCC parties. Subsequently, 195 countries in the world met in Paris at COP21 and consented to a treaty on climate change called the Paris Agreement in 2016. However, when the legal committee phrased the agreement terms, they used words such as "shall" or "will" instead of "should" (Goodier, 2018).

The agreement stated that all nations would limit the global temperature to below two °C by the next century and simultaneously maintain an average of 1.5°C (Bergkamp, 2016). However, a report by Reilly et al. (2015) cast doubts about achieving these levels, as researchers believe that with the current level of GHG emission, the global temperature will reach between 3.1°C and 5.2°C, with an average of 3.7 by 2100. Afterward, in 2019, while the world was swept by social unrest (especially in France), forest fires, storms, strikes related to taxes to reduce GHG emissions, and high-temperature records, another climate change meeting also failed. A climate change summit (COP25) was held in Madrid in 2019 to place stricter rules and regulations to activate the Paris Agreement.

However, after 11 days of negotiations, they ended without agreement (Newell & Taylor, 2020). So, the core mandate of global organizations is to generate profits for their shareholders (Aboul-Naga & Elsheshtawy, 2001).

These organizations also have responsibilities toward society, one of which is promoting sustainability (Nobanee & Ellili, 2016). *Sustainability* is defined as efficiently using resources to meet the present generation's needs while preserving these resources for future generations (Raut et al., 2017). Sustainability is often discussed in social, economic, and environmental contexts. This study emphasizes environmental sustainability, which mainly entails protecting the environment against depletion (Asif, 2016) and making the environment safe for present and future generations. The reason for this emphasis is the increasing threat that the environment currently faces.

One aspect of concern is that businesses of all types, including those in the manufacturing, retailing, services, mining, and transportation sectors, can be blamed in one way or another for these increasing threats. Jenkins and Karanikola (2014) observed that most current environmental threats are human-made and result from commercial activities. Therefore, the corporate world has always been viewed as having a responsibility to help protect the environment. Various sustainability measurements gauge how thriving organizations are committed to environmental sustainability.

One of the most widespread measurements among global firms is the Global Reporting Initiative (GRI) standard, which the GRI organization institutes. This globally recognized organization helps businesses, governments, and other entities understand and communicate the impact of their activities on sustainability issues, including climate change and pollution. In addition, the standard helps external stakeholders understand the extent to which organizations take steps to be sustainable, including efforts toward realizing high environmental performance (Younis et al., 2016).

Nobanee and Ellili (2016) defined *environmental performance* as a reflection of the degree to which organizations show commitment to protecting the natural environment. Paillé et al. (2014, p. 451) explained that "Environmental performance can be evaluated by a set of indicators, such as low environmental releases, pollution prevention, waste

minimization, and recycling activity". Firms use environmental management systems (EMS) to measure their environmental performance to ensure global standardization. One EMS example is ISO 14001 certification, which is a tool "requiring high interactions between Human Resource Management (HRM) and Environmental Management (EM)".

Al-Hajj and Hamani (2011) noted that substantial interest has developed among external stakeholders of organizations, such as civil society groups and consumers, toward environmental performance, increasing organizations' enthusiasm toward efforts to achieve high environmental performance. Some organizations' interest in meeting environmental performance targets stems from the indirect financial benefits that come with them. In contrast, others see themselves as having a moral responsibility toward society. The ultimate result, in either case, is a more secure environment that is efficiently utilized for today's needs and carefully protected for future generations.

This research study is comprised of two independent studies. First, it examines the determinants of employees' pro-environmental beliefs and behaviors, relying on the framework of the theory of planned behaviors; this research will posit that employees' participation in environmental initiatives, environmental training, and leadership roles in promoting environmental values induce subjective norms, pro-environmental attitudes, and environmentally perceived behavior control among employees. This, in turn, generates pro-environmental behaviors. Second, it explores how employees' behavior toward environmental sustainability interacts with a green organizational identity that influences organizations' environmental sustainability performance. Both studies enable us to understand the micro-foundations of corporate environmental sustainability, thereby addressing recent calls to bridge micro-and macro-boundaries in the field of environmental sustainability.

1.2 Statement of Research Problem

Achieving high environmental performance is now perceived as the primary responsibility of organizations. Al-Hajj and Hamani (2011) and Schrettle et al. (2014) cautioned that organizations that ignore societal calls for them to be environmentally sustainable do so at their own risk, and substantial evidence suggests that many

organizations are taking drastic steps to improve their environmental performance (Aboul-Naga & Elsheshtawy, 2001). Al-Tamimi (2014) found that, regardless of these efforts, a significant number of organizations are far from meeting their environmental targets. Several factors have been attributed to this situation, including organizations' inability to fully appreciate that achieving environmental sustainability is a shared responsibility that the organization must tackle as a unit among management and employees. Asif (2016) found that while most organizations appreciate their organizational roles in environmental performance, they fail to view employees as independent agents who can also be empowered to contribute effectively to environmental performance.

This research examines a more specific lack of employee participation in environmental initiatives. While studying employee participation levels in organizations' environmental initiatives, Al-Hajj and Hamani (2011) found that employees' consistent environmental neglect indicates that they have not developed the right pro-environmental behavior that acts as catalysts to achieve high environmental performance. Afsar et al. (2016, p. 79) explained that pro-environmental behavior "entails those employees would help in improving corporation's green image among its stakeholders due to its non-obligatory, discretionary, and volunteer nature". Pro-environmental behaviors result from employees' actions that voluntarily support their employers' environmental initiatives. So, to develop pro-environmental behavior among employees, it is essential to ensure that they are constantly involved in their employers' environmental initiatives (Benn et al., 2015).

1.3 Research Aim and Objectives

The UAE has its environmental sustainability vision, which can be seen in such programs as "*UAE Vision 2021*" and "*Abu Dhabi's Environment Vision 2030*". The research aims to investigate how to foster pro-environmental behavior among employees to boost corporate environmental performance to abide by both UAE concerned visions from micro-foundations of environmental sustainability viewpoint. The following specific goals ought to be achieved regarding the study's objectives:

i. Determine the principal factors that induce employees to exhibit pro-environmental behaviors in the workplace.
ii. Analyze how the cultivation of pro-environmental behaviors impacts employees' participation in their employers' environmental initiatives.
iii. Investigate the relationship between employees' pro-environmental behavior at the workplace and organizational environmental performance.
iv. Address recent calls to bridge micro-and macro-studies in the field of environmental sustainability.

1.4 Research Questions

The research paper investigates the role of employees' pro-environmental behavior in enhancing organizational environmental performance. By examining factors such as employees' participation in environmental training, environmental initiatives, and leadership roles concerning environmental values that induce subjective norms, pro-environmental attitudes, and environmentally perceived behavior controls among employees, which sequentially positively influence their pro-environmental behavior. The research questions for this research are:

i. What contextual factors cultivate environmental behavior among employees?
ii. What underpinning mechanisms explain the impact of these contextual factors on pro-environmental behavior?
iii. How does employees' pro-environmental behavior affect organizational performance?

Therefore, the framework of the theory of planned behaviors was used to answer these research questions and achieve the intended objective of this theoretical research framework. Moreover, as discussed in the following section, the employees' pro-environmental behavior utilizes quantitative research methods using data collected from the domain of interest.

Chapter 2: Literature Review

Many researchers in the field have already investigated various aspects of this research topic and phenomenon studied here. In this literature review, some of the principal findings from the extant literature are summarized, compared, and analyzed to help build a conceptual basis for the study. Gaps exist in the extant literature about this study's objective and what other researchers have already found. This literature review will pave the way toward identifying these gaps to determine how the research will help address the gaps. The literature review covers different principal areas, all of which are related to the research aim and objectives.

2.1 UAE Vision 2021 and Environment Vision 2030 Overviews

In 2010, the UAE government launched an 11-year vision plan, UAE Vision 2021, which set out critical modalities for the country to follow to achieve socio-economic development through a diversified, knowledge-based economy (Al-Khouri, 2012). UAE Vision 2021 identifies several axes of this national developmental agenda: sustainable environment and infrastructure. From the body of extant literature, several studies have already been conducted to investigate the justification for this national UAE agenda and its place in the larger global landscape. According to Abu Dhabi Vision 2030, the country must improve the air quality, preserve water resources, increase contributions of clean energy, green buildings, and implant green-growth plans (Alobaidi et al., 2015). Thus, this aspect of the vision plan includes almost all facets of the environment that currently remain threatened by the most destructive forces globally. The principal facets of environmental sustainability include air, water bodies, land, and biodiversity (Abbas et al., 2009).

Also, according to the Environmental Performance Index portal (2018), the UAE is ranked No. 77 out of 180 in its environmental performance index, so the government has much room for improvement to enhance its global ranking. Balakrishnan et al. (2011) underscored the need for the UAE to implement solid national policies to improve air quality, as the nation is prone to air pollution. Some experts have identified the UAE's air

pollutants as a mixture of human-made pollutants and dust particles and have said the nation has the most toxic air globally (Seagle, 2019).

The UAE's major sources of air pollution include automobile exhausts and industrial fumes. Therefore, UAE is also the world's eighth-largest producer of carbon dioxide per capita (Al-Amir & Abu-Hijleh, 2013). Salim and Alsyouf (2020) argued that the issue of air pollution currently confronting the UAE could be viewed as the cost the country must pay off for its rapid industrialization, particularly among the GCC states. However, given the need to link development to future generations, the country saw the need to introduce the UAE Vision 2030, ensuring that the current generation does not merely reap the advantages of industrialization without preserving the environment for future generations.

The actions of Sheikh Zayed bin Sultan Al Nahyan initially inspired the environmental visions in the UAE. He was the ex-president of the UAE and Ruler of the Emirates of Abu Dhabi and was also called the "Man of the Environmental." In addition, he was given the Gold Panda conservation award by the World-Wide Fund (WWF) for Nature to sustain the environment. For about 40 years, until his passing in November 2004, "Sheikh Zayed infused in the UAE a spirit of responsibility, camaraderie, and collaboration", later, the UAE launched an international prize, namely Zayed Sustainability Prize (ZSP), which focuses primarily on the implementation of sustainable solutions for natural resources (ZSP, 2021).

This spirit of responsibility was not by word of mouth but backed by practical actions and policies for enforcement. The ruler's inspiration "was driven by a passionate belief in social, economic, and environmental sustainability" (ZSP, 2021). This means that Sheik Zayed was concerned about the need to ensure development for the current generation and the need to protect natural resources and the environment for future generations. It is, therefore, necessary to say that the leader was a visionary and had foresight. His vision and goal were correctly aligned with the pillars of modern sustainability, which included social, economic, and environmental foundations. Unsurprisingly, he backed his actions with practical examples by creating institutions,

for instance, the Federal Environment Agency and Abu Dhabi's Environmental Research and Wildlife Development Agency (ZSP, 2021).

In the view of Sheikh Zayed, the need to praise and protect the environment was "because it is an integral part of our country, history, and heritage. Our forefathers lived and survived in this environment on land and in the sea. They could do so only because they recognized the need to conserve it, to take from it only what they needed to live and preserve it for succeeding generations" (Blignaut et al., 2017). Additionally, UAE's environmental sustainability development efforts did not stop after Sheikh Zayed's death.

To commemorate and maintain his late father's sustainability legacy, H.H. Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi, announced the Zayed Future Energy Prize launch at the 2008 World Future Energy Summit. Since its establishment, this prize has significantly impacted more than 307 million people globally regarding clean and renewable energy, clean water access, and energy efficiency (ZSP, 2021).

While the UAE's environmental goals lie in UAE Vision 2021, Abu Dhabi has set its own goals in Environment Vision 2030. Although the policy is named Environment Vision 2030, its core objective is "to ensure integration among the three pillars of sustainability: environmental, economic, and social vision" (Environment Agency of Abu Dhabi, 2016). Reviewing the policy, Al-Khouri (2012) emphasized that the integrative nature of Environment Vision 2030 makes it more comprehensive toward sustainability because the three pillars of sustainability have always been described as interrelated, i.e., attempts to achieve only one without the others most likely would lead to failure (Al-Amir & Abu-Hijleh, 2013).

Al-Tamimi (2014) noted that most environmental initiatives incur direct economic impacts and require a strong social commitment to implement them. For example, when promoting sound environmental practices, such as energy conservation, it is essential to link them with the economic pillar so that organizations can develop holistic initiatives that consider any monetary gains or losses resulting from switching to a more sustainable energy source.

Among other things, it was discovered that, as much as the UAE has its environmental challenges, Abu Dhabi remains an essential entity in the country's quest to achieve environmental sustainability because of the level of environmental threats to the country associated with Abu Dhabi alone. Abu Dhabi is a national leader in the UAE's industrialization drive, making it prone to most forms of air, water, and land pollution (Balakrishnan et al., 2011).

Furthermore, a thorough overview of Environment Vision 2030 indicates an overarching commitment to environmental sustainability, focusing on such details as fish stocks, overgrazing, groundwater resources, other water resources, electricity consumption, air quality, and waste (Environment Agency of Abu Dhabi, 2016). An essential aspect of Environment Vision 2030 is that it takes a cross-sector approach with different spheres, including the corporate sector, all of which have been identified as key stakeholders with specific roles to play in making the vision a reality. This research study focuses on the role of the corporate sphere by investigating how it approaches environmental performance.

2.2 Environmental Sustainability Initiatives Among UAE Organizations

The UAE's corporate sphere has many roles to play in achieving both UAE Vision 2021 and Abu Dhabi's Environment Vision 2030, and organizations have implemented several environmental sustainability initiatives. This section reviews extant studies on some of the major initiatives and their impacts on environmental sustainability. Since its formation in 2006, the Emirates Green Building Council (Emirates GBC) has advanced the goal of green building principles nationwide. *Green building* is a concept rather than a structure in which attempts are made to use processes that ensure environmentally responsible and resource-efficient building lifecycles. Therefore, green building takes several forms, including construction, maintenance, and demolition of buildings (Wong & Zhou, 2015).

According to Fayyad and John (2017), "Emirates GBC offers support to its members as they work toward a more sustainable future," focusing on the concept of green building. However, a careful evaluation by Yigitcanlar and Lee (2014) revealed

that of all the lifecycles for a building, the stage during which most organizations apply green-building concepts is the operation stage. Even for buildings not constructed under sustainability standards, organizations ensure that their operations within these buildings promote resource efficiency through practices such as using renewable energy and indoor air-quality measures. The second environmental sustainability initiative that is common among UAE organizations is the adoption of climate-positive development programs.

Barkenbus (2010) defined climate-positive development programs as initiatives to revitalize the local economy by emphasizing reductions in carbon emissions, air pollution, and GHG emissions and promoting eco-driving initiatives. Analyzing the idea of using climate-positive development programs, Yigitcanlar and Lee (2014) expressed skepticism, claiming that such programs can hardly be productive if carried out as individual, organizational initiatives without a direct link to the broader local economy because of climate change and other climate-related threats are often the result of cumulative industrial practices, requiring concerted efforts to achieve significant impacts.

Maletic et al. (2015) claimed that when it comes to environmental protection, every effort counts and that even in the absence of industry-wide policies, individual organizations should be encouraged to implement their own initiatives. Maletic et al. also reported a case involving several delivery organizations that shifted from using cars and vans to motorbikes for certain nearby areas. The upside for the UAE is that Emirates GBC has supported climate-positive development programs since 2006, helping to significantly change attitudes and demands regarding sustainable environmental building practices (The Green Emirates, 2018).

Nobanee and Ellili (2016) found that in recent times, many UAE organizations have started promoting environmental initiatives on the use of alternative transportation to promote sustainable transportation. Tayer (2016) found such environmental sustainability initiatives that focus on transportation to be beneficial and necessary, noting that the transportation sector alone is responsible for 23% of all global energy related GHG emissions. Another initiative that researchers have emphasized as part of UAE organizations' policies is waste minimization (Abbas et al., 2009). In this study's

context, it can be said that waste minimization involves processes and practices to reduce waste levels organizations produce (Burchell & Cook, 2006).

Al-Hajj and Hamani (2011) observed that organizations employ two principal approaches to waste minimization. The first focuses on harmful waste, while the second focuses on resources. In the first instance, organizations whose operations entail using harmful chemicals that produce toxic wastes make resolutions to limit how much of these wastes they release into the environment. However, the most common waste minimization practice focuses on wasting less water, paper, and other raw materials used in production processes (Younis et al., 2016). Bitar (2012) observed that to minimize waste, several state-owned organizations, such as Dewa, Dubai, ENOC, and Dubai's Airports and Seaports, have incorporated strategies from the Dubai Supreme Council of Energy and Dubai Carbon Centre of Excellence (DCCE) to reduce carbon dioxide emissions.

Finally, using environmental campaigns among UAE organizations is a rapidly growing sustainability initiative (Low, 2012). Issa and Al Abbar (2015) observed that most organizations, as part of their corporate social responsibility, have implemented various environmental campaigns, one of the most common of which involves outreach aimed at educating the public, particularly young people, on how to protect and conserve the environment. Other organizations also use their environmental campaigns to launch projects such as tree planting and community services for environmental development (Burchell & Cook, 2006).

Yigitcanlar and Lee (2014) found that environmental campaigns relating to public education are highly productive in boosting environmental sustainability because public education ensures that organizations and the public end up with sound environmental practices as organizations educate others on such practices. Abbas et al. (2009) further emphasized that when organizations set out to educate others about environmental protection, it prompts their sense of moral obligation to ensure that they are environmentally friendly. Meanwhile, Bitar (2012) endorsed the practice of launching environmental projects, claiming that it is a better way for organizations to demonstrate their commitment to environmental sustainability to the public.

2.3 Research Predictors of Employees' Pro-environmental Behavior

2.3.1 Pro-Environmental Behavior Among Employees

This section of the study seeks to cover the research gaps in the previous literature thoroughly. Literature has indicated that employees are at the center of pro-environmental behavior while organizations support them because they need to lead the sustainability agenda (Lange & Dewitte, 2019). It is imperative to note one of the research gaps; environmental responsibility is optional for employees but nowadays obligatory for corporations. Organizations rely on employees to undertake their functions, formulate, and initiate environmental sustainability projects, but they will require their employees to undertake them. This section of the study investigates how employees of an organization can independently influence their employers to realize environmental performance goals. The study will reveal how the pro-environmental behavior of employees can empower them to take the lead in initiating a roadmap that will enable their employer to achieve remarkable environmental performance. Beyond the previous decades, there has been a notable increase in policy, research activity, and practice activity around altering the behavior of organizations and individuals to mitigate their impacts on the natural environment.

Workplace behavior is increasingly becoming crucial as organizations implement corporate social responsibility (CSR) and organizational sustainability strategies (Afsar & Umrani, 2020). Most organizations believe that strategies of sustainability and CSR can improve environmental performance when employees are involved in structuring these strategies. Banwo and Du (2019) indicated that environmental infrastructure and system changes mitigate the organization’s environmental impacts to a limited extent. Still, employees' responses to these alterations remain a necessary boundary condition.

Organizations also rely on employee behavior interventions to address a wide array of issues, including reducing energy use, increasing recycling, reducing water use, reducing greenhouse gas (GHG) emissions, and increasing the use of public transport instead of private. Understanding and appreciating the factors influencing employee intervention uptake and responses is essential. Research on behavior change of employees is crucial in improving their environmental performance and addressing

critical biodiversity loss and climate change issues (Afsar et al., 2018). An organization's environmental performance is directly influenced, impacted, and altered by the employee's uptake of behavior change interventions. It is imperative to indicate that employees with environmental knowledge (EK) and environmental awareness (EA) engage more in green behavior.

Environmental issues gain global attention because of increasing environmental damage experienced in environmental degradation, global warming, and ozone depletion. Encouraging green and pro-environmental behavior at the workplace inspires employees to become more responsible in mitigating environmental problems. Employee Pro-environmental Behavior (PB) has remained a topic of interest among scholars, with researchers seeking to find the link between environmental attitude and environmental knowledge with employees' PB. Environmental sustainability issues have generated other widely debated topics, including the production of green products, green technology, green building, sustainable consumption, and green ecotourism.

The alterations experienced in economic and social demographic structures have directly and indirectly influenced green practices. These changes are executed to influence the demand of the growing population. Organizations are making tremendous progress in the application of green practices. Consequently, climate change is becoming a significant environmental health risk and the most critical challenge in the 21st Century.

The UAE was announced as the largest waste producer in the Gulf region in 2017. It was reported that with a population of 9.2 million, the UAE generated approximately 9.2 million tons of waste. Official estimates indicated that only 20% of this waste was recycled. In June 2016, statistics reported by Eco-MENA revealed that the solid waste in UAE added up to 4.8 million tons, with a daily average of 6,900 tons in Abu Dhabi, 4,000 tons in Al Ain, and 2,300 tons in the western region. As reported in Abu Dhabi during the World Future Energy Summit, the waste generation ratio was between 1.9 and 2.5 kilograms per person per day, with nearly 80% ending up in landfill sites. These statistics have been availed to the public to ensure that they are all participating in the general efforts initiated by the government to control waste management (Byerly et al., 2018).

It is imperative to indicate that one of the country's strategic objectives, per the UAE's vision for 2021, was to improve air quality, preserve water resources, implement green growth plans, and increase clean energy contributions. This objective has been the guiding principle for UAE individuals and organizations to build platforms, systems and improve morality to ensure they remain environmentally friendly. Launching environmental projects has become a better way for businesses and organizations to demonstrate their commitment to environmental sustainability and to the public employees' Pro-environmental Behavior (PB).

Organizations across the UAE and beyond are implementing CSR and corporate sustainable development strategies. Research has indicated that most of these strategies are only effective in mitigating the environmental impacts of organizations to a certain degree. In contrast, employees' response to the strategy remains a crucial boundary condition. Corporate green measures and initiatives can only depend on employees' participation and cooperation. Employee pro-environmental behavior is fundamental in ensuring the green development of a business. The conduct of employees highly determines the extent to which the organization will achieve its goals. Employees' PB is the environmentally sustainable behavior implemented by employees. Employees' PB helps organizations achieve a competitive advantage on green matters, improve the business's environmental performance, and earn the company an environmental reputation (Islam et al., 2019).

The employees' PB can help improve the company's market orientation, mitigate resource consumption, and save costs. As for employees, employees' PB can help to promote career development, improve work motivation, and increase job satisfaction. Employees' PB primarily focuses on the situational and individual factors of employees. These factors include values, attitudes, affections, perceived behavior control, personal traits, environmental knowledge, and personal norms. Moreover, situational factors include leadership style, organizational support, corporate social responsibility, and green human resource management practices (Afsar & Umrani, 2020).

The interaction between organizations and individuals regarding employees' PB has received minimal attention. This study seeks to bridge the gap with a closer look into

the duties and responsibilities of employees and how their knowledge and interests in environmental learning and green practices can propel the company’s achievement of environmentally sustainable development goals. Employees' proactive green behavior directly contributes to an organization's environmental performance. It helps to fill the ecological gap that the management's formal policies and rules do not address. This proactive pro-environmental behavior is commonly referred to as organizational citizenship behavior for the environment (OCBE).

Employees intrinsically motivated toward environmental protection play a significant role in ensuring organizations achieve their green goals. In the UAE, organizations must be environmentally friendly and develop structures and processes that will be environmentally friendly. However, employees' individual initiatives empower the employer to strive towards drafting reforms and working to cultivate a culture of high environmental performance. Employees independently influence organizations through pro-environmental behavior.

Employee pro-environmental behavior is a combination of self-interest, pro-social variables, and concern for the environment. The behaviors have minimal harm to the environment and carry more benefits. Employees remain the central drivers and are critical in ensuring the successful adoption of environmental initiatives. Employees’ PB revolves around voluntary initiatives, behaviors, and stakeholders at the micro and macro-level and beyond the workplace. Environmental threats are among the most challenging issues facing the world today. With organizations worrying more about the natural environment than before, all stakeholders are expected to operate in a set substructure of behavior.

Companies support environmental responsibility for various reasons, including growing concerns worldwide over the long-term adverse effects of climate change. Organizations that employ green policies directly benefit from brand recognition, increasing sales, and desirable employee outcomes. Organizations must have employees who are ready and willing to change their behaviors to ensure they are consistent with the pro-environmental goals of the organization (Stritch & Christensen, 2016). Despite establishing organizational goals and developing pro-environmental policies, indicating

that employees are responsible for the change exhibited is imperative. An organization's success is fundamentally founded on employees' conduct and willingness to operate within the newly set precepts.

Most studies have indicated that pro-environmental workplace behavior and its antecedents, contextual factors such as the leadership styles of their leaders, and individual characteristics fuelled by personalities have little research conducted on them (Byerly et al., 2018). However, what stands out is that voluntary pro-environmental behaviors of employees are impeded mainly by attitudes, personal values, and moral obligations from pro-environmental activities. Personal values refer to a set of psychological features which are pertinent to understanding motivation.

This section will focus on the voluntary pro-environmental behaviors of employees with a keen interest in work values, a critical subset of values defined as evaluation criteria that relate to the work environment (Lange & Dewitte, 2019). The values create a work environment through which individuals identify what is right and lean onto preferences that reflect their attitudes about work and influence their conduct. Videlicet, they are norms that employees utilize to judge and choose among alternative modes of conduct. Work values differ because of cultural divergence, which leads to different ultimate behavior or actions (Islam et al., 2019). Due to cultural differences, some dimensions of work values may not apply in UAE workplaces.

2.3.2 Utilitarian Orientation

Utilitarian orientation refers to an ethical principle developed by Jeremy Bentham in the 16th century. A utilitarian approach seeks to pursue the greatest good for the most significant number of individuals. This approach has researchers collect data and evaluate multiple possibilities to make an informed decision in the end. Utilitarianism considers all the consequences of a decision and never acts solely based on a singular opinion. However, one downside of this orientation is that those in power make decisions. Leaders make consultations, but they will never decide democratically (Truelove & Gillis, 2018). It is imperative to indicate that employees apply utilitarian orientation in an organization

to do what is right for the sake of the organization. Employees know the most sustainable approaches and policies enacted by organization management.

The utilitarian approach introduces an assessment of action based on its outcomes and consequences. The environmental threats have significantly increased and become essential for all members of society. Likewise, altering behavior, production methods, and execution of other pro-environmental policies promote environmental sustainability. It is imperative to indicate that employees who use the practical approach strive to achieve the most significant result while creating the least harm. Organizations may not force employees to follow the enacted pro-environmental options since they are alternatives.

Still, utilitarian workers will choose to weigh the benefits of using the pro-environmental alternatives instead of the most convenient methods. With or without enforcement by the management, utilitarian employees will go pro-environmental because of the vast merits of looking after the environment. Moreover, utilitarian employees will view the most ethical and balanced benefits over the stakeholders' harm for a set of options. The outcomes are quantified in terms of suffering and contentment, monetary gain or loss, long-term and short-term effects of the action, and individual preference value (Saeidi et al., 2018).

Employees in organizations operating in the UAE understand Vision 2021 regarding environmental changes and achievements the country wishes to have achieved. Most employees resist a behavior change because it introduces new systems, which many views as tedious and unnecessary (Islam et al., 2019). However, those who evaluate the changes in behavior as beneficial to the entire world and the livelihood of everyone in the future will adhere to the change and accept it fully. Employees in the UAE can help their employers operate within the pro-environmental policies and laws without coercion, intervention, reward, or punishment.

2.3.3 Intrinsic Preference

The world would mitigate environmental problems if people were more consistent in their engagement in pro-environmental actions. Most people are intrinsically

motivated to engage in pro-environmental actions since protecting the environment gives them satisfaction. When they endorse biosphere values, people become more intrinsically motivated to act pro-environmentally (Gatling et al., 2016). Economist Andreoni (1990) introduced the term ‘warm glow’ to explain why people act altruistically. According to the theory, people often act in prosocial behavior because they derive a positive emotional experience from the act. According to various scholars, acting pro-environmentally elicits a literal warm glow, a positive self-signal (Gatling et al., 2016). When people do good, what follows is a series of observable psychological and physiological changes. The act of helping makes people feel good emotionally and psychologically (Afsar & Umrani, 2020).

It is imperative to indicate that most organizations are working towards setting up or expanding an environmentally friendly office. This office intends to encourage employees to engage in pro-environmental behaviors while operating in the office. However, since the organization does not reward employees for employing pro-environmental actions, it is forced to attach psychological and physiological benefits (Byerly et al., 2018). It is imperative to indicate that employees psychologically attach to these merits once the merits of taking pro-environmental actions are known.

Such employees will continually practice pro-environmental actions within the organization because of the psychological and physiological rewards whenever employees build their confidence in acquiring green citizenship. They take up projects that would necessitate the application of gratifying pro-environmental actions. When employees decide to act pro-environmentally, they believe in making choices that will intrinsically satisfy them. One of the challenges with intrinsic motivation is that it does not have a long-term effect. Likewise, it means that pro-environmental behavior may take place on a short-term basis. Instead of swaying the entire population with short-sighted incentives, one can promote a durable behavior by harnessing people’s hard-wired biological capacity. Research indicates that humans are wired to be intrinsically motivated toward forging a more sustainable and conservative sustainable society (Gatling et al., 2016).

Intrinsic motivation is paramount in an organization because it ensures that employees are not awaiting rewards and incentives. People who understand the need for pro-environmentalism are not activated by external promises but by psychological and physiological rewards. They endorse pro-environmental actions because they need to ensure the world is habitable for the next generation (Rezapouraghdam et al., 2018). Environmental challenges threaten the food and water supply, economic prospects, and people's health worldwide. These adverse effects are surmounting with the growing population in the world, hence the need to take actions that will mitigate the effects urgently.

Most environmental problems are caused by human behavior, which can be reduced when people engage in pro-environmental actions. The urgency of environmental challenges caused by human activities, for instance, anthropogenic climate change, requires modification of a wide range of human behavior. These actions include wide acceptance of renewable energy sources such as solar, adopting resource efficiency measures in construction, and water-saving technology and insulation, such as the use of resource-efficient appliances, mainly domestic appliances, and changing the behavior of users to mitigate the environmental impact through various methods such as cycling instead of driving. Most of these pro-environmental actions are not forceful but adopted voluntarily. The UAE, under Vision 2021, has tried to shift people’s behaviors to ensure they are pro-environmental. It is imperative to indicate that most organizations in the UAE drafted numerous pro-environmental actions, but few are implemented because they are optional.

Pro-environmental actions are continually inhibited by the values, benefits, and costs of environmental actions. Most people engage in pro-environmental behavior when the behavior is associated with more benefits than costs. However, since most of the changes are costly, organizations and individuals will pay the price of high financial costs, functionality, and time to feel good about choosing to undertake a pro-environmental behavior ultimately. In most cases, people consider the benefits of choices and the social costs (Lange & Dewitte, 2019). For instance, they will engage in pro-environmentally actions when a vast percentage of the population approves of it.

People's environmental challenges today, including deforestation, increasing global temperature, and declining natural resources due to overconsumption, are entirely caused by affluence, technological innovations, and increasing population (Truelove & Gillis, 2018). Therefore, Humans must change how they consume resources because of the ratio and relationship between greenhouse gas emissions and consumption. This problem has a dominant response, an increase in green economic transition.

Different people in the UAE will operate under their biosphere values when they are supported and activated by different factors considered during decision-making. Intrinsic motivation is based on the collective costs and benefits associated with their behavior. If pro-environmental behavior brings a reward of satisfaction to one's mind and soul, then one should practice it more often. Various efforts have been put in to promote intrinsic motivation, including the immediate advantages of an action. Organizations have formulated their pro-environmental policies so that pre-environmental actions are highly recommended while others are shunned. Intrinsic motivation empowers people to act pro-environmentally because they believe it is correct (Piwowar-Sulej, 2020). However, it is crucial to ending this segment by indicating that long-term environmental problems require long-term motivators of pro-environmental behavior.

According to self-determination theory (SDT), goal-oriented behaviors are inspired differently. The primary focus of SDT is the extent to which an individual's behavior is self-determined and self-motivated. Most of the research conducted around SDT has revealed that the experience of people's behavior is autonomous and intrinsically motivated. The self-determination theory directly relates to pro-environmental behavior because it illustrates how motivation influences behavior. In most empirical research on pro-environmental behavior and motivation, SDT has always been used. Some of the critical motivations explored include the pursuit of pleasure and interest. If individuals enjoy pro-environmental behavior, they will be interested in performing pro-environmental actions because they find it intrinsically pleasurable or exciting (Gatling et al., 2016).

Engagement in pro-environmental behavior will increase significantly if the actions are enjoyed. Additionally, pro-environmental behaviors can be associated with

pleasure and be pleasant and do not involve any sacrifice. E.g., driving an electric vehicle, especially where fuel is expensive or using renewable energy (which would not be a sacrifice in instances where it costs the same or is cheaper or is an option) or buying an environmentally aware product, or choosing an environmentally aware service instead of a non-aware one (Strauss et al., 2017).

The residents of the UAE are enjoying interpersonal harmony that is facilitated by the growth in population and urbanization. All employees working in a typical organization operate under strong collective solidarity, bringing different people together, including those with individual uniqueness. When different people work together within the same organization, they have a subconscious sense of unity. It can be made conscious when people work in groups and participate in similar projects and social gatherings such as celebrations, retreats, picnics, and meditations (Byerly et al., 2018). As organizations insist on reliance on pro-environmental behaviors, most employees in the UAE are working towards earning a livelihood without having to make conscious efforts towards integrating the mind, body, heart, thoughts, feelings, and actions around diverse values.

This paper illustrates that employees with different backgrounds work in the UAE to achieve a common goal. Diversity does not affect service delivery because individuals understand their organizational roles and purpose. When employees work in a non-judgmental space, their thoughts and feelings are not abstractions but psychological forces. Morals, values, attitudes, inclinations, spiritual development, temperament, and nature differ among individuals. For instance, the UAE has opened its doors for foreigners to set up companies and work in the country (Sarker & Rahman, 2020). This means that the previous factors are not just primary, but the differences are large. At that point, people learn to understand that another person’s point of view, which is different or opposite, is suitable if one views it from their perspective. Understanding how people think, feel, or behave is a significant element that requires a non-judgmental attitude.

2.3.4 Social Influence

Social influence (SI) treatments have extensively been applied in treatment-control applications, with most results reporting behavioral responses to SI stimuli (Gass, 2015). SI treatments are specific and can be used to stimulate specific pro-environmental behaviors, including switching off idling cars and devices and raising awareness of climate change. Abundant evidence reveals that social influence research is informative and relevant to increasing engagement in pro-environmental behaviors. While considering a social-psychological perspective, education on climate change is not an objective imparting facts upon individuals in a passive state but rather a process of socializing (Thomas & Vinuales, 2017).

Climate change education provides information and knowledge that challenges scientific facts and processes and critically impacts the learners' identity, efficacy, and value system. In this regard, acquiring knowledge of climate change is a variable in a social influence model, leading to an individual feeling more integrated into a community interested in climate change (Rezapouraghdam et al., 2018). According to psychologists, *social influence* refers to a process by which individuals' attitudes, behaviors, and beliefs are modified by action in four areas, including obedience, conformity, minority influence, and compliance. It is imperative to establish that social influence leads to pluralistic ignorance, which is hypothesized to alter behavior to align with a misperceived group. When most people in an organization and, more so, the leaders are pushing for change in the approach of pro-environmental behaviors, a percentage of the workers will be influenced socially and follow the rest for the highlighted benefits. Organizations have relied on this factor to influence employees to agree to pro-environmental behaviors while conducting business and operations.

Social influence is crucial in ensuring that a larger population follows a particular doctrine or a prescribed narrative. Scholars have indicated that social influence has played a significant role in thwarting efforts to ensure the public no longer heavily relies on fossil fuels. It is imperative to indicate that individuals regularly choose behaviors that support the use of fossil fuels when the campaign for green consumption is gaining pace. Scientists, educators, community practitioners, and analysts are working tirelessly to

increase climate change literacy and point out interventions to increase engagement in pro-environmental behaviors (Truelove & Gillis, 2018). Moreover, Lunkes et al. (2020) have indicated that if people were willing to modify their behaviors, 20% of the carbon footprint from household operations would be reduced.

2.3.5 Green Consumption and Environmental Behavior

The correlation between greenhouse gas emissions and consumption indicates that people are the principal change agents. Research has underscored the extent to which various social-psychological and contextual factors shape one's behavior. Researchers have produced tools helpful in increasing or maintaining patterns of green consumption (Oyebamiji, 2018). A lot of governments have enacted policies that support the proliferation of green consumption by banning the use of plastic bags and raising taxes for other items that are non-biodegradable (Lorek & Spangenberg, 2014). However, these approaches are rarely applied because they have no stimulating effect on green consumerism since they do not show any link between the wealthy and consumerism.

The challenge with promoting individuals to assume the role of green consumers is based on the narrow aspect through which change is directed. Some of the commonly targeted behaviors include alternative product use, reusable bags, and recycling. It is imperative to indicate that these changes enable individuals to consume at regular rates while marginally mitigating ecological impacts. Almost all forms of consumption are related to the use of energy and the release of carbon dioxide (Lorek & Spangenberg, 2014). Researchers have further explained that adopting green consumption behaviors concerning travel, food, and other behaviors without mitigating general consumption will not make a difference (Lange & Dewitte, 2019). An organization insisting on its employees acquiring pro-environmental behavior is significantly helping to protect the environment, but their initiative will be productive only if they reduce general consumption.

Organizations cannot entirely focus on green consumption because most of these behaviors constitute less environmental impact and are mainly regulated to the private domain. They are mostly less viable for low-income populations. In the UAE, most state-

sponsored projects adopt the green consumption policy, as so do some private entities because the country's economy allows it. The UAE comprises a high-income population but is highly conservative (Hicklenton et al., 2019). Empirical researcher reveals that individuals find community participation, frugality and competence, and opportunities for acts that are meant to be intrinsically satisfying and motivators of effective long-term environmental stewardship (Devi et al., 2012). However, an individual's role in society influences the rate at which they will shift to green consumerism. It is critical to note that the environmental challenges the world is facing today necessitate the public and government to accept broader responsibilities and more critical behavioral responses beyond consumerism.

The academic community has explored how green consumption intention has influenced the population and classified it into three mainstreams (Mufidah et al., 2018). The first branch investigates the differences between green consumers with a bearing on market segmentation tools. According to previous studies, there lies a significant difference in the green consumption behavior of people in different demographical spheres. The second branch considers the psychological mechanism of the green consumption behavior of consumers (Chin et al., 2018). New psychological variables (e.g., perceived self-identification, environmental knowledge, and perceived pro-environmental value) have been introduced to expand the Planned Behavior Theory (PBT).

The third branch is involved in making decisions concerning green consumption behavior. It is imperative to indicate that green consumers employ different decision-making processes, including behaviorism, rationalism, and empiricism, to determine effective ways for consumers to make decisions regarding the purchase of green products. In reality, consumers do not carry out complex and elaborate processes of collecting information, and in reality, they may fail to make logical purchases (Piwowar-Sulej, 2020). Research indicates that consumers make green purchasing decisions based on their general emotional preferences for green products, embedding their inclination to emotional factors rather than rational factors.

2.3.6 Environmental Knowledge

Environmental knowledge refers to the amount of information an individual has regarding environmental issues (Janmaimool & Khajohnmanee, 2019). This type of knowledge is of the environmental challenges, how to overcome them, and the ability to understand and evaluate the impact of environmental challenges. Possessing knowledge of environmental problems, including global warming and their impacts, is crucial in determining the types of PBs once utilized. It is imperative to indicate that one of the strategies that change people's behavior is providing them with new knowledge, which influences their attitudes towards issues of the environment.

For instance, when a household is presented with information about their energy consumption, it helps them to reduce consumption (Janmaimool & Khajohnmanee, 2019). However, when information is constantly repeated, it does not reduce the carbon footprint, meaning that the type of information delivered and mode of delivery must be relevant (Hicklenton et al., 2019). All individuals should access Pro-environmental knowledge regardless of their background or language. People with environmental information about GHG emissions, environmental values, and energy-saving behaviors will ultimately engage in energy-saving behaviors (Tamar et al., 2021).

2.3.7 Subjective Norms

Subjective norms also can be explained as “the beliefs of an individual that are accepted by specific people or groups and dictate whether behaving in a particular fashion is appropriate” (Ajzen, 2006). Moreover, these are shared beliefs or vague guides to behavior in an actual situation. Norms are divided into social and personal norms, and they are known to positively impact PBs, with social norms impacting a more comprehensive range of behaviors (Bamberg & Möser, 2007). The impact of norms on PBs is directly influenced by the extent of internalization (Ahmed et al., 2021). Personal norms lead to individual energy-saving behavior but are less influential.

The displayed norms, such as the internalized motivation of parents to save energy and use minimal carbon-emitting machinery, are passed on to their children. The basic country-level norms influence the norms of family and friends, which impacts their PBs.

People in each society have environmental knowledge and practice certain norms, such as preventing pollution. Still, they will engage in pollution activities simply because their counterparts are engaging in similar activities. Social norms guide people to base their actions on motives that bear symbolic affection. For instance, when cars are called status symbols in society, people are likely to purchase more cars and use them regularly to maintain their class. People act by the norms of others, accompanied by either pride on the positive side or guilt on the negative (Nag, 2012).

2.4 Employees Participation in Decision-Making (PDM)

Decision-making is the process or a series of activities undertaken to achieve the best judgment or conclusion (Davidaviciene et al., 2020). It is imperative to indicate that decision-making styles are radically changing due to the tasks involved, the people, and the environment. Business managers no longer receive blind obedience because their employees are creative, rational, and ask questions. Honest managers acknowledge that employees have better knowledge about their scope than the managers themselves (Farooq et al., 2019).

Organizations are currently utilizing a series of management strategies to attain their objectives. One of them is participatory management, such as participation in the active involvement of subordinates or followers in decision-making processes, especially on matters that directly affect them. Participating in the decision-making process is viewed as a sign of democratic management and enlightenment. It is seen through sharing an experience, asking and sharing information, and suggesting and achieving diverse experiences among different organization members (Oyebamiji, 2018).

Researchers have opined that in management, participation applies to allowing the voice of employees in shaping policies, processes, and procedures that affect them directly or indirectly. High competitiveness in today's corporate world calls for organizations to have a human resource pool generating high performance. High stresses are placed on result-oriented services and performance, where participative management is considered an essential tool for employee satisfaction (Nnadi & Ndubuisi, 2021). Participation allows people within an organization to influence each other regardless of

their hierarchy. The participative practices of management are crucial in maintaining a balance in the involvement of both managers and subordinates in activities and routine tasks (Jabeen & Isakovic, 2018).

Participation achieves power in recognition and rewards since it correlates with organizational involvement and job satisfaction. Maximum job satisfaction is achieved when there is excessive involvement in the planning process, developing policies, producing alternatives, and comparing results. Most renowned managers have revealed to the world that the secret to the success of their companies is listening and applying the opinions of employees in decision-making. Scholars have expressed different views regarding the participation of employees in decision-making. They range from outright rejection by the leaders to a belief that only participation will lead to the productivity and competitiveness of companies (Shaed et al., 2015).

Employees and the management will continue to push for increased economic benefits and related gains in working conditions and become persistent in demands for direct involvement in making decisions. It is imperative to indicate that most employees flow with the energy of their leaders, their inspirations, and guidance (Mehrajunnisa & Jabeen, 2020). When employees make decisions, they feel part of the company, especially when they help with fashion issues that directly impact them. Leaders depend on employees' performance to achieve organizational goals and objectives. When employees develop these goals, they will put in the necessary effort to achieve them without any coercion from the management.

Sustainability is a topic that has raised issues across different organizations since most governments have passed it as a requirement. Leaders and their employees are forced to team up and develop critical sustainability goals and employ pro-environmental behaviors to achieve these goals. Solving deteriorating environmental issues requires the broad participation of employees and management in developing and actualizing pro-environmental behaviors. There is a gradual increase in the literature exploring the cause and effect of pro-environmental behavior. Still, little has been published about the reception of employees to PB’s and their misperceptions. Moreover, participative

leadership will help bridge the gap in adopting and actualizing an organization's sustainability goals.

Genuine participation can be observed in the spontaneity and freeness of employees in their discussions with management. In some organizations, employees are called into meetings and their input recorded, but none of their ideas are implemented in final decisions. However, where actual participation occurs, the meeting is semi-formal because of the random and casual way it is conducted. Instead of having a pseudo-participation as a manipulative tool, it is essential to genuinely listen and consider the input of employees because they have specialized in their respective areas and possess the experience needed (Farooq et al., 2019). Since organizations employ the most qualified individuals, management should use them in making decisions that touch on their delivery.

Employee participation in decision-making builds a more robust and united community. A strong employee community feels that their opinion is valued and realizes that some of the changes made benefit them directly. Additionally, it makes them feel they have invested in their success (Miller et al., 2017). Participation helps break down all traditional communication barriers by creating a solid avenue to easily speak their fears and thoughts regarding the company's direction. An organization that does not wish to experience diminishing employee enthusiasm should initiate participation and change the policies and workflow (Ezenwafor & Mgbe, 2019). A sound employee-employer relationship is a strategy that helps to explain and build acceptance of new changes. Pro-environmental behaviors are radical and require employees to entirely avert their commonly practiced ways for new methods that are environmentally friendly.

When employees participate in the breakdown of these measures, they become part of the process and detail what they need to change their operations (Shaed et al., 2015). Some would require training, while others would call for a gradual roll-over of the program until they are entirely comfortable switching to the PB. Productivity and product quality are by-products of employee participation. When employees participate in the decision-making process of the company, they formulate a work environment that is conducive, less stressful, makes people feel valued, and heightens their commitment to

positive changes (Nnadi & Ndubuisi, 2021). The employees may suggest some alterations or workflows for improving processing time and certain aspects of the job; in turn, such engagement improves the relationship between different organization departments, as well as improves the final product since different teams share ideas on how to alter their current program to make changes to the end product (Emamgholizadeh et al., 2011).

2.5 Environmental Awareness Training (EAT)

Environmental awareness training is crucial in all organizations because it builds the enthusiasm of employees and management to initiate pro-environmental behaviors. Environmental training connects people with the world around them and teaches them about built and natural environments (Abanina et al., 2019). This training raises awareness of issues that impact the environment and actions that should be taken to improve and sustain it. Environmental awareness at work is a qualification that provides a valuable introduction to environmental issues at the workplace (Lunkes et al., 2020). The training program highlights the role of workers in improving environmental performance and how they will aid in understanding environmental impacts and risk control.

Numerous companies are taking the initiative to create more environmentally conscious workplaces and cultures by developing and upholding eco-friendly policies. Consumers are more motivated to buy products from, lend their support to, and invest in their services because of their social responsibility to mitigate their environmental impact (Tetzlaff et al., 2019). Creating an eco-conscious organization starts at the ground level with the employees since they need to believe in the vision and practice of environmentally friendly habits. Environmental awareness training is essential in ensuring that all employees know the environmental problems and causes (Stefanelli et al., 2020). This knowledge makes it easier to draft and follow environmentally friendly initiatives such as recycling and conserving energy.

Some sustainable initiatives introduced in environmental awareness training include promoting a paperless office with digital and cloud computing solutions.

Technology has enabled companies to be more streamlined, collaborative, efficient, and green. More, applications and software are applied in different management sections, including human resources and payroll, to avoid paper and ink (Maslennikova & Gibadulina, 2019). The organization can choose to reduce wasteful usage by reusing it. With the western culture introduced in the UAE, most corporations have individuals who likely purchase coffee daily in disposable cups. Instead of using these cups, individuals can be encouraged to purchase reusable coffee mugs and reusable water bottles (Mousa & Othman, 2020). Organizations can promote such initiatives by banning disposable cups and offering company merchandise items, including travel mugs and water bottles made of stainless steel.

Environmental awareness training encourages sustainable transportation and the conservation of human energy. Organizations can organize a general means of transport using a company van or bus. Encouraging carpooling is essential because it reduces the number of vehicles driven to work daily (Sermet & Demir, 2020). Organizations can reduce the number of employees who must be in the office daily by allowing a fraction of them to work remotely from home. This cuts their commute time registered every week and directs it to more productive matters. Mindfulness of the management is critical because it leads to the sustenance of healthy and energetic employees to the company's overall productivity. Management can create and maintain a happy and energetic team by creating a safe and non-toxic environment.

The management can reinforce the training program by supporting pro-environmental vendors and purchasing office plants. The company can conduct business with environmentally friendly brands and learn more from their sustainability efforts. Investing in office plants helps to uplift the general atmosphere of the workplace, reducing anxiety and stress at the workplace. According to NASA, it is imperative to indicate that indoor plants reduce 87% of air pollutants in their environment (Pérez et al., 2018). The plants bring an attachment of the employees to nature, and as they find the usefulness of these plants, they will be inspired to undertake pro-environmental behaviors. When the mindset of individuals is inspired, they will undertake pro-

environmental initiatives more easily and help realize the organization's sustainable goals (Neyhart et al., 2021).

Environmental awareness training is important in all companies since it encourages sustainable action and makes pro-environmental thinking a part of the company culture. Pro-environmental thinking among stakeholders creates a mindful and healthy office environment, allowing the team members to encourage environmentally conscious practices within the workplace and help people feel healthier and satisfied with the company (Cop et al., 2020). It is imperative to indicate that environmental training encourages collaboration among employees to form a formidable team that embraces its new mission and goals.

2.6 Environmental Transformational Leadership and Employee PB

As the ecological environment worsens by the day, more enterprises are beginning to pay attention to and participate in management practices in line with environmental sustainability. Management practices promoting environmental sustainability, including emission reduction, energy conservation, process reengineering, green innovation, and environmental management systems, are increasingly becoming crucial for enterprises to gain a competitive advantage (Buchan & Yates, 2019). The effectiveness of environmental management practices depends on the perception of employees and the environmental challenges raised. The PB practiced in the workplace has a lasting effect on the environmental performance of the business. Employees realize the importance and seriousness of environmental problems, hence the change in their corresponding environmental protection behaviors (Prabatha et al., 2020).

Environmental transformational leadership steers the wheel to shrink significant waste of resources, save operating costs, improve environmental performance, and ultimately gain a competitive advantage. Environmental transformational leadership has received good attention over the past few years over the concept of pro-environmental behavior at work (Mittal & Dhar, 2016). The relationship between the environmental Transformational Leadership (TL) and PBs of employees is seen as a positive and direct link. PB is enhanced through high-expected outcomes, devised planning, constructive

abilities towards employees, and transformational leadership to generate a wave of inspiration (Su & Swanson, 2019).

Transformational leaders provide the importance of attachment to environmental concerns. With this ability, they can accommodate the PBs of employees by providing the necessary resources such as processes, finance, and the workforce necessary for performance (Kim et al., 2019). Environmental transformational leaders mainly provide a futuristic approach and confidently express the vitality of the environment. They distinctively explain environmental targets by offering rational ideologies that often coincide with higher moral values, including sustainability of the environment in ensuring the planet is a better place for future generations.

Transformational leaders also act as role models for employees by constantly discussing the importance of sustainability, sharing environmental values, and taking actions that demonstrate commitment to addressing environmental problems. These leaders motivate employees by modeling a future where most of the company's work processes are environmentally sustainable and constantly talking about the role of employees in creating this future (Yuriev et al., 2018). They challenge employees to question environmental assumptions and consider modern ideas and ways of solving these issues. The leader models a behavior but believes in the capabilities of the employees to address environmental issues in unique and diverse ways.

In addition, transformational leaders attain environmental targets, and at the same time, their focus on new ideas, corresponding efforts to groom employees, and techniques for environmental issues significantly increase (Wesselink et al., 2017). The leader's ideal concern for environmental issues and the attempt to strengthen employees in an individual capacity to address environmental problems will make employees develop a bond with the leader and marry into their eco-friendly initiatives. TL should empower employees to align pro-environmental behaviors and their goals, values, and interests, hence accommodating autonomous motivation.

Leadership plays a significant role in environmental reforms and environmental sustainability. Transformational leadership operates within the banner of four

dimensions, including inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration. These dimensions align with the primary need for influential pro-environmental behaviors ignited by the leader to all individuals at work (Wesselink et al., 2017).

Pro-environmental behavior has blossomed from the requirement of employees to reasonably optimize resources with responsibility, such as eliminating harmful elements and protecting the environment (Saeed et al., 2019). Pro-environmental behavior at work is referred to as a wide range of activities, including forming new ideas and ways of minimizing the adverse effects of the organization on the environment by forming eco-friendly processes, recycling, reusing, and apprehending practices that affect the environment (Ito et al., 2020). Employees' pro-environmental behaviors instilled through a transformational leader are meant to help the organization achieve its sustainability goals and instill individual insights into how to employ PBs on other occasions (Yu et al., 2020). A transformational leader models one's behavior and inspires them to believe in themselves more and advance their skills. This has constantly created a population that is willing to save the environment from adverse human activities.

Empirical evidence and theory suggest that conditional and individual variables influence the indulgence of employees in PBs at work. According to numerous researchers, transformational leadership has played a significant role in shaping PBs at work and attaining environmental goals. Transformational leaders motivate employees to perform at their full potential through idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration. Employees can internalize and redeem themselves by channeling their transformational leaders' values, establishing eco-friendly behaviors, and building employees' identities. In the end, the staff may personally take over environmental values and pro-environmental behaviors and give them a sense of autonomy (Su & Swanson, 2019).

2.7 Employees Participation in Environmental Initiatives (PEI)

Employees have no formal responsibility but participate in work environment management by mitigating wasteful practices and suggesting measures to mitigate them,

such as reusing and recycling. Both the employer and the employee are liable for creating a sustainable work environment by undertaking diverse initiatives (Cayolla et al., 2021). Multinational organizations participate in various environmental initiatives, but researchers have indicated that the employees are often not part of the initiatives. Lack of personal involvement in such programs is expected because the management does not involve the rest of the population but only the CSR department (Sony, 2019).

The typical reaction is that environmental initiatives are important, but they are someone else's job. Significant personal engagement of employees in sustainability issues sends the right message to the public. Participation starts with management offering free training for the leaders and the employees about sustainability and how this component can be explored. Other than the financial benefits gained from sustainability practices such as energy conservation, it is essential to note that organizations register other benefits such as employee retention, overall engagement, and productivity. It remains challenging for organizations to operationalize sustainability goals despite having employees and management care about sustainability globally (Evangelista et al., 2017). It is challenging to link employees' support for sustainability and values with the daily duties and the company's basic operations. Employees' participation in environmental initiatives begins with aligning personal and corporate values.

Employees mostly use a rational cost-benefit calculus to decide how they will act and please their superiors. Since the business world is dominated by maximizing profits, the cost-benefit calculus leads employees to behave to support the organization and its profitability but runs counter to their values (Cayolla et al., 2021). Research has shown that employees have temporarily suspended their values to undertake organizational processes for laudable ends. It is rare to find employees able to voice their values or question the means of work they are undertaking in the company (Loeser et al., 2017).

The management must create an environment that supports the wellness of the employees and cares about their wellbeing. It is imperative to indicate that most employees are coerced to perform their duties because they have to go against their primary values for profitability (Yong et al., 2020). For example, an engineer working in

an oil company in the UAE but raised with an emotional attachment to nature and the environment will always perform their duties contrary to their beliefs and values.

Organizations need to develop a system developed by all stakeholders, including employees and management. The employees should be allowed to operate within their values in the sustainable phase of the business (Mishra & Schmidt, 2018). Employees should be trained to deal with various organizations' environmental issues to implement environmental policies and management systems. Training activities contribute to an increase in employee morale, loyalty, and pride in the organization. The leadership can create dedicated teams to drive environmental and organizational change and initiatives of employee engagement. These teams act as environmental ambassadors with duties such as developing new ideas and helping to drive activities within the organization.

Employee volunteers offer support to the sustainability office during the rolling out of initiatives in the company (Mishra & Schmidt, 2018). Employees will support environmental initiatives if the management raises awareness by organizing environmental-themed events and environmental issues. Leaders and corporates must provide enabling conditions for employee participation in PBs (Rawashdeh, 2018). The leaders can focus on building the necessary infrastructure to enable employees to make environmentally friendly choices. For instance, if the company introduces recycling bins at the office or a carpooling scheme, the employees will easily make environmentally friendly choices.

Participation of employees in environmental initiatives is linked to various contextual factors such as attitude and personal values and other factors such as job satisfaction and engagement. Empowering employees through participation and involvement increases employee retention and job satisfaction (Yong et al., 2020). The attitude of employees towards the environmental initiatives of the company determines their level of involvement. Communication, participation, and interactions among employees build their level of satisfaction and break down barriers in communication and inventions.

The management should provide the necessary incentives for employees to engage in environmental initiatives because they cut costs by reducing waste and increasing revenue, where clients pay up to 20% more for green products (Sony, 2019). When pro-environmental initiatives are professionally managed, organizations raise their status since they will have more clients who are mindful of the environment. The company will gain business from governments and other customers because they play a significant role in society at large (Wright & Nyberg, 2017). HR begins to hire employees who are committed to the environment, customers, and fellow employees. They are given a chance to exercise their freedom by identifying ways to reduce energy and water usage in the company (Taylor et al., 2018). The employees should be reliable enough to be involved in the major decision-making processes of the company.

2.8 Attitude Towards Pro-Environmental Behavior (APB)

While defining *pro-environmental behavior*, Afsar et al. (2016) said it "entails those employees would help in improving a corporation's green image among its stakeholders due to its non-obligatory, discretionary, and volunteer nature" (p. 79). Issa and Al Abbar (2015) further observed that pro-environmental behavior's "non-obligatory, discretionary, and voluntary nature" of pro-environmental behavior links organizations with employees' values, norms, and attitudes. In other words, the fact that these pro-environmental behaviors are not mandatory means that employees exhibit them based on their personal perceptions and are influenced by their values and attitudes toward the environment. Han (2015) defined *values* as lasting beliefs that a person has, including shared ideas about what is considered good & bad and desirable & undesirable.

Similarly, Maletic et al. (2015) defined *attitudes* as a person's tendency to react positively or negatively to external stimuli, ideas, or situations. The definitions of *values* and *attitudes* show that they are concepts based on a solid sense of personal decorum on how to conduct oneself. Writing on values in general, Al-Amir and Abu-Hijleh (2013) noted that they could predict behavior. Therefore, it is not surprising that the issues of values and attitudes have been studied comprehensively in the extant literature regarding how they can be associated with organizations' environmental behaviors (Jenkins & Karanikola, 2014).

2.8.1 Values

In one such study, Corner et al. (2014) found that values and attitudes are instrumental in identifying environmental problems, human responsibilities, and employees' willingness to exhibit pro-environmental behavior. From a theoretical perspective, Schwartz et al. (2012) value theory remains one of the most studied theories in predicting how employees' values and attitudes predict their pro-environmental behavior. The original theory was proposed in 1992 and comprised ten universal values that were divided into four higher-order groups. Issa and Al Abbar (2015) criticized this first categorization of values as lacking enough coverage of the outcomes of people's actions, particularly within the world's changing complexities, which entail sustainability.

Such criticism influenced a more advanced approach to value theory, leading to a refined version with 19 fundamental values that comprise a circular model (Schwartz et al., 2012). While studying the 19-value circular-continuum model, Sagiv et al. (2017) found that the social focus sector, as opposed to the personal focus sector, provides a strong endorsement of the influence of values and attitudes on pro-environmental behavior. Moreover, it should be noted that social focus values tend to highlight those actions and attitudes that prioritize larger society's interests rather than those of the person acting. However, the personal focus is more individualistic, as such values concern the actors' interests alone.

In a five-country survey, Schultz and Zelezny (1998) used the old 10-value circular-continuum model to measure the influence of values on workers' pro-environmental behavior. The study showed that employees who identified themselves as more socially focused registered higher scores on readiness to support corporate environmental initiatives than those with a personal focus. In a more recent study that used the 19-value circular-continuum model, Felixdottir (2017) found similar results to Schultz and Zelezny (1998). These two studies indicate that it is always crucial to determine whether they adhere to a social or personal focus when seeking the best employees to support organizations' environmental initiatives.

Felixdottir (2017) looked at the 19-value circular-continuum model more closely and found that even within the social focus or dimension, employees with specific value types—as indicated by benevolence, universalism, conformity, and security—are likely to exhibit different attitudes toward environmental sustainability initiatives. Confirming this in a study, Schultz and Zelezny (1998) found that among the four value types in the social focus dimension, the one most likely to predict employees' pro-environmental behavior is universalism, which comprises such values as tolerance for nature.

From an organizational perspective, Sagiv et al. (2017) explained that the value of tolerance is necessary to predict the extent to which employees accept and adapt to pro-environmental changes in the workplace. The more tolerant employees are, the more prepared they will be to adapt to organizational changes. Similarly, the value of concern has been identified as predicting employees' behavior toward expressing appreciation concerning the need to protect the environment against destruction and conserve it for future generations (Burchell & Cook, 2006). Finally, Felixdottir (2017) explained that the value of nature shows employees' willingness to contribute to the protection of nature, part of which includes pro-environmental initiatives.

Moreover, researchers build on the role of values and attitudes in predicting pro-environmental behavior in employees by investigating how organizations can instill the proper forms of values and attitudes. Studies on how organizations can steer employees' values and attitudes toward pro-environmental behavior are limited. However, Han (2015) was confident that some determinants of organizational management exist that could make it possible to influence employees' values positively.

Corresponding with this, Wesselink et al. (2017) cited the use of leadership styles as one way to influence the value types that characterize employees' pro-environmental behavior. For example, leaders elicit changes in individuals and social systems under transformational leadership, such as organizational culture (Karassin & Bar-Haim, 2016). Employees must adapt their leaders' values and principles under transformational leadership styles because the whole process aims to develop followers into leaders. Therefore, it is perceived that under transformational leadership, it should be possible to

instill positive values and attitudes in employees and then predict pro-environmental behaviors, as shown earlier.

2.8.2 Personality

Climate change and global warming trends are believed to be caused by human activities. Most people do too little to alter these trends because they lack the motivation and know-how to engage in climate change activity and pro-environmental behavior (De Marree et al., 2017). This section provides more information about the role of personality traits and emotions in determining environmental behaviors. A comprehensive collection of previous research in environmental psychology has provided evidence for different individuals and sociological factors and provided details about their effects and contribution to climate change. It is imperative to establish that cognitive dimensions and other individual factors are directly involved in environmental attitudes.

The socio-demographics of people, such as gender, are related to environmental concerns, with older people and women being more environmentally oriented. Additionally, norms, cultural values, worldviews, and sociocultural factors affect people's environmental behaviors. This section will highlight personality characteristics because few researchers have developed a keen interest in the personality of individuals and their inclination towards socio-cultural factors.

Personality characteristics are considered more antecedent predictors regarding ideology, values, and attitudes. Personality is the primary driver of people’s motivations, attitudes, values, and behavioral choices; hence it may constitute an influential antecedent of pro-environmental behavior and attitudes. This section will analyze personality traits through the Big Five and HEXACO models of personality structure. The six HEXACO personality factors are related to pro-environmental behavior and intention to engage in climate change.

2.8.3 The HEXACO Personality Model

The HEXACO model is designed to identify six personality traits, including openness to experience, conscientiousness, agreeableness, extraversion, emotionality,

and honesty-humility. Since its development in the 2000s, the HEXACO personality model has allowed one to test behavior and make predictions based on prosocial behavior (Soutter et al., 2020). The six HEXACO personality traits are related to pro-environmental behavior, with different scholars indicating the results of the tested traits (Pletzer et al., 2020). Agreeableness, extraversion, and conscientiousness have suggested a positive but weak correlation with pro-environmental behavior. Agreeableness refers to facets of gentleness, forgiveness, patience, and flexibility; agreeable individuals are more comfortable with social harmony and have high tolerance levels. Extraversion is a trait encompassing components such as social boldness, social self-esteem, and liveliness (Shin et al., 2017). Extraverted individuals are characterized mainly by being friendly, cheerful, and talkative. Conscientiousness is inclined to high levels of diligence, organization, and prudence.

Available literature has conflicting findings concerning the role of the honesty-humility personality trait. A section of scholars indicates that the honesty-humility trait positively correlates with climate change beliefs and environmental concerns (Mohamed & Bromfield, 2017). However, another section indicated that the honesty-humility trait has no association with environmentally responsible behaviors (De Vos et al., 2021). However, the interpretive difficulty of these findings depends on the type of environmental goals investigated in each case.

In conclusion, of the HEXACO personality traits, it is imperative to indicate that openness to experience is a trait that has the most robust association with environmental concerns and PBs. People high in openness to experiences exhibit abstract thinking and adopt unusual thinking with characteristics such as originality, aesthetic appreciation, and creativity (Direkwuttanakunchai & Yousapronpaiboon, 2017). People with high openness to experience easily imagine long-term environmental consequences such as atmospheric and climate changes.

2.8.4 Moral Anger

This section will mount a discussion on moral anger directed at people who are not respecting the environment. Emotions play a significant role in how people behave and

think. One tends to regulate their conduct when they experience emotions and adaptively respond to the stimuli in their social environment. Anger is an action-oriented emotion, according to empirical studies and many theories. It is imperative to note that it mostly happens right before the willingness of people to engage in action for a specific cause (Miranda et al., 2021). Scholars have previously indicated that anger predicts collective action participation, such as a boycott or demonstrations.

Anger exerts pressure on the willingness of people to mobilize against entities such as the government or the administration of an institution (Farias et al., 2021). In the current context of environmentalism, moral anger has received extensive recognition, acting as a predictor of pro-environmental behavior. Environmental justice beliefs bring forth moral anger towards the damage caused to the environment, consequently promoting pro-environmental actions and intentions.

Individuals that understand the value of the environment and wish the best for nature are easily angered by people who destroy it. According to this section of individuals, it is immoral for people to destroy the environment. People's moral anger is directed toward different classes of people who are directly contributing to environmental pollution. The indignation about environmental protection affects the willingness of people to act pro-environmentally (Panno et al., 2021). Individuals who support organizations and corporations that directly destroy nature by, for instance, cutting down trees and later conducting CSR activities to support community members suffering from hunger are not for the environment (Martin et al., 2017).

Society must understand the challenges that arise as different people interpret their actions towards the environment differently. Corporations that employ different modes of PBs are considered morally upright. Depending on the type of business, it is imperative to indicate that organizations should participate in green buildings, materials, and design and rely on crucial energy audit systems to determine and optimize energy performance (Soutter et al., 2020). Protection of land and habitat is crucial; access to green vehicles and minimizing construction pollution are among the main elements of environmentalism that could otherwise cause moral anger.

2.9 Organizational Environmental Performance (OP)

Organizational performance refers to the general wellness of an organization regarding its output value compared to its input. Organizational performance can be classified into different sections, including the economy or financial sector, operational, and environmental (Ahmed et al., 2020). Environmental performance refers to the actual output of an organization regarding its environmental sustainability measures as its intended outputs. The environmental performance of most organizations in the world is measured in different ways, including the rate at which the company disposes of non-biodegradable waste, energy conservancy, and other areas, such as the use of fossil fuels in place of renewable energy sources.

Organizations are striving to have a high environmental performance rating because it plays a significant role in meeting the needs of the expanding population and taking advantage of the financial advantages (Banwo & Du, 2019). Consumers are inclined toward brands that employ environmental behaviors because they guarantee the future of the world. Companies are striving to officially announce their sustainability programs to ensure that the available resources on earth meet the needs of future generations.

2.9.1 Age

The effects of climate change are noticed by both children and older adults in society. Both populations present higher disease rates from hurricanes and a higher mortality rate from droughts and floods. It is simplistic to assume that older people do not care about environmental issues because of their attitude (Das et al., 2019). Environmental activities and beliefs often decline with age, with older people engaging less often in active behaviors. The energy and stamina needed to participate actively in environmental activities are felt among the youth. It is easy to assume that the lack of information for the older generation means that they are not concerned with PB but instead with the youth (Rezapouraghdam et al., 2018).

The Internet and other digital communication platforms have made it possible for the younger generation to access information about climate change and make necessary changes to avert impending dangers (He et al., 2021). Access to information among

young people has raised awareness about climate change, pushing them to be more concerned about social and environmental issues (Felixdottir, 2017). The young generation has access to more tools to understand and generate environmental actions. According to researchers, PB follows a life cycle, with the lowest point being where people begin the parenting milestone (Piwowar-Sulej, 2020). It is imperative to indicate that various issues occur during this phase, including a demand for more items and channeling most of the finances toward family.

2.9.2 Gender

According to scholars, women and men do not experience climate change in the same way. Women in rural areas are more likely than men to be concerned with climate change because of their activities, such as cultivation, planting and harvesting, and raising children (Norton et al., 2017). These activities depend on natural resources and a healthy environment. Consequently, women are more concerned about climate change and are more committed to mitigating actions than men (Liu, 2018). Women exhibit higher PB than men, which is experienced in buying; they are more likely to choose environmentally friendly products (Briscoe et al., 2019). Their behavior is more likely to be conscious of the environment; they choose to wear warm regalia during cold weather instead of turning on heating appliances in the house. Women are ready to make a connection between the conditions of the environment and their values.

2.9.3 Income

An increase in income is directly proportional to purchasing and using machinery and gadgets that consume energy and release carbon dioxide and other gases. As a result, energy requirements increase with increased income (Lu et al., 2017). On the other hand, households with a higher income are more likely to participate in green energy programs such as solar energy because of their willingness and affordability for green energy (Wang et al., 2018). As income increases, the previously available free time reduces, reducing the participation rate in various activities, such as recycling tendencies.

However, cross-sectional data analysis reports that income level has no direct correlation with PBs (Buchan & Yates, 2019). People will engage in PBs when the cost

is not too much, while at the same time, people with a higher income will engage in PBs because they can afford them (Zhang et al., 2019). When one's salary is overdue for retrenchment or business closure, one is likely to engage more in PBs based on time and effort availability. Behaviors such as water-saving and transport-saving behaviors are shared among the unemployed or the retired.

2.9.4 Education and Knowledge

It is improbable to find an individual who interacts and deliberately acts in pro-environmental behavior if they do not know about the problem and positive actions. Responsible environmental behavior is directly associated with two factors; the potential positive actions and the problem that nature is experiencing (Chaudhary, 2020). Recent studies have confirmed the presence of high knowledge about environmental problems such as garbage and its effects on the environment and renewable energy sources among the public, but limited knowledge in water quality, climate change, and energy production (Wright & Nyberg, 2017).

It is difficult or impossible to make informed pro-environmental choices if one does not know the environment correctly. Correct and detailed knowledge about nature tends to predict behavior; knowledge is a good tool for salutary decision-making. Self-reported knowledge is fallible, but in the end, it predicts more pro-environmental actions. Countries should introduce lessons that teach about the environment in the school curriculum. These lessons should be clearly understood, be practical classes, and children should be allowed to interact with nature as they study.

Education about nature will shape children's interest and inclination towards nature to influence pro-environmental behavior (Martin et al., 2017). The environmental education program is intended to pass environmental knowledge to learners in school and build their commitment to nature. During these lessons, children will understand that human beings are to blame for the loss of biodiversity and climate change. In addition, they should learn more about pro-environmental actions and participate in activities that help save the environment.

When learners acquire environmental education in their school days, they will inspire others in their interactions to look after the environment (Soutter et al., 2020). Having employees who are committed to nature is encouraging for organizations because they will inspire the rest to participate in events that advocate for environmental changes (De Vos et al., 2021). They will push for policies that ensure its operations are not directly affecting nature and the environment. Employees with a green identity act pro-environmentally by intentionally engaging in PBs, including recycling, cycling instead of driving, and avoiding flying on holiday (Dietz & Whitley, 2018).

Research has confirmed the role played by the interconnection between people and nature as one that builds PBs with humans trying to protect the environment (Neyhart et al., 2021). However, it is imperative to indicate that knowledge about PBs and nature does not always lead to increased pro-environmental actions (Mohamed & Bromfield, 2017). Increased pro-environmental actions are only facilitated by the emotional connection between an individual and nature; if it does not occur, PBs will not be witnessed.

2.9.5 Political Views and Worldviews

As outlined previously, values are relatively stable within an individual and remain strongly related to environmental attitudes. Hence, this explains why people who hold more bio-spheric and altruistic values tend to be more environmentally concerned. People with stronger value orientations are less authoritarian, more people-oriented, and have higher levels of moral development (Mohamed & Bromfield, 2017). They are more environmentally concerned and less egocentric as opposed to the older generation. A report issued in Australia indicated that committed environmentalists have more materialistic and secular values (Zhang et al., 2019).

Materialism refers to a phenomenon or attitude that worldly possessions and general physical wellness constitute the highest value and the greatest good in life. Wealthy individuals in society are among the individuals seeking the highest level of pro-environmental behaviors (Han et al., 2018). PB to these wealthy and materialistic individuals is a sign of prestige because they engage in the most expensive initiatives.

For instance, most wealthy individuals across the world were the first to purchase Tesla's full-electric vehicles. Due to their limited production capacity and the high cost, the rich pre-ordered the vehicles as a sign of prestige since it was not their everyday car.

The post-materialistic values are related to environmental concerns, which lead to a wide array of pro-environmental behaviors and predict the willingness to sacrifice. Post-materialistic values are held by a fraction of the population that does not worry about basic material things in life but is more concerned with higher-level actions and goals (Mousa & Othman, 2020). Such individuals are in the business of self-improvement, providing direct input to government and personal freedom. Predictors of environmental actions among employees are individuals holding moral principles.

Leaders holding post-materialist values and political competence are influential in environmental and political action matters. Such leaders inspire the country to take on environmental values and help in ensuring the world is making progress in safeguarding the environment (Groening et al., 2018). These individuals are more concerned with global environmental issues and plan to deliver speeches, hold conferences, and direct groups to uphold a more significant concern for environmental issues. In free-market principles, individuals are more reliant on technology and believe that it will solve environmental challenges using the latest technology (Moser & Kleinhückelkotten, 2018). However, this group has the least environmental concerns compared to any other group. A larger world population must uphold environmental values because of collective initiatives to save the environment; a more substantial effect will be felt worldwide (Piazza, 2021).

When one has a solid attachment to a place, one wants to protect it, which explains the individual factor of responsibility. When one feels responsible for saving nature by undertaking pro-environmental actions, one sacrifices finances for the environment. They mobilize people and use their resources to sensitize and empower them to incline more toward PBs (Han et al., 2018). If one believes they need to recycle more to save the environment, they will ensure it happens. Some employees take it upon themselves to collect non-biodegradable waste, such as plastic containers, and put them in a common

area (Su-Ping et al., 2020). They will inspire the rest of the population to engage in such practices because they need to save the environment (Singh et al., 2018).

A simple initiative started by an employee can influence the rest of the people within the firm to slowly adapt environmental values, which they will practice even outside the office. Environmental concern begins with one's choice of activities. Engaging in outdoor recreation activities raises a generation that is concerned with the environment. Some outdoor consumptive activities, including fishing and hunting, do not lead to a close connection with the environment compared to non-consumptive activities such as hiking and photography (Lunkes et al., 2020). In the same light, members of a bicycling club will be more appreciative of nature than members of an off-road organization (Liobikienė & Poškus, 2019).

When people acquire positive environmental behavior and attitudes, they perform more ecological restoration work and general nature-oriented activities. People watching more nature documentaries and news are more mindful of nature than adolescents who concentrate on science shows. Employees bear different personalities, characters, and abilities, and only those who are primarily nature-oriented will advocate for pro-environmental activities (Thao, 2020). However, employees who are mindful of the welfare of nature will find new ways of ensuring that the organization is adopting several strategies that will lead to sustainability.

2.10 Human Resource Management's Influence on Employees' Pro-Environmental Behavior

Extant research has attempted to examine the influence of human resource management (HRM) on organizations' environmental performance. The researcher views such studies as essential and fundamental to understanding how employees' pro-environmental behavior impacts environmental performance. The reason for this claim is that the extant literature has helped establish that leaders can transform employees' values to align with pro-environmental ones (Graves et al., 2013). Such roles in realigning employees' values can be found within HRM (Pinzone et al., 2016). Looking at HRM more broadly, Paillé et al. (2014) found a direct relationship between strategic HRM,

internal environmental concerns, and organizational citizenship behavior toward the environment.

While agreeing with this position, Wehrmeyer (2017) indicated that specific HRM roles directly influence employees' urges to adopt the right pro-environmental behaviors based on changes in their perceptions, values, and attitudes toward the environment. Moreover, some identified HRM strategies or roles that influence employees' pro-environmental behavior. Consequently, the entire organization's environmental performance includes training and development, transparent and regular communication, investment in corporate social responsibility (CSR), and a focus on employee wellbeing (Jabbour et al., 2015; Zibarras & Coan, 2015).

Kim et al. (2019) conducted one of the more recent studies focusing on HRM's effects on employees' eco-friendly or pro-environmental behaviors. The researchers suggested a strategic HRM system known as green HRM to implement a set of HRM programs that directly focus on environmentalism culture. They stressed that providing environmental training to employees is one of the most effective HRM strategies to cultivate pro-environmental behavior in employees. De Vos and Van der Heijden (2017) further elucidated that the role of environmental training in employees' pro-environmental behavior is helping to create awareness and exposing employees to new values and behavioral avenues they were unaware of.

The researchers explained that environmental consciousness is considered a broad and sometimes complicated phenomenon. Hence, it is wrong to expect that all employees will automatically have adequate awareness of what they can do to protect the environment or why they should be concerned about it. This is where training and development in environmentally oriented topics are necessary to positively affect employees' behaviors. In their study, Kim et al. (2019) found training to be one of the principal variables that cultivate eco-friendly behaviors in employees.

The issue of transparent and regular communication has also been a critical HRM strategy that cultivates pro-environmental behavior in employees (Epstein et al., 2018). An organization provides transparent and regular communication when mechanisms are

in place to ensure that employees access the information they need and are assured that their voices will always be heard (Jabbour, 2015). Wehrmeyer (2017) related the issue of transparent and regular communication with organizations' organizational structure and leadership style, noting that some of these leadership styles and organizational structures support open communication more than others. More specifically, organizational structures and leadership styles associated with more bureaucratic and formal structures are said to not effectively support communication because, in such organizations, employees are mainly required to listen and be open-minded rather than interact with top officials.

Organizations with less bureaucracy and more informal structures and leadership offer more transparent and regular communication (Kramar, 2014) because such organizations encourage employee engagement, in which employees take center stage in decision-making. Relating communication strategies to pro-environmental behaviors, Ehnert et al. (2016) stressed that when employees have full knowledge of and access to information about an organization's environmental programs and projects through healthy communication, they can figure out how to integrate themselves into these programs. When communication is limited, employees are taken by surprise and cannot plan how to integrate themselves into these organizations' environmental programs (Jabbour & de Sousa Jabbour, 2016).

The third HRM strategy that organizations have been advised of is investing in CSR through self-regulated models that allow them to be socially responsible to stakeholders (Pinzone et al., 2016). Like sustainability, CSR may be viewed from three principal perspectives: social, economic, and environmental responsibilities. De Vos and Van der Heijden (2017) emphasized that even though organizations carry out CSR activities as entities, the actual people who implement CSR measures are primarily employees. When organizations prioritize and invest in environmental CSR, they create an avenue for employees to take responsibility for the environment through implemented activities.

It is not surprising that Ehnert et al. (2016) found that most organizations tie their environmental sustainability programs directly to their CSR activities; that is, these same activities are reported as CSR and sustainability projects. In a study by Kramar (2014), it

was found that employees from organizations with more frequent CSR projects generally gained more consciousness about their responsibility to society and the environment. Afsar et al. (2016) state that the more CSR projects employees are exposed to, the better their chances of adopting positive workplace spirituality values necessary for exhibiting pro-environmental behavior.

Finally, Jabbour and de Sousa Jabbour (2016) emphasized that as part of the mechanism that inculcates accurate values for building pro-environmental behavior in employees, management must show greater concern for employees' well-being, which can be achieved in several ways, including HRM strategies that seek to motivate employees in the workplace. In their work, Paillé et al. (2014) found staff motivation to be one of the primary HRM strategies that mediate environmental performance. Between motivation as an HRM strategy and the attainment of environmental performance, employees develop pro-environmental behavior that they exhibit by voluntarily supporting the company's sustainability programs (Zibarras & Coan, 2015).

Jena and Behera (2017) have explained why cultivating greater employee well-being through motivation positively influences pro-environmental behavior. First, Guerci et al. (2016) posited that when an organization has a mechanism or system to identify employees who show pro-environmental behavior and reward such employees, they send signals to those employees and others that pro-environmental behaviors are appreciated. By inference, trying to motivate employees also encourages them to engage in more pro-environmental behavior. Second, Guerci et al. (2016) wrote that when an organization shows general concern for employees' well-being, it becomes a yardstick for employees to feel that they owe the company something in return. To honor such a feeling of obligation, employees can commit to supporting the company in its sustainability projects, even when such support is not mandatory.

2.11 Environmental Performance's Impact on Organizational Growth

Earlier literature review sections examined studies on the need for organizations to achieve environmental performance through employees' pro-environmental behavior. In this section, the impact of environmental performance on the organization will be

discussed. The relevance of this section is to help organizations appreciate that while honoring social responsibility through environmental sustainability projects, guaranteed growth outcomes might be possible for them. Chin et al. (2015) found a direct relationship between environmental CSR and organizational growth, as determined by revenue and profitability.

Severo et al. (2015) also identified such a direct relationship and explained that organizations' environmental sustainability programs help obtain goodwill among stakeholders, e.g., customers and investors, often translating into increased business activities. Because these two stakeholders contribute money, and the measure of growth for most of these organizations is profitability, their investments in sustainability result in the type of growth they seek. However, Ioannou and Serafeim (2017) found that most organizations do not prioritize environmental CSR to increase revenue and profitability, but that even among such organizations, it is primarily inevitable for them to experience significant growth as their investments in environmental sustainability increase.

In another study by Dangelico and Pontrandolfo (2015), the researchers confirmed that organizations' environmental performance directly impacts growth, attributed to the positive publicity and increased mileage that such performance yielded for these organizations. When competing in a competitive industry, organizations require high promotions as part of their marketing mix of strategies (Ahi & Searcy, 2015). In some cases, they spend heavily on promotions via ads and other marketing campaigns. Meanwhile, Schrettle et al. (2014) emphasized that the more a company prioritizes environmental sustainability, the more positive coverage it gets from the media, thereby serving as free publicity to promote its brands, implying that growth through promotions can come in two forms. First, organizations get mileage within the market when the media consistently shares positive news about their environmental sustainability projects. Second, such organizations spend less on promotions than their competitors because of their free publicity.

These savings translate into greater profitability through lower expenditure (Chin et al., 2015). Also, writing about promotions' benefits, Ioannou and Serafeim (2017) found that organizations' decisions to take their environmental sustainability projects to

consumers' doorsteps are a market-penetration strategy, making it possible for consumers to familiarize themselves with the company. Furthermore, Lorek and Spangenberg (2014) noted that with growing societal concerns over environmental sustainability, organizations with high environmental performance stand a better chance of attracting the best talent. A study by Ortiz-de-Mandojana and Bansal (2016) confirmed this, as new graduates opined that they would select environmentally responsible organizations over those not environmentally responsible if they had to choose between two organizations.

Meanwhile, the talent available to a company is crucial in determining its growth prospects. Eccles et al. (2014) categorized different factors that influence workplace growth, and one of the highest-rated factors was the workforce. In a related study, Severo et al. (2015) found that organizations with poor publicity and bad brand image experienced high employee turnover, which negatively impacts growth, as the company's highly skilled and experienced worker base is depleted, and resources must be devoted to recruiting new workers (Ahi & Searcy, 2015). Meanwhile, Dangelico and Pontrandolfo (2015) pointed to poor environmental performance as one of the principal factors that can give organizations negative publicity and brand image.

Lorek and Spangenberg (2014) also studied the impact of environmental performance on organizations' internal operations and how they translate into growth. The study found several internal parameters of environmental performance that influence growth. The first is that environmentally conscious organization that prioritizes sustainability are more likely to adopt *lean thinking* - a business methodology associated with eliminating waste to benefit the organization and society (Verrier et al., 2014). Today, growing research indicates a relationship between lean and green, leading to several organizations using lean thinking as their modality for sustainability.

From a more practical perspective, Chiarini (2014) found seven waste types that organizations using lean techniques try to avoid: transportation, inventory, motion, waiting, over-processing, overproduction, and defects. To avoid most of these waste types, organizations must either adopt strategies that create sustainable substitutes or minimize certain practices, both of which are valuable tactics for protecting the environment (Verrier et al., 2014). For example, to avoid transportation waste, a company

may use an employee bus to transport employees to and from work instead of expecting them to drive independently.

Also, concerning the internal benefits of environmental performance on growth, Saeidi et al. (2015) found that most environmentally conscious organizations have reduced expenditures in areas that are not always environmentally conscious, e.g., energy, transportation, legal and compliance, and supply chain. Ortiz-de-Mandojana and Bansal (2016) found similar results, emphasizing that organizations with high environmental performance are more likely to use renewable energy and other energy-efficient options cheaper than conventional energy sources. Meanwhile, in most industries, particularly hospitality, energy costs are one of the main expenses for organizations (Eccles et al., 2014). As organizations reduce their energy expenditures, they can better maximize profitability and achieve more growth.

Writing on legal and compliance costs, Schrettle et al. (2014) stressed that most governments now have strict environmental policies and laws that organizations must follow. Violators are often fined heavily, which negatively affects their bottom lines. Recycled products are cheaper than those that are not (Saeidi et al., 2015); thus, supply chain savings positively impact profitability and growth. Finally, Low (2012) used the case of the UAE and other countries with long-term environmental vision plans to make the case that several governments are now ready to offer special incentives to domestic and foreign organizations with high environmental performance. For example, in the US, the government, through the Environmental Protection Agency (EPA), offers several incentives for compliant organizations when it comes to environmental sustainability, including tax breaks, emission-reduction credits (ERCs), pollution-control subsidies, and tax holidays (Epstein et al., 2018).

Thus, this shows that while organizations that do not ensure environmental sustainability are likely to suffer penalties that eat into profits, those that boost environmental performance benefit from government incentives, positively impacting their bottom lines. Eccles et al. (2014) found that, for most multinational organizations, taxes to governments amount to millions in expenditures that could be channeled to profitable endeavors. Therefore, this shows that organizations' savings from

environmental compliance led to growth, including government incentives. Finally, the previously outlined literature suggests that organizations' high environmental performance translates directly into overall growth. Thus, organizations must view investments in environmental sustainability as profitable ones that can yield short-or long-term financial gains.

2.12 Research Gap and Emerging Research Questions

A careful assessment of the extant literature indicates a research gap pertaining to employees' direct role in affecting organizational environmental performance. In the most extant literature, researchers have focused on organizations' roles as corporate entities and management members' roles as leaders (Younis et al., 2016). In the UAE Vision 2021 and Environment Vision 2030 overviews, several researchers have supported UAE government policies. However, in doing so, they only seemed to refer to organizations as corporate entities in supporting policies to make them achievable (Kolk, 2016). Under the theme of environmental sustainability initiatives among UAE organizations, several initiatives were identified.

The research gap concerning the lack of prioritization of employees was evident under this theme as well because most initiatives that organizations currently use are not directly tied to employees in any way. One of the examples in which employees were prioritized was organizations that reward employees for using alternative transportation modes and organizations that plan sustainable transportation systems for employees. However, it is strongly believed that organizations can tie most of their environmental sustainability initiatives to employees. This research examined some specific employee-oriented initiatives in organizations to realize what affects environmental performance.

The literature review was also used to justify values and attitudes as predictors of pro-environmental behavior in employees. While employees were at the center of such pro-environmental behavior, the available literature did not particularly identify any organizations as encouraging such behaviors in employees because of the need for them to lead the sustainability agenda. However, the fact that extant literature confirmed that values and attitudes predict pro-environmental behavior in employees indicates to the

researcher that it is possible to continue building on this theme of giving employees an independent place in the organization to champion environmental sustainability. The literature gap in research concerning this minimal emphasis on employees can be attributed to several factors.

The most significant of these could be that environmental responsibility is optional for employees but obligatory for organizations (Golini et al., 2014). While Kolk (2016) noted that employee participation in organizations' environmental sustainability projects is not mandatory because organizations are legal entities, it is also essential to appreciate that organizations need employees to function. Therefore, it is strongly suggested that researchers should begin looking more closely at how employees can independently influence their employers in realizing goals of environmental performance.

This study would address this gap by emphasizing how employees' pro-environmental behaviors empower them to take the lead in helping their employers achieve high environmental performance. For this reason, most aspects of the literature review are dedicated to how organizations can ensure pro-environmental behavior in employees.

2.13 Micro-foundations Concept and Environmental Sustainability for the Organizations

In a world whose growing prosperity is founded on the misuse of natural resources, Cooper et al. (2017) expressed those humans should stop viewing environmental problems with localized and temporary measures that resolve the end of pipe challenges rather than the source. As the affluence of an organization grows, the ecological production overheads are primarily treated as externalities by economic logic (Foss, 2016). Organizations' growth and prosperity are predominantly based on exploiting natural resources until individuals within the organization begin to individually apply micro-foundational elements of environmental sustainability (Balarezo & Corcuera, 2021).

In the field of organizational sciences and management, specialization has fashioned a divide between macro and micro areas. The macro management area of

research encompasses strategic management and organization theory, focusing on inter-organizational relationships. The micro-research areas encompass human resources management and organizational behavior while focusing on research questions covering individual and group levels (Barney & Felin, 2013). It is essential to conduct in-depth research and analysis on micro-foundations of environmental sustainability due to the growing global population and economies, as illustrated in Figure 1.

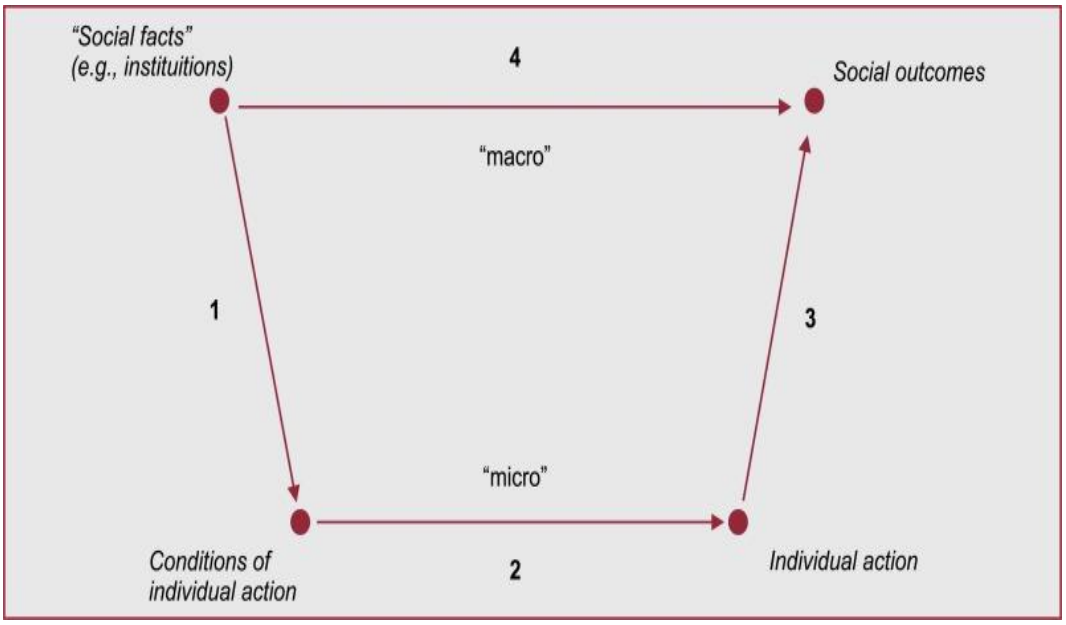

Figure 1: Micro-Foundations Concept (Source: Foss, 2016)

According to Barney and Felin (2013), the environmental question faced by all companies should be addressed from an aggregation perspective. Organizational analysis should strive to fundamentally deal with how individual-level factors aggregate to the collective level. It is imperative to establish that emphasis should be more on individual learning and influence on environmental sustainability and how individual measures can collectively lead to a reciprocal organizational influence (Bolognesi & Nahrath, 2020). In contrast, most environmental sustainability researchers focus more on macro-foundations, including organization-learning, environmental feedback, and cognition.

According to Balarezo and Corcuera (2021), the resources for consumption and production are rising in demand as the population grows, with projections indicating that by the end of 2050, raw materials will be over 50%, mostly in developed nations. If western consumption patterns are adopted across the world, it is estimated that the extraction of raw materials will increase two to three-fold. Further, Balarezo and Corcuera (2021) indicate that the economic projections indicate that the world GDP will have increased by 130%, which will need additional resources.

Demers and Gond (2020) have established that micro-foundations refer to the primary individual-level actions which outline an organization, approach, and dynamic competencies, which lead to the development of organization-level performance. Micro-foundations need to be researched further to determine the rate at which they facilitate the dynamic capabilities of various organizations. The capabilities of an organization refer to organizational routines, differentiated technological skills, complementary assets, competencies, and the organization's competitiveness (Randolph-Seng et al., 2015). These micro-level origins are crucial in understanding how companies develop and deploy capabilities for environmental sustainability.

A previous study conducted by (Foss, 2016) indicated that environmental sustainability is only can be achieved by organizations that have allowed individual contributions. A Westerner's lifestyle is mainly involved in the generation of wealth is a daunting process that consumes more than 80% of resources globally (Cooper et al., 2017). Therefore, this means that there is a need to learn ways of building more wealth without depleting more natural resources for the sake of future generations. Individual initiatives play a significant role in ensuring that they do not focus on the accumulation of wealth or material growth. Ghassim and Foss (2018) have indicated that as more individuals become enlightened about environmental sustainability, they are instilling similar practices within their organizations. Some of these practices that deal with ecological expansion include consistency, effectiveness, sufficiency, and consistency.

Some of the basic sustainability strategies that begin from an individual perspective include the logic of consistency, efficiency, and sufficiency. Individuals within an organization who primarily focus on environmental sustainability quickly create new

opportunities for the organization to realize sustainability and explore technological opportunities (Randolph-Seng et al., 2015). Further research should be performed to ascertain how these sensed opportunities are explored and activities reconfigured to align to tangible and intangible resources and competencies for purposes of maintaining evolutionary fitness. This focus will bridge the gap between the currently available data on macro-foundations of environmental sustainability and micro-foundations.

2.14 Theoretical Framework

Theory of Planned Behavior (TPB) is a socio-psychological theory primarily used to explain individual behavior and willingness and can predict the psychological driving forces needed in the execution of a particular behavior (Mohiuddin et al., 2018). Many environmental science researchers are advised to utilize TPB and additional variables and theories in diverse fields and consider other dynamic external factors for better implications and predictions (Ju et al., 2019; Karami & Dehghan, 2021; Yuriev et al., 2020a). Environmental problems such as pollution, climate change, and global warming are caused by human behavior and society (Hanif & Gago-de-Santos, 2017).

Solving these environmental challenges requires a series of actions by individuals and society since it affects everyone. However, it is challenging to solve environmental challenges because adopting pro-environmental behavior will not lead to immediate results (Su & Swanson, 2019). At the same time, another section of people believes that the negative consequences of global warming and climatic changes are uncertain because some of them will not be seen now but in the future, following scientific predictions (Tetzlaff et al., 2019). On the other hand, a section of people believes that it is a hoax and will not be affected by environmental problems and climatic challenges, and this group has prevented people from adopting pro-environmental behavior (Sarathchandra & Haltinner, 2021).

The consequences of climate change and global warming are experienced worldwide, and they affect every individual. Currently, the world is experiencing quick transitions from excessive rainfall to flooding to prolonged famine (Newell & Taylor, 2020). Despite these challenges, the world continues to produce massive quantities of

GHGs (White et al., 2019). With the significant and steady increase in the world's population, it is imperative to note that production has increased. People use wastewater when washing, gas when driving, and power leading to more environmental problems, climate change, and global warming (Vasquez et al., 2019). The most prudent considerations for mitigating these challenges include convincing people to conserve energy and reducing unnecessary wastage. The population can practice pro-environmental deeds by conserving energy and saving it.

Energy conservation is a PB because it is involved with diminishing harm done to the environment. While seeking to determine why individuals adopt energy conservation behavior and other forms of PBs, a socio-psychological Theory of Planned Behavior (TPB) in Figure 2 is utilized. TPB is a framework that will establish how different PBs are instrumental in ending climate change (Singh et al., 2018). The theory of planned behavior in 1985 by Icek Ajzen is an extension of the Theory of Reasoned Action (TRA) with only an additional variable, *the perceived behavioral control.* This theory is better placed to explain the behavior of human beings in specific contexts, mostly where they have minimal control over their behavior.

The theory of planned behavior is applied in different fields. Over time, it has demonstrated its effectiveness in predicting actual conduct in healthcare, educational behavior, pro-environmental behavior, sexual behavior, and tourism (Nuringsih et al., 2019). The theory of planned behavior in this paper will be used to evaluate various proposed pro-environmental behaviors (Karami & Dehghan, 2021). The theory supports the study's research topic, all extant literature from the review, and the identified research gaps in the (TPB). As reflected in its name, TPB links a person's beliefs to their behavior (Askew et al., 2014).

Therefore, theorists who support TPB believe that what influences a person's behavior is what they believe. In this study's context, the TPB variable is taken to be employees' pro-environmental behavior. Thus, employees' beliefs determine these pro-environmental behaviors. Ajzen (1991), who proposed the theory, said three principal variables shape a person's behavioral intentions and eventual behavior: attitude toward

behavior, subjective norms, and perceived behavior. How various variables relate to each other is depicted in Figure 2.

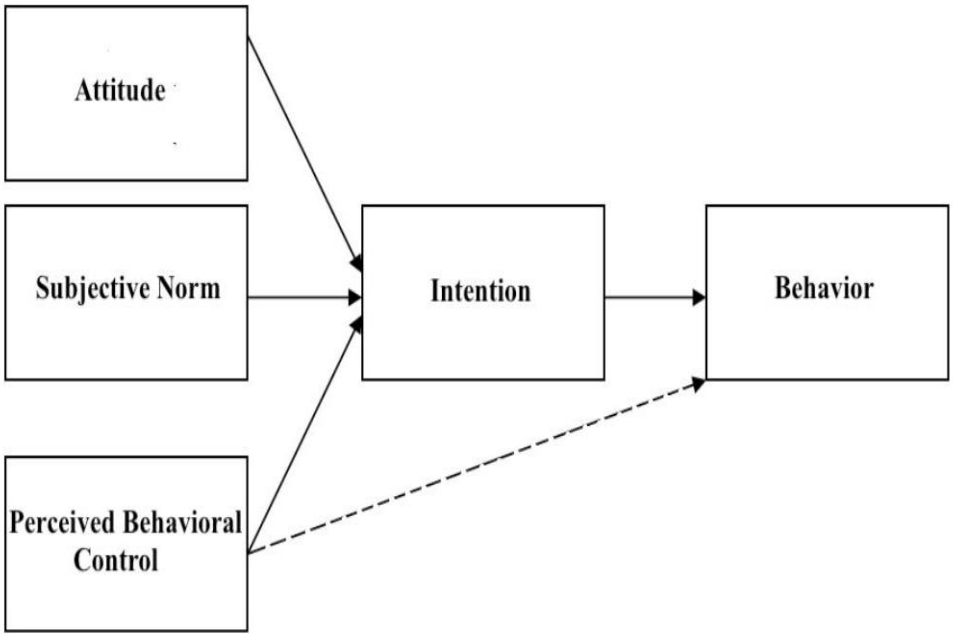

Figure 2: Theory of Planned Behavior (Sources: Ajzen, 1991)

2.15 Research Hypotheses

Previous empirical studies posit that employees' participation in pro-environment behavior can lead to better organizational environmental performance and financial performance (de Bruijn & Holfman, 2000; Norton et al., 2015). Moreover, referring to the extant literature, Paillé et al. (2014) commented that employees' behavior or conduct toward the environment directly affects a company's success with its environmental performance. Moreover, high environmental performance will result if employees exhibit environmentally friendly behavior, or environmental performance might suffer otherwise (Paillé et al., 2014). The following research hypotheses are proposed:

H1: A positive relationship exists between employees' pro-environmental behavior and organizational environmental performance.

Employees' participation in decision-making is widely used in developed countries because they have a partnership system between management and employees. Adopting this system can lead to financial gains (Javed & Idris, 2018). Furthermore, Farooq et al.

(2019) found that employees' participation in decision-making can increase sustainability and financial performance in an organization. Moreover, getting employees to participate in decision-making early using the bottom-up approach can enhance organizational sustainability support (Armenakis & Bedeian, 1999). Additionally, they possess practical information about how organizations perform and know what is needed for the best implementation (Bansal, 2003; May & Flannery, 1995). Thus, it is proposed the following:

H2: Employees' participation in decision-making mediates the relationship between pro-environmental behavior and organizational environmental performance.

The research also emphasizes pro-environmental training and employee education as variables for achieving high environmental performance. Hence, Jabbour (2015) stated that training and education give employees the proper form of empowerment to know how to perform their roles in the organization, including environmental sustainability roles. Moreover, employees' perceptions of ease or difficulty in performing particular behaviors will be determined by their influence on the organization, its management, and external variables, such as environmental training. Moreover, while extant literature defines employees' pro-environmental behavior and identifies ways to achieve such behaviors, it fails to recognize how pro-environmental behavior can be used to make employees lead their organizations' environmental performance agendas. This gap exists because education on sustainability, which is necessary to promote perceived behavioral control among employees, has not yet been prioritized (Gan & Gal, 2018). Alternatively, Fawehinmi et al. (2020) found that environmental awareness training as part of HRM programs positively affects personal norms. Likewise, Xie et al. (2021) postulated that adding value to pro-environmental behavior through training will lead to a change in personal norms. Therefore, it is proposed the following:

H3: A positive relationship exists between employees' subjective norms and an environmental awareness training program.

As reviewed earlier, the theoretical model reemphasizes those employees who cannot function in isolation and need support from their employers through management support and positive role modeling to help them adopt the right perceived behavioral control. Meanwhile, Rivis and Sheeran (2003) defined attitude toward behavior as "the

personal opinions that people hold about if their actions are good or bad, positive or negative, and favorable or unfavorable." Relating management support that employees receive and role modeling to this definition of attitude, one can perceive that when the proper support is in place, employees will be better placed to differentiate right from wrong.

The modeling they receive will make them choose what is suitable, positive, and favorable over what is not (Brown & Treviño, 2014). According to Bo (2014), the work attitude of transformational leadership and employee can influence intellectual stimulation by encouraging an employee to pursue higher goals and meet their ambition; through individualized consideration, providing employees with understanding and support for personal development. These TL's behaviors will make employees focus on the work to improve job satisfaction and organizational obligation. Also, other research works have demonstrated that transformational leadership and employees' work attitudes have a significant positive correlation in different organizations and cultures.

Similarly, Yukl (2012) also believes that TL changes employees' attitudes and makes them trust and respect the leader and see him as a raw model, so employees would put in extra effort to complete each task. Moreover, Howell and Avolio (1993) found that TL's subordinates can internalize the values and goals of the leader and pursue the proposed mission and the target by the leader beyond their current personal interests. Also, Bass (1999) found that TL can selectively incite staff's internal achievement motivation and high-level needs. Similarly (Li & Shi, 2003) posit that a leader's charm positively impacts the employee's extra effort; Meng (2004) also confirmed that TL leadership has predictive power on employees' organizational commitment and other work attitude indicators. Given all that, we propose the following proposition:

H4: There is a positive relationship between transformational leadership and employees' attitudes toward pro-environmental behavior.

Perron et al. (2006) explained that environmental education and awareness training programs are essential for changing how organizations conduct their activities, mainly if the training is directed toward changing the culture of the environment. Concurrently, Young et al. (2015) found that most employees face a common problem regarding

environmental sustainability: they are mostly distanced from the organization's environmental initiatives. In addition, it makes it difficult for them to gain experience and adopt environmentally friendly behavior because they do not become familiar with such behavior (Young et al., 2015). Meanwhile, the pro-environmental training posits that employees need to perceive that performing such behavior is easy rather than challenging for employees to exhibit the behavior.

The latitude employees are given to participate in their organizations' environmental initiatives is necessary to help them develop proper perceived behavioral control. When employees sense that the organization and their supervisors will value voluntary initiatives, they are motivated to engage in environmental organization behavior and increase their emotional attachment and commitment to the firm. Loyalty flows from employee satisfaction, partly a product of social approval and intrinsic attraction. The endorsement of others helps the employees justify their behaviors and decisions. The common attractiveness of persons or organizations will be more excellent if they share the same opinions, values, and norms (Paillé et al., 2013).

Ramus and Steger (2000) assumed that organizations' transition toward environmental sustainability would be enhanced by their ability to implement employees' creative environmental solutions; engagement rises when the firm's values and objectives overlap with those of the employee. Further, perceived behavior control is bolstered by the proximity of similarities between employees, supervisors, and organizational cultures. Furthermore, the enactment of eco-initiatives will be improved when consent is anticipated to support employee empowerment and creativity to foster eco-initiatives (Cronin et al., 2011; Ramus & Steger, 2000). With this in mind, it is proposed the following:

H5: A positive relationship exists between employees' participation in environmental initiatives and their perceived behavioral control.

Research in environmental psychology has exhibited that personal differences such as individual and social norms and feelings of guilt are heavily related to environmental attitudes and intentions to engage in pro-environmental behavior in society in general (Bamberg & Möser, 2007). Furthermore, Chen and Tung (2014) explained that an

individual's attitude is essential in determining the person's intentions and eventual behavior after realizing how society perceives excellent or destructive behaviors, positive or negative, and favorable or unfavorable. By inference, although opinions that comprise individual attitudes are subjective or personal, they are considered what society accepts or rejects.

The considerations about what society accepts or rejects often become the motivation for employees to develop proper intentions for a particular behavior (Kautonen et al., 2015). Moreover, Afsar et al. (2020) and Yuriev et al. (2020b) found that attitudes were the most significant factor in predicting intention from the three constructs of the TPB (attitude, subjective norm, and PBC). Likewise, Norton et al. (2015) conclude that attitude and subjective norms are the most substantial distinctive factors impacting pro-environmental intention. Concerning this, it is proposed that:

H6: A positive relationship exists between employees' attitudes and intentions toward pro-environmental behavior.

Subjective norms also can be explained as "the beliefs of an individual that are accepted by specific people or groups and dictate whether behaving in a particular fashion is appropriate" (Ajzen, 2006). This definition also elicits the issue of social perceptions or beliefs, as others' judgments are often dictated by what people in one's social network think (Rivis & Sheeran, 2003). De Leeuw et al. (2015) argued that employees' subjective norms influence their perceptions of behavior, likely affecting their intention to exhibit that behavior.

According to Fang et al. (2017), individuals are more likely to have the intention to display and engage in pro-environmental behavior when they feel under pressure to adapt to the anticipation of normative social influence. However, others offer a different view from the contexts of different cultures, such as eastern versus western. Specifically, the ethical and philosophical system emphasizing social values in East Asia has solid cultural roots in China, Japan, Korea, and Taiwan. Moreover, the strong emphasis on social values forms the basis for a sense of belonging to the group, calling attention to a more significant influence of subjective social norms on behavioral intentions. Along these lines, it is proposed that:

H7: A positive relationship exists between employees' subjective norms and intentions toward pro-environmental behavior.

According to Ajzen (1991), behavior intentions rely primarily on social cognitive factors, and attitudes can influence employees' beliefs that can be positive or negative toward a behavior. Attitude toward behavior with perceived behavioral control could determine behavioral intention. Moreover, Chen C. & Chen Y. (2021) found a positive correlation between PBC energy-saving behavioral intention habits among employees. Furthermore, Adnan et al. (2017) observed that in Malaysia, the PBC significantly changed the intention of adopting green practices by the small farming industry. Moreover, employees who perceive a relatively high level of control at work are more likely to be satisfied, motivated, committed, and involved. Therefore, they perform better and hold greater expectations. Furthermore, they will have more intention to participate and less desire to quit. Alternatively, they also will have fewer physical and emotional symptoms, less role ambiguity, and less conflict. (Spector, 1986). Thus, it is proposed the following:

H8: A positive relationship exists between employees' perceived control and intention toward pro-environmental behavior.

According to Kaiser et al. (1999), pro-environmental behavior intentions can change pro-environmental behavior when there is a whole emotional responsibility toward sustainability, environmental knowledge, and appreciation of environmental values. Concurrently, Ju et al. (2019) held that when weighing one's personal opinions against social beliefs, it is mostly the case that personal opinions will inform intentions and behavior. However, social beliefs are essential because most people usually derive satisfaction from behaviors they perceive as favorable to them rather than society. Kautonen et al. (2015) asserted that a generalized modality might not determine which intentions and behaviors are best and whether they are based on individual attitudes or subjective norms. Instead, such a determination is best made based on the behavior in question. Finally, Yuriev et al. (2020b) posit that the TPB could be a robust model to explore the intention of individual employees to engage in pro-environmental behavior, as it explained up to 79 percent of the variance in the research. Therefore, the study proposes the following:

H9: A positive relationship exists between employees' intentions toward pro-environmental behavior and employees' pro-environmental behavior.

The proposed research hypotheses are involved in conceptualizing the theoretical research model, as illustrated in Figure 3.

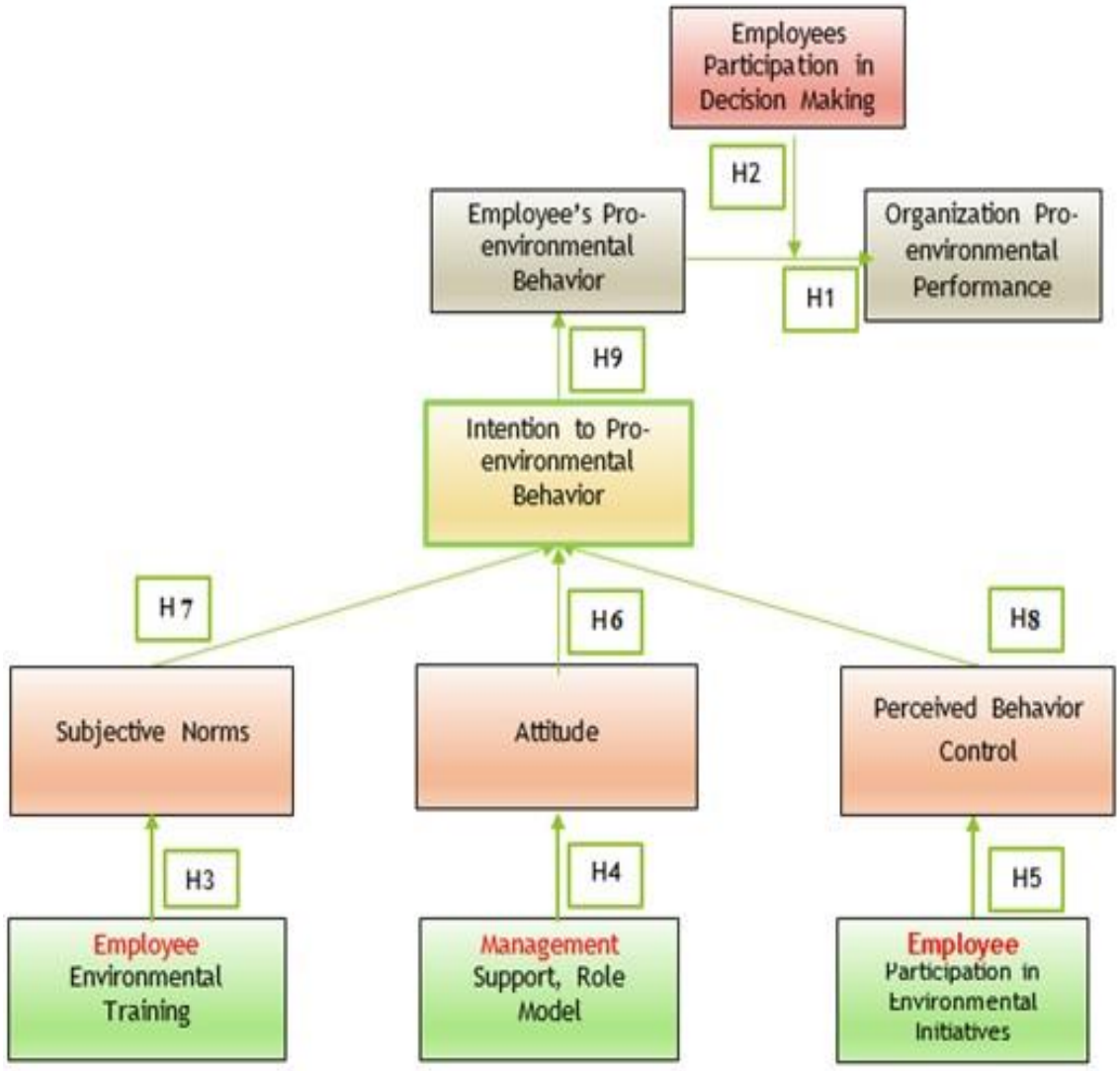

Figure 3: The Initial Theoretical Model for the Research and its Hypotheses Based on the TPB

Finally, Table 1 illustrates a summary of research-related factors and relations.

Table 1: Summary of Research-Related Factors and Relations

Author(s)	Main Research	Core Concept	Method	Respondents
Asfar & Umrani (2020)	It examined the effect of perceived CSR on employees' pro-environmental behaviors. And responding to the call for more research regarding the underlying mechanisms that transmit the effect of perceived CSR on microlevel outcomes	Social Cognitive Theory	Survey	Employees
Azhar & Yang (2021)	Environmental performance relies on employees' voluntary participation in accepting pro-environmental behavior, and the role of leadership and organizational culture can influence this behavior.	Transformational Leadership Theory	Survey	Public Employees
Bo (2014)	TL has predictive power on employees' organizational commitment as work attitude indicators.	Self-Efficacy Theory	Based on Analysis of previous research	Managers and Employees
Chen & Tung (2014)	An Individual's attitude is essential in determining the person's intentions and eventual behavior after realizing how society perceives excellent or destructive behaviors and favorable or unfavorable behaviors.	Theory of Planned Behavior	Survey	Hotels Consumers
Chen C. & Chen Y. (2021)	There is a positive correlation between PBC and intention between employees.	Norm-activation Theory, the Theory of Planned Behavior	Survey	Employees

Table 1: Summary of Research-Related Factors and Relations (continued)

Author(s)	Main Research	Core Concept	Method	Respondents
De Leeuw et al. (2015)	Employees' subjective norms influence their perceptions of behavior and intention to exhibit that behavior.	Theory of Planned Behavior	Surveys	Students
Farooq et al. (2019)	Participation of employees in decision-making can increase financial performance and sustainability in an organization.	Social Identity Theory	Survey	Employees
Fawehinmi et al. (2020)	Environmental awareness training of HRM affects personal norms positively.	Motivation, Opportunity Theory; Norm Activation Model; Employee Ability.	Survey	Academics from five public research universities
Islam et al. (2019)	Reducing environmental degradation by focusing on employees' involvement in pro-environmental behavior has implications for employees and leaders.	Social Identity Theory and Self-Categorization Theory.	Survey	Supervisors and employees
Janmaimool & Khajohnmanee (2019)	The relationships between environmental knowledge and environmental attitudes and their relationship with pro-environmental behavior	Value Belief Norm Theory	Survey	Students
Kaiser et al. (1999)	PB intentions can change pro-environmental behavior when there is a whole emotional responsibility toward sustainability, environmental knowledge, and appreciation of environmental values.	Theory of Reasoned Action	Survey	Adults and College Students.

Table 1: Summary of Research-Related Factors and Relations (continued)

Author(s)	Main Research	Core Concept	Method	Respondents
Nnadi & Ndubuisi (2021)	investigating the influence of participation of employees in decision-making on organizational performance, and ascertaining the influence of job enrichment on organizational success	Motivation Theory	Surveys	Employees
Paillé et al. (2014)	The behavior of employees toward the environment directly affects the success of an organization with its environmental performance.	Strategic HRM	Survey	Senior management, CEOs, frontline staff
Ramus & Steger (2000)	Participation in environmental initiatives can promote eco-plans when consent is anticipated supporting employee perceived behavioral control.	Stakeholder Theory	Survey	Employees

Chapter 3: Methodology, Method, and Sample Design

The previous chapter of this research has covered the reviewed literature related to the conceptualized context. Thus, a conceptual model was developed by defining constructs and hypothesizing the relationships between those social constructs related to the research subjects. The identified social constructs from the literature review are based on a concept measurement process. This chapter will cover the methodology adopted in this research by analyzing the research paradigm, assumptions, and methods to test the hypothesized relationships to answer the research questions. Furthermore, this chapter will cover the data collection methods, sample selection methodology, and data analysis techniques.

3.1 Research Paradigm

The positivist paradigm, which influences this research, has been described as highly transparent because it uses quantitative methods of analysis, which can be authenticated universally using statistical and mathematical indices (Nardi, 2018). Positivists argue that to understand human behavior, and one needs to use observations and scientific reasoning in a law-like generalization (Blaikie, 2007). For this research, such scientific reasoning and law-like inferences are used through the hypotheses formed, which were tested thoroughly by collecting employee data through a survey. Using the positivism paradigm, the researcher constructed actual knowledge based on the respondents' experiences within a natural setting—in this case, their place of work. Thus, the study's paradigm gives the researcher access to first-hand data on how employees perceive the ease or difficulty of practicing pro-environmental behaviors when they take center stage as their employers' environmental initiatives.

The positivism paradigm is a product of French philosopher August Comte, who emphasized the importance of observation and reason in understanding human behavior (Li et al., 2019). There are several reasons for the positivism paradigm's applicability and workability that make it applicable to this research. For example, it is essential to note that the model champions analyzing social reality by understanding human behavior through observation and reason (Cohen et al., 2017). Thus, it will prompt experimentation

to establish the validity of the available information on PB regarding the observations that will be made in the research.

A practical analysis of employee pro-environment behavior involves a set of decisions that must consider the need for an effective research strategy and paradigm. Fundamentally, the main aim of the PB move by organizations is based on their effectiveness towards reducing the adverse effect that their operations might extend to the environment (Raza et al., 2021). Here, the actions taken by the organizations to protect and enhance better environmental results, both directly and indirectly, require being carefully investigated. Getting the correct information from target employees and stakeholders for the research necessitates using a paradigm that blends with the organization's needs and triggers the respondents to give as much information as possible (Johara et al., 2021). Due to this concern, this research will incorporate the positivist paradigm with the survey and questionnaires extended to the selected targeted research respondents.

Several reasons were referenced for the choice of this specific model and its significant relevance to this study. First, the positivist paradigm is based on the simple idea of understanding the research topic optimally through careful observation and reason (Fuhrmann-Riebel et al., 2021). In this case, this paradigm will be effectively utilized in the research model because of its high score in transparency (Li et al., 2019). Besides, this facet is intertwined with its ability to utilize the quantitative aspects of data in reaching its targets. In this study, analyzing the PB behavior among employees can be achieved through quantitative approaches alone (Nardi, 2018). Instead, this will be subject to the utilization of various mathematical and statistical indices. It is best to note that the positivist paradigm incorporates these features in its execution.

The choice of the positivist paradigm for this research is innately connected with understanding the pro-environmental behavior among employees. It is essential to note that PB practices are a matter of self-moves rather than organizational initiatives. Understanding and making decisions that promote PB in organizational settings rests on the ability of the individuals to recognize these actions in their engagements. These activities include deliberate moves by individuals to cut pollution, emissions and other

PB-oriented actions (Wardhana, 2021). For this reason, it is thus apparent that the research will have to account majorly for the personal responses and the understanding that these respondents have towards PB in organizations (Azhar & Yang, 2021). Also, this is where the positivist paradigm comes in. Formulating the hypotheses and handling the fundamental research will be based on the positivist facet of understanding human behavior and utilizing observations and scientific reasoning.

The positivist paradigm incorporates the facet of "determinism" in its definition and application. Here, the pro-environmental behaviors in the organizational setting are understood to be influenced by other factors. Moreover, it implies that the employees' understanding, execution, and application of PBs result from causal links that create the necessary prediction patterns and control for PB actions (Wardhana, 2021). The positivism approach also largely depends on empiricism. Therefore, it means that the approach considers the totality of the data that is aimed to be collected through the questionnaires and the invoices (Blok et al., 2015). The empiricism section of this approach will allow it to collect verifiable empirical evidence through critical approaches and practices. Additionally, this will consequently be used to declare the validity of the research theories and the research hypothesis of this study.

One of the best ways to understand and garner enough information from employees concerning the PB in their various workplace is through deductive approaches (Norris, 2020). Testing of the existing pro-environment behaviors is an outcome of deductive reasoning. It is essential to note that the positivism approach enhances and promotes the use of deductive approaches. Moreover, it will grant this research validity, among other reasons, since the researcher is accorded complete independence (Jans, 2021). Therefore, positivism stresses the essentiality of extracting facts from the respondents involved in the research rather than the interest that any of them might have towards PB initiatives and actions within organizations. Besides, parsimony in positivism triggers the need for this research to be carried out in the most efficient way possible (Li et al., 2019). Efficiency in the research process will lead to the quality of the research and general success (Daryanto & Song, 2021).

The generality of the information collected in the research will be an effective avenue to carry out the analysis and draw conclusions that are relatable to various databases from secondary sources. Nevertheless, employing the positivism paradigm in this research will aid in elucidating and integrating the findings from various employees systematically into a meaningful pattern that can be used to draw realistic and workable conclusions (Johara et al., 2021). This essential aspect of this specific research will be applied to synchronize the results with the available theories. Factual information gathering on the various pre-sets of PB through considering the actions and activities of these organizations is also another aspect that the model heavily favors

3.2 Research Questionnaire

As part of the positivism paradigm, the study will use a deductive research approach, which is considered suitable for scientific research of this nature. The researcher constructs a hypothesis and collects data to test it to establish a theory or conclusion (Nardi, 2018). Blaikie (2007) described this approach as one that aims to test a theory using hypotheses. The deductive approach is also suitable for quantitative research methods in general. The deductive approach was used with a survey–research strategy. Using a survey, the researcher sampled a group of respondents whose answers to a questionnaire formed the collective opinion of the population they represent.

Nardi (2018) hailed surveys as a suitable quantitative method that guarantees that researchers can include as many people in the study as possible. With many sample sizes, the generalizability of results is always affected positively; that is, since many researchers were selected from different organizations, one can be assured that the study's results represent the area within the research setting where the study was conducted. To test the study's hypotheses, the researcher constructed a questionnaire which has been attached to this proposal as Appendix B. The questionnaire contained two parts; the first was nine demographic questions, and the second had ten closed-ended questions with a Likert-scale rating from 1 to 6.

Respondents evaluated the extent to which they agreed with statements under nine principal constructs, all of which focused on the link between employees' pro-

environmental behavior and environmental performance. The constructs within the questionnaire included leaders as role models, employees' environmental training, participation in organizational initiatives, subjective norms, behavioral intentions, attitudes toward pro-environmental behavior, subjective norms, perceived behavioral control, and employee participation in decision-making. The questions' diversity was sampled under each construct based on what other researchers have already studied.

Moreover, the measurement terms of each contract allow the utilization of statistical tools to ensure reliability, validity, and good modeling of scale and hypothesized relationships. Moreover, the surveyed individuals were asked to indicate to what extent they agreed with each statement. The answer options are marked by Disagree Strongly, Disagree Modularly, Disagree Slightly, Agree Slightly, Agree Moderately, and Agree Strongly. These questions aim to investigate the impact of employees' pro-environmental behavior on organizational environmental performance. According to the illustrated questionnaire in Appendix B

3.3 Domain of Interest, Population, and Sample

3.3.1 Survey Design

Different samples from the UAE population were selected for the survey, comprised of hospitality, government, and private sector employees. The need to methodically select this population was due to the focal role of employees in the research topic, as reflected in the theoretical model and hypothesis. The research gap also focuses on the unexploited role of employees in organizations' environmental initiatives, which is a phenomenon that makes it appropriate to select this population for the study.

At the time of data collection in March 2020, a curfew was enforced in the UAE, and movement was limited. Therefore, firstly, departments of Tourism and Culture in the seven Emirates were approached to assist in sending invitations to hotels operating in UAE. However, the departments of Tourism and Culture of Abu Dhabi, Sharjah, and Ajman collectively agreed to send invitations to participate to hotel Health and Safety managers to participate in online surveys (Appendix A). Secondly, an invitation was sent from an organization's database to 250 randomly selected companies operating in the

UAE. Last, invitations were sent to 250 randomly selected colleagues and friends working in the government sector.

Eight hundred employees randomly selected from the hospitality, government, and private sectors were surveyed. From these respondents, 419 responses were returned for a response rate of %52.3. Nevertheless, 110 responses were excluded due to missing data and non-engagement. Therefore, 309 respondents' data were utilized for the final statistical analysis. The random sampling method ensured fairness and an absence of bias in the selection process and the data collection exercise as a whole (Nardi, 2018).

3.3.2 Field Access

The research project focuses on a general topic concerning pro-environmental behavior in the workplace and does not require collecting sensitive information. Therefore, field access would entail government and private organizations operating in the UAE. However, since the project is about pro-environmental behavior, and to set an example, no paper will be distributed, i.e., all correspondences will be conducted through email, and the surveys will be collected through online survey services.

3.3.3 Pilot Research

Pilot research is proposed to strengthen and enhance the research design and provide the researcher with useful insight into their design and proposed questionnaire before implementing the actual survey (Al-Suwaidi, 2018). Moreover, such a practice should draw attention to any vagueness of the questionnaire, assess the responder's ability to interpret the questionnaire statements, and allow the researcher to adjust the questionnaire (Ghobadian et al., 2008).

First, pilot research was organized by distributing five questionnaires by email to classmates in the DBA program. The email explains the objective of the research in general. It extended its gratitude to the responders for making the time to participate in the pilot research and allowed classmates to give feedback to enhance the questionnaires. The respondent needed an average of 15 minutes to complete the survey, and mostly there were no significant issues or vagueness discovered in the questionnaire.

3.3.4 Ethical Considerations

In this research, the positivism paradigm for gaining knowledge depended on a questionnaire to collect the data. Therefore, compliance with the ethical principle of conducting research is essential. This research complies with the American Psychological Association's (APA) Ethics code and principles. First, a consent letter was sent to the respondents to voluntarily participate in the research, emphasizing, in the beginning, the right to decline or withdraw without any liability or anticipated risks. Moreover, participants were informed about the research's purpose, benefits, expected duration, and procedures. In addition to that, the questionnaire was designed to remain anonymous, for which disclosure of responses would not affect participants' privacy, employability, and status (Smith, 2003).

3.3.5 Data Coding

The researcher developed a coding manual to assign a numerical value to each social construct and their measuring items. Then the researcher prepared for data entry into SPSS version 26 for the quantitative data analysis. Moreover, the researcher checked the data for each respondent more than once to ensure no errors by cross-referencing each questionnaire response to the entered data against the coding manual. Then the data was considered ready for further analysis.

3.4 Chapter Conclusion

Comparative literature of theoretical assessment and empirical studies related to the subject matter of this research were identified using the framework of the theory of planned behaviors and aid the understanding of the underlying mechanism that bonds the operationalized constructs. Specifically, employees' participation in environmental training, environmental initiatives, and leadership roles concerning environmental values induce subjective norms, pro-environmental attitudes, and environmentally perceived behavior controls among employees, which positively influences their pro-environmental performance of organizations. Quantitative research methods were applied to analyze the data that was gathered from the questionnaire survey.

The quantitative research approach is adopted because its methods depend on the theory of planned behaviors to examine statistical hypotheses that link to the research questions of interest (Harwell, 2011). An adequate quantity of data was collected to ensure the effective use of available quantitative analysis approaches. Notably, this research started with a pilot questionnaire addressed to DBA classmates to capture their feedback and amend the questionnaire as required. Moreover, operating this research through the proposed questionnaire will allow a positivist ontological approach.

The positivist orientation will allow an objective view of reality by reflecting personal experiences, perceptions, and biases, as the researcher will take an outsider's perspective (Howe & Eisenhart, 1990). Moreover, the theorized hypotheses in this research will be reduced into indicators to represent the truth. This ontological paradigm assumes a single truth that can be considered an objective reality independent of human perception (Harwell, 2011; Pope, 2001). As for the epistemological approach, this research can be deductive because it will attempt to deduce the social identity theory (Bryman, 2016).

Chapter 4: Data Analysis and Results

4.1 Study Questionnaire

The questionnaire was divided into two sections. The first section collected information regarding the demographic characteristics of the respondents. Such information included gender, age, education, years of experience, current job level, and working sector. Additionally, the second section included 40 items that represent ten factors. These items assessed pro-environmental behavior among employees. All 40 items were 6-point Likert-scale items. The items for the questionnaire are shown in Appendix A. In addition, a list of abbreviations that will be used throughout the analysis is shown in Table 2.

Table 2: List of Abbreviations to be Used in Questionnaire Analysis

Environmental Transformational Leadership (**TL**) (*Please indicate to what extent you agree with the following statements*)	
Acronym.	**Items**
TL1	My higher manager displays confidence in environmental issues.
TL2	My higher manager talks about the importance of protecting nature.
TL3	My higher manager talks enthusiastically about what we need to do to protect nature.
TL4	My higher manager gets me to look at environmental problems in new ways.
TL5	My higher manager provides teaching and coaching on environmental issues.
Environmental Awareness Training (**EAT**)	
EAT1	My firm organizes seminars and workshops on environmental issues to create awareness among employees.
EAT2	My firm provides environmental awareness training to the employees.
EAT3	I participate in environmental seminars, workshops, and environmental training programs organized by my firm.

Table 2: List of Abbreviations to be Used in Questionnaire Analysis (continued)

Environmental Behavior Intention (**EBI**)	
EBI1	I would be willing to save energy by using less air conditioning.
EBI2	I would be willing to turn off lights when they are not in use to save energy.
EBI3	I would be willing to ask what I can do to help reduce pollution.
Employee Participation in Environmental Initiatives (**PEI**)	
PEI1	I think that I could offer the organization ideas about how to improve its environmental performance.
PEI2	I think if I have ideas about the environment, the organization will listen to me.
PEI3	I think the organization might act on my suggestions.
Attitude Toward Pro-Environmental Behavior (**APB**)	
APB1	I am in favor of behaving pro-environmentally in the workplace.
APB2	I think it is a good idea when an employer supports pro-environmental behavior in the workplace.
APB3	A pro-environmental attitude in the workplace is important to me.
APB4	I think too much attention is paid to pro-environmental behavior in the workplace.
APB5	I think it is good when colleagues show pro-environmental behavior.
Subjective Norms for Environment (**SN**)	
SN1	Print double-sided
SN2	Copy double-sided
SN3	Recycle paper
SN4	Turn off the computer/notebook when not in use
Perceived Behavior Control (**PBC**)	
PBC1	Whether I perform pro-environmentally is entirely up to me.
PBC2	If I wanted to, I could easily behave pro-environmentally in the workplace.

Table 2: List of Abbreviations to be Used in Questionnaire Analysis (continued)

Organizational Environmental Performance (**OP**)	
OP1	Our firm reduced waste and emissions from operations.
OP2	Our firm reduced the environmental impacts of its products/services.
OP3	Our firm reduced environmental impact by establishing partnerships.
OP4	Our firm reduced the hazard of environmental accidents, spills, and releases.
OP5	Our firm reduced purchases of non-renewable materials, chemicals, and components.
Pro-Environmental Behavior (**PB**)	
PB1	I adequately complete assigned duties in environmentally friendly ways.
PB2	I fulfill the responsibilities specified in the job description in environmentally friendly ways.
PB3	I perform tasks that are expected of her/him in environmentally friendly ways.
PB4	I take a chance to get actively involved in environmental protection at work.
PB5	I take the initiative to act in environmentally friendly ways at work.
PB6	I do more for the environment at work than what I am expected to do.
Employee Participation in Decision Making (**PDM**)	
PDM1	Employees can participate in decisions related to cost and quality matters.
PDM2	Employees can participate in operations related to the decision.
PDM3	Employees are provided opportunities to suggest improvements in the way things are done here.
PDM4	Information is shared with the employees.

4.2 Case Screening

4.2.1 Unengaged Responses

Unengaged responses were identified using two different methods: visual screening and variability in each respondent's responses (measured by the standard deviation). Respondents who used the same response for all questions were excluded from the analysis. Likewise, responses with low variability, defined as a standard

deviation < 0.5, were excluded from the analysis, and this was considered a sign of non-engagement.

4.2.2 Outliners

Mahalanobis distance (MD) was used to identify outliers in the data. Mahalanobis distance is a statistical measure of the extent to which cases are multivariate outliers, based on a chi-square distribution, assessed using $p < .001$. The calculated MD for each participant was compared to the critical value. The critical chi-square value for 40 degrees of freedom (number of psychometric items in the survey) at a critical alpha of .001 was 45.3. Thus, participants with a calculated distance of > 45.3 were identified as outliers and screened for possible exclusion (De Maesschalck et al., 2000; McLachlan, 1999).

4.2.3 Variable Screening

i. *Data Entry Errors*: Data were examined for entry errors, e.g., the presence of zeros, and treated accordingly.
ii. *Missing Data*: Data was for missing values. Missing values, if present, were imputed before the analysis.
iii. *Skewness and kurtosis*: The skewness and kurtosis values of the nine latent variables were tested. The value for skewness is indicative of the symmetry of the distribution, while the value for kurtosis is indicative of the peakiness of the distribution (Pallant, 2020). Based on the previous literature, skewness, and kurtosis values between −1 and +1 were considered excellent, while values ranging from −−2 to +2 were considered acceptable (Mallery, 2018).
iv. *Descriptive Statistics*: Counts and percentages were used to summarize categorical variables (ordinal or nominal), while mean ± standard deviation was used to summarize the distribution of continuous variables, such as years of experience, Likert scale items, and factor scores.

4.3 Exploratory Factor Analysis (EFA)

4.3.1 Number of Factors

EFA was performed to assess and understand the underlying factor structure of the data. Principal axis factoring (PAF) was used for factor extraction based on the

correlation matrix. PAF was used, as it is known that it can recover weak factors more than the maximum likelihood estimator. Fabrigar et al. (1999) argued that maximum likelihood should be used for normally distributed data. It permits the calculation of many indexes of the goodness of fit of the model and permits statistical significance testing of factor loadings and correlations among factors and the computation of confidence intervals. If the assumption of multivariate normality is severely violated, the authors recommend using PAF for extraction.

Promax (oblique) rotation was used as it considers the correlation between the extracted factors. Factors with an Eigenvalue more significant than one were retained in the final model. All indicators were initially included in the analysis. Indicators were excluded from the analysis in a stepwise fashion based on communalities or loadings (low loadings or commonalities) and cross-loadings (loading on more than one latent factor). Items with a low loading (less than .4) were excluded from the analysis. Items were also examined for cross-loadings, i.e., no manifest variable was to load (> .4) on more than one factor. Items that cross-loaded on more than one factor were excluded from the analysis.

4.3.2 Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)

The KMO statistic was used to assess sampling adequacy. KMO returns values between 0 and 1, with values closer to 1 indicating higher adequacy. Values >0.9 were considered excellent, while 0.6 was considered the minimum acceptable value via:

i. Communalities are defined as the proportion of variance in the indicator (manifest variable) that can be explained by the factors (latent variables). It is also defined as the sum of the squared factor loadings for the variable. An acceptable value for commonalities is >0.3. Thus, variables with a communality lower than .3 were removed from the analysis.
ii. Convergent validity was assessed by examining manifest variables' loadings (correlation) on their corresponding latent variables. Loading scores greater than 0.4 were considered adequate.
iii. Discriminant validity was assessed by examining the correlation between factors. The correlation between any two factors was not to exceed 0.7.

iv. Reliability is a measure of internal consistency in a questionnaire, i.e., how coherent items of the same scale are or how closely they are correlated (Sekaran & Bougie, 2016). Reliability can be assessed using various measures. However, Cronbach's alpha (α) coefficient is the most used measure of internal consistency. Thus, it can be used to evaluate whether the scale in question is reliable. The recommended lower bound of acceptance for Cronbach's α is 0.7 (Pallant, 2020).

v. Correlation between latent variables is a bivariate measure of the strength of the association between two continuous variables. The sign (+ or −) indicates the direction of the relationship. The correlation coefficient (r) value ranges between +1 and −1 (Pallant, 2020), with a value of zero indicating no association. A correlation coefficient of 1 or −1 indicates a perfect linear association (Hair et al., 2012). Cut-off values were used for the correlation (Cohen, 2013). A correlation coefficient (r) that ranges from 0.1 to 0.29 indicates little correlation strength, while values that range from 0.3 to 0.49 indicate medium strength; values 0.0-1.0 indicate high strength of association.

4.4 Confirmatory Factor Analysis (CFA)

CFA was performed to assess whether the proposed model of latent constructs was a good fit for the data. The final confirmatory factor structure was used to impute factor scores. An unpaired t-test was used to assess the association between gender and pro-environmental behavior. Spearman's correlation was used to assess the association between pro-environmental behavior and ordered demographic characteristics such as age, education, working years, and experience years. The following model parameters were estimated and assessed:

4.4.1 Convergent and Divergent Validity

The construct's convergent validity was assessed using the average variance extracted, which was greater than .5 for all constructs. Divergent validity was assessed by comparing the correlations between latent variables to the square root of the average variance extracted ($\sqrt{AVE}$). The divergent validity was met if none of the correlations between latent variables was higher than the AVE's square root. Individual indicators

were allowed to load on only one factor, and the latent variables were allowed to co-vary freely.

4.4.2 Model fit

The overall model fit was assessed using the following indices:

(a) The Chi-Square Test ($\chi 2$).
(b) C min/df.
(c) The root means square error of approximation (RMSEA).
(d) The Tucker–Lewis's Index (TLI).
(e) The Comparative Fit Index (CFI).
(f) P close.

The following is a brief introduction to these fit measures:

(a) The Chi-Square Test ($\chi 2$): The chi-square test can be used as a fit measure for models with a sample size that ranges from 75 to 200 cases. However, in a larger sample size (> 400 or more), the chi-square tends to be statistically significant, as it is affected by the degrees of freedom that depend on the sample size. It is also affected by the size of the correlations in the model. Thus, alternative measures of fit have been developed.

(b) C min/df: An old measure of fit is the chi-square to df ratio or $\chi 2$/df. The issue with this fit index is that there is no universally agreed-upon standard for a good and a bad fitting model. So, a value below five is usually suggested in the literature as a cut-off value. The TLI and RMSEA are based on this measure.

(c) TLI: The TLI (also called the non-normed fit index or NNFI) is another incremental fit index that provides a penalty for adding parameters to the model. It can be greater than one. The lower the chi-square to df ratio (as long as it is not less than one) for the model, the higher the TLI implies a better fitting model. Its penalty for complexity is $\chi 2$/df.

(d) CFI: This incremental measure is solely based on the non-centrality measure. If the index is greater than one, it is set at one, and if it is less than zero, it is set to zero. The interpretation is similar to that of the TLI. The CFI is always greater

than the TLI. CFI pays a penalty of one for every parameter estimated. The TLI and CFI depend on the average size of the correlations in the data. If the average correlation between variables is not high, then the TLI will not be considered high. The lower bound of a good fit for the

TLI and the CFI are .90. For the RMSEA, the upper bounds for good fit were .08 and .10, respectively. C_{min}/df less than five was considered an indication of good model fit. Although P close should be > .05, the large sample size used may hinder the achievement of such results. Thus, a better approach uses the upper 90% confidence interval for RMSEA, which should be lower than .08. These cut-off criteria for model fit were used as previously defined (Hu & Bentler, 1999).

(e) Reliability: The reliability of the constructs was evaluated using composite reliability (CR). A value greater than .7 was considered satisfactory. A CR value of > .7 was used to indicate acceptable reliability (Wong, 2013). Maximum likelihood was used to estimate the model parameters.

4.4.3 Common Method Bias (CMB)

CMB occurs when variations in responses are caused by the instrument rather than the respondents' actual predispositions that the instrument attempts to uncover, i.e., when the instrument used induces bias or variability in responses. CMB was assessed using two methods:

(a) Harman's One-factor Method for CMB using SPSS v 26. All items were regressed on one common factor. Factor loadings and the proportion of explained variance were used as indicators of CMV. Appropriate loadings and an explained variance > 50% indicate the presence of CMB.

(b) Common Latent Factor (CLF) Method and analysis were performed using AMOS. The CLF method uses a single factor to capture the common variance in all observed variables in the model. This was done by adding a latent factor to the CFA model and connecting it to all the observed items in the model. The standardized regression weights from this model were compared to the standardized regression weights without the CLF. Large differences (>0.2)

indicated the need to keep the CLF in the model or impute factor scores after including the CLF (Archimi et al., 2018).

4.4.4 Structural Equation Modelling

Evaluation of the structural model was performed after the estimated model met the criteria of convergent validity, discriminant validity, and construct reliability. This evaluation was conducted to observe the relationship between latent constructs by analyzing the path parameter coefficients' estimated results and their significance level. In addition, hypothesis testing was performed by examining the path coefficient in the structural model.

4.4.5 Testing Moderation and Path Analysis and Hypothesis

Standardized regression coefficients (β) were used throughout the analysis to allow effect comparison. They represent the increase in the dependent variables (regarding standard deviations) for each standard deviation increase in the independent variables. Actor scores were imputed using regression weights in AMOS. The imputed factor scores were used for moderation analysis. Factor scores were standardized before the analysis to reduce multicollinearity when creating interaction terms.

The desired interaction terms were created by multiplying the standardized factor scores. The statistical significance was assessed using the p-values computed using conventional regression methods. Consequently, to ensure the reliability of the results, the moderation analysis was replicated using the Process tool in SPSS v 26. In the case of conflicting results, the Hayes Macro tool results were reported in addition to the AMOS results.

4.4.6 Analytics Software

Statistical analysis was performed using SPSS v 26 for descriptive statistics and EFA. CFA and structural equation modeling were performed using AMOS v 26. Also, the maximum likelihood was used to estimate the model parameters. Moreover, the covariance matrix was used for model construction. The Z-statistic was used for hypothesis testing. Additionally, it was calculated by dividing the regression coefficient by the standard error. Bootstrapping using 2000 bootstrapped samples was used to test for mediation. The bootstrapped 95% bias-corrected confidence intervals and p-values

were used to test the indirect effects. One-way ANOVA with posthoc pairwise comparisons (using Tukey correction for false discovery rate) was used to assess the association between pro-environmental behavior and categorical variables such as work level and having an implemented environmental policy. Hypothesis testing was performed at 5% level of significance.

4.5 Results Generated

4.5.1 Case Screening

(a) *Unengaged responses*: The dataset initially included 419 responses. Eighty responses were excluded due to non-engagement. Thus, the data were filtered to include 339 responses. The excluded responses had a standard deviation below the suggested cut-off value of .5.

(b) *Outliers*: Thirty outliers were identified based on a critical MD of 73.4. Thus, these responses were excluded from the analysis, as these 30 observations resulted in poor model fit. However, excluding these responses did not affect the EFA results. The critical MD is the chi-square statistic defined based on a significance level of 0.001 at 40 degrees of freedom, which is the total number of the survey's psychometric items. So, the final sample included 309 participants.

4.5.2 Descriptive Statistics

The study sample included 309 responses. Where males and females represented 56.6% and 43.4% of the sample, respectively. Participants aged 25–34 and 35–44 years represented 48.5% and 34% of the sample, respectively. Half of the respondents had a bachelor's degree, and 20.1% had a master's or a Ph.D. degree. Half of the respondents worked in hospitality, lodging, recreation, and tourism; one-quarter worked in the private sector, and a similar number worked in the public sector. Owners and CEOs represented 2.91% of the respondents; employees and managers represented 53.7% and 43.4%, respectively. Participants who worked for the organization for 1–5 years represented 61.5% of the study sample, while participants with <10 years of experience represented ~50% of the study sample. The detail of descriptive statistics pertaining to the respondents is detailed below.

(a) *Age*: The majority of employees aged 25–34 is approximately 49%, which seems normal, especially in the hospitality and hotel industry. Moreover, the subsequent highest distribution is participants aged 48–54, with proximity of 11%. The later distribution can be explained due to the higher number of participants in managerial positions. The employees' age distribution is shown in Table 3 and Figure 4, respectively.

Table 3: Age Span of the Participants

Age Span	Frequency	%Frequency
<18	2	0.65
18–24	9	2.91
25–34	150	48.50
35–44	105	4.00
45–54	34	11.00
55–64	8	2.59
>64	1	0.32
Total	**309**	**100**

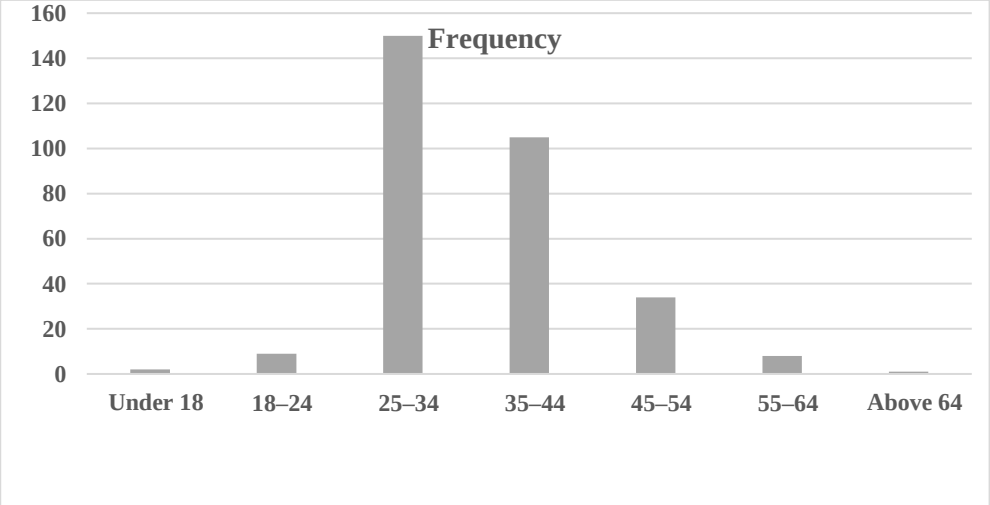

Figure 4: Age Span of the Participants

(b) *Gender*: The employees' gender distribution is shown in Table 4 and Figure 5 are almost equally distributed, where males represent proximity at 57% and females represent 43%.

Table 4: Gender of the Participants

Gender	Frequency	%
Male	175	56.60
Female	134	43.40
Total	**309**	**100**

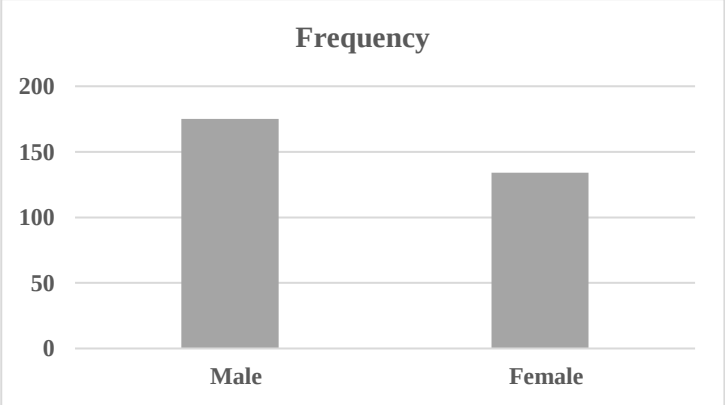

Figure 5: Gender of Participants

(c) *Academic Qualifications*: Most participants had bachelors' degrees and represented 49%. Moreover, the subsequent highest distribution had postgraduate degrees. The high representative for both distributions can be explained due to the raised number of participants in managerial positions. The distribution of employees' academic qualifications is shown in Table 5 and Figure 6.

Table 5: Academic Qualifications of the Participants

Qualification	Frequency	%
Pre-high school	6	1.94
High school	28	9.06
Diploma	49	15.90
University degree	164	53.10
Postgraduate	62	20.10
Total	**309**	**100**

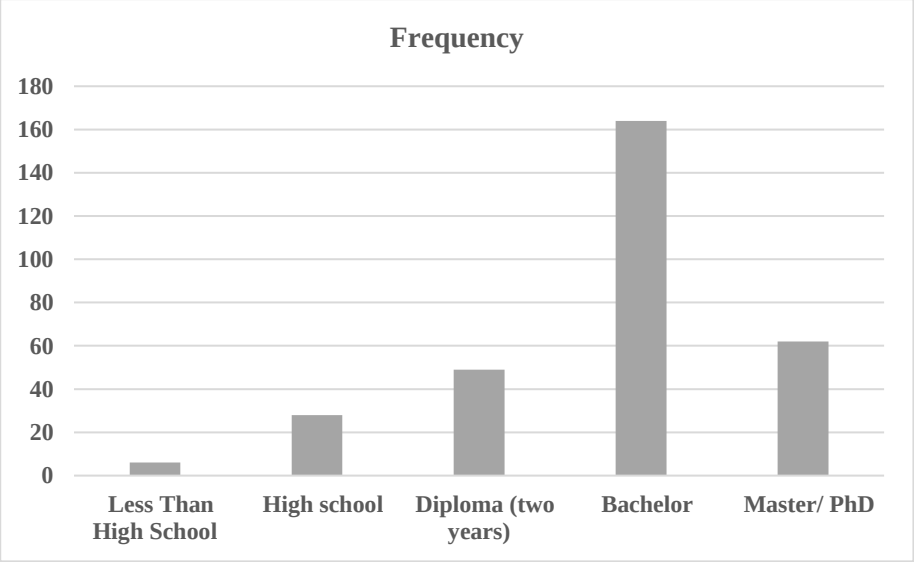

Figure 6: Academic Qualifications of the Participants

(d) *Work Sector*: The data show that more than half of the participants work in the hospitality, lodging, recreation, and tourism industry and represented 56%. Moreover, the subsequent highest distribution represents the private sector, representing 23% of the total participants. Furthermore, the last is the government/semi-government sector, representing 21% of the total participants. The employees' working sector distribution is shown in Table 6 and Figure 7.

Table 6: Work Sector of the Participants

Sector	Frequency	%
Hospitality, Lodging, Recreation, and Tourism	173	56
Government/ Semi-Government	65	21
Private Sector	71	23
Total	**309**	**100**

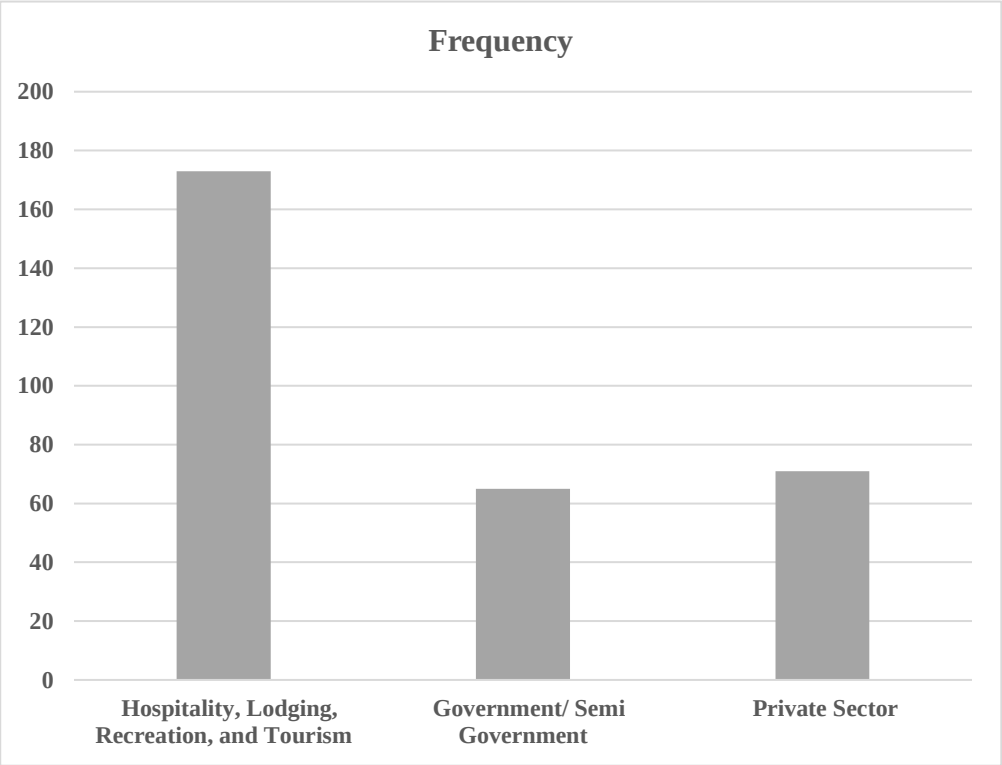

Figure 7: Work Sector of the Participants

(e) *Current Job Level*: The data show that more than half of the participants are employees, and they represent 53%. Moreover, the subsequent highest distribution represents the junior managers, middle managers, and supervisors, representing 43% of the total participants. Furthermore, the last are the owners and CEOs, representing only 3% of the total participants. The employees' current job-level distribution is shown in Table 7 and Figure 8.

Table 7: Current Job Level of the Participants

Job Level	Frequency	%
Employee	166	53.70
Management (Junior, Middle, Top)	134	43.40
Owner/ CEO	9	2.91
Total	**309**	**100**

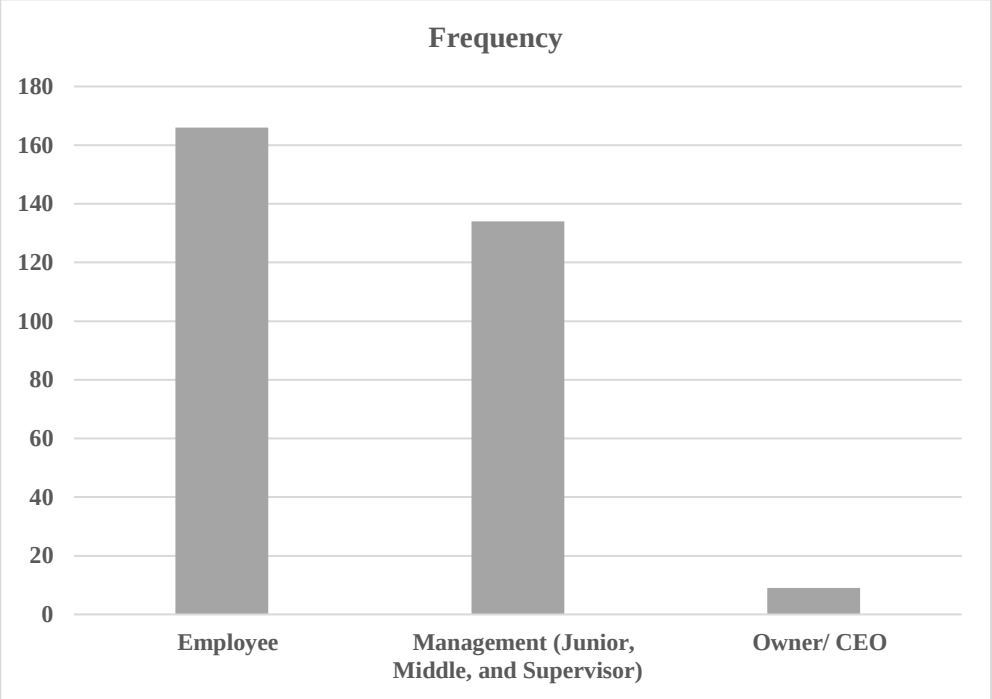

Figure 8: Current Job Level of the Participants

(f) *Nationality or Region*: The data show that 44% of participants are Asian, 26.50% are from Arab countries, 18% are UAE nationals, and the rest have fewer participants. Moreover, the data show that participants largely represent the actual population of the United Arab Emirates (Malit & Tsourapas, 2021). The employees' nationality is shown in Table 8 and Figure 9.

Table 8: Nationality of the Participants

Nationality	Frequency	%
UAE National	57	18.40
Arab	82	26.50
Asian	137	44.30
European	15	4.85
American	5	1.62
Australian	1	0.32
African	12	3.88
Total	**309**	**100**

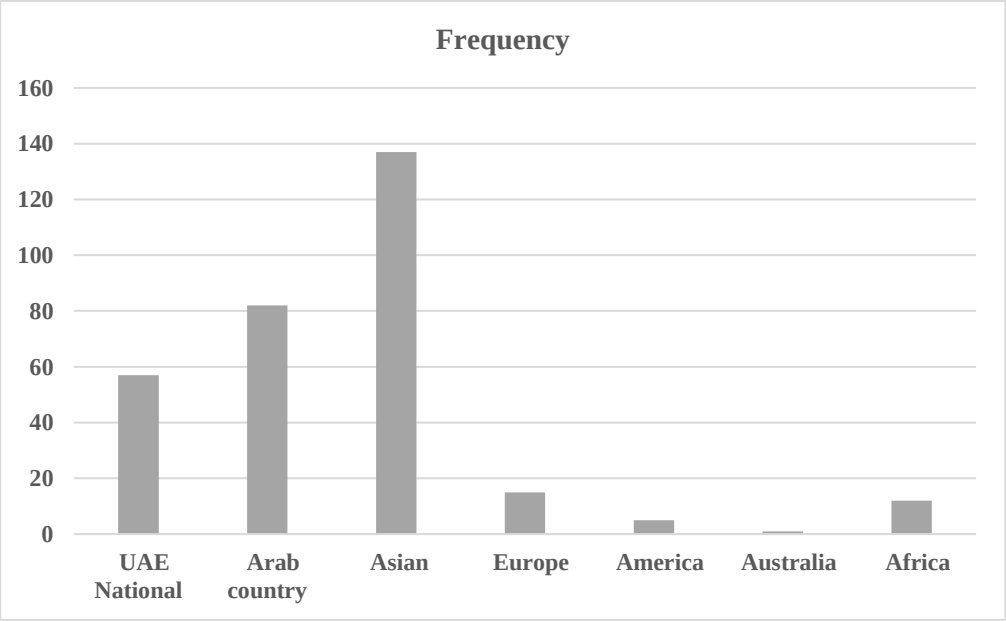

Figure 9: Nationality of the Participants

(g) *Current Environmental Policy Implemented in the Organization*: The data show that most of the participants currently have environmental policies implemented in the organization. The employees' nationality or region distribution is shown in Table 9 and Figure 10.

Table 9: Current Environmental Policy Implemented in the Participants' Organization

Environmental Policy Implemented	Frequency	%
Yes	201	65.00
No	53	17.20
I Do Not Know	55	17.80
Total	**309**	**100**

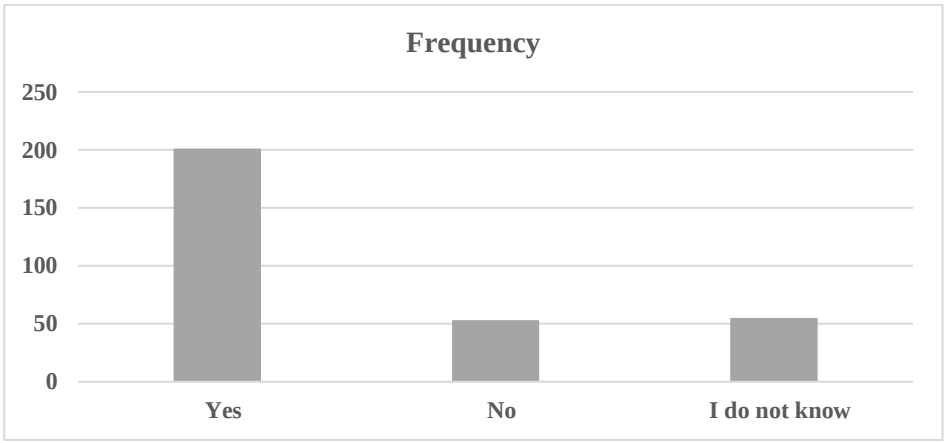

Figure 10: Current Environmental Policy Implemented in the Participants' Organization

(h) *Total years of Work Experience*: The data show that most participants had 29% of total years of work experience, and then, to a lesser extent, 23% had from 1 to 5 years of total work experience. Furthermore, the number of employees who have worked more than 25 years is almost identical to employees who have worked in the same organization for more than 25 years, mainly because many employees are at the managerial level. The employees' total years of work experience distribution are shown in Table 10 and Figure 11.

Table 10: Total Years of Work Experience of the Participants

Experience Years	Frequency	%
1–5	72	23.30
6–10	91	29.40
11–15	66	21.40
16–20	39	12.60
21–25	15	4.85
26–30	18	5.83
>31	8	2.59
Total	**309**	**100**

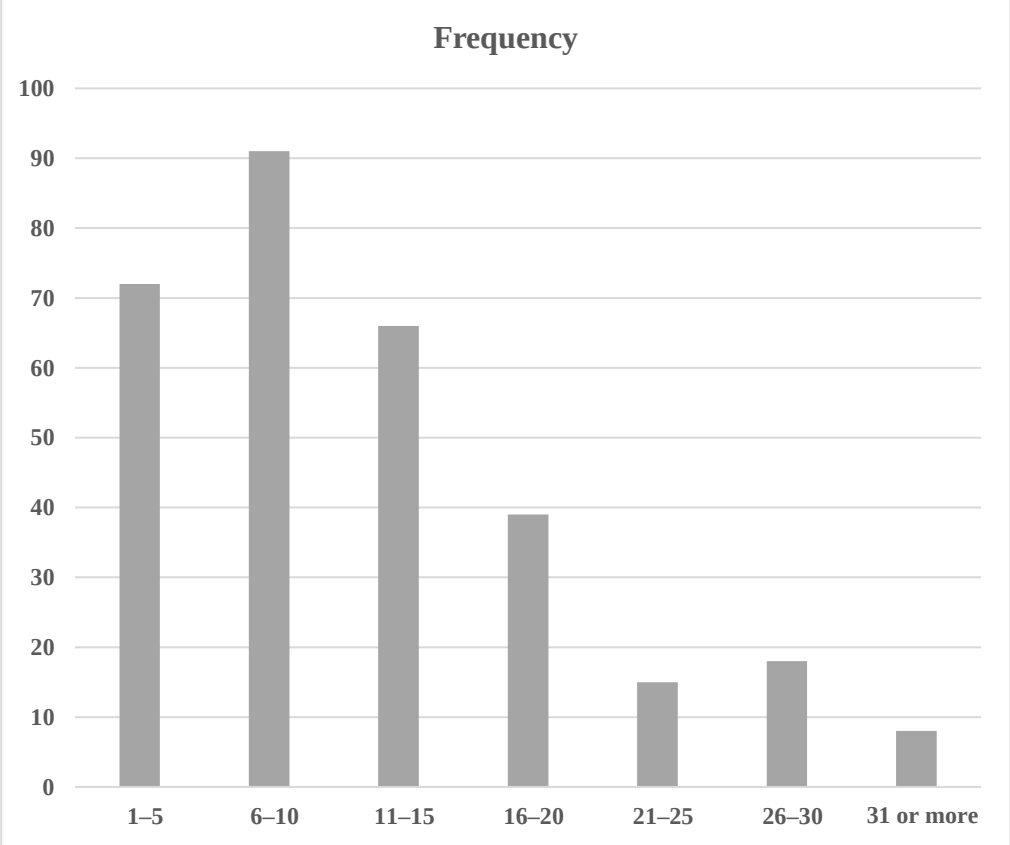

Figure 11: Total Years of Work Experience of the Participants

Table 11: Descriptive Statistics of The Survey Items

Question	Mean	SD	Median	Min	Max	Range	Skew	Kurtosis
TL1	4.37	1.24	4	1	6	5	−0.78	0.58
TL2	4.34	1.28	4	1	6	5	−0.54	0.04
TL3	4.29	1.29	4	1	6	5	−0.57	0.09
TL4	4.09	1.31	4	1	6	5	−0.43	−0.07
TL5	4.04	1.32	4	1	6	5	−0.37	−0.17
EAT1	3.96	1.37	4	1	6	5	−0.32	−0.35
EAT2	4.00	1.38	4	1	6	5	−0.34	−0.37
EAT3	3.91	1.34	4	1	6	5	−0.19	−0.34
PEI1	4.48	0.94	4	1	6	5	0.04	0.28
PEI2	4.26	1.12	4	1	6	5	−0.38	0.48
PEI3	4.11	1.10	4	1	6	5	−0.37	0.58
EBI1	4.88	1.10	5	1	6	5	−0.72	0.42
EBI2	5.45	0.86	6	3	6	3	**−1.02**	−0.80
EBI3	5.33	0.88	6	3	6	3	−0.72	−1.24
APB1	5.17	0.92	6	2	6	4	−0.48	−1.22
APB2	5.34	0.88	6	3	6	3	−0.76	−1.11
APB3	5.21	0.89	6	3	6	3	−0.51	**−1.35**
APB4	4.20	1.35	4	1	6	5	−0.40	−0.39
APB5	5.14	0.97	6	1	6	5	−0.63	−0.54
SN1	4.34	1.23	4	1	6	5	−0.18	−0.59
SN2	4.35	1.20	4	1	6	5	−0.29	−0.26
SN3	4.58	1.33	4	1	6	5	−0.58	−0.26
SN4	4.66	1.28	5	1	6	5	−0.72	0.13
PBC1	4.24	1.22	4	1	6	5	−0.38	0.12
PBC2	4.62	1.19	5	1	6	5	−0.69	0.53
OP1	4.52	1.13	4	1	6	5	−0.40	0.09
OP2	4.51	1.14	4	1	6	5	−0.38	−0.04
OP3	4.39	1.14	4	1	6	5	−0.24	−0.29
OP4	4.56	1.11	4	1	6	5	−0.21	−0.55
OP5	4.46	1.19	4	1	6	5	−0.34	−0.35
PB1	4.71	0.93	4	3	6	3	**0.25**	−1.26
PB2	4.66	0.98	4	2	6	4	0.13	−1.03

Table 11: Descriptive Statistics of The Survey Items (continued)

Question	Mean	SD	Median	Min	Max	Range	Skew	Kurtosis
PB3	4.77	0.97	5	2	6	4	−0.02	−1.15
PB4	4.76	1.02	5	1	6	5	−0.20	−0.73
PB5	4.94	0.99	5	3	6	3	0.26	−1.30
PB6	4.61	1.07	4	1	6	5	−0.16	−0.75
PDM1	4.32	1.15	4	1	6	5	−0.32	0.29
PDM2	4.36	1.13	4	1	6	5	−0.27	0.22
PDM3	4.63	1.08	5	1	6	5	−0.52	0.49
PDM4	4.63	1.13	4	1	6	5	−0.58	**0.62**

4.5.3 Variable Screening: Exploratory Factor Analysis

No missing values were observed in the responses. Reasonably normal distribution was observed for the indicators of latent factors regarding skewness and kurtosis. The skewness values ranged from −1.02 to 0.25 and did not exceed the −1.0 to 1.0 threshold, except for two times. The kurtosis values ranged from −1.35 to 0.62. These values do not violate the strict rules of normality, as previously suggested. All loadings were > .4, which was considered adequate. However, item “APB4” did not load with the remaining “APB” items. Thus, it was excluded from the analysis. In addition, none of the items loaded on more than one factor. Statistical structure analysis of the survey factors is presented in Table 12.

Table 12: Final Pattern Matrix For EFA

Items	Factors									
	1	2	3	4	5	6	7	8	9	10
Cronbachα	**0.93**	**0.93**	**0.80**	**0.79**	**0.88**	**0.85**	**0.65**	**0.93**	**0.93**	**0.88**
TL1	.811									
TL2	.976									
TL3	.987									
TL4	.742									
TL5	.674									
EAT1		.811								
EAT2		.866								

Table12: Final Pattern Matrix For EFA (continued)

Items	Factors									
	1	2	3	4	5	6	7	8	9	10
Cronbachα	**0.93**	**0.93**	**0.80**	**0.79**	**0.8**	**0.85**	**0.65**	**0.93**	**0.93**	**0.88**
EAT3		.741								
PEI1			.483							
PEI2			.908							
PEI3			.791							
EBI1				.515						
EBI2				.759						
EBI3				.780						
APB1					.674					
APB2					.884					
APB3					.817					
APB5					.709					
SN1						.908				
SN2						.938				
SN3						.560				
PBC1							.692			
PBC2							.698			
OP1								.743		
OP2								.813		
OP3								.887		
OP4								.865		
OP5								.753		
PB1									.829	
PB2									.824	
PB3									.939	
PB4									.868	
PB5									.892	
PB6									.641	
PDM1										.867
PDM2										.916
PDM3										.759
PDM4										.684

(Note: Extraction method: principal axis factoring, whereas Rotation method: Promax with Kaiser normalization rotation converged in seven iterations).

Eigenvalues and variance explained using factor analysis showed that the ten factors proposed latent factors that explained 70% of the variance, which was considered appropriate (> 50%), as presented in Table 13.

Table 13: Eigenvalues and Variance Explained Using Factor Analysis

Factor	Initial Eigenvalues			Extraction SSL			Rotation SSL
	Total	% of Var	Cumulative %	Total	% of Var	Cumulative %	
1	15.645	41.171	41.171	15.381	40.476	40.476	11.070
2	3.175	8.355	49.526	2.887	7.597	48.073	11.435
3	2.162	5.691	55.217	1.869	4.919	52.992	7.145
4	1.898	4.994	60.211	1.637	4.307	57.298	11.724
5	1.693	4.455	64.665	1.400	3.684	60.983	8.998
6	1.258	3.311	67.976	.943	2.482	63.465	5.906
7	1.151	3.028	71.004	.742	1.952	65.417	8.430
8	1.015	2.670	73.674	.720	1.895	67.312	9.454
9	.951	2.502	76.176	.639	1.681	68.993	5.993
10	.808	2.126	78.302	.544	1.433	70.426	3.989

(Note: Extraction method: Principal Axis Factoring; SSL: Sums of Squared Loadings).

Table 14 shows the KMO value was more significant than .9, which was considered adequate and indicates the suitability of the items for factor analysis. Only 2% of non-redundant residuals were detected, which indicates that EFA was adequate.

Table 14: KMO Test of Sampling Adequacy and Bartlett's Test of Sphericity

Test		Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.939
Bartlett's Test of Sphericity	Approx. Chi-Square	9481
	Df	703
	Sig.	< .001

4.5.4 Validity and Reliability of The Latent Constructs

Table 15 shows the correlation matrix for the included items. The highest correlation was observed between the TL and EAT (r = 0.708), whereas all remaining correlations were < 0.7.

Table 15: Factor Correlation Matrix

Factor	TL	PB	APB	OP	PDM	SN	PEI	EAT	EBI	PBC
TL	1.000	.553	.378	.684	.521	.371	.605	.708	.353	.288
PB	.553	1.000	.534	.673	.547	.382	.542	.552	.489	.387
APB	.378	.534	1.000	.374	.351	.328	.396	.284	.632	.308
OP	.684	.673	.374	1.000	.621	.492	.531	.639	.332	.375
PDM	.521	.547	.351	.621	1.000	.432	.519	.463	.336	.455
SN	.371	.382	.328	.492	.432	1.000	.297	.405	.311	.224
PEI	.605	.542	.396	.531	.519	.297	1.000	.569	.406	.317
EAT	.708	.552	.284	.639	.463	.405	.569	1.000	.255	.232
EBI	.353	.489	.632	.332	.336	.311	.406	.255	1.000	.231
PBC	.462	.418	.159	.460	.319	.265	.330	.283	.277	1.000

(Note: Extraction method: Principal Axis Factoring; Rotation method: Promax with Kaiser Normalization)

In summary, Cronbach's alpha (Table 12) was > 0.7 for all scales except for the PBC scale, which was slightly less than .7. However, this is acceptable as factor analysis showed that PBC items loaded on the same factor, and the reliability was approximately equal to the cut-off point of 0.7. Moreover, Bagozzi and Yi (1988) and Hair et al. (2012) argued that a value of > .6 could be used as a cut-off value for reliability rather than the widely used threshold of 0.7. They also suggested that CR is more suitable for checking reliability than the traditional Cronbach's alpha (Bagozzi & Yi, 1988; Sarstedt et al., 2017).

Considering these, one can argue that these results indicate good reliability of the included scales summary of the EFA. Based on this section's results, CFA was performed as EFA showed that the number of extracted factors paralleled the expected number (n = 10). Cronbach's alpha was greater than 7 for all latent factors. The convergent and divergent validities were acceptable, and the variance explained by the ten factors was

sufficient (> 50%).

4.5.5 Common Method Bias

4.5.5.1 Harman's One-Factor Test for CMB

The results in (Table 16) showed that the one factor explained only 40% of the total variance in the variables, which is lower than 50% and indicates the absence of CMB.

Table 16: Harman's One-Factor Test for CMB

Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	16.157	40.392	40.392	16.157	40.392	40.392

(Note: Extraction method: Principal Component Analysis)

The differences in factor loadings were compared before and after inserting the common latent factors in the model. The difference exceeded .2 for 11 items and was lower than < .2 for the remaining 31 items. The difference exceeded .3 for only five items. Based on Harman's one factor and CLF analyses, CMB was deemed as not significant. The common latent method to test for CMB is illustrated in Figure 12.

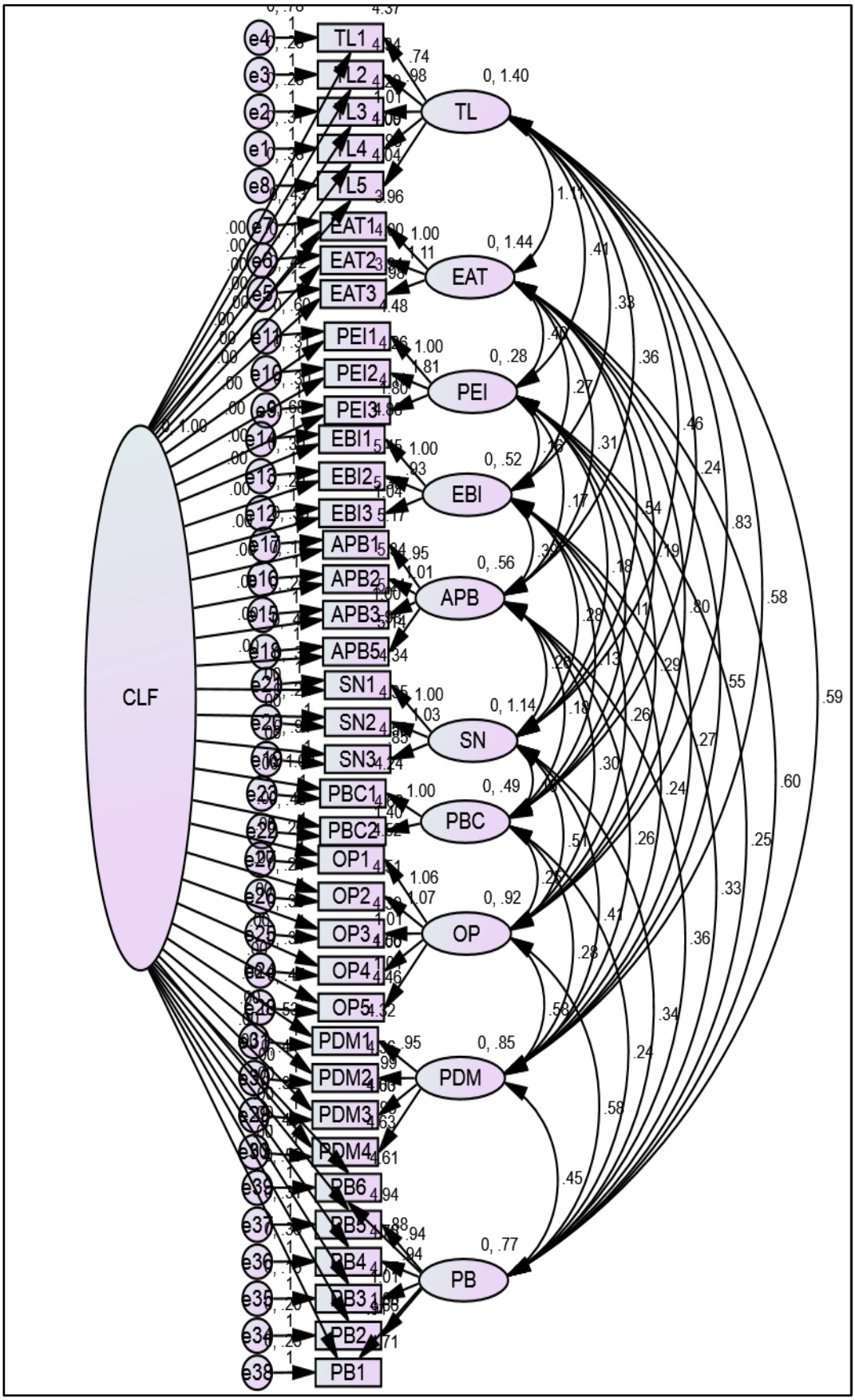

Figure 12: Common Latent Method to Test for CMB

4.5.5.2 Confirmatory Factor Analysis

None of the factor loadings were lower than 0.5 was found, indicating that the latent factors explain the sufficient variance of their respective (Kline, 2015). Table 17 shows the values of the factors of loadings for the proposed CFA model.

Table 17: Factor Loadings for the Proposed CFA Model

Items	**TL**	**EAT**	**PEI**	**EBI**	**APB**	**SN**	**PBC**	**OP**	**PDM**	**PB**
1	0.701	0.878	0.565	0.658	0.768	0.871	0.576	0.896	0.771	0.858
2	0.91	0.97	0.865	0.774	0.867	0.919	0.834	0.902	0.808	0.892
3	0.928	0.874	0.869	0.86	0.839	0.683	---	0.849	0.855	0.909
4	0.904	---	---	---	---	---	---	0.865	---	0.805
5	---	---	---	---	0.757	---	---	---	---	0.829
6	---	---	---	---	---	---	---	---	---	0.721

Convergent validity was met as the AVE was greater than 0.5 (Kline, 2015) for all scales, indicating that the latent variables explain more than 50% of the variance in the indicator variables. Discriminant validity was also met as $\sqrt{AVE}$ For each latent variable was equal or greater to its correlation with any of the other factors. The CR was > .7 for all factors except for PBC (CR was ~ 0.7), which is considered acceptable. These results show that the proposed 10-factor CFA model is a good fit for the data. So, tests for reliability, divergent, and convergent validity are shown in Table 18 and Figure 13.

Table 18: Average Variance Extracted, CR, and the Correlation Between Latent Variables

Item	CR	AVE	TL	EAT	PEI	EBI	APB	SN	PBC	OP	PDM	PB
TL	0.939	0.756	**0.869**									
EAT	0.934	0.825	0.781***	**0.909**								
PEI	0.818	0.608	0.653***	0.629***	**0.780**							
EBI	0.811	0.591	0.386***	0.313***	0.416***	**0.769**						
APB	0.883	0.655	0.409***	0.343***	0.421***	0.726***	**0.809**					
SN	0.868	0.690	0.362***	0.423***	0.322***	0.358***	0.324***	**0.830**				
PBC	0.671	0.513	0.285***	0.224**	0.306***	0.251**	0.351***	0.215**	**0.716**			
OP	0.937	0.750	0.730***	0.698***	0.577***	0.370***	0.417***	0.496***	0.370***	**0.866**		
PDM	0.885	0.658	0.530***	0.495***	0.541***	0.360***	0.381***	0.417***	0.431***	0.655***	**0.811**	
PB	0.934	0.702	0.571***	0.574***	0.536***	0.516***	0.555***	0.367***	0.384***	0.692***	0.551***	**0.838**

(Note: Diagonals represent $\sqrt{AVE}$)

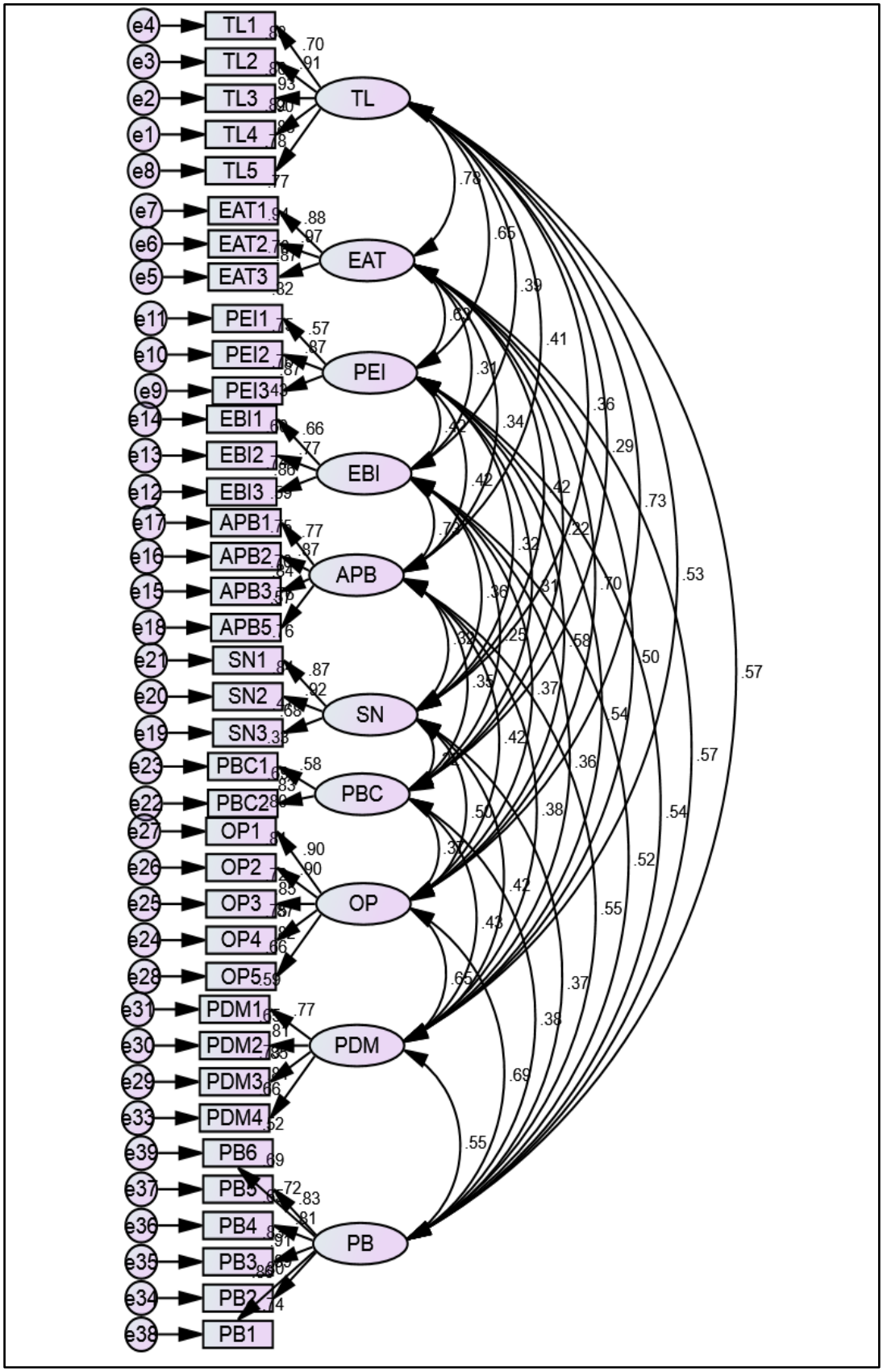

Figure 13: Proposed CFA Model for the Latent Items

4.5.5.3 Fit Measure

The results in (Table 19) show that the proposed model is a good fit for the data, as shown by the various fit measures. The chi-square statistic ($\chi 2$) was statistically significant at the 0.01 significance level [$\chi 2$ (620) = 1121.6, P < 0.001]. As previously mentioned, the chi-square test should not be used to assess model fit in the presence of large sample size (> 200) as the statistically significant result is mainly due to the large sample size. Measures such as CFI and TLI can be used in such cases. For the current model, both CFI and TLI were > 0.9, which indicates a good model fit. The RMSEA was < 0.08, which indicates a good model fit, and the 95% confidence interval for the RMSEA was also < .08, which indicates an excellent fit. The C-min was less than five, which indicates that the model is a good fit for the data (Hu & Bentler, 1999; Kaplan, 2008; Zhang et al., 2021).

Table 19: Fit Measures For the Proposed Model

Measure	**Value**	**Acceptable value**
CFI	0.946	.9
TLI	0.939	≥ .9
RMSEA	0.051	< .06
RMSEA upper 90% CI	0.056	< .08
Chi-square (X2)	1121.563	
P	< .001	> .05
Degrees of freedom (df)	620	
C-min (X2/df)	1.809	< 3

(Note: Numbers between brackets represented the measure when robust maximum likelihood was used)

4.5.5.4 Structural Equation Modelling

The full model was assessed for the goodness of fit, and only the new paths were tested for significance, as results for the micro-level model did not vary. The final model included nine latent variables are shown in Figure 14.

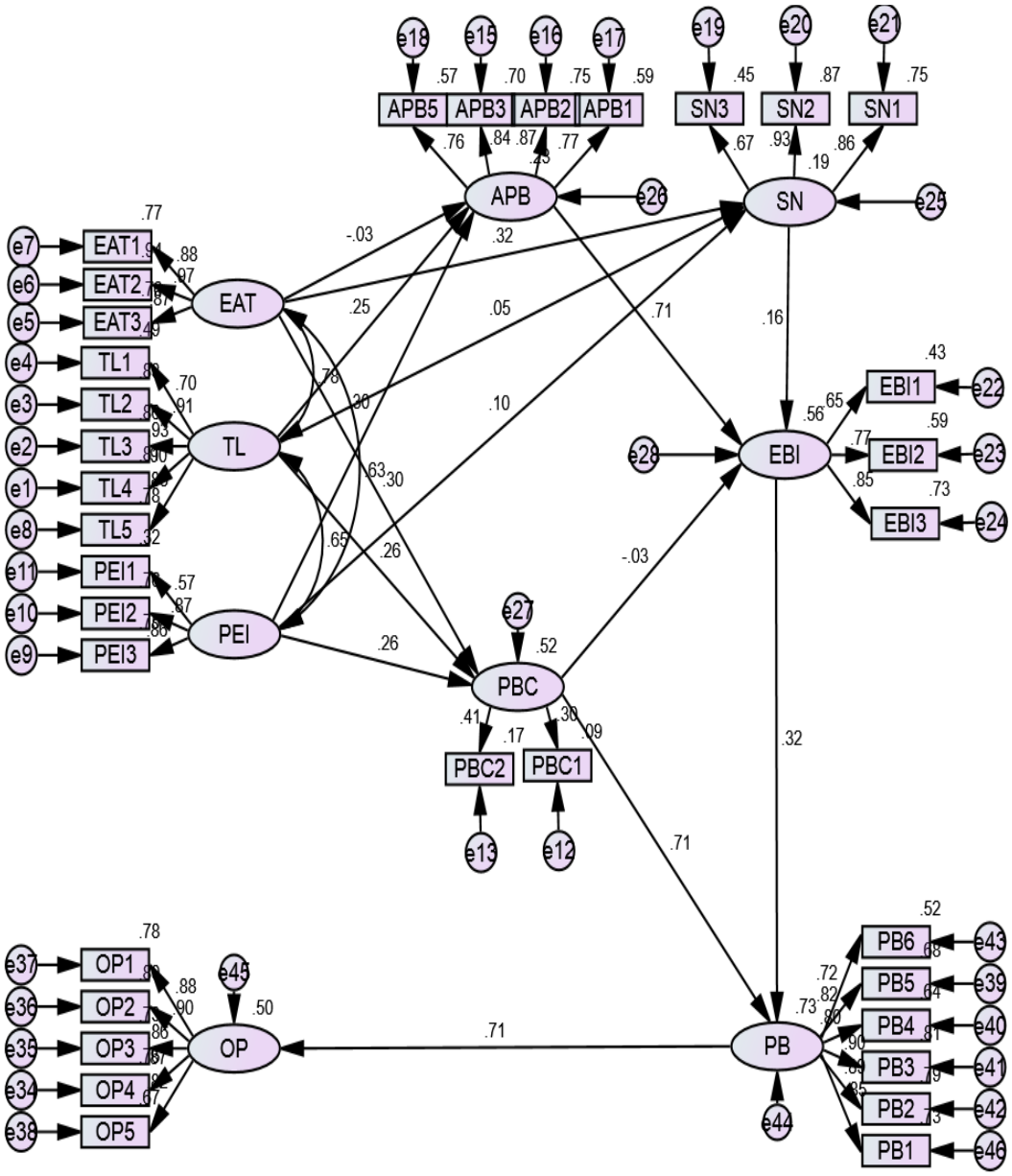

Figure 14: The Full Structural Model with Standardized Estimates

4.5.6 Inter-Directional Effects of Variables

The research hypotheses H1, H3, through H9 were tested using path analysis. The inter-directional effects of the independent variables on the dependent variables were tested for statistical significance using the Z-score. The standardized regression coefficients (β) were reported to compare various independent variables on the same dependent variable. H2 (moderation analysis) was tested after imputing the factor scores. The indirect effects were also tested using bootstrapping (2000 bootstrapped samples), as shown in Table 20.

Table 20: Structural Model Path Analysis

DV		IV	Estimate	S.E.	C.R.	P	Label	Hypothesis Supported
APB	<---	TL	.156	.065	2.419	.016	H4	Yes
APB	<---	EAT	-.018	.061	−.295	.768		
APB	<---	PEI	.419	.125	3.356	< .001		
PBC	<---	TL	.080	.039	2.075	.038		
PBC	<---	PEI	.180	.076	2.361	.018	H5	Yes
PBC	<---	EAT	.092	.038	2.396	.017		
SN	<---	TL	.043	.092	.469	.639		
SN	<---	PEI	.195	.170	1.151	.250		
SN	<---	EAT	.285	.088	3.237	.001	H3	Yes
EBI	<---	APB	.630	.062	10.222	< .001	H6	Yes
EBI	<---	PBC	−.051	.123	−.411	.681	H8	No
EBI	<---	SN	.100	.034	2.943	.003	H7	Yes
PB	<---	EBI	.393	.071	5.517	< .001	H9	Yes
PB	<---	PBC	1.563	.371	4.217	< .001		
OP	<---	PB	.841	.067	12.491	< .001	H1	Yes

- *H1: Pro-Environmental Behavior (PB) is positively associated with Organizational Pro-Environmental Performance (OP).*

  The results were statistically significant (β = 0.841, P < 0.001). The β 0.841 represents the increase in the dependent variable (OP) in standard deviations for

each one standard deviation increase in the independent variable. The results can be interpreted as follows: one standard deviation increase in PB is associated with 0.841 standard deviation increase in OP. The results were statistically significant at the 0.05 level and even at the 0.001 level. This indicates that the probability of observing such an effect size only by chance is less than 0.1%. Thus, the null hypothesis of no association can be rejected in favor of the alternative hypothesis, and it can be concluded that PB positively influences OP.

- *H3: Environmental Awareness Training (EAT) is positively associated with Subjective Norms for the Environment (SN).*

  Based on previous research, it was hypothesized that a higher EAT would be associated with higher SN. The results were statistically significant ($\beta = 0.285$, $P < 0.05$). The β .285 represents the increase in the dependent variable (SN) regarding standard deviations for each standard deviation increase in the independent variable (EAT). This indicates that the probability of observing such an effect size only by chance is less than 5%, which is the conventionally used margin for statistical significance. Thus, the null hypothesis of no association can be rejected for the alternative hypothesis. Therefore, it can be concluded that there is sufficient evidence to show that EAT is associated with SN.

- *H4: Environmental Transformational Leadership (TL) is positively associated with an Attitude toward Pro-environmental Behavior (APB).*

  The association between the TL and APB was statistically significant at the 0.5 level ($\beta = 0.156$, $P > 0.05$). The β .156 represents the increase in the dependent variable (APB) regarding standard deviations for each one standard deviation increase in the independent variable (TL). However, the coefficient cannot be interpreted as such since the result was not statistically significant. This indicates that the probability of observing such an effect size only by chance is greater than 5%, which is the pre-defined margin for statistical significance in this research. Thus, the null hypothesis of no association can be accepted, as there is not enough evidence to support the alternative hypothesis. Therefore, it can be concluded that there is no sufficient evidence to show that TL positively influences APB.

- *H5: Employee Participation in Environmental Behavior Initiatives (PEI) is positively associated with Perceived Behavior Control (PBC).*

  The generated results were statistically significant ($\beta = 0.18$, $P < 0.05$). The β 0.18 represents the increase in the dependent variable (PBC) regarding standard deviations for each one standard deviation increase in the independent variable (PEI). The results can be interpreted as follows: one standard deviation increase in PEI is associated with a .18 standard deviation increase in PBC. The results were statistically significant at the 0.05 level. This indicates that the probability of observing such effect size only by chance is less than 5%, which is the conventionally used margin for statistical significance. Thus, the null hypothesis of no association can be rejected for the alternative hypothesis, and it can be concluded that PEI is positively associated with PBC.

- *H6: Attitude Toward Pro-Environmental Behavior (APB) is positively associated with Environmental Behavior Intention (EBI).*

  The obtained results were statistically significant ($\beta = 0.63$, $P < 0.001$). The β 0.63 represents the increase in the dependent variable (EBI) regarding standard deviations for each one standard deviation increase in the independent variable (APB). The results can be interpreted as follows: one standard deviation increase in APB is associated with 0.63 standard deviation increase in EBI. The results were statistically significant at the 0.05 and 0.001 levels. This indicates that the probability of observing such an effect size only by chance is less than 0.1%. Thus, the null hypothesis of no association can be rejected for the alternative hypothesis, and it can be concluded that APB is positively associated with EBI.

- *H7: Subjective Norms for Environment (SN) is positively associated with Environmental Behavior Intention (EBI).*

  The obtained results were statistically significant ($\beta = 0.1$, $P < 0.05$). The β 0.1 represents the increase in the dependent variable (EBI) regarding standard deviations for each standard deviation increase in the independent variable (SN). The results can be interpreted as one standard deviation increase in SN is associated with 0.1 standard deviation increase in EBI. The results were statistically significant at the 0.05 and 0.001 levels. This indicates that the

probability of observing such an effect size only by chance is less than 5%. Thus, the null hypothesis of no association can be rejected in favor of the alternative hypothesis, and it can be concluded that SN for the environment is positively associated with EBI. The effect of APB on EBI (standardized regression coefficient) was higher ($\beta = 0.63$, $P < 0.001$) than the effect of SN on EBI ($\beta = 0.1$, $P < 0.05$), which may indicate a stronger influence of APB on EBI compared to the effect of SN.

- *H8: Perceived Behavior Control (PBC) is positively associated with Environmental Behavior Intention (EBI).*

  The association between PBC and EBI was not statistically significant at 0.05 or 5% levels ($\beta = -0.051$, $P > 0.05$). The $\beta -0.051$ represents the increase in the dependent variable (EBI) regarding standard deviations for each standard deviation increase in the independent variable (PBC). However, the coefficient cannot be interpreted as such since the result was not statistically significant. This indicates that the probability of observing such an effect size only by chance is greater than 5%, which is the pre-defined margin for statistical significance in this research. Thus, the null hypothesis of no association can be accepted, as there is insufficient evidence to support the alternative hypothesis. It can be concluded that there is no sufficient evidence to show that PBC is positively associated with EBI.

- *H9: Environmental Behavior Intention (EBI) is positively associated with Pro-Environmental Behavior (PB).*

  One of the main objectives of this research was to assess whether EBI positively influences PB. The results were statistically significant ($\beta = 0.393$, $P < 0.001$). The β .393 represents the increase in the dependent variable (PB) regarding standard deviations for each standard deviation increase in the independent variable (EBI). The results can be interpreted as follows: one standard deviation increase in EBI is associated with 0.393 standard deviation increase in PB. The results were statistically significant at 0.05 level and even at the 0.001 level. This indicates that the probability of observing such an effect size only by chance is less than 0.1%. Thus, the null hypothesis of no association can be rejected in favor

of the alternative hypothesis, and it can be concluded that EBI is positively associated with PB.

In summary, the results showed that higher TL was significantly associated with higher APB (β = 0.16, P < 0.05) and that higher PEI was associated with higher APB (β = 0.423, P < 0.001). EAT was not significantly associated with APB (β = −0.19, P = 0.756). Only PEI was significantly associated with PBC (β = 0.352, P < 0.05), while TL and EAT did not show a significant association with PBC. EAT showed a statistically significant positive association with SN (β = 0.283, P = 0.001).

APB showed a statistically significant association with EBI (β = 0.632, P < .001), and higher levels of SN were associated with higher levels of EBI (β = 0.106, P < .001). PBC was not significantly associated with EBI (β = 0.045, P = 0.367). EBI was significantly associated with PB (β = 0.597, P < 0.001). Higher PBC was significantly associated with higher PB (β = 0.425, P < 0.001). The results also provided sufficient evidence to support H1. There was a statistically significant positive association between EBI and PB (β = 0.393, P < 0.001). Similarly, there was a statistically significant association between PB and OP (β = .841, P < 0.001).

4.5.7 Indirect Effects Mediated between Variables

Although indirect effects were not included as primary outcomes for this study, they were tested for statistical significance to assess how some factors may mediate the associations between other variables in the model. Five mediators were included in the structural model: APB, SN, PBC, EBI, and PB. The obtained results show that these variables had intermediating effects on several pathways, as shown in Table 21:

(1) *Mediating effect of APB*: The mediating effect of APB on the relationship between three independent variables (TL, PEI, and EAT) and EBI was tested. Results showed that APB positively mediated the effect of TL on EBI (β = .173, P < .05), as shown by the positive B. Similarly, APB positively mediated the effect of PEI on EBI (β = .211, P < .05). However, no positive mediating effect was found for APB on the association between EAT and EBI. In summary, these results show that APB mediates the effect of two independent variables (TL and PEI) on the dependent variable, EBI.

(2) *Mediating effect of SN*: The mediating effect of SN on the relationship between three independent variables (TL, PEI, and EAT) and the dependent variable EBI was tested. The results showed that SN did not mediate the effect of TL on EBI (β = .007, P > .05), as shown by the non-statistically significant B. Similarly, SN did not mediate the effect of PEI on EBI (β = .015, P > .05). However, a statistically significant positive mediating effect was found for SN on the association between EAT and EBI (β = .05, P < .05). In summary, these results show that SN does not mediate the effect of two independent variables (TL and PEI) on the dependent variable EBI and mediates the effect of EAT on EBI.

(3) *Mediating effect of PBC*: The mediating effect of PBC on the relationship between three independent variables (TL, PEI, and EAT) and the dependent variable PB was tested. Results showed that PBC positively mediated the effect of TL on PB (β = .184, P < .05), as shown by the positive B. Similarly, PBC positively mediated the effect of PEI on PB (β = .188, P < .05). However, no positive mediating effect was found for PBC on the association between EAT and PB (β = .209, P < .05). In summary, these results show that PBC positively mediates the effect of two independent variables (TL and PEI) on the dependent variable PB.

(4) *Mediating effect of EBI*: We tested the mediating effect of EBI on the relationship between two independent variables (APB and SN) and the dependent variable PB. Results showed that EBI positively mediated the effect of APB on PB (β = .219, P < .05), as shown by the positive B. Similarly, EBI positively mediated the effect of SN on PB (β = .048, P < .05). In summary, these results suggest that EBI positively mediates the effect of the two independent variables (APB and SN) on the dependent variable PB.

(5) *Mediating effect of PB*: The mediating effect of PB on the relationship between two independent variables (EBI and PBC) and the dependent variable OP was tested. Results showed that PB positively mediated the effect of EBI on OP (β = .221, P < .05), as shown by the positive β. Similarly, PB positively mediated the effect of PBC on OP (β = .504, P < .05). In summary, these results suggest that PB positively mediates the effects of the two independent variables (EBI and PBC) on the dependent variable OP.

Table 21: Analysis of Indirect Intermediation of Five Variables

Indirect Path	Unstandardized Estimate	Lower	Upper	P-Value	Standardized Estimate
APB					
TL --> APB --> EBI	0.097	0.022	0.175	0.030	0.173*
EAT --> APB --> EBI	−0.012	0.082	0.061	0.787	−0.021
PEI --> APB --> EBI	**0.260**	**0.137**	**0.407**	**0.003**	**0.211****
SN					
TL --> SN --> EBI	0.004	-0.009	0.028	0.502	0.007
EAT --> SN --> EBI	0.027	0.011	0.054	0.005	0.050**
PEI --> SN --> EBI	0.019	−0.002	0.064	0.150	0.015
PBC					
TL --> PBC --> PB	0.127	0.039	0.242	0.014	0.184*
EAT --> PBC --> PB	0.141	−0.003	0.277	0.106	0.209
PEI --> PBC --> PB	0.287	0.090	0.529	0.010	0.188**
EBI					
APB --> EBI --> PB	0.238	0.148	0.381	0.002	0.219**
SN --> EBI --> PB	0.037	0.012	0.080	0.012	0.048*
PB					
EBI --> PB --> OP	0.323	0.209	0.500	0.002	0.221**
PBC --> PB --> OP	**1.308**	**0.278**	**2.917**	**0.001**	**0.504*****

(Note: *** p < .001, ** p < .010, * p < .050, p < .100)

4.5.8 Fit Measures for The Final Structural Model- Moderation Analysis

The obtained results show that the proposed model is a good fit for the data as indicated by CFI and TLI, which were above the suggested threshold of 0.9. in contrast, RMSEA was equal to the recommended threshold, while the upper RMSEA 90% confidence interval was within the recommended threshold, which indicates that the proposed model is a good fit for the data (Hu & Bentler, 1999; Zhang et al., 2021). Table 22 shows the model-fit indices for the proposed model.

Table 22: Model Fit Indices for the Full Model

Measure	Value	Acceptable value
CFI	0.926	0.9
TLI	0.918	≥ .9
RMSEA	0.063	<0.08
P	<.001	>.005
DF	510	
X^2	1133.637	
RMSEA upper 90% CI	0.068	<0.08
PC min (X^2/df)	2.22	< 5

Factor scores were imputed using the proposed confirmatory factor model. The imputed scores were used to calculate the interaction between PDM and PB (PDM x PB). The interaction term was included in a model, with PB and PDM as independent variables and OP as the dependent variable. The interaction term (Moderation) was tested for statistical significance. All scores were standardized before the analysis (ZOP, ZPB, and ZPDM). Figure 15 illustrates the moderation analysis of variables.

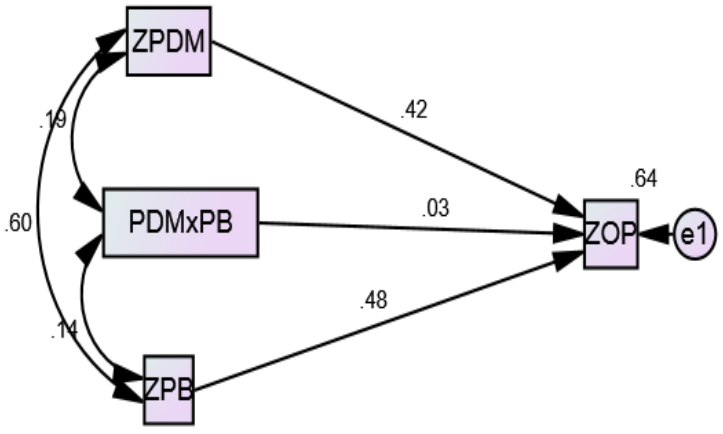

Figure 15: Moderation Analysis of Variables

The results showed that PDM was significantly associated with OP (β = 0.417, P < 0.001), which indicates that one standard increase in PDM is associated with a .417 standard deviation increase in OP, i.e., analysis of PDM directly affects OP with libeling H2, as shown in Table 23.

Table 23: Moderation Analysis Results for the Variables

			Estimate	**S.E.**	**C.R.**	**P**	**Label**
ZOP	<---	ZPDM	.417	.043	9.766	< .001	
ZOP	**<---**	**PDM x PB**	**.027**	**.036**	**.738**	**.461**	**H2**
ZOP	<---	ZPB	.476	.042	11.232	< .001	

H2: Participation in Decision Making (PDM) moderates the association between Pro-environmental Behavior (PB) and Pro-environmental Performance (OP)

The interaction between PDM and PB was not statistically significant (β = 0.027, P = 0.461). Thus, it indicates that the effect of PB on OP does not vary based on PDM levels; that is, PDM does not moderate the relation between PB and OP but rather has a consistent direct positive effect on OP. Thus, we can determine that there is not sufficient evidence to support the moderating effect of PDM on the association between PB and OP. This result seems logical, as employees' decision-making participation usually applies mainly in the developed world.

4.5.9 Descriptive Statistics for Factor Scores

The central tendency and variability of the included latent variables were assessed using the mean and standard deviation. Skewness and kurtosis were also used to assess the normality of the latent factors. The average score was highest for the TL factor (M = 5.08, SD = 1.16) and lowest for APB (M = 2.55, SD = 0.71) and EBI (M = 2.35, SD = 0.67). Reasonably normal distribution was observed for the latent factors regarding skewness and kurtosis. The skewness values ranged from -.687 to .03 and did not exceed

the −1. to 1.0 threshold. The kurtosis values ranged from −1.11 to 0.5. These values do not violate normality, as previously suggested, as shown in Table 24.

Table 24: Descriptive Statistics for Factor Scores

Survey Factors	Range	Min	Max	Mean	SD	Skewness		Kurtosis	
					Statistic	Statistic	SE	Statistic	SE
PDM	4.74	1.18	5.92	4.4530	.878	-.305	.139	.500	.276
PBC	3.08	.99	4.06	3.0702	.612	-.382	.139	.001	.276
SN	4.67	1.16	5.82	4.2640	1.018	-.190	.139	-.391	.276
APB	2.55	3.28	5.82	5.0447	.713	-.576	.139	-1.110	.276
EBI	2.35	3.25	5.60	4.8585	.671	-.687	.139	-.989	.276
PEI	2.60	.76	3.36	2.3891	.5	-.201	.139	.358	.276
EAT	4.64	.99	5.63	3.7565	1.177	-.347	.139	-.271	.276
TL	5.08	1.11	6.19	4.3534	1.158	-.516	.139	.143	.276
PB	3.65	2.52	6.17	4.8723	.854	.030	.139	-1.114	.276
OP	4.62	1.17	5.80	4.3259	.936	-.265	.139	-.230	.276

(Note. SD: Standard deviation; SE: Standard error; Min: Minimum, Max: Maximum)

4.5.10 Association between Dependent and Independent Variables

4.5.10.1 Pro-Environmental Behavior and Gender

The quantitative results showed that there was no statistically significant difference in the average score for all ten factors between males and females. The average scores for PDM and PBC were not significantly different between males and females ($p = 0.532$ and 0.575, respectively). Similarly, the scores for the remaining factors were not significantly different between males and females except for the average score for EAT, which was slightly higher in males ($M = 3.86$) than in females ($M = 3.63$). However, the difference was not statistically significant at the 0.05 level. Table 25 shows the relationship between the two variables.

Table 25: Association Between Pro-Environmental Behavior and Gender

Survey Factors	Males		Females		*p*
	Mean	**SD**	**Mean**	**SD**	
PDM	4.43	0.95	4.49	0.78	0.532
PBC	3.05	0.62	3.09	0.60	0.575
SN	4.20	1.04	4.34	.99	0.24
APB	5.09	0.69	4.99	0.74	0.214
EBI	4.89	0.66	4.82	0.69	0.398
PEI	2.42	0.53	2.35	0.46	0.287
EAT	3.86	1.21	3.63	1.12	0.09
TL	4.42	1.21	4.27	1.09	0.252
PB	4.90	0.86	4.83	00.85	0.446
OP	4.35	0.97	4.30	0.89	0.626

(Note: Statistical analysis was performed using an unpaired t-test)

4.5.10.2 Pro-Environmental Behavior and Age

The association between age and the pro-environmental behavior of the respondents was assessed using Spearman's rank correlation. No statistically significant association was observed between age and any of the ten factors included in the pro-environmental behavior survey ($p > 0.05$). Table 26 shows the relationship between the two variables.

Table 26: Association Between Pro-Environmental Behavior and Age

Survey Factors	Age	
	r	***p***
PDM	-.028	.624
PBC	.048	.405
SN	-.049	.392
APB	.072	.208
EBI	-.005	.936
PEI	.013	.825
EAT	-.007	.899
TL	.007	.902
PB	.027	.636
OP	-.065	.258

(Note: *r* = Spearman's correlation coefficient)

4.5.10.3 Pro-Environmental Behavior and Academic Qualifications

The association between education and pro-environmental behavior was also assessed using Spearman's correlation. We hypothesized that higher education grades would be associated with better pro-environmental behavior, demonstrated as a statistically significant positive correlation between education and at least one of the ten factors. No statistically significant association was observed between education and any of the ten factors included in the pro-environmental behavior survey ($p > 0.05$). Table 27 shows the relationship between the two variables.

Table 27: Association Between Pro-environmental Behavior and Education

Survey Factors	**Education**	
	r	***p***
PDM	-.003	.958
PBC	.047	.409
SN	-.055	.337
APB	.034	.550
EBI	.031	.589
PEI	-.016	.775
EAT	-.039	.497
TL	-.030	.594
PB	-.071	.212
OP	-.075	.188

(Note*: r* = Spearman's correlation coefficient)

4.5.10.4 Pro-Environmental Behavior and Workplaces

The quantitative results showed that the average score for PDM was significantly different between groups ($F\ 2, 36 = 9.442$, $p < 0.001$). Post-hoc pairwise comparisons

showed that the average PDM score was significantly higher in respondents working in hospitality, lodging, recreation, and tourism (M = 4.63, SD = 0.85) than in respondents working in Government/ Semi-Government (M = 4.14, SD = 0.9) and private sector (M = 4.3, SD = 0.81).

The average PBC score was not significantly different between the three working sectors (F 2, 36 = 1.718, p = 0.181). There was a statistically significant difference in the average SN scores between the three working sectors (F 2, 36 = 8.534, p < 0.001). Post-hoc pairwise comparisons showed that the average SN score was significantly higher in respondents working in hospitality, lodging, recreation, and tourism (M = 4.46, SD = 1.01) than respondents working in Government/ Semi-Government (M = 3.91, SD = 1.1) and private sectors (M = 4.11, SD = 0.84).

There was a statistically significant difference in the average APB scores between the three working sectors (F 2, 36 = 3.902, p = 0.021). Post-hoc pairwise comparisons showed that the average APB score was significantly higher in respondents working in Hospitality, Lodging, Recreation, and Tourism (M = 5.13, SD = 0.68) than respondents working in Government/ Semi-Government (M = 4.85, SD = 0.75). The average was no significant difference between the private sector and any formed two sectors (M = 5.01, SD = 0.72).

A statistically significant difference was observed in the average EBI scores between the three working sectors (F 2, 36 = 4.834, p = 0.009). Post-hoc pairwise comparisons showed that the average EBI score was significantly higher in respondents working in Hospitality, Lodging, Recreation, and Tourism (M = 4.95, SD = 0.65) than respondents working in Government/ Semi-Government (M = 4.65, SD = 0.7).

Like before, the average PEI scores between the three working sectors (F 2, 36 = 12.418, p < .001). Post-hoc pairwise comparisons showed that the average PEI score was significantly higher in respondents working in hospitality, lodging, recreation, and tourism (M = 2.5, SD = 0.49) than in respondents working in Government/Semi-Government (M = 2.17, SD = 0.5) and private sectors (M = 2.31, SD = 0.45).

A statistically significant difference was also observed in the average EAT scores between the three working sectors (F 2, 36 = 7.46, p = 0.001). Post-hoc pairwise

comparisons showed that the average EAT score was significantly higher in respondents working in Hospitality, Lodging, Recreation, and Tourism (M = 3.97, SD = 1.14) than in respondents working in Government/ Semi-Government (M = 3.36, SD = 1.19).

One-way ANOVA showed the average TL scores between the three working sectors ($F\ 2, 36 = 10.885$, $p < .001$). Post-hoc pairwise comparisons showed that the average TL score was significantly higher in respondents working in hospitality, lodging, recreation, and tourism (M = 4.61, SD = 1.08) than in respondents working in Government/Semi-Government (M = 3.9, SD = 1.19) and private sectors (M = 4.15, SD = 1.16).

The average PB scores were significantly different between the three work sectors ($F\ 2, 36 = 14.627$, $p < 0.001$). Post-hoc pairwise comparisons showed that the average PB score was significantly higher in respondents working in hospitality, lodging, recreation, and tourism (M = 5.07, SD = 0.84) than in respondents working in the private sectors (M = 4.78, SD = 0.76). The average was higher in the former two sectors than in respondents working in Government/ Semi-Government (M = 4.44, SD = 0.83).

One-way ANOVA showed that the average OP score was significantly different between the three working sectors ($F\ 2, 36 = 12.244$, $p < 0.001$). Post-hoc pairwise comparisons showed that the average OP score was significantly higher in respondents working in hospitality, lodging, recreation, and tourism (M = 4.55, SD = 0.9) than respondents working in Government/ Semi-Government (M = 3.97, SD = 0.97) and private sectors (M = 4.11, SD = 0.85). Thus, the work sector was significantly associated with nine of the included factors in the pro-environmental survey, as shown in Table 28.

Table 28: Association Between Pro-environmental Behavior and Workplaces

Survey Factors	Services Sector		Semi-/Gov Sector		Private Sector		ANOVA values	
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**F (2, 306)**	***p***
PDM	4.63_a	4.63_a	4.14_b	.90	4.30_b	.81	9.442	< 0.001
PBC	3.11_a	3.11_a	2.95_a	.55	3.09_a	.56	1.718	0.181
SN	4.46_a	4.46_a	3.91_b	1.10	4.11_b	.84	8.534	< 0 .001
APB	5.13_a	5.13_a	4.85_b	.75	$5.01_{a,b}$	.72	3.902	0.021
EBI	4.95_a	4.95_a	4.65_b	.70	$4.83_{a,b}$	.65	4.834	0.009
PEI	2.50_a	2.50_a	2.17_b	.50	2.31_b	.45	12.418	< 0.001
EAT	3.97_a	3.97_a	3.36_b	1.19	$3.60_{a,b}$	1.15	7.46	0.001
TL	4.61_a	4.61_a	3.90_b	1.19	4.15_b	1.16	10.885	< 0.001
PB	5.07_a	5.07_a	4.44_b	.83	4.78_c	.76	14.627	<0 .001
OP	4.55_a	4.55_a	3.97_b	.97	4.11_b	.85	12.244	< 0.001

Note: Values in the same row and sub-Table not sharing the same subscript are significantly different at p< 0.05 in the two-sided test of equality for column means. Cells with no subscript are not included in the test. Tests assume equal variances.[1]
Tests are adjusted for all pairwise comparisons within a row of each innermost sub-Table using the Bonferroni correction.
SD: Standard deviation
F: F-statistic for ANOVA
p: statistical significance using one-way ANOVA

4.5.10.5 Pro-Environmental Behavior and Employment Status

The quantitative results showed that the average score for PDM was significantly different between groups (F 2, 36 =4.79, p = 0.009). Post-hoc pairwise comparisons showed that the average PDM score was significantly higher in managers (M = 4.58, SD = 0.88) than in employees (M = 4.32, SD = 0.87) but was not significantly different from the average score for owners (M = 4.93m, SD = 0.61). The average PBC score was significantly different between the three groups (F 2, 36 = 3.204, p = .042), although post hoc pairwise comparisons did not reveal a statistically significant difference

between the three groups. No statistically significant difference was observed in the average SN scores between the three groups (F 2, 36 = 1.451, p = .236).

There was a statistically significant difference in the average APB scores between the three groups (F 2, 36 = 4.175, p = 0.016). Post-hoc pairwise comparisons showed that the average APB score was significantly higher in management (M = 5.18, SD = .74) than in employees (M = 4.94, SD = 0.66). The average was no significant difference between the private sector and any formed two sectors (M = 5.01, SD = 0.72). No statistically significant difference was observed in the average EBI score between the three groups (F 2, 36 = 1.873, p = .155).

The average PEI scores between the three groups (F 2, 36 = 10.671, p < .001). Post-hoc pairwise comparisons showed that the average PEI score was significantly higher in managers (M = 2.53, SD = .5) than in employees (M = 2.27, SD = .47). A statistically significant difference was also observed in the average EAT scores between the three groups (F 2, 36 = 10.173, p < .001). Post-hoc pairwise comparisons showed that the average EAT score was significantly higher in managers (M = 4.08, SD = 1.17) than in employees (M = 3.49, SD = 1.12). One-way ANOVA showed that the average TL scores were significant between the three groups (F 2, 36 = 9.446, p < .001). Post-hoc pairwise comparisons showed that the average TL was significantly higher in managers (M = 4.66, SD = 1.12) than in employees (M = 4.1, SD = 1.13).

The average PB scores were significantly different between the three groups (F 2, 36 = 4.558, p = 0.011). Post-hoc pairwise comparisons showed that the average PB score was significantly higher in managers (M = 5.03, SD = 0.83) than in employees (M = 4.74, SD = 0.84). One-way ANOVA showed that the average OP score was significantly different between the three groups (F 2, 36 = 6.12, p = 0.002). Post-hoc pairwise comparisons showed that the average OP score was significantly higher in managers (M = 4.51, SD = 0.98) than in employees (M = 4.16, SD = 0.87). Thus, employment status was significantly associated with the scores for eight of the included factors in the pro-environmental survey, as shown in Table 29.

Table 29: Association Between Pro-Environmental Behavior and Employment Status

Survey	Employees		Managements		CEO/Owners		ANOVA values	
Factors	Mean	SD	Mean	SD	Mean	SD	F (2, 306)	*p*
PDM	4.32_{a}	0.87	4.58_{b}	0.88	$4.93_{a,b}$	0.61	4.79	0.009
PBC	3.02_{a}	0.61	3.11_{a}	0.62	3.50_{a}	0.45	3.204	0.042
SN	4.17_{a}	1.02	4.37_{a}	1.03	4.33_{a}	0.61	1.451	0.236
APB	4.94_{a}	0.74	5.18_{b}	0.66	$5.01_{a,b}$	0.78	4.175	0.016
EBI	4.79_{a}	0.68	4.94_{a}	0.66	4.78_{a}	0.74	1.873	0.155
PEI	2.27_{a}	0.47	2.53_{b}	0.50	$2.50_{a,b}$	0.51	10.671	<0.001
EAT	3.49_{a}	1.12	4.08_{b}	1.17	$3.91_{a,b}$	1.24	10.173	<0.001
TL	4.10_{a}	1.13	4.66_{b}	1.12	$4.55_{a,b}$	1.05	9.446	<0.001
PB	4.74_{a}	0.84	5.03_{b}	0.83	$5.05_{a,b}$	1.07	4.558	0.011
OP	4.16_{a}	0.87	4.51_{b}	0.98	$4.64_{a,b}$	0.90	6.12	0.002

Note: Values in the same row and sub-Table not sharing the same subscript are significantly different at p< 0.05 in the two-sided test of equality for column means. Cells with no subscript are not included in the test. Tests assume equal variances.[1] Tests are adjusted for all pairwise comparisons within a row of each innermost sub-Table using the Bonferroni correction.
SD: Standard deviation
F: F-statistic for ANOVA
p: statistical significance using one-way ANOVA.

4.5.10.6 Pro-Environmental Behavior and Work / Experience Years

Spearman's correlation was used to assess the association between working years, experience years, and pro-environmental behavior. The quantitative results showed that a higher number of working years for the organization was significantly associated with lower PDM scores (r = -0.131, $p = 0.02$). A higher number of experience years was also associated with lower PDM scores (r = -0.113, $p = 0.047$). Working years with the organization were associated with SN score (r = -0.145, $p = 0.01$), indicating that a higher number of working years for the organization is associated with a lower SN score. Working years for the organization were associated with lower PB scores (r = -0.132, *p*

= 0.02) and lower OP scores (r = -.136, p = 0.017). The scores for the remaining factors were not associated with working years with the organization and experience years. The quantitative results between the two variables are shown in Table 30.

Table 30: Association Between Pro-environmental Behavior and Work/Experience Years

Survey Factors	Work Years with Employers		Experience in Years	
	r	***p***	***r***	***p***
PDM	-.131*	.021	-.113*	.047
PBC	-.058	.309	.046	.417
SN	-.145*	.010	-.039	.496
APB	-.060	.297	.055	.334
EBI	-.102	.072	-.013	.819
PEI	-.098	.087	-.073	.202
EAT	-.066	.245	-.027	.641
TL	-.079	.168	-.033	.563
PB	-.132*	.020	-.024	.679
OP	-.136*	.017	-.092	.105

(Note*: r: Spearman's correlation coefficient; * p < .05; ** p < .01*)

4.6 Chapter Summary and Conclusion

In this chapter, an initial data screening was performed to prepare the dataset and ensure its accuracy for further statistical analysis. Regarding the association between demographic characteristics and pre-environmental behavior, our results suggest that neither age, gender, nor education is significantly associated with pro-environmental behavior. However, the working sector showed a statistically significant association with pro-environmental behavior. The average score for all but one latent factor was significantly higher in respondents working in tourism, hospitality, and lodging than in the remaining two working sectors indicating better pro-environmental behavior. The pro-environmental behavior was also higher in managers than employees.

The respondents' demographics and profiles were analyzed, where the EFA was applied, and a model with ten factors was generated. Next, the CFA test was employed to verify the measurement model and confirm its reliability and validity. The hypotheses were tested along with a moderation analysis. As a result, all hypotheses were tested positively, except hypothesis 8, where the result demonstrated that there is no correlation between PBC and EPI.

The correlation exists between a PBC and EPB directly without the need for EPI mediation; also, it is supported by the theory of planned behavior. Moreover, PDM moderation between EB and OP in hypothesis 2 is not required, as it is not applicable in the UAE. Lastly, SEM was conducted, which confirmed that the model was a good fit for the data. Furthermore, eight hypotheses were tested along with mediation analysis, and the final model was modified, as shown in Figure 16.

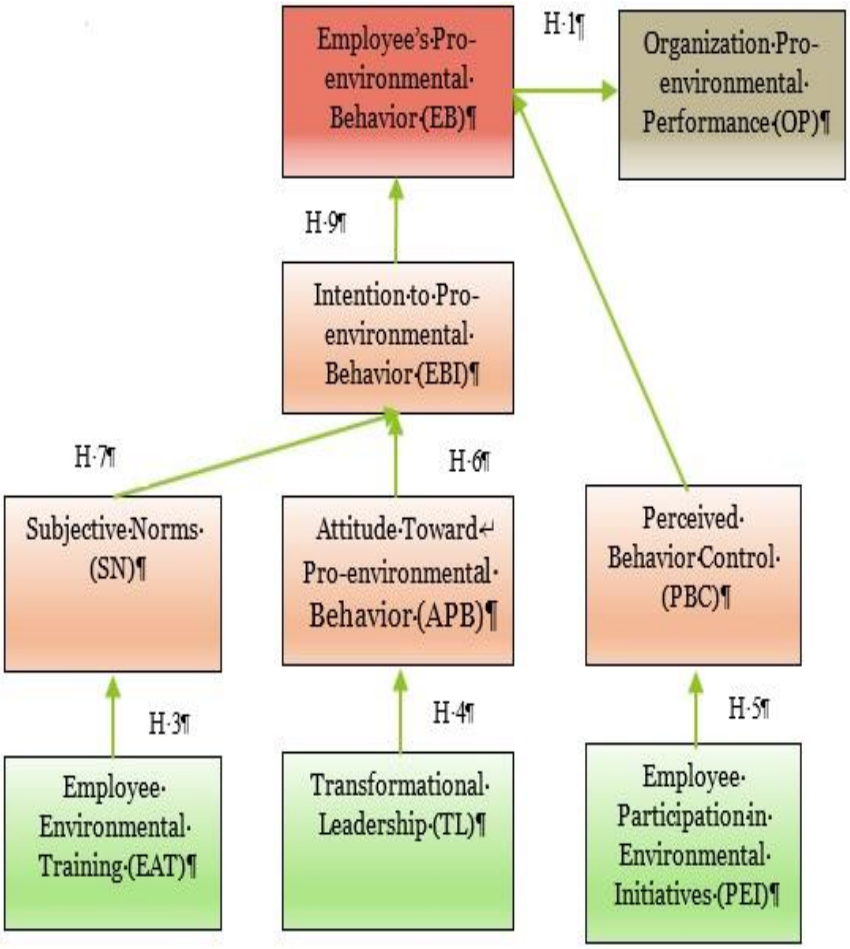

Figure 16: The Final Fit Research Model

Chapter 5: Discussion

5.1 Introduction

Based on the findings of the hypotheses testing using the collected data, this chapter discusses the relationships and patterns that emerged from the analysis of survey data presented in the previous chapter. Hence, the primary purpose of this chapter is to outline the study's contributions to current understandings of employees' pro-environmental behavior as a motivating force for organizational environmental performance in the UAE. This chapter also provides a discussion on the structural model developed to answer the study's research questions. The developed causal model was a goodness-of-fit measure showing statistical relationships of all the hypothesized variables by well-fitting the collected data set.

Consequently, the research results demonstrate that organizations engaging in changing employees' PB will positively affect Organizational Pro-Environmental Performance. This argument is supported by Nisar et al. (2021), whom they found that Human Resources management involvement with employees in green activities can enhance an organization's performance. Moreover, the employees' pro-environmental intention positively affects the Employees' PB.

The subjective norms mediate the relationship between the Employees' Environmental Training, and attitude mediates the relationship between TL and Employees' Pro-Environmental intention. However, the PBC mediates the relationship between the PEI and employees' PB but not with the employees' pro-environmental intention. PDM has no mediation effects on the relationship between the Employees' PB and OP, mainly because it is widely used in developed countries with a system of partnerships between management and employees.

5.2 Revisiting Research Objectives and Hypotheses

5.2.1 Concerning Research Objectives

The fundamental objectives of this research are examined and have been achieved. First, the principal factors that induce employees to exhibit pro-environmental behaviors in the workplace were determined by exploring the effect of Employees' PB behavior on

OP, with the assistance of micro factors such as TL, EAT, and PEI; and mediation of factors such as SN, APB, PBC, and EBI. Hence, the theory of Planned Behavior, as illustrated in Figure 2, a framework model, was employed based on the literature review. Second, addressing the recent calls to bridge micro-and macro-studies in the field of environmental sustainability was also achieved by coverage of the literature review (Barney & Felin, 2013; Cooper et al., 2017; Foss, 2016).

Likewise, the research results showed that employees' PB's role in enhancing OP is achieved and supported by Nisar et al. (2021). Furthermore, the collected data from questionnaires were empirically tested and validated, and SEM was applied to test the hypotheses. Furthermore, the hypotheses section discusses in detail how pro-environmental behavior impacts employees' participation in their employers' environmental initiatives. As well as investigate the relationship between employees' pro-environmental behavior at work and organizational environmental performance.

5.2.2 Concerning Research Hypotheses

- *The influence of employees' pro-environmental behavior on organizational environmental performance*

The current research investigated the correlation between Employees' PB and OP. The results show the existence of positive statistical significance between the two factors ($\beta = 0.841$, $P < 0.05$), which means that each standard deviation increase in PB is associated with a 0.841 standard deviation increase in OP. Moreover, the relation had the second-highest significance in the model, and the results demonstrated that when employees participate in PB, their actions will strongly affect the organization's environmental performance.

Furthermore, previous empirical studies posit that employees' participation in pro-environment behavior can lead to organizational environmental performance and increase financial performance (de Bruijn & Hofman, 2000; Nisar et al., 2021; Norton et al., 2015). Referring to the extant literature, Paillé et al. (2014) commented that employees' behavior or conduct toward the environment directly affects an organization's success with its environmental performance. So, high environmental performance will result if employees' environmentally friendly behavior, but environmental performance might suffer otherwise (Paillé et al., 2014).

- *The moderation relationships of Employees' participation in decision-making between pro-environmental behavior and organizational environmental performance.*

The literature review postulated that Employees' participation in decision-making is widely used in developed countries, and this is because they have a system of partnership between management and employees. Adopting this system can lead to financial gains (Javed & Idris, 2018). Furthermore, Farooq et al. (2019) found that employees' participation in decision-making can increase sustainability and financial performance in an organization. Moreover, getting employees to participate in decision-making early using the bottom-up approach can enhance organizational sustainability support (Armenakis & Bedeian, 1999). Furthermore, they possess practical information about how organizations perform and know what is needed for the best implementation (Bansal, 2003; May & Flannery, 1995).

This research revealed that the interaction between Employees' PDM and PB was not statistically significant ($\beta = 0.027$, $p = 0.461$). Hence, this indicates that the effect of PB on OP does not vary based on Employees' PDM levels; that is, employees' PDM does not moderate the relation between PB and OP but instead has a consistent direct positive effect on OP. Thus, it can be determined that there is not sufficient evidence to support the moderating effect of Employees' PDM on the association between PB and OP. Therefore, the result is logical, as employees' decision-making participation usually applies mainly in the developed world, not with participants from the UAE.

- *The influence of employees' environmental awareness training program on subjective norms.*

The results of the investigated correlation between EAT and SN demonstrate positive statistical significance between the two factors. Therefore, the results presented a statistically significant ($\beta = .285$, $p < 0.05$) between the two. The $\beta = 0.285$ represents the dependent variable (SN) increase regarding standard deviations for each standard deviation increase in the independent variable (EAT). Moreover, supported by Fawehinmi et al. (2020), researchers found that environmental awareness training through HRM positively affects personal norms.

The related scholarly literature also showed that employees' perceptions of ease or difficulty in performing particular behavior would be determined by their influence on the organization, its management, and external variables, such as environmental training. This gap exists because education on sustainability, which is necessary to promote perceived behavioral control among employees, has not yet been prioritized (Gan & Gal, 2018). Jabbour (2015) also posits that training and education give employees the proper form of empowerment to know how to perform their roles in the organization, including environmental sustainability roles.

- *The influence of transformational leadership on employees' attitudes toward pro-environmental behavior*.

The statistical analysis results show that the TL and APB association was statistically significant at the 0.5 level ($\beta = 0.156$, $p > 0.05$). Thus, the $\beta = 0.156$ represents the dependent variable (APB) increase regarding standard deviations for each standard deviation increase in the independent variable (TL). Likewise, the results were supported by Barling et al. (2010), where the researchers posit that employees' attitudes have a positive role in mediating between transformational leadership and employee pro-environmental behavior.

- *The influence of employees' participation in environmental initiatives on their perceived behavioral control*.

The current research examined the relationship between PEI and PBC, and the findings show statistically significant ($\beta = 0.18$, $p < 0.05$) between the two factors. Therefore $\beta = 0.18$ represents the increase in the dependent variable PBC regarding standard deviations for each standard deviation increase in the independent variable PEI. Additionally, the results can be interpreted as one standard deviation increase in PEI is associated with a 0.18 standard deviation increase in PBC. Likewise, this result is consistent with the previous research by Boiral et al. (2015). They posit that organizational citizenship behaviors for the environment based on individual, voluntary, and informal initiatives, especially from a managerial perspective, have a positive and significant relationship with PBC. Also, it is increasingly considered an essential ingredient of corporate greening.

Cleveland and Kalamas (2015) believe organizations should hire individuals with high PBC because they can act and get involved in pro-environmental initiatives. Perron et al. (2006) explained that environmental education and awareness training programs are essential for changing how organizations conduct their activities, mainly if the training is directed toward changing the culture of the environment. Concurrently, Young et al. (2015) found that most employees face a common problem regarding environmental sustainability: they are mostly distanced from the organization's environmental initiatives.

In addition, it makes it difficult for them to gain experience, which makes it easier for them to adopt environmentally friendly behavior because they do not become familiar with such behavior. Meanwhile, the pro-environmental training posits that employees need to perceive that performing such behavior is easy rather than challenging for employees to exhibit the behavior. The latitude employees are given to participate in their organizations' environmental initiatives is necessary to help them develop proper perceived behavioral control.

- *The influence of employees' attitudes* (APB) *on intentions toward pro-environmental behavior* (EBI).

The results of the investigated correlation between APB and EBI. The results were statistically significant ($\beta = 0.63$, $p < 0.001$). Hince, $\beta = 0.63$ represents the increase in the dependent variable (EBI) regarding standard deviations for each standard deviation increase in the independent variable (APB). The result is consistent with the previous findings (Razak & Sabri, 2019); it also revealed that attitude has a significant and positive effect on pro-environmental intention behavior.

Chen and Tung (2014) explained that an individual's attitude is essential in determining the person's intentions and eventual behavior after realizing how society perceives excellent or destructive behaviors, positive or negative, and favorable or unfavorable. By inference, although opinions that comprise individual attitudes are subjective or personal, they are considered what society accepts or rejects. The considerations about what society accepts or rejects often become the motivation for employees to develop proper intentions for a particular behavior (Kautonen et al., 2015).

- *The influence of employees' subjective norms on intentions toward pro-environmental behavior.*

This research also aimed to assess the association between SN and EBI and whether SN positively affects EBI. Again, the results were statistically significant ($\beta = 0.1$, $P < 0.05$). The β 0.1 represents the dependent variable (EBI) increase regarding standard deviations for each standard deviation increase in the independent variable (SN). Therefore, the results can be interpreted as follows: one standard deviation increase in SN is associated with a 0.1 standard deviation increase in EBI. Likewise, the result is consistent with the previous findings (Razak & Sabri, 2019; Schelly et al., 2011), where they also revealed that subjective norm was positively and significantly related to intention behavior.

The current research examined the relationship between SN and The subjective norm variable has also been explained as involving a person's perception of significant judgments of others' behavior (O'Connor & Armitage, 2003). This definition also elicits the issue of social perceptions or beliefs, as others' judgments are often dictated by what people in one's social network think (Rivis & Sheeran, 2003). De Leeuw et al. (2015) argued that employees' subjective norms influence their perceptions of behavior, likely affecting their intention to exhibit that behavior.

- *The influence of employees' perceived control on intention toward pro-environmental behavior.*

The association between PBC and EBI was not statistically significant at the 0.05 or 5% levels ($\beta = -0.051$, $P > 0.05$). The β −0.051 represents the dependent variable (EBI) increase regarding standard deviations for each standard deviation increase in the independent variable (PBC). However, the coefficient cannot be interpreted as such since the result was not statistically significant. On the other hand, the statistical results showed that PBC could affect the Employees' PB directly without the need for EBI mediation. Moreover, the association between PBC and Employees' PB had the highest statistical significance in the model at the 0.001 levels ($\beta = 1.563$).

The results, therefore, can be interpreted as follows: each standard deviation increase in PBC is associated with a 1.563 standard deviation increase in Employees' PB. Moreover, this can be explained by Ajzen (1991) that the more resources and

opportunities employees believe they hold, and the fewer barriers or obstacles they anticipate, the greater should be their perceived control over the behavior. Again, this research demonstrated that if employees have more control over their actions, they will act directly without passing through the intention phase.

Moreover, Eden (1993) also reported the same findings concerning the relationship between PBC and Employees' PB using the motivation and opportunity (AMO) theory. Furthermore, he proposed that the more PBC an employee has concerning pro-environmental behavior and the better the capability to perceive oneself as accountable for the undesirable effects on the environment, the stronger the need to participate in pro-environmental behavior. Moreover, Chen C. & Chen Y. (2021) found a positive correlation between PBC energy-saving behavioral intention and energy-saving habits among employees. Furthermore, research by Adnan et al. (2017) noted in Malaysia; the PBC significantly changed the intention of adoption of green practices by the small farming industry.

- *The influence of employees' intentions toward pro-environmental behavior on employees' pro-environmental behavior*.

One of the main objectives of this research was to assess whether EBI positively influences PB. The results were statistically significant ($\beta = 0.393$, $p < 0.001$). The $\beta = 0.393$ represents the increase in the dependent variable (PB) regarding standard deviations for each standard deviation increase in the independent variable (EBI). The results can be interpreted as follows: one standard deviation increase in EBI is associated with a 0.393 standard deviation increase in PB. It is consistent with the previous results (Blok et al., 2015; Cordano et al., 2010; Rioux, 2011); others did not find this relationship (Wesselink et al., 2017).

On the other hand, to encourage pro-environmental behavior among employees, organizations might focus on arranging an office environment and providing facilities to support employees in carrying out the organization's pro-environmental behavior. Furthermore, facilities such as recycling bins and double-sided setup photocopy could support the employees to perceive that it is easy to be motivated to behave more pro-environmentally (Razak & Sabri, 2019). Hence, to enhance the positive attitude change, top management must create practical activities and regular environmental campaigns to

deliver the benefits of pro-environmental behavior and the impact, aiming for long-lasting attitude changes among employees. For this reason that employees who adopt pro-environmental behaviors at work influence people outside of work with their behaviors. Moreover, according to Turnbull and Loverock (2010), the action reveals that work is a leverage point that effectively creates robust and sustainable social change. Consequently, the spillover effect of pro-environmental behavior at work to the community and private sector will benefit the sustainability of the environment in the country (Razak & Sabri, 2019).

According to Kaiser et al. (1999), pro-environmental behavior intentions can change pro-environmental behavior when there is a whole emotional responsibility toward sustainability, environmental knowledge, and appreciation of environmental values. Concurrently, Ju et al. (2019) held that when weighing one's personal opinions against social beliefs, it is mostly the case that personal opinions will inform intentions and behavior. However, social beliefs are essential because most people get satisfaction from behaviors they perceive as favorable to them than this society perceives as favorable. Kautonen et al. (2015) asserted that a generalized modality might not determine which intentions and behaviors are best and are based on individuals.

5.3 Summary

This chapter discussed the research objectives and how they were achieved. Firstly, it discussed the selected factors from the literature and the relationships and patterns generated using a model based on TPB. Moreover, factors such as employees' PB, OP, APB, PEI, TL, PBC, APB, SN, and EBI were used and explained how these factors contributed to the success of the results. Secondly, it highlighted the results of the research objectives and tested the hypothesis to understand the relationships between the factors.

Finally, the tested model exhibited goodness of fit for all factors, except for the moderation of PDM between employees' PB and OP. Additionally, the mediation relations of EBI between PBC and Employees PB are not necessary, as there is a direct relationship between PBC and Employees' PB. Therefore, this research exhibits that organizations can participate in pro-environment initiatives to enhance their environmental performance by engaging employees at the micro-level.

Chapter 6: Implications and Conclusions

6.1 Introduction

The main issue faced by the world in the 21st century is the degradation of the environment, mainly due to an increase in the world's population. The world population was 7.7 billion in 2019, and it is estimated by the United Nations to reach 9.7 billion by 2050 (Leridon, 2020). However, other researchers have argued that despite the correlation between overpopulation and environmental degradation, the world can still control environmental degradation. For example, Hanif and Gago-de-Santos (2017) and Jiefang (2019) found that controlling population growth and achieving economic growth would mitigate environmental degradation.

Parallely, Feng and Chen (2018) attested that enforcing different environmental sustainability laws and regulations and using green innovations would enhance the face of environmental issues. Moreover, Zafar et al. (2020) demonstrated that education plays an essential role in changing behavior for environmental sustainability. Hence, concerning environmental degradation containment studies, numerous issues related to environmental sustainability performance have emerged and require more attention. However, many organizations currently use initiatives unrelated to pro-environmental employee behavior, especially in the UAE.

This research fills the micro-level gap concerning the lack of employees' environmental behavior prioritization. It also explains the organizational factors and interventions that may foster employees' pro-environmental behavior in the workplace, thus boosting the organization's environmental sustainability performance. By employing the planned behavior theory mechanism with the support of factors such as Environmental Sustainability Training, TL, and Employee PEI, a model was proposed and tested to evaluate how employees' PB affects organizational performance in the context of the United Arab Emirates. Additionally, AMOS, factor analysis software, was used to develop and test the hypotheses and a structural equation model.

This research presents several theoretical contributions to the literature using the micro-foundations concept, employees' PB, and organizational environmental performance. First, the study of micro-foundations is a new concept. Barney and Felin

(2013) recommended that organizations be profoundly involved in studying issues from determining how individual-level factors aggregate to reaching the collective level using the bottom-up approach. Therefore, starting from the micro-level, this research has demonstrated the critical role of employees' PB on organizational environmental performance.

The active engagement of employees plays a prominent role in implementing the organization's rules and policies, primarily since their behavior depends on voluntary actions. For example, they can promote participation in video conferencing to mitigate travel expenses, carpooling to work, and recycling (Yuriev et al., 2018). Second, this research exhibits micro factors, such as pro-environmental training, TL, and employee PEI, which drive employees' willingness to engage in environmentally friendly behavior s. These three factors were selected because they will not add extra financial burdens to the organization, in contrast to Cleveland and Kalamas (2015) suggestion that managers and employees face the pressures stemming from environmentally appropriate vs. economically suitable behavior.

Thus, the implementation of pro-environmental behavior can clash with short-term, profit-maximizing objectives. For example, an organization's transformational leaders and facilities managers can significantly endorse sustainability practices, primarily because they are well-equipped with strategic planning and financial tools. Moreover, they can also promote green building practices, such as waste and energy consumption reduction, through training and implementing small incremental changes to motivate PB, which significantly impacts employees and gathers growing support (Hodges, 2005). Last, the research finding can be implemented as a starting point in any organization owing to its cost-effectiveness when there is support from higher management.

6.2 Practical Implications

This research has several implications for any organization. First, it highlights the importance of incorporating employees' PB as modalities for employee engagement. Employee engagement is defined as employees' emotional commitment and attachment to the organization and the goals set for them (Albrecht et al., 2015). Since employee engagement is an emotional manifestation, it is expected that when an organization motivates PB, these behaviors can become a more permanent part of the employees'

professional lives since they will form part of the workplace's spirituality and organizational culture.

Second, organizations would be expected to perform several tasks for successful PB incorporation, such as motivating and rewarding employees for their pro-environmental roles, offering environmental training, and creating room for employees' environmental innovations. Organizations must use TL styles that are open to employee contributions and involvement in decision-making.

Third, the facilities or health and safety manager's job description should be extended from general facilities' maintenance and safety to include environmental sustainability.

6.3 Limitations of the Study and Future Research

Although the research has practical implications for both theory and practice, some areas still need to be addressed by future studies. For instance, this research paper suffers from the methodological constraints of cross-sectional designs, limiting any factual inferences regarding causal relationships. Besides, cross-sectional designs are vulnerable to common-method bias (CMB). As a result, this limitation inherently restricts the research (MacKenzie & Podsakoff, 2012).

Furthermore, when the questionnaires were distributed and collected in March and April 2020, COVID-19 spread. At that time, multiple health and safety policies and procedures were implemented to counter the disease in the UAE and the rest of the world. Although the questionnaire focused on PB, there is no guarantee that the respondents might not have confused PB with health and safety measures. Therefore, these differences should be addressed in future research.

Furthermore, Herman's single factor test was performed to detect CMB, and the results confirmed the lack of CMB, possibly due to collecting data from different groups at different times. Nevertheless, the analytical tool must be used to detect its presence, and it need not be considered a remedy (Eichhorn, 2014). Consequently, the findings of this research should be read carefully, keeping in mind the design limitation of cross-sectional data, which are vulnerable to CMB. Additionally, this research could have CMB issues because the collected data contained many no-engagement responses. Therefore,

the questionnaire should be carefully drafted and administered, from mixing the order of the questions to using different scale types to avoid social desirability bias and using the time-lag method (Chang et al., 2010).

Moreover, concerning the generalizability of the findings, data were collected from hospitality, government, and private sectors in the UAE, thus limiting the generalizability of this study to other countries and cultural contexts. Moreover, demographic data were not used to their full extent. Therefore, future research will benefit from a comparative analysis of different demographic groups to gain more insights. Additionally, this study was conducted using quantitative research.

Likewise, future research should triangulate with qualitative research by interviewing facility managers on the effects of these research factors on changing employees' behavior, how it is implemented, how it affects the organization's performance, and whether it impacts any financial gain for the organization. Moreover, future studies could also investigate other factors, such as empathy, to replace the employees' participation in the decision-making factor as a moderator to enhance the research outcome (Islam et al., 2019).

6.4 Conclusion

This study presents the following. First, the research's main issue was the correlation between overpopulation and environmental degradation, leading to greater consumption of the earth's resources and pollution release. However, the degradation issue can be addressed if all organizations take a series of steps to eliminate it. Second, the gaps in the extant literature revealed that organizations implementing environmental initiatives do not prioritize employees often. Based on this gap, this study identifies several strategic ways to adequately involve employees in organizational environmental initiatives.

On the other hand, in 2015, the UAE cabinet adopted a National Green Growth Strategy for the UAE Vision 2021. The aims were to develop an innovative and robust economy to enhance living standards and improve environmental sustainability. Consequently, the cabinet adopted several strategies to support the development of a sustainable and diversified economy. One of the strategies is awareness-raising and

communication to alter the behavior of society toward a supportive and willing one to act on environmental sustainability and climate change issues.

Finally, based on the research results, a significant positive relationship was discovered between an employee's environmental behavior and organizational performance when cost-effective determinates, such as environmental training, transformational leadership, and employees' participation in decision-making, are supported by organizations. Moreover, this can help employees engage in environmental initiatives and take center stage concerning their organizational environmental performance.

Currently, several organizations do not fully involve employees because they believe that environmental responsibility is optional for employees. While this is true, the research contributes to how organizational environmental performance should be related to the overall concept of employee engagement in pro-environmental initiatives. Furthermore, this research can be implemented as part of the UAE national climate change plan for 2050 to complement the environmental awareness strategy.

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Appendices

A- Consent Letter to Participate in the Research Study

"*You will be asked to provide or deny consent after reading this form*"

To Whom it May Concern

Dear Potential Participant:

Greetings,

I am writing this email to request your kind participation in a questionnaire of research study entitled "*Pro-environmental behavior from the perspective of employees*".

My name is Tareq Al Ali, a Doctorate in Business Administration (DBA) student at the UAE University. As a requirement of the University to complete my DBA degree, I am conducting research related to environmental sustainability. This subject has become a major concern for the future of humanity, and the UAE government is giving great attention to the matter, including it as a part of its vision for the year 2030.

This research will be discussing environmental protection from the perspective of employees' behavior. It will attempt to answer questions about the actions required by stakeholders to increase employees' pro-environmental behavior. I am conducting this research under the supervision of Dr. Mohammed Omer Farooq, College of Business and Economics at the UAE University. Should you have any inquiries, please contact me by email 201690276@uaeu.ac.ae or mobile 050 666 XXXX.

Confidentiality and privacy information

All information provided by participants will be anonymous. Personal information will not be used for any purpose. Names or any other details that could identify you or your organization will not be included in this research. If the research is published, the data will not be identifiable as yours.

Right to withdraw

Involvement in this project is voluntary, and participants may end the online questionnaire at any time, and the online questionnaire will take approximately 15 to 20 minutes for each employee to complete.

Procedure/Setting

Please note that a maximum of five staff members is required to participate in the questionnaire. If your prestigious firm is selected to participate in the questionnaire, then the concerned person should forward this e-mail to one manager and four staff members requesting their participation.

To proceed, kindly **Click Here** to start filling the questionnaire. Please accept the security message when prompted to take you to the survey page. Your participation would be helping to make the community better.

Thank you for your time and feedback.

Tareq Zaal Suhail Muftah Al-Ali
Doctorate Candidate
UAE University
M: 97150

B- Survey Questionnaire

Thank you for willing to participate in this survey.

I want to assure you that your participation will be anonymous and confidential; there are no right or wrong responses. Therefore, please answer the question as honestly as possible.

---

(1) Age: □ 20-30 □ 31-40 □ 41-50 □ 51-60 □ >60

(2) Gender: □ Female □ Male

(3) Education: □ H. School □ Diploma □ Batchelor □ Postgraduate Degree

(4) Employment: □ CEO □ Sr. Management □ Jr. Management □ Admin Staff

(5) Nationality: □ Emirati □ Arab □ Asian □ Western □ African □ Latino

(6) Currently, my workplace has an environmental policy: □ Yes □ No

(7) How long have you been working for this company? _____

(8) Total years of experience: _____

The statements in the following sections are describing the pro-environmental behaviours of employees in their respective workplaces. Please indicate the extension of your agreement or disagreement with the following items by marking your response

(9) **Environmental Transformational Leadership**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My Sr Manager displays confidence about environmental issues.					
My Sr Manager talks about the importance of protecting nature					
My Sr Manager talks eagerly about what I need to do to protect nature					
My Sr Manager gets me to look at environmental problems in new ways					
My Sr Manager provides teaching and coaching on environmental issues					

(10) **Environmental Awareness Training**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My organization organizes seminars and workshops on environmental issues to create awareness among employees.					
My organization provides training on environmental awareness to the employees					
I participate in the environmental seminars, workshops, and training programs organized by my organizations					

(11) **Employee Participation in Environmental Policy Making**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I think that I could offer ideas to my organization about how to improve its environmental performance					
I think if I have ideas about the environment, the organization will listen to me					
I think the organization might consider my suggestions					

(12) **Behavior Environmental Intention**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I would be willing to save energy by using less air conditioning					
I would be willing to turn off lights when they are not in use					
I would be willing to ask what I can do to help reduce pollution					

(13) **Attitude Toward Pro-Environmental Behavior**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am in favor of behaving pro-environmentally in the workplace.					
I think it is a good idea when the housing association as an employer supports pro-environmental behavior in the workplace					
A pro-environmental attitude in the workplace is important to me					
I think too much attention is paid to pro-environmental behavior in the workplace.					
I think it is good when colleagues show pro-environmental behavior					

(14) **Subjective Norms for Environment**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My collages print double-sided					
My collages copy double-sided					
My collages Recycle paper					
I believe my collages should turn off the computer/notebook when not in use					

(15) **Organizational Environmental Performance**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Our firm reduced waste and emissions from operations.					
Our firm reduced the environmental impacts of its products/services.					
Our firm reduced environmental impact by establishing partnerships.					
Our firm reduced environmental risks such as accidents, spills, and releases.					
Our firm reduced purchases of non-renewable materials, chemicals, and components.					

(16) **Green Behavior / Pro-Environmental Behavior**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I adequately complete assigned duties in environmentally friendly ways.					
I fulfill the responsibilities specified in her/his job description in environmentally-friendly ways.					
I perform tasks that are expected of her/him in environmentally friendly ways.					
I take a chance to get actively involved in environmental protection at work					
I take the initiative to act in environmentally friendly ways at work					
I do more for the environment at work than I is expected to					

(17) **Green Organizational Identity**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The company's managers and employees are proud of the firm's history of environmental management and protection.					
The firm's managers and employees have a sense of pride in the firm's environmental goals and missions.					
The firm's managers and employees feel that the firm has achieved a significant position regarding environmental protection.					
The firm's managers and employees feel that the firm formulated well defined environmental goals and missions.					
The firm's managers and employees are knowledgeable about the firm's environmental tradition and culture.					
The firm's managers and employees identify that the firm highly pays attention to environmental management and protection.					

(18) **Employee Participation in Decision Making**

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Employees are allowed to make decisions related to cost and quality matters.					
Employees are allowed to participate in operations related to the decision.					
Employees are provided opportunities to suggest improvements in the way things are done here.					
Information is shared with the employees.					

C- Survey Structure

"*Please indicate to what extent you **agree**/**disagree** with the following statements.*"

Environmental Transformational Leadership (TL)	1. My Sr manager displays confidence in environmental issues. 2. My Sr manager talks about the importance of protecting nature. 3. My Sr manager talks enthusiastically about what we need to do to protect nature. 4. My Sr manager gets me to look at environmental problems in new ways. 5. My Sr manager provides coaching on environmental issues.
Environmental Awareness Training (EAT)	1. My firm organizes seminars and workshops on environmental issues to create awareness among employees. 2. My firm provides environmental awareness training to employees. 3. I participate in environmental seminars, workshops, and environmental training programs organized by my firm.
Environmental Behavior Intention (EBI)	I would be willing to save energy by using fewer air conditioners I would be willing to turn off lights when they are not in use to save energy I Would be willing to ask what I can do to help reduce pollution

Survey Structure (continued)

"*Please indicate to what extent you **agree**/**disagree** with the following statements.*"

Employee Participation in Environmental Initiatives (PEI)	1.I think that I could offer the organization ideas about how to improve its environmental performance. 2.I think if I have ideas about the environment, the organization will listen to me. 3.I think the organization might act on my suggestions.
Attitude Toward Pro-environmental Behavior (APB)	1. I am in favor of behaving pro-environmentally in the workplace. 2. I think it is a good idea when an employer supports pro-environmental behavior in the workplace. 3. A pro-environmental attitude in the workplace is important to me. 4. I think too much attention is paid to pro-environmental behavior in the workplace. 5. I think it is good when colleagues show pro-environmental behavior.
Subjective Norms for Environment (SN)	1. Print double-sided? 2. Copy double-sided? 3. Recycle paper? 4. Turn off the computer/notebook when not in use?
Perceived Behavior Control (PBC)	1. Whether I perform pro-environmentally is entirely up to me. 2. If I wanted to, I could easily behave pro-environmentally in the workplace.
Organizational environmental performance (OP)	1. Our firm reduced waste and emissions from operations. 2. Our firm reduced the environmental impact of its products/services. 3. Our firm reduced the environmental impact by establishing partnerships. 4. Our firm reduced the risk of environmental accidents, spills, and releases. 5. Our firm reduced purchases of non-renewable materials, chemicals, and components.

Survey Structure (continued)

"*Please indicate to what extent you **agree**/**disagree** with the following statements.*"

Pro-environmental behavior s (PB)	1. I adequately complete assigned duties in environmentally friendly ways. 2. I fulfill the responsibilities specified in her/his job description in environmentally friendly ways. 3. I perform tasks that are expected of her/him in environmentally friendly ways. 4. I take the chance to become actively involved in environmental protection at work. 5. I take the initiative to act in environmentally friendly ways at work. 6. I do more for the environment at work than for what I am expected to do.
Employee Participation in Decision Making (PDM)	1. Employees can participate in decisions related to cost and quality matters. 2. Employees can participate in operations related to decisions. 3. Employees are provided with opportunities to suggest improvements in the way things are done here. 4. Information is shared with employees.

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Environmental sustainability has become an essential concept globally, and numerous issues related to environmental sustainability performance have emerged and require more attention. This dissertation fills the micro-level gap concerning the lack of employees' environmental behavior prioritization. It explains the organizational factors and interventions that may foster employees' pro-environmental behavior in the workplace, thus boosting the organization's environmental sustainability performance.

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