

Pro – Environmental Efforts & its Impact on Competition

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Dedication

To my mom, for the continuous effort and love you have always given me.

Brief Author Biography: Ana Pacheco was a Finance and Economics double major at Saint Peter's University who graduated in 2021. She is graduating from the Master's of Science in Finance from Saint Peter's University in May 2022 with a concentration in Global Finance.

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Introduction-

There is widespread evidence that the global environmental crisis is directly caused by humans (Curtis, Grilli, 2020). Many urgent environmental quagmires can be mitigated by transitioning to more sustainable usage of resources. In recent years, humans have begun to become more ecologically conscious, and there has been a behavioral shift to involve such best practices in one's day-to-day life. Individuals are becoming aware of the environmental threats affecting the planet, and they are becoming more responsible and seeking for solutions to meet their needs without jeopardizing future generations. Environmental progress toward sustainable business models is linked to change since it necessitates changes in all aspects of businesses. Furthermore, sustainability necessitates coordinated change, as a single company area's improvement is insufficient (del Ro Gonzalez, 2009). Changes in processes, products, supply chains, and management will be required to move towards sustainable business models (Garces-Ayerbe et al., 2016). Shifting to new ecologically friendly employment is the first step toward more sustainable company strategies (Bocken et al., 2014). The literature on what is known as "greening of business" or the transition to more sustainable enterprises has looked at this topic of shift to new, more sustainable organizations in depth.

To assert the notion that an ecological consciousness improves a business enterprise's competitiveness, it is imperative to first define sustainability and grasp its dimensions. Sustainability is described as the ability to meet society's resource requirements without jeopardizing future generations' resource needs. The necessity to confront and resolve challenges including social, economic, and environmental issues is included, but not limited to, sustainability. Typically, sustainability plans focus on preventing further climate change, depletion of natural resources, and addressing social inequalities. However, in terms of the

business enterprise, sustainability can refer to how to implement internal and external governance strategies focused on resolving these issues. Companies that have, and or are a part of sustainability plans/efforts typically embrace the concept of social responsibility, and many believe that in order to achieve ethical economic growth, they must look at how their business decisions impact society and the environment.

With an influx in demand for businesses to become more environmentally and socially responsible from customers, partners, and vendors, there has been a recent wave of enterprises towards terms such as ‘Corporate Social Responsibility (CSR)’ and ‘Corporate Sustainability’. In terms of CSR, this is when a business develops habits and practices within its business model to minimize harm, practice fair business, take on responsibility as part of the global supply chain, and promote philanthropic efforts. Conversely, corporate sustainability involves a comprehensive approach to the management of the firm and how it works to maximize long-term economic, social and economic value. In both, sustainability works to leave systems capable of continued existence.

It's vital to remember that the terms sustainability and responsibility have different definitions, with the former implying that something should be kept at a given rate or level, whilst responsibility refers to the condition or reality of being accountable.

The visions and targets are also different for the two. From the vision perspective: CSR takes a step back and considers what a firm has done to help society and corporate sustainability is proactive in nature and seeks to build a long-term plan. When it comes to target: CSR focuses on balancing existing stakeholder interests and frequently targets opinion makers like the media, legislators, and pressure organizations, and a more comprehensive approach to corporate sustainability is taken, taking into account the social implications of business as well as the

environment and economics. Corporate sustainability will consider a variety of stakeholders as well as long-term consequences.

Overall, CSR is and should be seen as a business commitment that contributes to corporate social sustainability because it refers to the social elements of sustainability, and while both corporate sustainability and CSR assist businesses in operating in morally profitable ways that do not harm others.

To summarize, given the abundance of evidence of the ongoing global environmental crisis, corporations are responding to the demand for change with eco-friendly initiatives. Businesses that have responded favorably have done so by turning toward ‘Corporate Social Responsibility (CSR)’ and ‘Corporate Sustainability’. While both terms hold different meanings and advantages, both allow for a positive change and a step toward environmental preservation. It is critical to be able to understand such differences, especially depending on what ones’ role may be in this shift, and or change. CSR and Corporate Sustainability coexist, but the two phrases should not be used interchangeably. CSR arose in response to the difficulties confronting modern society, such as difficulties in both the public and commercial sectors involving a diverse and equitable workforce, human rights, and workplace health and safety. Conversely, CSR’s main advantages for a business include New Business Opportunity, Positive Branding Image, Manages Business Risk, and Creates a Happy & Productive Workforce (to be discussed further in additional chapter).

In this thesis, the author will assert that a business enterprise that operates within an eco-friendly plan will have a competitive advantage over those that do not. In doing so, the author will review various businesses and/or industries that showcase that having this plan will lead to a greater advantage over the competition in a multitude of ways, which, from among them includes

how an eco-friendly plan bestows goodwill through public relations towards the firm's consumers as well as how it can assist in attracting and maintaining employees with these values. The author reviews and analyzes an abundant number of cases throughout this thesis and is in line with the win-win perspective and proposes that sustainable business models enable managers to find innovative alternatives to existing business operations and generate greater economic returns. This line arose from "Porter Hypothesis", Porter (1991); Porter and Van der Linde (1995a, 1995b), and others, claimed that environmental requirement is a tool that stimulates innovation towards less polluting and more efficient forms of production capable of generating competitive advantages.

Chapter One: The Benefits of CSR in Firms & Impacts on Competition-

To elaborate, the use of incentives to encourage social change behaviors has received a tremendous amount of attention in recent decades, and significantly ramped up during this past decade. Throughout this chapter of the paper the author will discuss a variety of case studies, and the impacts in various industries. Continuing on the topic of CSR the author will showcase the 4-main advantages of this subject matter and will do so through various examples of different companies in different industries.

The Benefits of Corporate Social Responsibility (CSR) & Implementations:

Benefit #1 – New Business Opportunity: Responding to the modern world's social concerns and threats can provide developing market enterprises with new chances at progress. Ambuja Cements is a Holcim India subsidiary. In 2010, Ambuja implemented several social and environmental initiatives at the plant level, including improved water management in drought-prone areas. Ambuja's operations have less influence on the local community because of this. Furthermore, a water recharging plan was one of their operations. Ambuja worked to set aside water from its activities to help drought-stricken areas. This resulted in a water excess, which was subsequently utilized to refill groundwater systems, thereby changing dry wasteland into farmland. Ambuja was able to trade land for new mining territory. It is apparent how Ambuja's CSR activities helped to extend the company's business model, allowing it to swap restored farmland for additional mining regions.

Benefit #2 – Positive Branding Image: The act of helping people via CSR helps to create a positive brand image, and this in turn leads to revenue and sales increase. Starbucks, for example, is one example of this. Starbucks has a long history of being a strong supporter of

community causes. Recently, Starbucks was recognized one of the World's Ethical Companies for the 15th year in a row by the Ethisphere Institute in 2021.

Starbucks' 2020 Global Social Impact Report states that the company plans to source 100 percent of its coffee from ethical sources, establish a global network of farmers while supplying them with 100 million trees by 2025. Starbucks also supports green building infrastructure throughout stores, while contributing millions of hours of community service, launching a groundbreaking college program for employees, and hiring 5,000 veterans and 10,000 refugees.

Starbucks has witnessed year-over-year increase thanks to its excellent societal image. Net revenues increased by 31% to a new high of \$8.1 billion in the fourth quarter of 2021. Crucially, Starbucks' CSR adds value by offering the coffee firm a unique selling point (USP) that helps it stand out from the competition.

Benefit #3 – Manages Business Risk: Ignoring issues of social responsibility is a risky business. A garment factory in Dhaka collapsed in 2013, serving as a sad and unsettling reminder of this reality. On May 13, 2013, an eight-story commercial building known as the Rana Plaza collapsed, killing 1,124 people and injuring over 2,500 others. The event was the worst non-deliberate accident in contemporary human history, and it was caused by a structural breakdown. The clothing factory, a bank, and a number of businesses were all situated in the Rana Plaza. The building's owners ignored warnings that fissures were forming in the concrete walls, demonstrating a complete disdain for the lives of the workers within. Mango, Matalan, Primark, Benetton, Bonmarché, H&M, and The Children's Place were among the brands related to the plant. Following the crisis, these brands received widespread criticism and customer outrage. The collapse of Rana Plaza drew consumer attention to the perils and effects of fast fashion.

Guilty fashion labels, among others, paid \$21.5 million to the Rana Plaza Donors Trust Fund, which was established to provide recompense to the victims.

As a result of the Rana Plaza disaster, we now hold a fashion revolution day every year. This day is intended to highlight brands that are dangerous and socially irresponsible. This of course helps to encourage safer and more sustainable practices.

Benefit #4 – Creates a Happy and Productive Workforce: Employee health and well-being is a crucial component of CSR, and there is growing evidence that satisfied employees are more productive. Shawn Achor's book *The Happiness Advantage* reviewed over 200 relevant scientific papers and came to the following conclusion: “[Happy employees] have higher levels of productivity, produce higher sales, perform better in leadership positions, and receive higher performance ratings and higher pay.”

Furthermore, a 2018 research study conducted by the University of Tennessee demonstrated the importance of establishing an employee-friendly culture. Because of the increased productivity, companies that supported their employees saw a higher return on assets and equity. Google has benefited from an indirect productivity gain resultant of its CSR efforts. Google has long been known for its comprehensive employee benefit program, which includes onsite wellness and healthcare, attractive retirement plans, competitive wages, hybrid and remote work modes, and at-home exercise and wellness programs (in addition to many others).

According to one survey, Google is the happiest place to work, based on over 250,000 impartial employee ratings from organizations throughout the United States. Google's incentives are known to help not just their workers, but also the firm. Google employee Eric Jang points out that the company's perks help him be more productive in his daily tasks.

At its best, CSR should be aligned with the purposes and values of a business. All things being interconnected, CSR integrated activities should demonstrate coordination throughout myriad business teams. Following are a few labels that might be used to delineate the different modes and strategies of practice.

In initiative one, we see programs focused on various means of philanthropy which are not made to make money or raise business performance. As a second initiative, possible benefits include boosts in the social sphere in addition to raising the efficiency and effectiveness of daily operations. A third known initiative could be as ambitious as to transform an overall business model accommodating social change and addressing challenges.

Interestingly, these different labels or theaters of initiatives need not be strictly separated from one another. Allowing for basic cause and effect suggests that changes and progress in one of these areas could affect the other two. Indeed, the aforementioned programs and their labels serve to help us organize our analysis of their various practices.

As businesses continue to progress in the three domains noted previously, Harvard Business Review has proposed a 4-step program allowing successful design of CSR strategies. Even more flexibly, the steps need not be integrated in any particular order. In these “Three Theaters of CSR”, step 1 of the program suggests “Aligning CSR programs within theaters”. To accomplish this, actions not addressing important social/environmental concerns should be reduced or eliminated. As one might expect, relevant programs should support the purpose, identity, and values of a company. Step 2 asks that companies “Develop metrics that gauge performance”. Specifically what measures are analyzed depends upon which “Theater of CSR” is being discussed, thereby reinforcing the need to carefully inspect which goals and actions are being considered. Companies need to “Coordinate programs across theaters” as part of step 3,

again taken from the Harvard Business Review. This will ultimately culminate in a portfolio demonstrating mutually beneficial as well as consistent plans and initiatives. Without step 4, however, there will significant weaknesses in terms of coordination. Indeed, step 4 demands effective communication at all levels of the workforce as they interact within the CSR program. Business actions and goals need the highest level of transparency, especially if everyone believes in the work being done.

Crucial to remember, CSR is a type of soft law. Currently, U.S. statutes or regulations do not require the enforcement of these practices. This does not alleviate the building societal emphasis and pressure on companies as the public asks them to behave in a more responsible manner. Hard laws in this domain could be an eventual reality, judging by the current international patterns. All the while, good intentions in CSR can be believed in terms of results. These are programs that can affect entire communities, and the utmost care must be taken to ensure decisions lead to their anticipated positive and sustainable change.

Transformation of Environmental Practices in Businesses can Result in Correlating Increases in Economic Profit:

To continue, the author has laid down a foundation about the importance of different aspects of Corporate Social Responsibility (CSR). Shedding light on examples of the benefits, the author will go in depth on a study that showcases that transformation of environmental practices in businesses can result in correlating increases in economic profit. Specifically, an analysis of the generation of economic results in the different phases of the pro-environmental change process. This section will focus on how economic profit is generated during the process of changing to high degrees of environmental proactivity. This will be based on a sample of 303 Spanish firms located in the Aragon region.

The literature on advanced studies of modern corporations has focused on discovering the elements that influence financial outcomes. Various research has attempted to try to understand why similar companies in nature have generated very different performance values. Firms understand that the inclusion of environmental care in their respective business practices is gradually becoming required for the future survival of the firm. Firms are identifying adaptable new business models, where it seems that sustainability will lead to a competitive advantage for the firm (Hart, 2005). Companies' shift to more sustainable business models will surely necessitate the implementation of specialized environmental strategies that ease the transition to zero-emissions environmental performance while also facilitating the improvement of economic performance. That being said, when developing political policies to promote sustainable business models, the link between environmental and economic performance in enterprises is of major relevance.

Dating back to the late 1980's, environmental performance in sustainable efforts for firms and its relation to its financial performance has been studied. According to the literature, there is a high chance of achieving a win-win situation. That means that both environmental and economic results will improve (depending on how the sustainable business model is designed). In particular, the degree of proactivity of the company's environmental strategy influences the probability of reaping economic advantages. (Albertini, 2013; Rivera-Torres et al., 2015).

The complexity of strategic transformation of organizations, particularly when targeted at creating new, more sustainable processes, products, and business models, was underlined in research. In Lee and Rhee (2007), this study showed how environmental strategy evolves and examined the favorable association between various environmental strategies used in the transition process and a company's financial success. Their findings are equivocal as they

discover no variations in business performance levels across their various stages of environmental strategy. These findings were the primary impetus when performing the study that the author will be reviewing in this section of the thesis. The researchers attempted to augment their initial contributions by following the authors' final recommendations for sample size, variables, and measures.

That being said, this study examines the impact of short-mid-term economic performance (SMEP) changes as a firm goes through various stages of the pro-environmental change process. In the study the researchers attempt to discover if change for different firms follows the same pattern for all firms, or whether logical sequence does not play a factor in the process. They also studied the relationship between environmental strategy and economic performance throughout the various stages. The study found that corporations pursue varying degrees of environmental strategy in a similar way. Various levels of company performance can be considered.

To continue from the sample of 303 Spanish firms, located in the region of Aragon, the researchers broke up their findings into four unique classifications. The samples were collected in two successive phases that allowed the researchers to test for and verify absences of bias. The adoption of environmental measures is considered in four areas: process, product, management and supply chain. Lastly, the research also evaluates if there is a relationship between phases of pro-environmental change and achievement of firm performance levels. The findings showed that environmental efforts lead to a better economic output for the firm.

Some firms have been encouraged to shift their business models to include pro-environmental efforts due to pressure from external sources like the market, legislation and or society (Blum-Kusterer and Hussain, 2001; Post and Altman, 1994). Environmental initiatives and their influence on economic performance are seen from two opposing perspectives: win-lose

and win-win (Hoffman, 2000; Moon et al., 2014). According to the win-lose viewpoint, environmental conservation imposes additional costs on businesses, prohibiting or at the very least impeding economic productivity and so undermining competitiveness. The win-win approach, which is more prevalent in the literature, contends that improved environmental performance leads to cost reductions and sales increases, hence boosting economic performance over time (Ambec and Lanoie, 2008; Aragon-Correa et al., 2008; Christmann, 2000; King and Lenox, 2002). The latest studies showcase that the general relationship between corporate environmental management and business financial performance, according to studies, is good. The diverse results in the empirical studies can be credited to researchers' different methods of measuring environmental and financial performance (Albertini, 2013).

The researchers argued and founded their research in the win-win perspective; they offered that certain capabilities, such as “pollution prevention”, “product stewardship” and “sustainable development”, provide competitive advantages by reducing costs, anticipating competitors and improving stakeholder relations. Numerous studies that focused on skills that create competitive advantages based on green practices (e.g. Aragon-Correa and Sharma, 2003; Bansal, 2005; Russo, 2009) have supported and reinforced these arguments as knowledge in this sector has evolved. Many of these studies examined how economic performance can be improved through pollution reduction (Guenster et al., 2011; King and Lenox, 2002; Klassen and Whybark, 1999), more advanced proactive environmental practices (Aragon-Correa et al., 2008; de Burgos-Jiménez et al., 2013; Rivera-Torres et al., 2015), environmental management systems (Christmann, 2000), or green innovation (Christmann, 2000). (Chen et al., 2006). According to these researchers, such advantages often include lower costs, higher quality in products and services, higher returns and an improved corporate image.

Equally important, different types of environmental initiatives have unique implications for the firm (Gilley, 2000). Christmann (2000) linked process-focused techniques to cost benefits and product-focused practices to differentiation benefits. Due to pro-environmental change entailing an evolution in the adoption of various practices, the economic implications will vary at different stages of the process. Through process-oriented and product-oriented measurements, Gilley (2000) shows the many connections and linkages between performance and transformation. An additional study (Segarra-Ona et al., 2015), in a similar manner, experimentally demonstrates how the firm's process or product orientation is associated with greater environmentalism in its innovation process.

The research leads the author of this thesis to conclude that a company's environmental strategy enhances its short-to-medium-term economic performance. This is evaluated by the pro-environmental change process and is based on trends in the adoption of product, process, management, and supply chain measures. This is made feasible by a win-win situation that improves both environmental and economic performance. Furthermore, because the scope and intensity of the adoption of environmental measures of product, process, management, and supply chain vary, it is envisaged or suggested that the improvements and benefits would vary between stages of pro-environmental transformation.

That being stated, this is what permitted (Scarpellini, Valero-Gil, Rivera-Torres, Garcés-Ayerbe, 2017) in this case to be able to identify the following hypothesis: (1A) “The pro-environmental change process has a positive effect on the short-mid-term economic performance of a firm”, and (1B) “Pro-environmental change improves short- and mid-term economic performance in a different way throughout the process”.

Diving deeper in the research methods, there was a questionnaire that was given to firms in the autonomous region of Aragon. The questionnaire referred to measurement of pro-environmental change in the last three years and change in economic performance in the same period. A panel of specialists composed of seven people verified the questionnaire: three members from government, two from business organizations, one academic specialist, and a CEO of a firm. They were all involved in fields relating to business and/or the environment. On a scale ranging from 0 to 10, experts were asked to score the ease of comprehension and relevance of each survey subject. The researchers also kept in mind efforts to prevent selection bias, so the respondents were provided the opportunity to respond privately (not face-to-face) and/or anonymously. This was done to guarantee full confidentiality while also following suit with data protection laws. The respondents were also informed that the questionnaire was fully intended for solely academic purposes.

Table 1
Main items used to measure the variables.

| PEC Pro-Environmental Change Indicators | |
|---|--|
| The following has occurred in your firm over the last THREE YEARS: | |
| PROCESS | |
| PEC_1 | ... new low-consumption or low environmental impact equipment/machinery (water, materials, electric power, heating, etc.) has been installed. |
| PEC_2 | ... operative procedures or methods have been changed to reduce the consumption of resources and/or energy or reduce environmental impact. |
| PEC_3 | ... new action has been taken to correct pollutants (water purifiers, waste processing or recycling, filters, storage systems, etc.). |
| PEC_4 | ... new systems have been installed to use and/or generate renewable sources of energy (solar panels, photovoltaic panels, wind turbines, biomass, etc.). |
| PRODUCT | |
| PEC_5 | ... the design of products or components has been changed to reduce the use of materials or recourses and/or to replace them with other less polluting materials (eco-design). |
| PEC_6 | ... the design of products has been changed to facilitate recycling or reuse. |
| PEC_7 | ... new environmental criteria have been considered in the design and/or manufacture of packaging, etc. (eco-design). |
| MANAGEMENT | |
| PEC_8 | ... new resources have been spent on training employees in or increasing their awareness of environmental issues and/or innovation. |
| PEC_9 | ... jobs have been re-designed to improve the firm's environmental impact. |
| PEC_10 | ... people have been appointed to be responsible for environmental affairs in the firm. |
| PEC_11 | ... investments have been made in R&D to improve the firm's environmental impact. |
| SUPPLY CHAIN | |
| PEC_12 | ... new measures have been applied in supply and stock management systems aimed at improving the firm's environmental impact. |
| PEC_13 | ... new measures have been applied in distribution and marketing systems aimed at improving the firm's environmental impact. |
| PEC_14 | ... product labelling/instructions have been changed to show environmental aspects or inform consumers of appropriate means of disposal. |
| SMEP Short-Mid-Term Economic Performance | |
| As a result of your above referenced pro-environmental change ... | |
| COST ADVANTAGES | |
| SMEP_1 | ... variable costs have been reduced. |
| SMEP_2 | ... the company's productivity has improved. |
| SMEP_3 | ... the company's returns have increased. |
| DIFFERENTIATION ADVANTAGES | |
| SMEP_4 | ... your products are differentiated from those of your competitors. |
| SMEP_5 | ... the company's market share has grown (current market). |
| SMEP_6 | ... the markets targeted by the company have increased (new markets). |
| SMEP_7 | ... stakeholder (clients, employees, shareholders, nearby communities, associations, etc.) relations have improved. |

To continue, the context that was addressed in the surveys came from a set of 14 pro-environmental change indicators (Table 1) were used, 4 to measure change in processes, 3 to measure change in products, 4 to measure change in management and 3 to measure change in the supply chain. Based on the opinion of the interviewed firm representative, these indicators enable the researchers to quantify the degree of application of regular pro-environmental measures in the last 3 years, using a scale from 0 to 10, where 0 is “no measure has been applied” and 10 means “many measures have been applied”. The 14 indicators directly quantify the intensity with which each of the 14 types of measures has been employed on a scale of 0 to 10, with 0 being no intensity and 10 being very high intensity. Partial and total intensity measures were established as a consequence.

As a result, partial and total intensity measurements were developed. The former calculates the average of the items, ranging from 0 to 10, for each of the four pro-environmental change groups (process, product, management and supply chain). The second type of assessment focuses on calculating the mean of the 14 items provided in the questionnaire to determine total intensity regarding pro-environmental change during the previous few years (from 0 to 10).

Considering recent literature (e.g. Antonietti and Marzucchi, 2014; Lai and Wong, 2012; Lannelongue et al., 2015), a series of items were used to measure results associated with pro-environmental change, with consideration of the possibility of achieving cost-related and differentiation-related advantages for the firm. The researchers created a list of seven elements (Table 1): three to assess efficiency, three to measure market results, and one to measure stakeholder relations. These findings were evaluated using a Likert scale from 0 to 10, where 0 means "in no situation" and 10 indicates "to a considerable extent," based on the viewpoint of the person who completed the survey.

In terms of methodology the researchers conducted a cluster analysis using the approach suggested by Lee and Rhee (2007), with the grouping factors being the degree of intensity and scope of pro-environmental change initiatives implemented by the enterprises in their production cycles. Aragon-Correa et al., 2008; Backman et al., 2015; Fernandez Gago and Nieto Antoln, 2004) employ cluster analysis to find patterns of behavior in enterprises' environmental strategy. Some studies employ cluster analysis to categorize and assess the association between environmental proactivity and performance (Alvarez Gil et al., 2001; Carmona-Moreno et al., 2004).

Varied analyses of variance (equality of mean vector) were done after getting the different patterns of pro-environmental change, and the findings of the relevant Duncan tests (multiple range) were assessed to achieve a final characterization. They studied the association between levels of proactivity in the business, measured troughs belonging to one of the previously defined four environmental strategies, and short-mid-term economic success after the environmental behavior groups were developed. They next examined the dimensional structure of the Theoretical components included in our "Short-mid-term economic performance" hypothesis using confirmatory factor analysis.

Table 2
Description of cluster groups.

| Pro-Environmental Change | Laggard Proactive n = 31 \bar{x}_1 | Initiated Proactive n = 89 \bar{x}_2 | Advanced Proactive n = 124 \bar{x}_3 | Eco-Innovative n = 59 \bar{x}_4 | \bar{x} | ANOVA | Duncan test |
|--|--|--|--|---|-----------|-----------|-------------------------|
| PROCESS | | | | | | | |
| New equipment | 1.26 | 3.98 | 5.80 | 8.86 | 5.29 | 64.29*** | † |
| Change methods | 1.29 | 4.80 | 6.68 | 9.02 | 6.00 | 97.64*** | † |
| Correct pollutants | 0.77 | 3.67 | 5.85 | 8.39 | 5.08 | 69.13*** | † |
| Renewable energy | 0.23 | 1.08 | 2.84 | 5.91 | 2.48 | 27.92*** | $\bar{x}_1 = \bar{x}_2$ |
| PRODUCT | | | | | | | |
| Reduce materials | 0.04 | 2.26 | 5.78 | 8.93 | 4.71 | 123.90*** | † |
| Recycling/Reusing | 0.04 | 1.56 | 4.96 | 8.63 | 4.07 | 122.92*** | † |
| Packaging | 0.00 | 1.61 | 5.14 | 8.16 | 4.01 | 89.22*** | † |
| MANAGEMENT | | | | | | | |
| Training employees | 0.59 | 4.61 | 6.50 | 8.87 | 5.78 | 104.79*** | † |
| Change jobs | 0.07 | 1.96 | 5.02 | 7.98 | 4.05 | 101.12*** | † |
| Responsible | 0.29 | 3.68 | 6.56 | 8.91 | 5.51 | 72.36*** | † |
| R&D | 0.00 | 1.73 | 4.74 | 7.78 | 3.85 | 72.03*** | † |
| SUPPLY CHAIN | | | | | | | |
| Supply/Stock | 0.00 | 1.74 | 5.28 | 7.71 | 4.08 | 116.03*** | † |
| Distribution | 0.15 | 1.62 | 5.24 | 7.94 | 4.16 | 112.09*** | † |
| Labelling | 0.16 | 1.30 | 4.18 | 7.72 | 3.45 | 72.22*** | † |
| Scope of Pro-Environmental Change (1–4) | 0.97 | 2.97 | 3.59 | 3.51 | 3.12 | 98.16*** | $\bar{x}_3 = \bar{x}_4$ |
| Intensity of Pro-Environmental Change (0–10) | 0.43 | 2.67 | 5.40 | 8.28 | 4.65 | 783.64*** | † |
| Short-Mid-Term Economic Performance | | | | | | | |
| COST ADVANTAGES | | | | | | | |
| Cost savings | 0.69 | 2.91 | 5.59 | 7.73 | 4.76 | 73.48*** | † |
| Increase productivity | 0.46 | 2.81 | 5.74 | 7.71 | 4.75 | 83.77*** | † |
| Increase profitability | 0.73 | 2.85 | 5.45 | 7.49 | 4.62 | 62.38*** | † |
| DIFFERENTIATION ADVANTAGES | | | | | | | |
| Differentiation | 0.30 | 2.28 | 5.70 | 7.92 | 4.70 | 72.92*** | † |
| Increase market share | 0.23 | 1.36 | 4.64 | 6.63 | 3.60 | 78.91*** | † |
| Access to new markets | 0.16 | 1.80 | 4.89 | 7.08 | 3.92 | 58.41*** | † |
| Stakeholders relationship | 0.50 | 2.48 | 5.69 | 7.94 | 4.69 | 83.84*** | † |

Duncan test: Rejection of $H_0: \bar{x}_i = \bar{x}_j$, for all $i \neq j$, $\dagger p < 0.00$. ANOVA: *** $p < 0.00$.

Scarpellini, Valero-Gil, Rivera-Torres, Garcés-Ayerbe, 2017 found from the cluster analysis that four of the different groups had very striking distinctions. Based on the average intensity of the items used to describe a firm's environmental productivity, information is displayed on Table 2. This table depicts the disparities between groups, but now interpolated through partial and entire scope, as well as the average intensity of pro-environmental change measure implementation. These first results also demonstrate substantial importance in the characterization of the four clusters, both individually and in the aggregate, based on the analysis of variance and the Duncan test, ensuring a high degree of consistency in the following description of the groupings. The mean intensity values ensured the researchers' ability to affirm that each of the clusters had important intrinsically descriptive traits worth considering. The first group, known as Laggard Proactive, presents low-intensity messages with a scope confined to process measurements. By using Management-related metrics, initiated Proactive businesses

dramatically raise the mean intensity value and breadth. By altering the four research domains, the businesses in the Advanced Proactive group exhibit a further considerable rise in intensity, as well as total scope. Finally, the Eco-innovative group is characterized by large gains in intensity across the board in a uniform manner, with the complete scope obtained in the preceding group in terms of pro-environmental change.

Continuing with findings displayed by Table 2, it displays how economic performance increased overall in terms of cost advantages and differentiation. It displays how economic performance has changed over the previous three years for each cluster group. In the case of Laggard Proactive enterprises, the presence of a low degree of pro-environmental change actions leads to almost no improvement in short-mid-term economic performance. The prevalence of process and managerial changes in Initiated Proactive enterprises indicates little performance improvement. This improvement is mostly due to competitive cost advantages, with competitive differentiation benefits playing a minor role. The next category, entitled Advanced Proactive companies, shows a considerable improvement in performance when product and supply chain measures are applied; the improvement may be seen in both cost and differentiation benefits. By implementing the four types of measures, eco-innovative companies enhance mean performance values on all levels.

In reference to Scarpellini, Valero-Gil, Rivera-Torres, Garcés-Ayerbe, 2017, hypothesis (1A), they did not reject this hypothesis. Instead, they confirmed significant differences in the level of short-mid-term economic performance for the different groups. Also, for the SMEP variables, the mean value for each group grows through increasing environmental proactivity between groups; the most essential benefit aspect is cost reduction, while market share increase is the least important. Furthermore, there is a SMEP variable with a high value of achievement

for each environmental pattern, but the reactive strategy (Laggard Proactive) does not increase economic performance (mean value near to 0/10). The most inventive behavior (in the Eco-innovative group), on the other hand, results in significant improvements in SMEP variables (mean values of 6.63e7.94/10). The findings of the Duncan test, used to examine the differences in the variables for each pair of categories, in light of these disparities, led them to not reject Hypothesis(1B). They discovered substantial differences for each pair of categories, indicating that the more advanced the process of pro-environmental reform, the greater the increase in economic results.

Table 3
Results of the structural models.

| | Initiated Proactive n = 89 | Advanced Proactive n = 124 | Eco-Innovative n = 59 |
|--|----------------------------------|----------------------------------|--------------------------|
| | β | β | β |
| <i>Direct Effects</i> | | | |
| Short-Mid-Term Economic Performance | 1.74*** | 4.42*** | 6.23*** |
| <i>Total Effects</i> | | | |
| Cost savings | 1.74*** | 4.42*** | 6.23*** |
| Differentiation | 2.13*** | 5.42*** | 7.68*** |
| Increase productivity | 1.95*** | 4.96*** | 7.03*** |
| Increase profitability | 1.90*** | 4.83*** | 6.85*** |
| Increase market share | 1.94*** | 4.93*** | 6.98*** |
| Access to new markets | 2.01*** | 5.10*** | 7.23*** |
| Stakeholder relations | 2.03*** | 5.15*** | 7.31*** |

Group control "Laggard Proactive (n = 31)".
 $\chi^2(32) = 200.18$, RMSEA = 0.079, SRMR = 0.040 and CFI = 0.900.
 β : Unstandardized coefficients.
 ***Significant at 1%.

In addition, a structural equation model was calculated using a single latent variable, namely a MIMIC model (multiple items and multiple causes). A categorical variable that defines environmental behavior and degree of environmental proactivity was calculated since it is an external variable. As a result, they chose to estimate three dummy variables (where a value of 1 indicates membership in one of three markets groups: "Initiated Proactive," "Advanced Proactive," or "Eco-Innovative"), with the cluster control (where all dummy variables are 0) being the least

reactive group ("Laggard Proactive"). Table 3 displays the non-standardized coefficients (direct and indirect effects) for the control group "Laggard Proactive." With these coefficients, they have empirical evidence that allows them to not reject hypothesis 1A, both in terms of the latent variable (1.74-4.42-6.23) and individual indicators, with all coefficients significant at 1%. It is also noticed that when the degree of proactivity increases, the discrepancies widen. Therefore, based on the data, one cannot reject hypothesis 1B.

Overall, this study further adds to the win-win side of the argument in the relationship between pro-environmental behaviors and economic performance (e.g. Ambec and Lanoie, 2008; Aragon-Correa et al., 2008; Christmann, 2000; King and Lenox, 2002). This study presented empirical evidence that a firm's pro-environmental shift toward sustainable business models is a systematic process that gradually expands the scope and intensity of environmental policies while also leading to progress in economic performance. Firms employ process and management measures first, then product and supply chain measures as part of this methodical process of pro-environmental reform. Companies get cost benefits initially, then differentiation advantages because of this methodical approach.

According to the "Porter Hypothesis" (Porter, 1991; Porter and Van der Linde, 1995a, 1995b), enterprises gradually move toward less polluting and more efficient manufacturing methods capable of producing competitive advantages over periods of time. Furthermore, those environmental activities may be viewed as a chance to improve the firm's performance, based on the key arguments found in the literature in favor of the win-win approach. This study showcases that every process stage is to be associated with different methods of being measured. It begins with measurements in relation to process and, in advanced stages, incorporating measures in line

with product and supply chain. In turn, the study showed that the various pro-environmental change stages lead to different economic performance improvements.

Some key takeaways from this study are that the cluster analysis of 303 Spanish firms produced interesting results, identifying four well-differentiated behavior patterns with significantly different traits, evaluating whether belonging to one group or another is crucial in achieving better economic performance. In other words, they demonstrated whether proactive environmental behavior is associated with good economic performance. They found that proactive tactics increase short-to-medium-term economic performance, with considerable cost reductions, large returns, better market positioning and differentiation strategies, and improved stakeholder interactions, based on the empirical data.

As a result, the study confirmed that the firm can take one of four approaches when it comes to environmental management: a reactive approach aimed at repairing environmental impact, meeting applicable legislation, incorporating a proactive approach based on voluntarily taking steps to reduce (rather than correct) environmental impact, and finally, the most advanced of the approaches, attempting to minimize environmental impact by increasing the intensity of the measure. The ability to choose advanced behavior can be critical for securing benefits from increasingly widespread environmental initiatives.

This research has significant managerial implications that must be considered. First and foremost, it views environmental actions as a means of achieving significant cost and competitive benefits. Second, it employs an intriguing analytical approach to assess the connective link between environmental efforts and economic outcomes, employing methodologies that are commonly used to assess environmental behavior in businesses. Finally, the study reveals the various company performance implications for each stage of the pro-

environmental transformation process, verifying the first phases' lower economic effects and the significant economic improvement discovered in the eco-innovative phase. Firms should be aware that while following the 4-step transformation model is vital, the objective should always be to increase economic performance in the final phases. In this sense, it is critical to establish and utilize proven reasoning to encourage practitioners to make these changes, which will result in new, long-term business models.

Chapter 2: Consumer Sentiment Shifts & Strategies -

Now that the author has touched on how different firms have high-level objectives that they keep in mind when it comes to establishing and or adding pro-environmental plans into their business model, the author subsequently dives deeper into the sentiments and rationality as to why those plans are added. All directions point to the consumer; the consumers are the bread and butter to an organization, and ultimately the consumer has a direct impact on how well a business may do or may not. With sentiment shifts throughout the recent decades in many different industries, the author will discuss how these changes have had an impact on businesses and competition.

Unilever stated that about 70% of its greenhouse gas footprint is determined by the items consumers buy and whether they use and dispose of them in a sustainable manner—for example, by conserving water and energy when doing laundry or correctly disposing of recycling bins (White, Hardisty, Habib, 2019). These researchers have conducted years of research in marketing, economics and psychology, while also performing their own experiments to get to the bottom of what drives sustainable consumption. Business leaders should use social influence, mold positive habits, utilize the domino effect, determine whether to speak to the heart or the brain, and prioritize experiences over ownership, according to their recommendations.

To continue, picture the city of Calgary, Alberta in 2010. During this time, it had rolled out a program called GlassCycling, which meant that residents' would leave their grass clippings to naturally decompose on their lawn after mowing, instead of disposing of them in plastic bags to then be taken to a landfill site. It was an informational campaign initiated by the city and the city had an informational campaign to highlight the key benefits of GlassCycling. Some of those key benefits included returning nutrients to the soil, maintaining health of the lawn, and helping

the soil retain moisture. The initial adoption rates for this idea were lower than the city had expected.

Katherine White advised the city of Calgary to motivate the residents via use of “social norms”. Numerous studies have demonstrated that individuals have a strong need to fit in and will mimic the conduct of others. To capitalize on this enthusiasm, White and her colleague Bonnie Simpson collaborated with the city on a large-scale field research in which signs such as "Your neighbors are GrassCycling" were put on residents' doors. "Most people are seeking methods to limit the amount of waste that goes to the landfill— GrassCycling is one way you can help." This single intervention resulted in nearly twice as much residential GrassCycling as the control condition after only two weeks.

One of the most successful strategies to induce pro-environmental actions in consumption is to use the power of social influence. When told those other individuals were making environmentally conscious purchases, people were 65 percent more likely to make one themselves. Food waste was reduced by 20.5% when buffet guests were told not to take too much at once (and that it was fine to return for seconds). Whether or not people will install solar panels is heavily influenced by whether or not their neighbors have done so. Furthermore, notifying university students that other commuters were quitting their automobiles in favor of more sustainable modes of transportation (such as cycling) caused them to utilize sustainable transportation five times as often as those who were merely provided information about alternatives.

However, social motivators can sometimes backfire. When just a few people engage in a long-term habit, it may appear to be socially unacceptable, preventing adoption. In such cases, businesses might hire supporters to highlight the product's or action's good aspects. Advocates

are most convincing when they have engaged in the conduct themselves. According to one piece of research, when an advocate explained why he or she had installed home solar panels, 63 percent more individuals did so than when the advocate had not.

Also, keep in mind that companies that might already have an 'image' or 'reputation' have to find creative ways to blend the two worlds. For example, Jack Daniel's incorporates sustainability into many elements of their operations. Sustainability is linked to quality and exquisite taste in slogans like "With all due respect to progress, the world could use a bit less plastic" (supported by a row of hardwood barrels) and "Even Jack Daniel's garbage is too good to squander." The firm sends no garbage to landfills since it sells waste goods and leftover resources to other sectors. Used charcoal from the maturing vats can also be purchased as barbeque briquettes for home cooking, reinforcing traditional male ideals. All of this serves to demonstrate Jack Daniel's commitment to the American work ethic, the environment, and the community in which it works. It has skillfully blended sustainability into its current identity to avoid losing its tough, manly image.

Individuals that are right-leaning, for example, are sometimes less eager to engage in ecologically beneficial actions because they associate them with liberal political philosophy. Republicans in the United States, for example, were less likely to buy a compact fluorescent light bulb that was known to be more energy-efficient than an incandescent bulb if it was branded "Protect the Environment" than if it was not. One way is to use language that resonates with Republicans' political identity, such as responsibility, authority, and conformity to in-group standards. In one significant field study, Republican members were told, "You can join the struggle by recycling with others in your area," recycling more. Actions help people fulfill social obligation since recycling is the responsible thing to do in our society. The recommendations of

key leaders addressing recycling are also visible, suggesting “Thanks to people like you, you CAN participate in the battle!” Unlike Republicans, Democrats were more likely than to respond to ads on social welfare. Another option is to concentrate on universal values like family, community, wealth, and security.

Sustainable product alternatives are frequently associated with negative associations among consumers, who perceive them to be of inferior quality, less visually attractive, and more costly. People were less inclined to pick sustainable solutions when they valued strength in a product, such as a vehicle cleaner. One strategy to counteract such unfavorable connotations is to emphasize the product's good features, such as originality, innovativeness, and safety. Tesla, for example, emphasizes the car's revolutionary design and practical performance over its environmental credentials, a message that resonates with its target clientele. This also alleviates some men's concerns that green items and issues are feminine.

There are three strategies to boost social impact. The first is through simply increasing the visibility of sustainable habits to others. People were asked to pick between an eco-friendly granola bar (with the slogan "Good for you and the environment") and a standard granola bar ("A healthy, delightful snack") in some of Katherine White's study. When others were present, the sustainable alternative was twice as likely to be chosen than when the decision was made alone. Other studies have discovered comparable results in a variety of items, from environmentally friendly hand sanitizers to high-efficiency autos. When homeowners in Halifax, Nova Scotia, were compelled to place their household waste in transparent bags, the amount of rubbish that went to the landfill reduced by 31%.

Making people's pledges to eco-friendly conduct part of the public forum is a second strategy to amplify the impact of social influence. For example, having hotel visitors sign a note

on their room door indicating that they accept to reuse towels improved towel reuse by 20%. Similar research found that requiring hotel visitors to wear a pin representing their commitment to an energy-saving program improved towel reuse by 40%. In another research, some parents were requested to display a window sticker that stated "For Our Air: I Turn My Engine Off When Parked" in order to reduce vehicle idle time when their children were picked up from school. Idle time was reduced by 73% as a result of the intervention.

Third strategy is to encourage healthy rivalry among social groupings. Business students were more than twice as likely to compost their biodegradable coffee cups after hearing that another group of students was behaving positively. The World Wildlife Fund and its volunteer groups organized friendly energy-saving competitions between towns to raise awareness about sustainable actions during Earth Hour, a global lights-off event. The initiative originated in Sydney, Australia, in 2007 and currently has a global reach of 188 nations, with 3.5 billion social media references from January to March 2018 with around 18,000 landmarks turning down their households' lights for Earth Hour 2018.

Furthermore, the researchers suggested that often in order to spread sustainable consumer behaviors, one had to break bad habits in order to encourage new ones. They also suggested focusing on 'shaping good habits. Humans are creatures of habit, and the many behaviors one may know and not even think about on a day-to-day, were once things that they did not know. One must have learned and then kept repeating this pattern to form the habit into one's daily routine. A perfect example of this is the habit of using disposable coffee cups (occurs 500 billion times a year across the world). It may be a natural response due to that being the default cup provided by most companies.

Design characteristics may be used by businesses to replace harmful habits with ones evoking progress. Making sustainable conduct the default option is the simplest and most likely successful solution. In Germany, for example, researchers observed that when green power was made the default solution in residential structures, 94 percent of people decided to choose it. Making green alternatives the default, such as reusing towels or receiving electronic rather than paper bank statements, encouraged overall adoption of the more sustainable option in other circumstances. Plastic straws are no longer provided with beverages in California's full-service restaurant establishments; customers must choose to request one. Another option is to make the desired eco-friendly activity more convenient—for example, by placing recycling bins closer, requiring less complicated recycling sorting, or offering free public transportation trip cards to consumers. Three subtle but effective techniques can help shape positive habits: using prompts, providing feedback, and offering incentives.

Another topic discussed in these studies involved 'leveraging the Domino Effect'. This was showcased by IKEA when they launched their sustainability initiative called Live Lagom (lagom means "the right amount" in Swedish). It ascertained and described the sustainability journey of a select set of customers. People generally start with a single action, such as minimizing home food waste, but then later continue on to other domains, such as energy conservation, according to the business. People would start with little activities and work their way up to more substantial ones, according to IKEA. Purchasing LED light bulbs, for example, may lead to wearing warmer clothes and decreasing the thermostat. Additionally, insulating doors and windows, purchasing energy-efficient equipment, and installing a programmed thermostat are strategies worth their weight as well. Also, keep in mind that hope and pride may be powerful methods to also drive sustainable consumption. Someone who interprets a token

activity firstly as commitment to a cause is likely to take chances with fewer good activities in the future.

The next suggestion from the researchers was that companies would need to decide how to communicate their messages with consumers. The businesses need to take a variety of things into consideration in preparation for a launch or prior to promoting a campaign or product. Marketers typically have two different methods at their disposal: appealing to one's emotional levels or appealing to reason. Both have proven to be effective, but success varies on individual circumstances.

Emotions approach: according to research, optimism and pride are particularly effective in motivating sustainable consumption. Bacardi and Lonely Whale utilize the hashtag #thefuturedoesntsuck to promote events and appeal for consumers to take action as part of their effort to eradicate one billion single-use plastic straws. People in one research article who were publicly recognized each week for their energy-saving efforts, eliciting pride, conserved more energy than those who were given tiny (up to €5) weekly money awards. Logic approach: Unilever began a campaign in 2010 to highlight the fact that, while some palm oil harvesting destroys rainforests, the company's palm oil is completely responsibly farmed. The phrase "What you buy at the supermarket can affect the planet.... Small acts, great difference" was printed on a shot of a rainforest. People are less inclined to engage in a larger-scale activity unless they have some sense of self-efficacy, or confidence that their activities will have a significant impact, according to decades-old research findings. As a result, conveying the environmental impact and immediate results of a sustainable product is among the most important aspects of selling it.

Additionally, messages that focus on local impacts are usually seen to be fairly powerful in the public sphere. The Empire State Building may be filled with rubbish in one day, according

to New York City's current waste-reduction advertising campaign. Messages that convey the tangible or felt impacts of long-term customer behavior changes in other ways can also be beneficial. Consumers are encouraged to take the #CleanPledge and wash their items in cold water. This is not simply a consumer commitment, but the ad also conveys concrete implications, such as "Switching to cold water for a year may save enough energy to power your phone for a lifetime." Also, giving customers something tangible to show their support for a business or a cause and reporting on the results is another strategy. 4ocean, for example, informs customers that for every recycled bracelet they purchase, one pound of garbage is retrieved from the ocean.

Lastly, there is the mindset 'favor experiences over ownership'. Some businesses have found success with business structures that appear to make customers more open to green options, in addition to striving to influence consumer behavior. Companies in the "experience economy" provide experienced alternatives to highly visible commodities. Honeyfund, for example, allows wedding gift donors to avoid mundane registries full of common home items in favor of making contributions to destination honeymoons, gourmet dinners, and other excursions or trips for the bride and groom. Tinggly, whose motto is "Give stories, not stuff," also allows customers to give experiences as nonphysical gifts rather than actual items. In addition to the possible long-term advantage, research suggests that providing an experience makes both the donor and the receiver happy, invigorating personal bonds, and nurtures more favorable memories. Growth models have featured enterprises that do not manufacture or sell new products or services, but rather allow access and reach to current ones—often with a markedly lower environmental imprint (ex. Zipcar and Airbnb).

Customers have been won over by firms who offer to recycle things after they have been used. Customers are encouraged to buy high-quality apparel from Eileen Fisher and Patagonia,

use it for as long as possible, then return it to the brand to be restored and resold. As a result, instilling elements of sustainability into how items are used and eventually disposed of is one method to encourage eco-friendly customer behavior.

The author of this thesis can see that the methods and examples presented by White, Hardisty, Habib, 2019, have displayed recent growing momentum behind sustainable business practices, but the author wants to drive home that there is substantial work that companies can do to communicate their brands sustainability efforts. This will then lead to heightening brand relevance, increases of market share, and fuel a shift toward a culture of sustainable living.

Nonetheless, it was clearly demonstrated by these various examples that the people of today's society have this mindset shift that are yearning for more pro-environmental efforts. To the author, it appears that the sentiment is there asking to be involved in having pro-environmental business models, and or programs. In fact, it appears that there are already companies who are further into the game and make use of this as an area of strength for the company in question. It is evident that consumers are increasingly becoming more environmentally conscious with greater frequency. The businesses and industries that have taken on the role to be involved in this movement have an upper hand and competitive advantage. For those looking to get in the game or sharpen their skills, the author suggests companies make sizable efforts to clearly understand the wants, needs, and desires of their target market, as well as the impediments and benefits that might be inhibiting the targeted audience.

Coffee Cup Usage Findings:

As mentioned earlier, the disposable coffee cup, with its insulated paper sleeve, and plastic lid, has come to represent the modern world's thriving throwaway cafe culture (Walter

and Broom, 2013). 300 x 10⁹ is the number of single-use disposable coffee cups (global consumption) that end up in landfills each year (Foteinis, 2020). The author summarizes and takes a deeper look into a study regarding the factors that enable consumers to make the pro-environmental choice of using reusable or compostable coffee cups; the barriers that prevent them from doing so are also examined. In-depth interviews and participant observations involving coffee drinkers, cafe owners, baristas, and municipal government agencies are used in this study, which expands upon experiments done by a local government council in South Australia. The study's exact goals were to: (1) determine the effectiveness of a monetary incentive presented in a local government experiment encouraging the use of environmentally friendly takeout coffee cups; and (2) to determine the enablers and what serves as barriers to using environmentally friendly takeaway coffee cups.

This study fills a gap in the current literature by focusing on the factors of human behavior when it comes to distributing environmentally friendly takeout coffee cups. It adds to the knowledge base by looking at the institutional adjustments needed to encourage pro-environmental behavior for takeout cups of coffee. The relationship between consumer behavior and institutional variables decides the outcome, according to this study. Efficacy of methods for reducing the usage of disposable coffee cups influences the research strategy used in this study and makes up the content of the interviews. In efforts to triangulate and enhance the findings, non-participant observations with both consumers and relevant stakeholders were conducted. As a result, various policy recommendations emerge from the interviews with the involved parties. Given the waste management difficulties involved with disposable coffee cups, this study has significantly larger social consequences. Although the research was conducted in Australia,

the findings and suggestions can be applied to other nations with similar socio-political environments and economies.

Researchers have discovered that elevating consumer environmental knowledge and consciousness can lead to more sustainable purchases (Severo et al.,2018). According to other studies, a higher degree of acquaintance with sustainability certifications (Judge et al., 2019) and a better technical grasp of environmentally friendly items (Visser et al., 2018) are important predictors of pro-environmental purchasing behavior. Researchers have also looked at the influence of peer pressure and social norms on pro-environmental purchasing decisions (Kautish et al., 2019; Taufique and Vaithianathan, 2018).

Consumers may make pro-environmental decisions by using disposable coffee cups, according to research (Maye et al., 2019; Poortinga and Whitaker, 2018). The literature suggests that consumers are informed about the lack of recyclability and environmental cost of throwaway coffee cups through environmental messaging. Other suggestions include requiring businesses to sell reusable coffee cup alternatives to throwaway cups and providing financial incentives to maintain interest in the usage of reusable coffee cups.

Most studies imply a maximum decrease in throwaway cup consumption of 15-20 percent when faced with using these consumer-focused approaches (Maye et al., 2019). Even when cafés aggressively and constantly encourage the use of environmentally friendly reusable alternatives, the proportion of beverages served in disposable cups remains elevated, accounting for 70–80% of all coffees sold (Poortinga and Whitaker, 2018). Existing research is starting to show that while individual education programs to encourage pro-environmental behavior can be beneficial, there are certain limitations.

Due to being aware of the issue, in June of 2017 South Australia's waste stream, the local city council worked with a selection of local cafes to develop and trial strategies to tackle the problem head on. The local municipal council started its "Compostable and Reusable Coffee Cup Pilot" at the request of a senior council official. In September 2017, the council sponsored a similar "Green is Good for Business" event. This event's reach gave cafés a greater grasp of the possibilities for decreasing throwaway coffee cup pollution, both at the customer and restaurant level. This study followed the standard approaches of using monetary incentives to stimulate behavioral change.

Cafés within a specific zone in the local council areas were given the opportunity for money in the form of rebates if they were prepared to undertake the following: (1) offer discounts to customers who brought their own reusable cups; and (2) offer discounts to customers who brought their own reusable cups (Rebate A). These reductions varied from ten cents to a dollar; (2) the shift to compostable cups instead of plastic-lined, non-biodegradable cups (Rebate B); and (3) the continued provision of compostable takeout cups and lids (Rebate C). Cafés were also required to display signage and branding given by the local council for the duration of the one-year trial to indicate their commitment to decreasing disposable coffee cup waste.

Table 1
Interviewee details.

| Interviewee | Gender | Age | Qualification |
|---|--------|-------|---------------------|
| Consumers | | | |
| Consumer 1 | Male | 41–50 | Vocational training |
| Consumer 2 | Female | 41–50 | Undergraduate |
| Consumer 3 | Male | 41–50 | Postgraduate |
| Consumer 4 | Female | 31–40 | Undergraduate |
| Consumer 5 | Female | 41–50 | Undergraduate |
| Consumer 6 | Male | 31–40 | Undergraduate |
| Consumer 7 | Female | 31–40 | Postgraduate |
| Consumer 8 | Male | 31–40 | Postgraduate |
| Consumer 9 | Male | 31–40 | Undergraduate |
| Consumer 10 | Female | 21–30 | Undergraduate |
| Cafes (owner/barista) | | | |
| Cafe 1 (owner/barista) | Male | 41–50 | Vocational training |
| Cafe 2 (owner) | Male | 41–50 | Undergraduate |
| Cafe 3 (owner/barista) | Male | 21–30 | Undergraduate |
| Cafe 4 (owner/barista) | Female | 41–50 | Postgraduate |
| Cafe 5 (owner/barista) | Male | 31–40 | Undergraduate |
| Cafe 6 (owner/barista) | Male | 31–40 | High School |
| Policymakers | | | |
| Senior officer of local council (responsible for initiating the trial) | Female | 51–60 | Postgraduate |
| Council staff member 1 (directly responsible for overseeing the trial) | Female | 41–50 | Undergraduate |
| Council staff member 2 (directly responsible for overseeing the trial) | Male | 31–40 | Undergraduate |
| Council staff member 3 (directly responsible for overseeing the trial) | Female | 31–40 | Undergraduate |
| Representative 1 from the state agency (responsible for environmental issues) | Male | 41–50 | Undergraduate |
| Representative 2 from the state agency (responsible for environmental issues) | Female | 31–40 | Undergraduate |

The data that was obtained during this period includes twenty-two semi-structured in-depth interviews and fifty hours of non-participant observation sessions. Consumers (n = 10) were interviewed in-depth, as were cafe owners/baristas (n = 6) and policymakers (n = 6). During each interview, data was electronically captured and thoroughly transcribed, analyzing themes. The interviews are listed in Table 1. The semi-structured interview protocol questions are included in Table 2.

Table 2

Semi-structured interview protocol questions (consumers, cafe owners/baristas, and policymakers).

| | |
|---|--|
| Semi-structured interview with consumers | <ol style="list-style-type: none"> 1. How many takeaway coffees do you buy each day? 2. Have you ever considered using a reusable cup? Why? Or why not? 3. What are your perceptions about recyclability of disposable takeaway coffee cups? 4. Does the discount being offered by the cafe motivate you to bring your reusable cup? 5. What are your views about the discounts/monetary incentives? 6. What level of discount (10 cents–\$1) would motivate you to switch to using a reusable cup? 7. What are the barriers or challenges that you see in using reusable cups? 8. What will motivate you to use reusable cups? 9. What are your thoughts about compostable cups? 10. Can you tell the difference between compostable and non-compostable cups and lids? If so, what markers do you look out for to identify a cup as compostable? |
| Semi-structured interviews with cafe owners/baristas | <ol style="list-style-type: none"> 1. Do you allow/service reusable cups? 2. Why or why not? 3. Are there any reusable cups you don't accept based on size? 4. What would motivate you to promote reusable cups to consumers? 5. Have you ever actively advocated reusable cups? 6. Have you considered doing a full cost accounting analysis of the costs of disposable, compostable, and reusable cups? 7. Would you consider giving discounts to consumers who bring their reusable cups? 8. Are you concerned about selling coffee in a competitor's reusable cup? 9. What are your perceptions about the recyclability of disposable coffee cups? 10. What barriers do you see in promoting reusable cups? 11. What are your thoughts about compostable cups? |
| Semi-structured interviews with policymakers | <ol style="list-style-type: none"> 1. What are your views about disposable coffee cups? 2. Do you see the disposable coffee cups as a waste disposal issue (a landfill issue)? 3. Do you see disposable coffee cups as a resource issue (single-use of a cup and then thrown away)? 4. Would you be willing to consider policy measures that ask for: <ul style="list-style-type: none"> • Verbal prompts before offering single-use disposable coffee cups (e.g., baristas asking consumers “do you need a disposable coffee cup today”?) • Imposing a surcharge on disposable coffee cups? • Considering a ban similar to plastic bags? 5. What challenges do you see with the above policy measures? 6. What would motivate you to champion these policy measures? 7. What other policy measures do you think can help deal with this issue? |
| Demographic data | <ol style="list-style-type: none"> 1. Gender <ul style="list-style-type: none"> • Male • Female 2. Which age group below best matches your age? <ul style="list-style-type: none"> • under 20 • 21- 30 • 31- 40 • 41- 50 • 51- 60 • 61- 70 • 71–80 • 81- 90 3. What is the highest level of education you have attained? <ul style="list-style-type: none"> • High school • Vocational education (TAFE) • Undergraduate degree from university • Postgraduate degree from university • PhD • Other |

Non-participant observation is a research approach in which a researcher watches the participants of their study with their knowledge while avoiding intervening (Sandhu and Kulik, 2019). This study used 50 hours of non-participant observations to examine consumer behavior at cafés on the usage of disposable versus reusable beverage cups. The non-participant observation checklist is shown in Table 3. This study improves on past research by integrating the perspectives of other key stakeholders, such as cafe owners/baristas and policymakers, in

addition to the ever-important customers. Non-participant observation is also used to supplement the interviews, allowing for data analysis with a wider breath.

Table 3
Non-participant observation checklist.

| | |
|---|--|
| 1 | Do cafe owners position the reusable cups prominently (if they have any)? |
| 2 | Do baristas ask consumers if they would like a reusable cup? |
| 3 | Do they 'happily' service reusable cups? |
| 4 | How many people walking into a cafe bring their reusable cups in? |
| 5 | What time of the day are reusable cups more prevalent? |
| 6 | Are cafes happy to rinse the reusable cups? |
| 7 | Do cafes actively offer discounts on reusable cups? |
| 8 | The number of disposable coffee cups that were given away as you observed. |
| 9 | Tally with figures you request from cafes. |

This research was able to reveal both individual and institutional factors of environmentally friendly behavior because of these methodological improvements. The procedures are detailed in Figure 1. Thematic analysis (Boeije, 2010) was utilized to analyze the interview data. This required dissecting and classifying the data into primary themes that addressed a specific problem. This method allows a large amount of interview material to be organized into distinct themes that address the study's main points. The interview data and emerging topics were organized and delved into using the NVivo 11 software suite.

Multiple respondent explanations were used to establish topics until saturation was reached, at which time all future explanations were linked to already fully developed themes. These topics were also studied for possible interconnections. The similarities and contrasts between the core themes were then compared and aggregated. The themes included a range of observations from observational data. The identification of topics for this study was made possible by this analytical procedure. The results were also addressed with key stakeholders in addition to the 22 interviews (five café owners and six consumers who engaged in pro-environmental takeaway coffee cup use). They were told about the developing findings and

asked if these themes represented their own experiences. The findings were rather interesting since all stakeholders agreed that they would capture the descriptions of their own experiences. This work uses analytical generalization rather than statistical generalization (Lodhia, 2019; Yin, 2013). The goal of the topic was to create analytic generalizations of the enablers and barriers to using environmentally encouraging takeout coffee cups. The prevalent themes featured in the majority of the interviews allowed for replication and better analytical generalizations.

Although monetary incentives are often believed to be helpful in modifying consumer behavior, the outcomes of this study suggest that there are more complex and paradoxical factors at play. Consumers and café operators both said monetary incentives were ineffective in getting them to use reusable cups. The data highlight more complex reasons why customers began using environmentally friendly cup alternatives, as well as the hurdles that keep them from doing so.

Consumers embrace environmentally friendly takeout coffee cups for two primary reasons, according to the findings: (1) powerful environmental messaging; and (2) mimetic effects. The following are the two key impediments to acceptance of these solutions: (1) the pervasiveness of the takeout coffee culture; and (2) uncertainty regarding environmentally responsible options. Finally, the findings shed light on the institutional modifications needed to overcome some of these things prohibiting adoption of better practices. The next part delves deeper into the findings, beginning with the role of monetary incentives.

The local city council initiative was created to encourage people to use reusable takeout coffee cups by providing financial incentives. The national Responsible Café organization has also launched a prominent "bring your own cup" campaign, which has invoked widespread attention and support (Responsible Cafés, 2017). Those that join the Responsible Cafés program can provide monetary incentives ranging from 10 cents to \$1. One of these programs' basic

assumptions is that monetary incentives might motivate people to modify their behavior (Responsible Cafes, 2017). However, the interviews with cafe owners and customers showed an interesting paradox which surprised the researchers: no one said they switched to reusable cups to save money: I don't see the discount as a motivator... The main motivator for me is that the Café is participating in it, which indicates that they have some environmental awareness. Because I really don't even know how much my coffee costs, the one time I did specifically notice was when they charged me and they then realized they had not taken the discount off, but generally I don't look. (Consumer 8). No, the discount it's not obvious because I've always brought a keep cup, so I've never not had a keep cup to test whether or not it's more expensive and I've never asked ... To be honest I don't think money would come into it. (Consumer 10).

Furthermore, consumers reported feeling guilty and worrisome that the discounts may be imposing an unfair pressure on the owners of the café. The café proprietors concurred that monetary incentives are ineffective. Despite offering a 20-cent discount for reusable cups, one cafe owner (Café 4) stated that she did not feel that "saving money was the drive for her customers." They also questioned whether discount programs may cause customers to modify their behavior. Reusable sales constituted 15 percent to 20% of overall takeout sales, according to cafe employees. Based on data from the till, the franchisee of one cafe estimated that 20% of customers would claim a discount each day, whereas only approximately 10% would dine in with one of the café's ceramic mugs. Most of his customers drank from throwaway cups. To summarize, in this study, both customers and café operators stated that monetary incentives were oftentimes ineffective as a means of encouraging the use of reusable cups.

That being said, if monetary incentives are not showing to be effective, these two themes might be able to create waves: pro-social mimetic efforts and strong environmental messaging. In this study the author saw that people were heavily influenced by a popular Tv documentary: War on Waste (ABC,2017). This was a very effective method of not only raising awareness, but this also led to a sharp increase in the use of reusable cups by consumers and cafes. The café owners that partook in this study noted that there was an evident surge in the number of users deciding to use reusable takeaway cups.

Consumers interviewed said War on Waste was "eye-opening" (consumer 1), "successful in informing about the un-recyclability of the plastic-lined cups" (consumer 3), and "highlighted the seriousness of the throwaway coffee cup pollution issue" (consumer 4). Every half-hour, Australians toss away enough throwaway coffee cups to fill an entire Melbourne tram, according to the War on Waste presentation (ABC, 2017). This striking visual message not only made many customers sit up and take note of their own habits, but it also inspired them to improve the habits of others. Many of the customers polled said that their colleagues' pro-environmental behavior had influenced them to adopt reusable cups, in addition to a strong environmental message. These comments imply that social norms within a group can have a big impact on how standards are defined.

Overall, the study stressed that the factors that lead to a shift in consumer behavior were strong environmental messaging and mimetic effects. This research one's knowledge of environmentally friendly behavior by diving into the human and institutional factors around the use of takeout coffee cups. It argues that in order to effectively reduce the waste that are created by takeaway coffee cups, the relationship between consumer behavior and institutional support

mechanisms must be addressed. This would be a tiny but important step toward achieving the worldwide vision of a sustainable society.

Chapter 3: Case Study: The Effects on Incentives on Environment-Friendly Behaviors-

This case study dates back to 1991 and is written by R. Bruce Hutton, University of Denver and Frank Markley, University of Denver. This study focuses on the use of incentives to push social change behaviors while reporting the results and impacts of a financial incentive program to reduce air pollution. Of 6500 employees, almost 9% of employees from a large public utility partook in the program by modifying their commute method from driving alone to other methods including carpooling, vanpooling, and or taking the bus.

This started because the two decades before were a time of positive change and progression forward for sustainable policies being passed. In 1970, the first grass roots organized Earth Day and the passage of the National Environmental Policy Act. Other government policies have also emerged like the Clean Air Act, 1970; Environmental Education Act, 1970; Energy Policy and Conservation Act 1975. There have also been developments in technological solutions, such as: nuclear power, solar power, and fuel efficiency standards. With these acts and incentives being implemented there have been varying degrees of success and strategic programs designed to obtain acceptance publicly.

One of the ways that have shown potential promise when encouraging an individual's behavior change is when incentives are used. In this case study we dive into the real results of a pilot program that was designed to encourage employees of a large public utility firm to change their commute method to reduce air pollution. This program was voluntary and used a financial incentive to encourage the company's employees.

The concept of using incentives in both public and private sectors to encourage a certain behavior change among the targeted audience is a familiar concept. Incentive programs are typically designed to encourage repeat purchases, influence sampling, and encourage customers

to read product or program advertisements. According to Winett and Kagel (1984), categorizing behavioral operations as antecedent and consequence techniques is commonplace practice.

Antecedents are stimuli that occur prior to a desired behavior and are intended to elicit or influence it (e.g., advertising, educational materials). Consequence tactics, on the other hand, are stimuli that occur as an answer to the presence or absence of a behavior and are intended to raise or reduce the behavior's frequency (e.g., feedback, tax credits, rebates). Incentives are frequently thought of as a consequence approach. Continuing on, one of the areas where the value of incentives has been explored is energy conservation. From the standpoint of transportation, the tactics for saving fuel or reducing pollutants are similar (i.e., reduce the number of miles driven). Ritchie and McDougall (1985) give a comprehensive exploration and discussion of conservation measures, including financial incentives. The most complete examination of economic incentives to support conservation is provided by Nemetz and Hankey (1984). Hutton and McNeill (1981) present a worthwhile example of the influence of non-monetary incentives. The positive incentives that were mentioned are listed here: tax incentives (credits, deductions, rebates, exemptions), loans, grants, subsidies.

Nemetz & Hankey (1984) gathered 71 energy conservation incentive programs, 22 of which are connected to the transportation industry in some way. One type of initiative aimed to reduce energy consumption in the automobile industry by offering positive incentives for vanpooling or carpooling, tax breaks for fuel-saving equipment, and reduced registration costs for energy-efficient vehicles. Employee or public subsidization and fare reductions for mass transit systems were almost primarily used in programs aimed at bolstering urban transportation, commuting, and intercity passenger travel.

Regarding the utilization of financial incentives, Ritchie and McDougall (1984) came to the following conclusions: in several circumstances, cash incentives paired with feedback on power use lowered energy use only for a temporary period. Previous incentive or rebate programs have cost significantly more than they have yielded in terms of benefits. Further developed public transportation services are more appealing to customers than lower rates. When evaluating incentives to induce restriction behaviors, Ritchie and McDougall (1984) identify three key issues. Among them are Curtailment habits, which often save significantly less energy than efficiency practices. It's difficult to see how a refund scheme based on reduced energy use might be implemented on a broad scale. The long-term impacts of incentives on curtailment behaviors are uncertain, and there may be a "wear-out" effect of diminishing efficiency.

Nemetz and Hankey (1984) identified nine similar components required for building successful programs and four reasons for program failure after reviewing hundreds of economic incentive programs. They reviewed the following successes: ease of participation, significant monetary incentives, extensive information diffusion, consultation and participation of industry and community leaders, ease of enforcement, high coverage and impact, the need for mandatory elements, the need for follow-up and post monitoring and the need for quality control. The failures that were mentioned included the following: Inadequate monetary incentives, inadequate prior consultation, poor information dissemination and poor targeting of programs.

Some background on the program is that in 1984 there were combined problems of carbon monoxide and particle pollution that placed Denver, Colorado and Los Angeles California in a tie for the two cities with the most extreme air pollution problems within the U.S. The primary reason this was occurring in these states was tailpipe emissions. Denver's daily

vehicle kilometers had increased from 15 million in 1971 to 32 million in 1985. Furthermore, by the turn of the century, travel was anticipated to more than quadruple to 65 million miles each day. The State Department of Health and the Environmental Protection Agency put forth the Better Air Campaign. This was a voluntary campaign where driving reduction for individual drivers were targeted. This occurred during the three month long “high pollution” season, and it utilized various methods of communication to the public, which included media advertising and public relations campaigns.

This campaign led to mixed reviews but there were various learnings that arose from its culmination. In 1988, there was a more targeted approach that was taken by the governor, and he created the Corporate Alliance for Better Air. He created this as a means to involve business communities directly in the fight for clean air. In particular, there was one incentive that was called the Clean Air Campaign, where the Public Service Company of Colorado (the state’s largest public utility, over 6500 employees) motivated its employees to avoid driving to work alone with cash incentives.

Furthermore, each employee received one dollar for each day he or she did not drive alone to and from work between November 1st, 1989 through January 31st, 1990. At the end of this program there was a celebration of sorts – Clean Air Day. This day was intended to thank employees for participating and there was breakfast served at various locations statewide. During this time there was also an Expanded VanPool Program and additional commuter vans and routes were added in steadfast efforts to fight against pollution. Employees were also given a Discount Appliance Booklet with coupons for savings on natural gas goods encouraging the conversion of wood-burning fireplaces. Lastly, there was the Information Campaign that was designed to not

only display information, but to stress the importance of clean air and how to take action to promote its importance.

In terms of methodology, the most prominent and innovative section of the program was the cash incentive piece. The incentive was a dollar a day, which would be awarded to each employee who did not drive to and from work alone. There were other guidelines attached to this protocol as well. The employees would need to manage alternative methods to driving alone, and these had to be used at least five days a month to qualify. Each employee was given a calendar to track the date, mode of transportation, distance to and from work, commute time, and other relevant information. The calendar was to be returned at the end of the month, and the money that was earned by said employee would be marked down and applied to the employee's paycheck the following month.

There was a telephone survey that was conducted for participants (who at least participated for one month and turned in their calendar) and non-participants (employees who did not partake in the green incentive program and failed to turn in a calendar). The sample size was 250, selected at random.

The results were broken up into three pertinent groups: (1) participants who typically drove to work solo; (2) participants who typically commuted another way besides driving alone; and (3) non-participants. Attached below are two tables that the author will follow with a discussion.

TABLE 1
Attitudes and Perceptions Toward the Program

| Perception | Participants | | Non-Participants (n=250) |
|--|-----------------------|------------------|-----------------------------|
| | Drive Alone (n=42) | Other (n=208) | |
| Favorable attitude ¹ | 98% | 97% | 95% |
| Likelihood of participating next year ² | 79 | 97 | 45 |
| Awareness of program components besides incentive | 36 | 44 | 28 |
| Positive program characteristics | | | |
| \$1/day incentive | 33 | 61 | 38 |
| Educational value | 21 | 15 | 17 |
| Reduced pollution | 14 | 13 | 7 |
| Negative perceptions | | | |
| None | 81 | 71 | 76 |
| Size of incentive | 4 | 2 | 2 |
| Disorganized | 5 | 2 | 3 |

¹ Subjects responded to a 4 point scale. The percentages reported combine "very favorable and "somewhat favorable" responses.

² Subjects responded to a 4 point scale. The percentages reported combine "very likely" and "somewhat likely" responses.

Table 1: Shows that regardless of employee participation, the employee viewed the incentive program as generally favorable. Among the non-participants (primarily commuters that drove alone) 45% indicated a likelihood of trying for participation in the following year. Another sentiment that was given regarding attitude and perception was that there was a strong indication that the nature of the program and some of its components were unclear. Less than 50% of any group admitted awareness of the other program components. 2-5% of employees felt that the program as a whole suffered due to disorganization, and lack of a cohesive presentation.

To continue, interestingly enough the educational value of the program was the second highest mention in terms of positive program perception. This is consistent with the prior studies discussed, which revealed that a monetary incentive alone could fail to result in significant behavioral change in some populations.

TABLE 2
Participation

| | Participants | | Non-Participants (n=250) |
|---|------------------------|------------------|-----------------------------|
| | Drive Alones (n=42) | Other (n=208) | |
| Altered commute mode on at least 5 working days but did not turn in a calendar ¹ | NA | NA | 5.5% |
| Turned in at least 1 calendar ¹ | 3.3% | 18.9% | NA |
| Months participated | | | NA |
| One | 42 | 9 | |
| Two | 20 | 7 | |
| Three | 37 | 84 | |
| Continued with new commute method post-incentive | 26 | 98 | |
| Same frequency of use | 82 | 99 | NA |

¹ Percentages are weighted proportional to their representation in the total population of employees.

Table 2: Shows the data for participation. The percentages are proportionate to the total quantity of employees. At least one calendar was returned by 22.2% of employees. 3.3% were regular drive-alone commuters, while 18.9% were already commuting in some way other than driving alone. Interestingly, 5.5% of nonparticipants (driving solo commuters who did not turn in a calendar) said they changed their commuting mode enough to qualify for the dollar incentive but did not turn in a calendar. (1) too much trouble (46 percent) and (2) forgetfulness were the most prevalent reasons for failing to return a calendar (10 percent).

As a result, the program's incremental gain was 8.8 percent. Table 2 also illustrates the differences between individuals who generally commute alone and those who typically commute by other means. Only 37% of those who drove alone participated for the entire three months, compared to 84% of the other group. Furthermore, 98% of the other group has continued to use ride-sharing services, compared to only 26% of those who drive alone.

When non-participants were asked why they were unable to participate, the most common responses were: 41%, there is no one to carpool with, work hours that vary by 28%, no bus in the area 19%, and 15% of jobs require a car. According to these respondents, the most significant barriers to engagement are either job-related (work hours or lack of alternative methods of transportation).

All respondents were asked how they would improve the workings of next year's program in an open-ended inquiry. The following were the most often suggested suggestions: increase the incentive by 20%, better communication/more information 14%, vanpool routes have increased by 8%, 5% discount on bus passes, and 5% flextime/four-day weeks.

Finally, participants and non-participants were compared across many categorization questions in order to better address disparities. Non-Management positions were more common among participants. While more than half of the support and operations responders submitted at least one calendar, just 42% of managers did. Interestingly, managers were also significantly more likely to self-report driving alone to work (65 percent vs. 56 percent). As predicted, participants were also more likely to be younger and have worked for the organization for a lower number of years.

Overall, the author sees this case study to have positive conclusions and has recommendations regarding utilization of these strategies. The first year of the program, the Public Service Company's Clean Air Campaign achieved modest success. Almost 9% of employees who normally drive alone to work participated in the incentive program. Overall, 18.9% of participants said they did not drive alone to work as their usual commute. During the three-month period, this group had an average of 16.2 days without driving alone. Every day, 507 journey miles were saved on average. Employees who switched because of the initiative

saved 11.9 days and 291 miles per day, respectively. As a result, compared to usual, the incentive program reduced kilometers traveled by 43%.

The author feels that this pilot program was successful not just because of the miles reduced as a whole, but because it showed that incentive programs can bring companies success in their efforts to be more ecologically attentive. It is important to note that the program was entirely voluntary. As a result, enforcement was limited to the accounting and payroll methods used to audit and pay for days worked. Another concern worth mentioning would be monitoring of the progress. Following the program, some self-reported data on continuous ridesharing was provided. It has not been comprehensive, however. The second year's analysis will give further pertinent information.

Quality assurance is another; there were two methods of policing. Throughout the campaign, random samples were obtained to see if the stated ridesharing was truly happening. In addition, another individual had to be listed as a reference on each calendar (e.g., vanpool driver). Each calendar was also examined for irregularities. In terms of impact and coverage, there was very little effect feedback supplied during the program. This lack of feedback is likely to have dampened the early enthusiasm felt by some of the new participants and failed to drive later adoptees.

The author believes that there could be key takeaways from this program and ways to improve upon it. The author felt that it was promising that the data from Table 1 suggested that 45% of employees who did not participate the year of the pilot program had a likelihood of partaking the next year the program ran. One of the key takeaways and areas for improvement that the author suggested involves developing a cleaner and more cohesive framework to piece together all the various programs that this company was using to reduce pollution in their area.

The data showed that less than 50% of employees were aware that there were other components to the program besides the monetary incentive.

Additionally, while some efforts were made to enhance employee alternatives (e.g., expanded vanpools), little, if anything, was done to assist in organizing employee options. One suggestion in this area is to set up a carpool/vanpool matching service within the firm. Employees also suggested establishing four-day work weeks and flextime scheduling alternatives. These suggestions are in line with non-participants' reasons for not taking advantage of the program. Their motivations basically fall under two categories: (1) job-related restrictions, such as changeable work hours that prevent carpooling and busing; and (2) a lack of available choices, such as a lack of a bus in their neighborhood or no one with whom to share driving.

The author would go on to suggest that the team heading this program work on creating a communication plan for better outreach and participation of future programs. Creating such plans would allow the company to have a collective plan to potentially market the eco-friendly program as a cohesive program with all components mentioned earlier. It would then allow for a more expansive outreach when it is clearly documented who should be receiving this communication, when it should be received, and via what platforms this communication goes out on to employees, and or other respective parties it concerns.

It was also mentioned that while more than half of the support and operations responders submitted at least one calendar, just 42% of managers did. Managers were also significantly more likely to report driving alone to work (65 percent vs. 56 percent). Another recommendation that the author would give companies attempting to do this or a similar program would be to secure manager buy-in. This could be done by having smaller meetings with managers first to slow-roll the program to management so that they can fully understand not only the program and

key components of the program, but the rationale behind why programs like this could be good for business. There can also be additional incentives given to employees who take on additional responsibilities for company rollout programs like this. For instance, there can be leadership incentive programs for leaders who decide to share and present on program-based information to employees. The author believes the key driver here would be to get managers to cooperate because organizations do not prosper unless managers in the middle ranks identify and promote the need for change (Ashford, Detert, 2015).

Another key player here was financial rewards. The cost-benefit analysis is tough in this scenario. In addition to time, the corporation spent about \$50,000 on incentives. The payoff was an increased participation rate of 9% and an average savings of 798 miles per workday. The true worth of the investment is determined by the program's objectives and the impact of subsequent efforts in the second year. The money can be considered as an investment in future profits in various ways.

A dollar a day is not a large sum in the eyes of the employees. However, the incentive's worth should not be judged solely in terms of its monetary value. The incentive also sends a good message to employees from senior management about the importance of pollution reduction and the company's commitment to clean air. Information is widely disseminated. It is evident that campaign messaging could be enhanced, based on employee comments and a general lack of understanding of program components. First, a more concerted attempt to connect all of the pieces should boost interest and awareness. Second, aside from the reward scheme, additional information should have been stressed.

The instructional component of the program is highly valued by employees, and this might be developed further. Multiple advantages, for example, might be emphasized. According

to reports, existing ridersharers travel for a variety of reasons, including convenience, cost, and stress reduction. These characteristics, as well as the environmental advantages, might be highlighted.

In the creation and assessment of the program, company representatives collaborated with health department authorities. This could be utilized in the future for branding and media efforts for the company to receive the positive light. The program was started to improve Colorado's position in lessening the contribution of pollution in the state. The work with health departments could be leveraged and the business could potentially have a larger outreach expanding further than employees.

In conclusion, the first year of the pilot program was a success, but much was learned about how to improve performance in order to increase participation in following years. The financial incentive's worth remains up for debate. One important aspect of the future generation may be to tailor the software to better fit the demands of the existing drive-alone sector. Providing an at-work carpool for managers who need a car for their job, for example, would eliminate the need for a single occupied vehicle. After all, the goal of a grassroots campaign is to adjust the program to the unique needs of smaller groups.

Hospitality Management:

Employee engagement has also been a discussion as of late, and that includes motivating employees to engage in pro-environmental behaviors (PEBs). Based on the research, the author can conclude that it is crucial for greening hotels and improving hotel performance. This study takes the approach that workers' PEB motives may be studied from a positive externality/spillover viewpoint, because these voluntary activities benefit others other than the employees, such as the hotels where they work and the surrounding natural environment. As a

result, employee PEBs may be motivated by salary and internalization. This work aims to further internalization research by emphasizing the oneness of people and organizations, and by claiming that organizational identification (OI) is an important predictor of employees' PEBs, which may be improved by improving their perceived job performance (PJP).

"Without worker engagement, a company's environmental program would very certainly fail, as frontline personnel implement numerous environmental measures," Chan and Hsu (2016, p.905) said. PEBs are defined by Graves et al. (2013, p.81) as "a broad set of eco-friendly workplace activities, such as learning and thinking about the environment, developing and applying ideas to reduce the company's negative effects on the physical environment, developing green products and processes, and recycling and reusing." Employees' PEBs in the hotel business frequently relate to value-added organizational citizenship behaviors (OCBs) that target the environment for both monetary and environmental advantages (Kim et al., 2017b; Pereira-Moliner et al., 2015; Tian and Robertson, 2019).

PEBs are assumed to have value-added OCBs in the hotel industry (Kim et al., 2017b). By reducing expenses and enhancing distinction, they can be compatible with the organization's profit-making goal (Pereira-Moliner et al., 2015). Due to the fact that the hotel business is not a large polluter, and the primary reason for introducing PEB programs in hotels is frequently to boost profitability, PEBs in the hotel industry create a more noticeable economic consequence than their environmental impacts (Kim et al., 2017b).

Second, individual engagement in PEBs, such as saving water while hand-washing and saving energy by turning off lights, rarely necessitates additional capabilities and is highly related to employees' environmental attitudes, values, beliefs, and norms (Chan et al., 2017; Li et

al., 2019), as well as the perceived results of a cost-benefit analysis (Chan et al., 2017; Li et al., 2019). (Lindenberg and Steg, 2007; Steg and Vlek, 2009).

The current study suggests that OI is a significant predictor of employees' PEBs and may be enhanced by boosting PJP, based on insights from the positive externality viewpoint. This study also claims that PJP has a favorable effect on PEBs via OI. This connection works because PJP meets workers' needs for self-improvement by boosting personal rather than corporate reputation. Workers' felt oneness with their organizations increases as a result of this phenomenon, and employees psychologically internalize the positive spillovers created by their PBEs to their hotels. OI is a complete mediator in the link between PJP and PEBs, according to our empirical findings. This research may provide insight into the circumstances in which an employee with strong in-role performance might simultaneously excel in extra-role behaviors like PEBs.

Employees with strong work performance have higher self-esteem than those with bad job performance because they receive favorable feedback from their hotels. This experience may improve their OI, leading them to put in more effort to help the hotel perform better by participating in PEBs. Furthermore, if extra capabilities are required, candidates with outstanding communication skills are preferred. Employees with good job performance may have more capabilities than those with bad job performance. Employees with high (vs. bad) work performance would have superior credentials for such extra-role actions, according to this phenomenon. Furthermore, hotel managers should offer appealing incentives or create prospects for advancement for personnel who do well. Furthermore, hotel managers should monitor changes in workers' OI after offering comments on their work performance.

Conclusion-

In conclusion, means of ecological conscious conducting of business has demanded individuals' immediate attention. It is no longer about whether people are facing issues with climate change, with the environment. It is very evident that this is the case. While having eco-friendly or green initiatives might feel like a passing trend, but the public's interest in global warming, pollution, water consumption and other far-reaching issues, it's more than a fad.

Corporations are leaving massive carbon footprints. Carbon accounting methodic are now being used. Signs point to further environmental protection and sustainable practice legislatures, early adaptation can give organizations more time to navigate upcoming changes and learn better ways to adapt.

The study by McKinsey launched a collaborative program with over 40 companies to understand sustainability challenges. In doing so they found that leading companies pursue sustainability because it has a material financial impact. To understand the role of sustainability initiatives in business, surveys were collected. The conclusion was that sustainability programs are not only strongly correlated with good financial performance, but also play a role in creating it.

Indeed, this multifaceted topic includes concerns such as recruitment and employee retention. In the eyes of many upper-level management employees, taking on these important sustainability policies assumes a big risk in terms of a firm's economic growth. As previously discussed, however, this is an area of progress that brings with it a large degree of nuance. Success looks different at various points in the timeline of program integration, and a growing body of literature on the topic can help business owners avoid pitfalls. In turn, they will be able to maximize profit while creating and maintaining their curated social identity. Means of

motivation exerts a heavy influence on the success of these programs; this was explored at length in the aforementioned studies on incentives.

In fact, this dialogue is more essential than ever, as the global stage suggests a growing pressure to more actively address issues of pollution and wasteful production. Indeed, this sentiment is shared by a growing number of the U.S. population, and businesses both large and small would do well to anticipate the changing tide of sustainability practices.

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