Factors Affecting Employee's Intention to Save Energy: The Case of Batticaloa District of Sri Lanka

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Abstract
The main secondary energy source in Sri Lanka is electricity. For electricity production, Sri Lanka mostly uses fossil fuels. Energy import expenditure is one of the major burdens for Sri Lanka and fossil fuels release stored carbon and greenhouse gases into the environment. At workplace, employee (individual) level energy saving is one of the main contributors to the overall energy saving efforts of the organizations. This study aims to understand the factors affecting employee's intention to save energy at workplaces. The theory of planned behavior was used for this study. The questionnaire survey was used to collect data. Data were collected from 205 employees of the financial institutions in Batticaloa district. Findings of the study revealed that attitude, subjective norm, perceived behavioral control, personal moral norm, habit, positive anticipated emotion, and price are positively related to employee's intention to save energy, and intention to save energy is positively related with energy saving behavior of employees. At the same time, these predicting variables have a positive impact on intention to save energy, and intention to save energy has a positive impact on energy saving behavior of the employees. Price/cost of energy is the best predictor of the intention to save energy of employees. According to the results, implications for improving individual employees' intention to save energy at the workplace have also been discussed.

Key Words: Energy, Intention to Save Energy, Price, Workplace, Energy Saving Behavior

Introduction
Energy is essential to both human existence and the socioeconomic advancement of nations. An important measure of economic progress is the amount of energy consumed per person (Esen and Bayrak, 2017). One of the main contributors to a decrease in overall energy use is individual workplace energy conservation (Leygue, Ferguson, and Spence, 2017). An important reason for global warming and pollution of the air and water is an excess of greenhouse gases in the atmosphere (Martins, Felgueiras, Smitkova, and Caetano, 2019). Due to population expansion, urbanization, and rising levels of

industrialization, energy consumption has dramatically increased recently in many countries (Alshami and Sabah, 2019). When fossil fuels are used to provide energy, stored carbon and other greenhouse gasses are released into the environment (United States Environmental Protection Agency, 2022).

Regarding energy supply, the main secondary energy source in Sri Lanka is electricity. However, the nation's electrical industry depends mostly on primary energy sources with high carbon emissions (Liyanage, 2023). The need for energy is growing on a daily basis worldwide. Fossil fuels continue to rule the energy sector because of rising industrial activity and economic advancements in both developed and developing nations. The energy import expenditure is a major burden for net oil-importing nations like Sri Lanka, where fossil fuels account for more than 50% of total energy consumption (Liyanage, 2023). Energy is an important driver of economic growth because it is a basic input in many economic activities. The usefulness of energy drives industrial growth and economic productivity (Zahid, 2008). Since energy is needed for production processes, energy at a reasonable price is necessary for better economic development and the creation of job opportunities (Kohl, 2004).

According to Gao, Wang, Li, and Li (2017), people work 60 to 70 percent of their weekly hours. Electricity is the primary energy source that employees use at work (Zhang, Wang, and Zhou, 2014). In the office buildings, they do not have clear financial incentives and accountability. It is difficult to reduce energy consumption there (O'Brien and Gunay, 2014). Therefore, lowering energy use and carbon emissions in the workplace requires energy conservation. Energy saving behaviors of employees are environmentally friendly behaviors which lead to less consumption of energy and slow down global warming (Hussain, Halim, Chan, and Abd Rahman, 2021). There are two types of energy saving behavior: regular or everyday energy saving behavior and purchase energy saving behavior (energy efficiency) (Azizi, Azizi, Abidin, and Mannakkara, 2019). Buying energy saving equipment behaviors concentrate on using new technologies or energy efficient equipment rather than altering habits to use less energy (Karlin, Davis, Sanguinetti, Gamble, Kirkby and Stokols, 2014).

For individuals, the cost of energy in the office is essentially nonexistent. As a result of this workplaces squander more energy than households. Thus, more investigation is required into individual's intention to conserve energy at workplaces. Furthermore, many office workers no longer have control over windows, blinds, ceiling lights, AC thermostats, and other relevant environmental controls due to the growing automation of building energy control systems and the rise of open-plan offices (Devlin, 2018). Even though energy efficiency is crucial, behavioral adjustments are also important (Wang, Zhang, Gou, and Wang, 2018). Despite the rise in the production and use of eco-friendly renewable energy sources for the purpose of supplying the world's energy demands, fossil fuels remain essential (International Energy Agency, 2021). According to Carrus, Tiberio, Mastandrea, Chokrai, Fritsche, Klockner and Panno (2021), understanding the factors that influence employees' energy (or electricity) saving behaviours at workplace is crucial. It will be easier to reduce energy use, improve energy security, and move closer to the goal of net zero emissions if the factors of workplace energy saving are understood. Hence, this study aims

to understand the factors affecting employee's intention to save energy. In considering above facts, following research objectives were established in this study.

Research Objectives

1. To identify the status quo of attitude, subjective norm, perceived behavioral control, personal moral norm, habit, positive anticipated emotion, price, intention to save energy, and energy saving behavior among the employees of financial institutions in Batticaloa district.
2. To identify the relationships among attitude, subjective norm, perceived behavioral control, personal moral norm, habit, positive anticipated emotion, and price with intention to save energy among the employees of financial institutions in Batticaloa district.
3. To identify the relationship between intention to save energy and energy saving behavior among the employees of financial institutions in Batticaloa district.
4. To assess the impact of attitude, subjective norm, perceived behavior control, personal moral norm, habit, positive anticipated emotion, and price on intention to save energy among the employees of financial institutions in Batticaloa district.
5. To assess the impact of intention to save energy on energy saving behavior among the employees of financial institutions in Batticaloa district.

The paper is divided into six sections. The second section deals with literature review and hypotheses development, while the third section explains the research method, and the fourth section presents the data analysis and results. The fifth section deals with discussion and implications and in the final section conclusion and limitations of the study are given.

Literature Review

Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) is a rational decision making framework (Ajzen, 1991; Chen and Knight, 2014; Chen, 2016). The social psychological elements that link behavioral intention and its antecedents with actual behaviors have been effectively explained by the TPB. Ajzen (1991) is the first person, who proposed the TPB and it is currently the most widely accepted theory for explaining and predicting people's behavior in a variety of contexts, particularly in the pro-environmental context. TPB offers a model for systematically identifying the variables influencing energy saving. According to Ajzen (1991), theory of planned behavior (TPB) includes attitude, subjective norm, and perceived behavioral control which influence an individual's intention to carry out a behavior and behavioral intention precedes actual behavior. TPB is amenable to the inclusion of new variables, as long as doing so increases the theory's power for explanation.

Kaiser and Gutscher (2003) discovered that 81% of the variance in conservation behavioral intention was explained by the TPB factors. TPB has been used as the fundamental theoretical framework in about 40% of all publications published in the field of environmental psychology (Klockner, 2013). The TPB explained 61% of the variance in employees' intentions to turn off their computers when not in use, 46% of the variance in employees' intentions to use video conferencing instead of traveling to meetings, and 53%

of the variance in employees' intentions to recycle at work on the study of workplace pro-environmental behavioral intentions (Greaves, Zibarras, and Stride, 2013).

Indeed, TPB has proven to be an effective tool for investigating environmentally friendly household behavior, including energy conservation, green purchasing, and other forms of sustainable consumption (Chen and Tung, 2014; Wang, Zhang, and Li, 2014; Yadav and Pathak, 2016). Additionally, it has been demonstrated in a number of research on workplace recycling practices, pro-environmental workplace practices, and purchases of green products (Ru, Wang, and Yan, 2018). Scholars have used the TPB to explain a range of energy conserving (Scherbaum, Popovich, and Finlinson, 2008; Abrahamse and Steg, 2011; Li, Xu, Fei Chen, and Menassa, 2019) and carbon-reducing (Chen, 2016; Wolske, Stern, and Dietz, 2017) behaviors in residential and organizational settings. Yadav and Pathak (2017) have researched Indian consumers' intentions and behaviours related to green shopping using the TPB. The TPB served as the theoretical foundation for the investigation of young customers' intention to buy environmentally friendly goods (Setyawan, Noermijati, Sunaryo, and Alsjah, 2018). Despite the overwhelming evidence supporting the TPB, some scholars suggest that an expanded TPB model more effectively explains some pro-environmental actions (Bamberg, 2003; Chen, 2016).

Variables of the Theory of Planned Behavior

Three elements that are frequently researched in relation to deciding pro-environmental behavior and behavioral intentions are attitudes, subjective norms, and perceived behavioral control (Abrahamse and Steg, 2011; Vinojini and Arulrajah, 2017; Li, Xu, Fei Chen, and Menassa, 2019). Attitude toward behavior, subjective norm, and perceived behavioral control, all have an impact on behavior through intentions (Ghany, Strader, Thomas, and Seeff, 2009; Wolske, Stern, and Dietz, 2017). According to Dixon, Deline, McComas, Chambliss, and Hoffman (2015), attitude, subjective norms, and perceived behavioral control are strongly correlated with the intention to save energy at work in positive way. According to Macovei (2015), attitude and intention to save energy have a significant positive association when it comes to energy saving behavior, and subjective norms and perceived behavioral control have no control over intention.

Attitude: Firstly, in TPB, attitude has a major impact on behavioral intentions. According to Opatha (2015), every human being has attitudes which have a significant impact on her or her behavioural intentions and actual behaviour. Furthermore, the TPB allowed those with positive attitudes to have a large behavioral intention (Fielding, McDonald, and Louis, 2008). According to Liu, Wang, Wei, Chi, Ma, and Jian (2020), the most important element influencing an individual's intention to save energy is attitude. An individual is more likely to have the intention to engage in a behavior if he/she has a positive attitude. Numerous studies have highlighted the significance of attitude in predicting an individual's pro-environmental behavior in a variety of contexts, including household energy saving behavior, purchasing behavior for green products, and adoption behavior for green vehicles (Webb, Soutar, Mazzarol, and Saldaris, 2013; Hori, Kondo, Nogata, and Ben, 2013; Wang, Fan, Zhao, Yang, and Fu, 2016; Yadav and Pathak, 2016; Weerakoon, Sellar and Arulrajah, 2021). Therefore, the primary determinant of an individual's pro-environmental behavior intention is his or her attitude. It can be hypothesized that:

H_1: Attitude is positively related to the employee's Intention to save energy.

Subjective norm: Subjective norm is the second significant factor influencing a person's intention to behave. Persons have a tendency to follow the lead or the opinions of influential persons. In other words, an individual's intention could be influenced by the acceptance or rejection of certain individuals who hold a significant personal value to them (Chen and Tung, 2014). According to Opatha (2015), norms indicate the generally accepted ways of behaving expected by the groups from its members. An individual is more inclined to engage in an action if he or she perceives a higher subjective norm. This is appropriate for energy-saving behaviors in the workplace as well. Individuals believe that they ought to act in accordance with the opinions of the majority (Ajzen, 1991; Chen and Tung, 2014). An individual is more likely to display behavior if they believe that their significant others share their expectations and behaviors (Ru, Wang, and Yan, 2018). According to Hien and Chi (2020), intention of saving electricity is positively affected by subjective norm. When a person learns that the majority of his/her coworkers believe that he/she should conserve energy at work, he/she will feel pressured to do so. Thus, it is hypothesized that:

H_2: Subjective norm is positively related to the employee's Intention to save energy.

Perceived behavioral control: Another significant factor influencing a person's intention to behave is perceived behavioral control. Some elements, which impact an individual's intention to engage in a specific behavior, are beyond their control. These elements include opportunity, resources, time, knowledge, and abilities. People who possess a greater degree of self-control will be more inclined to engage in a specific behavior. An extension of this phenomenon is energy-saving practices in the workplace. Furthermore, according to numerous studies (Botetzagias, Dima, and Malesios, 2015; De Leeuw, Valois, Ajzen, and Schmidt, 2015; Lizin, Van Dael, and Van Passel, 2017), perceived behavioral control is a major predictor of behavioral intentions. Likewise, people are more likely to save energy when they are at ease and knowledgeable about the subject (Donald, Cooper, and Conchie, 2014). As a result, it is hypothesized that:

H_3: Perceived behavioral control is positively related to the employee's Intention to save energy.

Inclusion of additional variables in the TPB

Personal Moral Norm: Personal moral norms, which are perceived as a social pressure similar to subjective norms, assert internalization and emotional component (Shi, Fah, and Zhao, 2017). Pro-environmental behavior intentions may be explained by the TPB and the personal moral norm (Shi et al., 2017; Wang, Fan, Zhao, Yang, and Fu, 2016). There are so many evidences that the TPB adopts moral characteristics (Ajzen, 1991; Kaiser and Scheuthle, 2003; Yazdanpanah and Forouzani, 2015). Kaiser and Scheuthle (2003) observed that the inclusion of personal moral norm in TPB considerably increased the model's explanatory power and that moral norms have a major impact on people's intentions to engage in environmentally friendly behavior. An individual with a high personal moral norm will be more likely to act in a pro-environmental behavior, whereas an individual with a low moral norm will find it more difficult to act in a pro-environmental behavior (Botetzagias, Dima, and Malesios, 2015). Personal moral norms have a positive

impact on pro-environmental intention because they express a sense of moral duty to act morally (Wang, Wang, Ru, Li, and Zhao, 2019; De Groot and Steg, 2009). It is hypothesized that:

H_4: Personal moral norm is positively related to the employee's Intention to save energy.

Habit: According to Wang, Lin, and Li (2018), there is a chance that electricity-saving behavior has a significant habitual component. Within the majority of the time, saving electricity is done automatically and subconsciously. It is believed that citizens' electricity-saving habits will play a significant role in electricity conservation because conserving electricity is a recurring and regular practice. Habits arise from consistently repeating behaviors in a predictable environment (Wood, Quinn, and Kashy, 2002). An increasing body of psychological research indicates that repeated or habitual behavior is more readily influenced by prior behavior or habit (Hassin, Bargh, and Zimerman, 2009). If behavior is performed repeatedly, it needs less conscious consideration and, therefore it becomes a habit (Russell, Young, Hardin, and Robinson 2017). Verplanken and Holland (2002) and Russell et al (2017) define habit as generally stable patterns of behavior that are carried out without conscious thought and can be induced by past behavior. Habit is significant since it increases an individual's likelihood of engaging in a behavior. It is hypothesized that:

H_5: Habit is positively related to the employee's Intention to save energy.

Positive anticipated emotion: According to Russell et al (2017), emotion is defined as sentiments (such as positive or negative) or responses to an occurrence or a problem. When someone expresses a favorable expected emotion on an event or topic, they are more likely to participate in it; if not, they are less likely to do participate. Positive anticipated emotions include those of excitement, confidence, and pride (Han and Hyun, 2018). According to Han and Hyun (2018), positive anticipated emotion initially communicates the significance and relevance of an event or problem before acting as a trigger to carry out the behavior. Engaging in environmentally friendly behavior, especially conservation behavior, is known to be significantly influenced by positive anticipated emotion (Russell et al., 2017). Numerous earlier studies have demonstrated the connection between positive anticipated emotions and environmentally friendly behavior. According to Bamberg, Hunecke, and Blobaum (2007), people are more likely to use public transport when they have positive anticipated feelings about this behavior. Positive anticipated emotion has a beneficial impact on intention to engage in energy-saving behavior, as demonstrated by Webb, Soutar, Mazzarol and Saldaris (2013). It is hypothesized that:

H_6: Positive anticipated emotion is positively related to the employee's Intention to save energy.

Price: Price is defined as "the amount to be paid for that use of electricity, or the monetary expression of the value of electricity used". Several researchers have discovered that rising energy costs leads to a considerable decrease in people's energy use; additionally, economic expenses have a negative effect on energy consumption (Webb et al, 2013). Gyamfi and Krumdieck (2011) discover that ecological factors like power costs and financial support have a major impact on energy-saving behavior in New Zealand. Since electricity

is currently a scarce energy source, pricing for it will often be higher. Accordingly, when electricity prices rise, people's intention of saving electricity also will increase, and vice versa (Quynh, 2013; Nuong, 2015). It is hypothesized that:

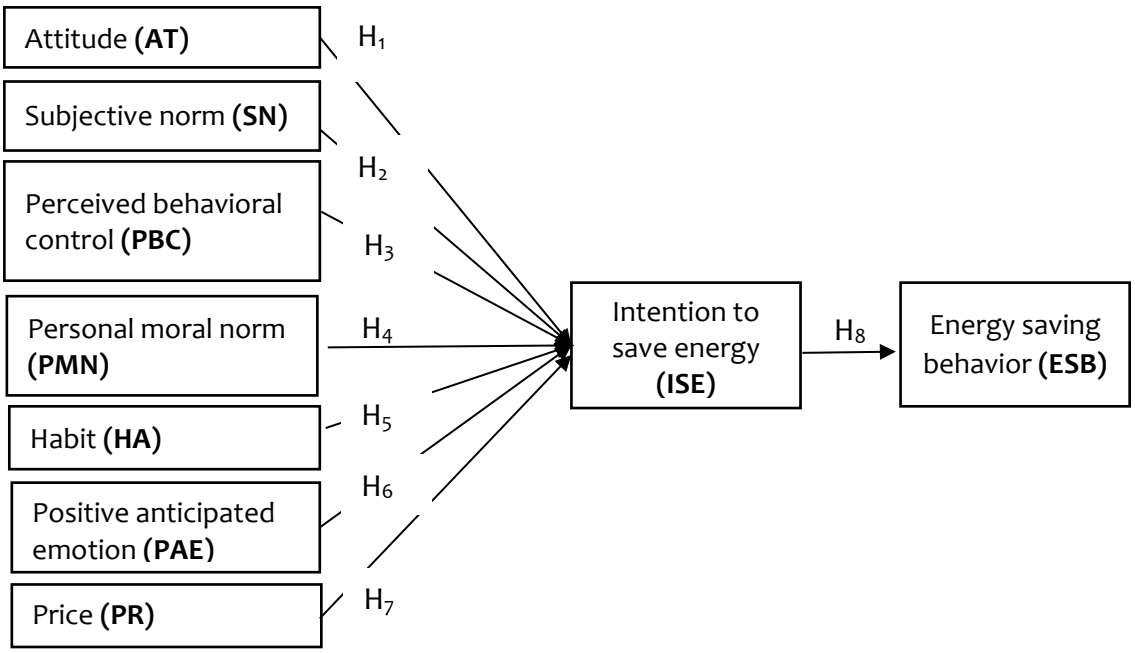
H_7: Price is positively related to the employee's Intention to save energy.

Energy saving intention and Energy saving behavior: Behaviour arises from intention (Ajzen, 1991). It is possible to define energy saving behaviors as actions that lower energy usage (Maqbool and Haider, 2021). Energy saving behaviors like lowering heating activities, using less air conditioning, working from home, carpooling, or taking public transportation can greatly lower energy consumption, lower the cost of electricity for both individuals and businesses, lessen reliance on energy sources, and confirm energy security (International Energy Agency, 2022). Individual's adoption of environmentally responsible behaviors can be encouraged by their past environmental achievements (Van der Werff, Steg and Keizer, 2013). TPB was used by Yadav and Pathak (2017) to investigate consumer green purchasing behavior that focused on environmental behavior and found that behavioral intention positively affects the actual behavior. Macovei (2015) and Mamun, Heyat, Masud, Yang, Salameh, and Salleh (2022) also found that intention to save energy positively affects energy saving behavior. According to a study by Gkargkavouzi, Halkos, and Matsiori (2019), the conclusions show a strong positive correlation between intention and green buying behavior. It is hypothesized that:

H_8: Intention to save energy is positively related to the employee's Energy saving behavior.

Based on the theorizing given above it was possible to develop the network of relationships among the variables being considered under this study. It is given in Figure 1.

Figure 1. Conceptual Framework



Source: Developed by the Researchers based on Literature Review

Research Method

Sample and Data Collection

Data collection for testing the research hypotheses was done through the use of questionnaire survey method. Individuals who worked in the companies took part in this survey. There are many organizations in Batticaloa district of Sri Lanka. For the purpose of gathering data, we chose the financial institutions in different areas (Valaichenai to Batticaloa) of Batticaloa district. 300 employees were selected as the sample among selected financial institutions (see Table 1) by using the simple random sampling method. This study has collected data from the respondents through cross-sectional survey method. The unit of analysis was individual. The organization profile and sample are presented in Table 1.

Table 1. Organization Profile, Population and Sample Size

No.	Organization	Total branches in Batticaloa district	Total employees in Batticaloa district	Selected branches	Total employees selected
01.Finance Company					
	Finance Company-1	09	150	Chenkalady Eravur	30
	Finance Company-2	04	85	Chenkalady Kommathurai	20
02.Insurance Company					
	Insurance Company-1	02	40	Chenkalady	25
	Insurance Company-2	02	25	Chenkalady Batticaloa	25
03.Bank					
State Bank					
	S-Bank-1	20	155	Chenkalady Eravur EUSL	35
	S-Bank-2	10	180	Chenkalady Eravur	30
	S-Bank-3	09	60	Chenkalady Eravur	15
	S-Bank-4	07	80	Chenkalady Valaichenai	20
Private Bank					
	P-Bank-1	04	40	Chenkalady	10
	P-Bank-2	06	75	Eravur Valaichenai	15
	P-Bank-3	06	60	Chenkalady Oddamavadi	15
	P-Bank-4	04	55	Chenkalady Valaichenai	20
	P-Bank-5	03	50	Eravur Oddamavadi	30
	P-Bank-6	02	25	Chenkalady	10
	Total		**1080**		**300**

Measures

All the variables were measured with five-point Likert scale ranging from 1= strongly disagree to 5=strongly agree. The questions were adopted from various authors. Attitude from Gao, Wang, Li, and Li (2017), subjective norm from Wang, Zhang, and Li (2014) and Gao, et al (2017), perceived behavioral control from Ajzen (2002) and Gao, et al (2017), personal moral norm from Kaiser and Scheuthle (2003) and Gao, et al (2017), habit from Zhang, Wang, and Zhou (2014) and Russell, et al (2017), positive anticipated emotion from Nilsson, Andre, and Biel (2014) and Cheung, Chow, Fok, Yu, and Chou (2017), intention to save energy from Yadav and Pathak (2016) and Gao, et al (2017) and energy saving behavior from Zhang et al (2014). For price the questions were developed. Table 2 shows the question items used in this study and Cronbach Alpha (**α**) for each measurment. All Coronbach Alpha values are above 0.7.

Table 2. Measurement

Attitude **(AT)** **α = 0.879**	I think that saving energy in my workplace is useful to protect the environment. I think that saving energy in my workplace is significant to reduce carbon emissions. I think that saving energy in my workplace is valuable to alleviate energy shortage issues. I think that saving energy in my workplace is a wise action.
Subjective norm **(SN)** **α = 0.827**	My colleagues think that I should save energy in my workplace. My managers think that I should save energy in my workplace. The high-level management team would want me to save energy in my workplace. Others who are important to me (my direct supervisor, etc.) think that I should save energy in my workplace.
Perceived behavioral control **(PBC)** **α = 0.801**	I think that I am capable of saving energy in my workplace. I have the knowledge and skills to save energy in my workplace. Whether or not saving energy is completely up to me.
Personal moral norm **(PMN)** **α = 0.849**	I think that I have a moral responsibility to save energy in my workplace. Saving energy is duty of every member. I would feel unhappy if I don't save energy in my workplace. Not saving energy in my workplace would violate my moral principles.
Habit **(HA)** **α = 0.811**	Saving energy in my workplace has become a habit to me. Saving energy in my workplace is natural to me.
Positive anticipated emotion **(PAE)** **α = 0.897**	If I take measures to save energy in my work place, I will feel excited. If I take measures to save energy in my work place, I will feel relaxed. If I take measures to save energy in my work place, I will feel proud.
Price **(PR)** **α = 0.896**	Price/cost of energy determines my energy usage/consumption. Price/cost of energy is important to me.
Intention to save energy **(ISE)** **α = 0.874**	I am willing to save energy in my workplace. I intend to engage in energy saving activities in my workplace. I will make an effort to save energy in my work place.
Energy saving behavior **(ESB)** **α = 0.859**	I often turn off the lights in my workplace when going out even for a short time. I reduce the use of the air conditioner by opening the windows in my workplace. I switch off the computer in my work place when it is not used.

	I shorten the duration that the refrigerator door is kept open in my workplace.
	I turn off the lights in my workplace when the sunshine is bright enough.
	I properly close the room when I use the air-conditioner in my workplace.
	I switch off all lights when leaving my work place as the last person.

Data Analysis and Results

Batticaloa district has been selected for this study. The responses consist of 205 employees. Demographics of respondents are shown in Table 3. In order to meet first objective of this study univariate analysis was performed. Mean and standard deviation were derived from the analysis of 205 employees. Table 4 revealed that all the variables have shown higher mean values except positive anticipated emotion. Only PAE shows very high mean value.

In order to meet second and third objectives of this study correlation analysis was performed. Table 5 shows attitude, subjective norm, perceived behavioral control, personal moral norm, habit, positive anticipated emotion and price were positively and significantly related with the employee's intention to save energy. And intention to save energy was also significantly and positively related to employee's energy saving behavior. All 'r' values are quite near to +1. This means changes in one variable are strongly correlated with changes in the second variable.

Table 3. Respondents' Profile

Demographic Details	Frequency	Percentage
Gender		
Male	101	49.3%
Female	104	50.7%
Age		
<30	86	42.0%
30-40	74	36.0%
41-50	33	16.1%
50<	12	5.9%
Education		
AL & Below	99	48.3%
Degree	69	33.7%
Others	37	18.0%
Organization		
Finance company	42	20.5%
Insurance company	32	15.6%
State bank	65	31.7%
Private bank	66	32.2%

Table 4. Univariate Analysis-Descriptive Statistics

Variable	Mean	Standard deviation	Level
Attitude **(AT)**	4.1439	.65821	High
Subjective norm **(SN)**	3.8695	.58188	High
Perceived behavioral control **(PBC)**	4.1894	.65204	High
Personal moral norm **(PMN)**	4.1793	.68097	High
Habit **(HA)**	4.1573	.68417	High
Positive anticipated emotion **(PAE)**	4.2138	.63361	Very High
Price **(PR)**	4.1366	.67037	High
Intention to save energy **(ISE)**	4.2033	.63003	High
Energy saving behavior **(ESB)**	4.0635	.59518	High

(Note: Mean value range: 1 ≤ X ≤ 1.80: Very Low, 1.80 < X ≤ 2.60: Low, 2.60 < X ≤ 3.40: Moderate, 3.40 < X ≤ 4.20: High, and 4.20 < X ≤ 5.00: Very High: Source: Masri and Jaaron, 2017)

Table 5. Correlation Analysis

		AT	SN	PBC	PMN	HA	PAE	PR	ESB
ISE	**Pearson correlation**	.837	.769	.867	.808	.855	.844	.886	.630
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000

Regression analysis was performed to the meet fourth and fifth objectives (detailed results are shown in Appendix-1 and 2). Here beta coefficient and significant value were tested, we can say that p values are less than 95% level of the significance. It indicates that attitude, subjective norm, perceived behavioral control, personal moral norm, habit, positive anticipated emotion and price have significant and positive impacts on intention to save energy. The values are presented in Table 6. Intention to save energy also has a significant and positive impact on energy saving behavior. Table 7 presents the results. For hypothesis testing correlation analysis was used. All the hypotheses were accepted. Table 8 shows the decisions.

Table 6. Multiple Regression Analysis

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	-.021	.106		-.201	.841
	AT	.120	.045	.126	2.689	.008
	SN	.160	.039	.148	4.125	.000
	PBC	.114	.051	.118	2.239	.026
	PMN	.090	.037	.098	2.450	.015
	HA	.128	.046	.139	2.797	.006
	PAE	.112	.047	.113	2.369	.019
	PR	.300	.044	.320	6.839	.000

a. Dependent Variable: ISE

Table 7. Simple Regression Analysis

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	1.561	.219		7.134	.000
	ISE	.595	.051	.630	11.569	.000
a. Dependent Variable: ESB						

Table 8. Hypotheses Testing

Hypotheses	Decisions
AT→ISE (H_1)	Accepted
SN→ISE (H_2)	Accepted
PBC→ISE (H_3)	Accepted
PMN→ISE (H_4)	Accepted
HA→ISE (H_5)	Accepted
PAE→ISE (H_6)	Accepted
PR→ISE (H_7)	Accepted
ISE→ESB (H_8)	Accepted

Discussion and Implications

Organizations consume more energy. Hence it is important to understand the factors affecting employee's intention to save energy at workplace. The findings of this research revealed that attitude, subjective norm, perceived behavioral control, personal moral norm, habit, positive anticipated emotion and price determine the intention to save energy and intention to save energy leads to their energy saving behavior. Employees' energy saving behaviour can be considered as part of Green Human Resource Management (GHRM), specifically of green work behaviour and green official behaviour (Opatha, 2013[1]; Opatha and Arulrajah, 2014; Arulrajah, Opatha, Nawaratne, 2016; Opatha, 2019; Opatha and Kottawatha, 2020[1]; Opatha and Kottawatha, 2020[2]; Saumya, Thevanes, and Arulrajah, 2021). The findings of this study also confirm the same fact empirically. Moreover, the findings of this study also confirm the finding discovered (energy saving behaviour of the employee is influenced by intention) by Fatoki (2023) in hotel sector of South Africa context. The findings of the study provide motivation to use less energy. These findings also have important implications for organizations that expect to motivate their members to use less energy at workplaces.

To encourage personal energy saving all the stakeholders want to work together. By using a managerial perspective, managers of public and private organizations can use this research to implement policies that lower energy use. According to an empirical study conducted by Luis Pasco, Banks, Pasco, Almanzar, Rodriguez, Amoo, and Rosima (2023), it revealed that the intention to save energy is significant in financial terms because reducing energy consumption can help the organizations to reduce energy costs and will improve

profitability and competitiveness of the organizations. As far as society point of views is concerned, it can reduce energy consumption worldwide and improve the social health, reducing gas emissions and pollution. In this context, findings of the current study also support and confirm the same view from the financial and social perspectives.

However, the findings of the current study deviate to a certain extent from an empirical study conducted by Amna, Majeed, Wagar and Nadeem (2021) in the context of developing counties. According to their findings, attitude at home, subjective norm and descriptive norms positively impact intention to save energy at the workplace. Nonetheless construct attitude and perceived behavior control are insignificant in their study. On the other hand, the personal moral norm is a powerful predictor of individual energy saving intentions at the workplace. In the current study price is a powerful predictor of employee energy saving intentions at the workplace.

Organizations can set up training and awareness programs to educate employees about the advantages of energy conservation, the ways in which energy consumption harms the environment, and the positive emotions associated with energy conservation. Green Training function of GHRM has to play a significant role in this context (Thevanes and Arulrajah, 2020). Employees can learn how to effectively and efficiently save energy at work through training programs. It will help to increase attitude, perceived behavioral control, and positive anticipated emotion. Organizations can discuss in their meetings about expectations for energy saving from staff members, each person's obligation to save energy as a member of the organization, and the organization's monthly energy costs. It will increase their subjective norm, personal moral norm, and concern about the price/ cost of energy. To encourage staff members to conserve energy, some instructions can be stuck in the wall of the workplace. It is more likely that they develop that behavior as a habit if they see the instructions frequently. Furthermore, a criterion called Greening can be added to the normal list of criteria that are used in evaluating officially employee job performance. Employee performance evaluation or appraisal is an indispensable HRM function for creating, maintaining and developing expected and relevant employee performance (Opatha, 2013). Ultimately, this study provides an adequate understanding that will encourage the organizational personnel to develop relevant and appropriate strategies, policies, procedures, and rules that will enhance employee's intention to save energy at workplace and their energy saving behavior.

Conclusion and Limitations

Reducing energy use and encouraging energy-saving behavior on a personal level help lower carbon emissions. The majority of research on energy-saving behavior at the person level concentrates on households; very little of it emphasizes how individuals might save energy at work. Energy conservation at work is crucial in the modern world. To reduce carbon emissions, it is essential to motivate people at work to limit their energy use and save energy. The purpose of this study is to ascertain how employees see energy saving at work. It gives a deeper understanding of theoretical and managerial perspectives. We created and tested a theoretical model that describes the energy-saving behavior of the employees in this study, based on the theory of planned behavior. Data for the survey were gathered from employees in Batticaloa district. The data were analyzed and the research hypotheses were tested by using SPSS 25.0. We found that attitude, subjective norm,

perceived behavioral control, personal moral norm, habit, positive anticipated emotion, and price positively and significantly relate to intention to save energy, and these all predicting variables have a positive and significant impact on intention to save energy. Furthermore, intention to save energy positively and significantly relates to energy saving behavior and has a positive and significant impact on energy saving behavior. Price is the best predictor of intention to save energy as far as this study is concerned.

This study has some limitations. These findings might work well in some situations but not work well in others. The study involved individuals who worked at financial institutions. It is not possible to generalize the results for all types of employees. Another important limitation of this research is that it relies on self-reported energy saving behavior instead of directly observed energy serving behavior. It is suggested that observations of real energy saving behavior are incorporated into future studies. Also, in this investigation an attempt was not made to perform a demographic analysis. Further, financial rewards and punishments are argued to be predictors of employees' intention to save energy and they can be taken into account in future studies.

References

Abrahamse, W., and Steg, L. (2011), Factors related to household energy use and intention to reduce it: the role of psychological and socio-demographic variables, *Human Ecology Review,* Vol. 18, No. 1, pp. 30-40.

Ajzen, I. (1991), The Theory of Planned Behavior, *Organizational Behavior and Human Decision Processes,* Vol. 50, No. 2, pp. 179-211.

Ajzen, I. (2002), Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior, *Journal of Applied Social Psychology*, Vol. 32, No. 4, pp. 665-668.

Alshami, M. A., and Sabah, A. (2019), The strategic importance of energy consumption to economic growth: Evidence from the UAE, *International Journal of Energy Economic and Policy,* Vol. 10, No. 1, pp. 114-119.

Amna, A., Majeed, R. A., Waqar, A. and Nadeem, K.M. (2021), Understanding intentions to reduce energy consumption at the workplace by the employees: case of a developing country, *Management of Environmental Quality: An International Journal*, Vol. 33, No. 2, pp. 166-184.

Arulrajah, A.A., Opatha, H.H.D.N.P., and Nawaratne, N.N.J. (2016), Employee Green Performance of Job: A Systematic Attempt towards Measurement, *Sri Lankan Journal of Human Resource Management*, Vol. 6, No. 1, pp. 37-62.

Azizi, Z. M., Azizi, N. S., Abidin, N. Z., and Mannakkara, S. (2019), A theoretical framework on stratergies for behavior change intervention, *Procedia Computer Science*, Vol. 158, No. 1, pp. 725-734.

Bamberg, S. (2003), How does environmental concern influence specific environmentally related behavior? A new answer to an old question, *Journal of Environmental Psychology,* Vol. 23, No. 3, pp. 21-32.

Bamberg, S., Hunecke, M., and Blöbaum, A. (2007), Social context, personal norms and the use of public transportation: two field studies, *Journal of Environmental Psychology*, Vol. 27, No. 3, pp. 190–203.

Botetzagias, I., Dima, A. F., and Malesios, C. (2015), Extending the Theory of Planned Behavior in the Context of Recycling: The Role of Moral Norms and of Demographic Predictors, *Resources, Conservation and Recycling,* Vol. 95, No. 2, pp. 58-67.

Carrus, G., Tiberio, L., Mastandrea, S., Chokrai, P., Fritsche, I., Klockner, C., and Panno, A. (2021), Psychological predictors of energy saving behaviour: A meta-analytic approach, *Frontiers in Psychology*, Vol. 12, No. 6, pp. 48-221.

Chen, C. F., and Knight, K. (2014), Energy at work: social psychological factors affecting energy conservation intentions within Chinese electric power companies, *Energy Research and Social Science,* Vol. 32, No. 4, pp. 23-31.

Chen, M. F. (2016), Extending the theory of planned behavior model to explain people's energy saving and carbon reduction behavioral intentions to mitigate climate change in Taiwan-moral obligation matters, *Journal of Cleaner Production*, Vol. 112, No. 2, pp. 1746-1753.

Chen, M. F., and Tung, P. J. (2014), Developing an extended theory of planned behavior model to predict consumer's intention to visit green hotels, *International Journal of Hospitality Management,* Vol. 36, No. 3, pp. 221-230.

Cheung, L.T., Chow, A.S., Fok, L., Yu, K.M., and Chou, K.L. (2017), The effect of self-determined motivation on household energy consumption behavior in a metropolitan area in southern China, *Energy Efficiency*, Vol. 10, No. 3, pp. 549-561.

De Groot, J. I., and Steg, L. (2009), Morality and prosocial behaviour: The role of awareness, responsibility, and norms in the norm activation model, *Journal of Social Psychology,* Vol. 149, No. 4, pp. 425-449.

De Leeuw, A., Valois, P., Ajzen, I., and Schmidt, P. (2015), Using the Theory of Planned Behavior to Identify Key Beliefs Underlying pro-environmental Behavior in high-school Students: Implications for Educational Interventions, *Journal of Environmental Psychology,* Vol. 42, No. 1, pp. 128-138.

Devlin, A. S. (2018), *Environmental Psychology and Human Well-Being: Effects of Built and Natural Settings*, 1st *Edition*, pp. 167-192.

Dixon, G., Deline, M. B., McComas, K. A., Chambliss, L., and Hoffman, F. (2015), Saving energy at the workplace: The salience of behavioural antecedents and sense of community, *Energy Research and Social Science,* Vol. 6, No. 1, pp. 121-127.

Donald, I. J., Cooper, S. R., and Conchie, S. M. (2014), An Extended Theory of Planned Behaviour Model of the Psychological Factors Affecting Commuters' Transport Mode Use, *Journal of Environmental Psychology,* Vol. 40, No. 4, pp. 39-48.

Esen, O., and Bayrak, M. (2017), Does more energy consumption support economic growth in net energy-importing countries?, *Journal of Economics, Finance and Administrative Science*, Vol. 22, No. 2, pp. 75-98.

Fatoki,O. (2023), Antecedents of Workplace Energy Saving Behaviour: An Integration of the Theory of Planned Behaviour and Norm Activation Model, *International Journal of Energy Economics and Policy,* Vol. 14, No. 4, pp. 394-403.

Fielding, K. S., McDonald R., and Louis W. R. (2008), Theory of Planned Behaviour, Identity and Intentions to Engage in Environmental Activism, *Journal of Environmental Psychology,* Vol. 28, No. 4, pp. 318–326.

Gao, L., Wang, S., Li, J., and Li, H. (2017), Application of the Extended Theory of Planned Behavior to Understand Individual's Energy Saving Behavior in Workplaces, *Resources, Conservation and Recycling,* Vol. 127, No. 3, pp. 107-113.

Ghany, M. G., Strader, D. B., Thomas, D. L., and Seeff, L. B. (2009), Diagnosis, management, and treatment of hepatitis C: an update, *Hepatology,* Vol. 49, No. 1, pp. 1335-1374.

Gkargkavouzi, A., Halkos, G., and Matsiori, S. (2019), Environmental behaviour in a private-sphere context: Integrating theories of planned behaviour and value belief norm, self-identity and habit, *Resources Conservation and Recycling*, Vol. 148, No. 8, pp. 145-156.

Greaves, M., Zibarras, L. D., and Stride, C. (2013), Using the theory of planned behavior to explore environmental behavioral intentions in the workplace, *Journal of Environmental Psychology,* Vol. 34, No. 6, pp. 109-120.

Gyamfi, S., and Krumdieck, S. (2011), Price, environment and security: Exploring multi-modal motivation in voluntary residential peak demand response, *Energy Policy*, Vol. 39, No. 5, pp. 2993-3004.

Han, H., and Hyun, S.S. (2018), What influences water conservation and towel reuse practices of hotel guests?, *Tourism Management*, Vol. 64, No. 2, pp. 87–97.

Hassin, R.R., Bargh, J.A., and Zimerman, S. (2009), Automatic and flexible: the case of nonconscious goal pursuit, *Social Cognition*, Vol. 2, No. 1, pp. 20–36.

Hien, N. N., and Chi, P. H. (2020), The factors affecting household electricity saving behaviours: A study in Vietnam, *International Journal of Sustainable Development and Planning,* Vol. 15, No. 8, pp. 1241-1250.

Hori, S., Kondo, K., Nogata, D., and Ben, H. (2013), The determinants of household energy saving behavior: survey and comparison in five major Asian cities, *Energy Policy,* Vol. 52, No. 3, pp. 354-362.

Hussain, W., Halim, L., Chan, M., and Abd Rahman, N. (2021), Predicting energy-saving behaviour based on environmental values: An analysis of school children's perspectives, *Sustainability,* Vol. 13, No. 6, pp. 1-14.

International Energy Agency. (2021, July 15), *Global electricity demand is growing faster than renewables, Driving strong increase in generation from fossil fuels*, Retrieved from iea: https://www.iea.org/news/global-electricity-demand-is-growing-faster-than-renewables driving strong-increase-in-generation-from-fossil-fuel.

International Energy Agency. (2022, February 12), Retrieved from Playing my part: https://www.iea.org/reports/playing-my-part.

Kaiser, F. G., and Gutscher, H. (2003), The proposition of a general version of the theory of planned behavior: predicting ecological behavior, *Journal of Applied Social Psychology,* Vol. 33, No. 5, pp. 586-603.

Kaiser, F. G., and Scheuthle, H. (2003), Two challenges to a moral extension of the theory of planned behavior: moral norms and just world beliefs in conservationism, *Personality and Individual Differences,* Vol. 35, No. 5, pp. 1033-1048.

Karlin, B., Davis, N., Sanguinetti, A., Gamble, K., Kirkby, D., and Stokols, D. (2014), Dimensions of conservation: Exploring differences among energy behaviors, *Environment and Behaviour,* Vol. 46, No. 4, pp. 423-452.

Klockner, C. A. (2013), A comprehensive model of the psychology of environmental behavior- a meta- analysis, *Global Environmental Change,* Vol. 23, No. 5, pp. 1028-1038.

Kohl, W. L. (2004), National Security and Energy, Encyclopedia of Energy, pp 193-206 Long Term Generation Expansion Plan 2023 - 2042, (2022), Ceylon Electricity Board, Colombo.

Leygue, C., Ferguson, E., and Spence, A. (2017), Saving energy in the workplace: Why, and for whom?, *Journal of Environmental Psychology,* Vol.53, No. 7, pp. 50-62.

Li, D., Xu, X., Fei Chen, C., and Menassa, C. (2019), Understanding energy saving behaviors in the American workplace: a unified theory of motivation, opportunity, and abilitu, *Energy Research and Social Science,* Vol. 51, No. 2, pp. 198-209.

Liu, X., Wang, Q., Wei, H., Chi, H., Ma, Y., and Jian, I. (2020), Psychological and demographic factors affecting household energy-saving intentions: A TPB-based study in Northwest China, *Sustainability,* Vol. 12, No. 3, pp. 8-36.

Liyanage, E. (2023), Energy sector in Sri Lanka and the importance of energy conservation, *Central Bank of Sri Lanka,* Vol. 43, No. 4, pp. 16-27.

Lizin, S., Van Dael, M., and Van Passel, S. (2017), Battery Pack Recycling: Behaviour Change Interventions Derived from an Integrative Theory of Planned Behaviour Study, *Resource Conservation and Recycling,* Vol. 122, No. 5, pp. 66-82.

Luis J. C., Pasco, M., Banks, M., Pasco, R., Almanzar, M., Rodriguez, A., Amoo, A., and Rosima. N. (2023), Understanding Employees' Energy Saving in the Workplace: DR and the Philippines' Realities, *Journal of Risk and Financial Management*, Vol. 16, No, 49, pp. 1-21.

Macovei, O. (2015), Applying the theory of planned behaviour in predicting proenvironmental behaviour: The case of energy conservation, Acta Universitatis Danubius OEconomica, Vol. 11, No. 4, pp. 15-32.

Mamun, A., Heyat, N., Masud, M.M., Yang, Q., Salameh, A., and Salleh, M. (2022), Energy conservation behaviour among the Malaysian youth: A study under the premises of value-belief-norm model, *Frontiers in Energy Research*, Vol. 10, No. 1, pp. 1-10.

Maqbool, G., and Haider, Z. (2021), The impact of individual behaviour on household energy saving, *Journal of Economic Impact,* Vol. 3, No. 1, pp. 39-46.

Martins, F., Felgueiras, C., Smitkova, M., and Caetano, N. (2019), Analysis of fossil fuel energy consumption and environmental impacts in European countries, *Energies,* Vol. 12, No. 6, pp. 9-64.

Masri, H. A., and Jaaron, A. A.M. (2017), Assessing green human resources management practices in Palestinian manufacturing context: An Empirical Study, *Journal of Cleaner Production*, Vol. 143, pp. 474-489.

Nilsson, A., André, H., and Biel, A. (2014), Feeling the green? Value orientation as a moderator of emotional response to green electricity, *Journal of Applied Social Psychology*, Vol. 44, No. 10, pp. 672-680.

Nuong, N.T.N. (2015), Factors Affecting People's Intention to Save Electricity in Phu Quoc Island District, Master's Thesis, Vietnam: Nha Trang University.

O'Brien, W., and Gunay, H. B. (2014), The contextual factors contributing to occupants' adaptive comfort behaviors in offices – a review and proposed modeling framework, *Built Environment,* Vol. 77, No. 4, pp. 77-87.

Opatha, H.H.D.N.P. (2013[1]), Green Human Resource Management: A Simplified Introduction, HR Dialogue, Department of HRM, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, pp. 22-41.

Opatha, H.H.D.N.P. (2013[2]), Towards a Sound Performance Appraisal System: An Agenda for Action, *Sri Lankan Journal of Human Resource Management*, Vol. 4, No. 1, pp. 62-77.

Opatha, H.H.D.N.P. (2015), *Organizational Behaviour: The Human Side of Work*, Colombo: Department of HRM, University of Sri Jayewardenepura.

Opatha, H.H.D.N.P. (2019), *Sustainable Human Resource Management: Expanding Horizons of HRM*, Colombo: Department of HRM, University of Sri Jayewardenepura.

Opatha, H. H. D. N. P. and Arulrajah, A.A. (2014), Green Human Resource Management: Simplified General Reflections, *International Business Research*, Vol. 7, No. 8, pp. 101-112.

Opatha, H. H. D. P. J. and Kottawatta, H. (2020[1]), Green HRM and Environmental (Green) Attitude: Do Green HRM Practices of Sri Lankan Tiles Industry Affect to Determine the Environmental (Green) Attitudes of the Employees?, *International Journal of Management Excellence,* Vol. 15, No. 2, pp. 2207-2219.

Opatha, H. H. D. P. J. and Kottawatta, H. (2020[2]), Impact of Green Attitude on Green Work Behavior: An Empirical Study of Employees in a Sri Lankan Tiles Manufacturing Company, *Asian Journal of Social Science and Management Technology*, Vol. 4, No. 2, pp. 1-7.

Quynh, D.L.N. (2013), Factors Affecting Electricity Usage Behavior of Customers in Nha Trang City, Master Thesis. Vietnam: Nha Trang University.

Ru, X., Wang, S., and Yan, S. (2018), Exploring the Effects of Normative Factors and Perceived Behavioral Control on Individual's energy- saving Intention: An Empirical Study in Eastern China. *Resources, Conservation and Recycling,* Vol. 134, No. 5, pp. 91–99.

Russell, S., Young, C.W., Hardin, K., and Robinson, C. (2017), Bringing habits and emotions into food waste behavior*, Resources, Conservation and Recycling*, Vol. 125, No. 4, pp. 107–114.

Saumya, H.M.M., Thevanes, N., and Arulrajah, A.A. (2021), Human resource factors and environmental performance of selected ISO 14001 certified manufacturing firms in Seethawaka Export Processing Zone in Sri Lanka, *Sri Lankan Journal of Human Resource Management*, Vol. 11, No. 1, pp. 1-14.

Scherbaum, C. A., Popovich, P. M., and Finlinson, S. (2008), Exploring individual level factors related to employee energy-conservation behaviors at work, *Journal of Applied Social Psychology,* Vol. 38, No. 1, pp. 818-835.

Setyawan, A., Noermijati, N., Sunaryo, S., and Alsjah, S. (2018), Green product buying intentions among young consumers: Extending the application of theory of planned behaviour, *Problems and Perspectives in Management,* Vol. 16, No. 2, pp. 145-154.

Shi, H., Fah, J., and Zhao, D. (2017), Predicting Household PM2.5-reduction Behavior in Chinese Urban Areas: An Integrative Model of Theory of Planned Behavior and Norm Activation Theory, *Journal of Cleaner Production,* Vol. 145, No. 3, pp. 64-73.

Thevanes, N. and Arulrajah, A. A. (2020), Environmental Training and Environmental Orientation of Organization: The Mediating Role of Environmental Behavior of Employee, *Sri Lankan Journal of Human Resource Management*, Vol. 10, No. 2, pp. 46-62.

United States Environmental Protection Agency. (2022, February 10), Retrieved from *Source of Greenhouse Gas Emission*, Available at online https://www.epa.gov/ghgemissions/sources-greenhouse-gasemissions.

Van der Werff, E., Steg, L., and Keizer, K. (2013), I Am What I Am, by Looking past the Present: The Influence of Biospheric Values and past Behavior on Environmental Self-Identity, Environment *and Behavior,* Vol. 46, No. 5, pp. 626-657.

Verplanken, B., and Holland, R.W. (2002), Motivated decision making: effects of activation and selfcentrality of values on choices and behavior, *Journal of Personality and Social Psychology*, Vol. 82, No. 3, pp. 434-443.

Vinojini, M., and Arulrajah, A. A. (2017), The Pro-Environmental Behaviour of Employee in an Apparel Manufacturing Organization in Nuwara-Eliya District of Sri Lanka, *Sri Lankan Journal of Human Resource Management*, Vol. 7, No. 1, pp. 1-17.

Wang, B., Zhang, B., Gou, D., and Wang, Z. (2018), Analysis of factors influencing residents' habitual energy-saving behavior based on NAM and TPB models: Egoism or altruism?, *Energy Policy,* Vol. 116, No. 5, pp. 68-77.

Wang, S., Fan, J., Zhao, D., Yang, S., and Fu, Y. (2016), Predicting consumers' intention to adopt hybrid electric vehicles: using an extended version of the theory of planned behavior mode, *Transportation Journal,* Vol. 43, No. 1, pp. 123-143.

Wang, S., Lin, S., and Li, J. (2018), Exploring the effects of non-cognitive and emotional factors on household electricity saving behavior, *Energy Policy*, Vol. 12, No. 3, pp. 171-180.

Wang, S., Wang, J., Ru, X., Li, J., and Zhao, D. (2019), Understanding employee's electricity conservation behavior in workplace: Do normative, emotional and habitual factors matter?, *Journal of Cleaner Production,* Vol. 215, No. 3, pp. 1070-1077.

Wang, Z., Zhang, B., and Li, G. (2014), Determinants of energy-saving behavioral intention among residents in Beijing: extending the theory of planned behavior, *Journal of Renewable and Sustainable Energy,* Vol. 6, No. 5, pp. 53-127.

Webb, D., Soutar, G.N., Mazzarol, T., and Saldaris, P. (2013), Self-determination theory and consumer behavioural change: Evidence from a household energy-saving behaviour study, *Journal of Environmental Psychology*, Vol. 35, No. 2, pp. 59-66.

Weerakoon, W. M. S. M. B., Sellar, T., and Arulrajah, A.A. (2021), Employee Green Behaviour of Selected Hotels in Polonnaruwa Area of Sri Lanka, S*ri Lankan Journal of Human Resource Management*, Vol. 11, No. 1, pp. 36-52.

Wolske, K. S., Stern, P. C., and Dietz, T. (2017), Explaining interest in adopting residential solar photovoltaic systems in the United States: toward an intergration of behavioral theories, *Energy Research and Social Science*, Vol. 45, No. 1, pp. 134-151.

Wood, W., Quinn, J. M., and Kashy, D. A. (2002), Habits in every life: Though, emotion, and action, *Journal of Personality and Social Psychology,* Vol. 83, No. 6, pp. 1281-1297.

Yadav, R., and Pathak, G. S. (2016), Young consumer's intention towards buying green products in a developing nation: extending the theory of planned behavior, *Journal of Cleaner Production,* Vol. 135, No. 3, pp. 732-739.

Yadav, R., and Pathak, G.S. (2017), Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior, *Ecological Economics*, Vol. 134, No. 2, pp. 114-122.

Yazdanpanah, M., and Forouzani, M. (2015), Application of the Theory of Planned Behaviour to Predict Iranian Students' Intention to Purchase Organic Food, *Journal of Cleaner Production,* Vol. 107, No. 3, pp. 342-352.

Zahid, A. (2008), Energy - GDP Relationship: A Causal Analysis for the Five Countries of South Asia, *Applied Econometrics and International Development*, Vol. 8, No. 1, pp. 167-180.

Zhang, Y., Wang, Z., and Zhou, G. (2014), Determinants of employee electricity saving: The role of social benefits, personal benefits and organizational electricity saving climate, *Journal of Cleaner Production,* Vol. 66, No. 5, pp. 280-287.

Appendix 1. Detailed Findings: Objective Four

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.886[a]	.784	.783	.29325	.784	738.600	1	203	.000
2	.923[b]	.851	.850	.24404	.067	91.137	1	202	.000
3	.927[c]	.860	.858	.23748	.009	12.311	1	201	.001
4	.934[d]	.872	.870	.22721	.012	19.583	1	200	.000
5	.940[e]	.884	.881	.21711	.012	20.035	1	199	.000
6	.943[f]	.889	.886	.21273	.005	9.275	1	198	.003
7	.948[g]	.898	.895	.20462	.009	17.020	1	197	.000

a. Predictors: (Constant), PR
b. Predictors: (Constant), PR, PBC
c. Predictors: (Constant), PR, PBC, HA
d. Predictors: (Constant), PR, PBC, HA, PAE
e. Predictors: (Constant), PR, PBC, HA, PAE, AT
f. Predictors: (Constant), PR, PBC, HA, PAE, AT, PMN
g. Predictors: (Constant), PR, PBC, HA, PAE, AT, PMN, SN

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.518	1	63.518	738.600	.000[b]
	Residual	17.458	203	.086		
	Total	80.976	204			
2	Regression	68.946	2	34.473	578.847	.000[c]
	Residual	12.030	202	.060		
	Total	80.976	204			
3	Regression	69.640	3	23.213	411.610	.000[d]
	Residual	11.336	201	.056		
	Total	80.976	204			
4	Regression	70.651	4	17.663	342.143	.000[e]
	Residual	10.325	200	.052		
	Total	80.976	204			
5	Regression	71.595	5	14.319	303.772	.000[f]
	Residual	9.380	199	.047		
	Total	80.976	204			
6	Regression	72.015	6	12.002	265.215	.000[g]
	Residual	8.961	198	.045		
	Total	80.976	204			
7	Regression	72.728	7	10.390	248.151	.000[h]
	Residual	8.248	197	.042		
	Total	80.976	204			

a. Dependent Variable: ISE
b. Predictors: (Constant), PR
c. Predictors: (Constant), PR, PBC
d. Predictors: (Constant), PR, PBC, HA
e. Predictors: (Constant), PR, PBC, HA, PAE
f. Predictors: (Constant), PR, PBC, HA, PAE, AT
g. Predictors: (Constant), PR, PBC, HA, PAE, AT, PMN
h. Predictors: (Constant), PR, PBC, HA, PAE, AT, PMN, SN

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.760	.128		5.922	.000	.507	1.013
	PR	.832	.031	.886	27.177	.000	.772	.893
2	(Constant)	.360	.115		3.137	.002	.134	.586
	PR	.501	.043	.533	11.641	.000	.416	.586
	PBC	.423	.044	.437	9.547	.000	.335	.510
3	(Constant)	.331	.112		2.957	.003	.110	.552

	PR	.422	.048	.449	8.850	.000	.328	.516
	PBC	.330	.051	.341	6.517	.000	.230	.429
	HA	.180	.051	.195	3.509	.001	.079	.281
4	(Constant)	.199	.111		1.788	.075	-.020	.418
	PR	.386	.046	.411	8.352	.000	.295	.478
	PBC	.236	.053	.244	4.469	.000	.132	.340
	HA	.122	.051	.132	2.397	.017	.022	.222
	PAE	.216	.049	.218	4.425	.000	.120	.313
5	(Constant)	.146	.107		1.363	.174	-.065	.357
	PR	.364	.044	.387	8.175	.000	.276	.452
	PBC	.157	.053	.163	2.940	.004	.052	.263
	HA	.118	.049	.128	2.432	.016	.022	.214
	PAE	.137	.050	.138	2.744	.007	.039	.236
	AT	.199	.045	.208	4.476	.000	.112	.287
6	(Constant)	.106	.106		1.001	.318	-.102	.314
	PR	.329	.045	.350	7.302	.000	.240	.418
	PBC	.134	.053	.139	2.538	.012	.030	.239
	HA	.113	.048	.123	2.372	.019	.019	.207
	PAE	.119	.049	.119	2.406	.017	.021	.216
	AT	.174	.044	.182	3.928	.000	.087	.262
	PMN	.115	.038	.125	3.045	.003	.041	.190
7	(Constant)	-.021	.106		-.201	.841	-.231	.188
	PR	.300	.044	.320	6.839	.000	.214	.387
	PBC	.114	.051	.118	2.239	.026	.014	.215
	HA	.128	.046	.139	2.797	.006	.038	.219
	PAE	.112	.047	.113	2.369	.019	.019	.206
	AT	.120	.045	.126	2.689	.008	.032	.208
	PMN	.090	.037	.098	2.450	.015	.018	.163
	SN	.160	.039	.148	4.125	.000	.084	.237
a. Dependent Variable: ISE								

Appendix 2. Detailed Findings: Objective Five

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.630[a]	.397	.394	.46318	.397	133.838	1	203	.000
a. Predictors: (Constant), ISE									

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.713	1	28.713	133.838	.000[b]
	Residual	43.551	203	.215		
	Total	72.264	204			
a. Dependent Variable: ESB						
b. Predictors: (Constant), ISE						

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.561	.219		7.134	.000	1.129	1.992
	ISE	.595	.051	.630	11.569	.000	.494	.697
a. Dependent Variable: ESB								