MEDIATING ROLE OF EMPLOYEE GREEN BEHAVIOUR TOWARDS SUSTAINABILITY PERFORMANCE OF BANKS

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Abstract

Nowadays, due to the huge deterioration of the environment, not only human beings but also the day-to-day business environment suffers adversely. Hence, the *"Go Green"* behaviour becomes a globally accepted direction of every individual and business. 'Go Green" is an earth-friendly living approach and banks play a decisive role in safeguarding the environment to make our livelihood better. As there is an emerging trend to update traditional banking system with green banking strategies in the modern banking system, bank employees are directed to play a vital behavioural role (Norton, Parker, Zacher, & Ashkanasy, 2015) to keep better banking practices, more environmentally friendly, to have bank sustainability performance. Therefore, this study critically examines the relationships between Green banking practices (GBP), Employee green behaviour (EGB), and Sustainability performance of banks (SPB) in the Sri Lankan context. This study specifically examines the mediating role of EGB in the relationship between GBP and SPB. The results confirm the partial mediation role of EGB in the relationship between GBP to SPB. Moreover, both direct and indirect effects of mediation analysis reveal the same direction, significantly. This study becomes vital for understanding the mediating role of EGB, empirically between GBP and SPB.

Keywords: Green Banking Practices, Employee Green Behaviour, Sustainability Performance

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1. INTRODUCTION

The present 21st-century era is characterized by information technology (IT) based industrialization in an economy that has led to an unfortunate environmental deterioration. On the other hand, every sector of the economy suffers from environmental problems. As a result of this issue, most of the business organizations update/devise their functionality with environmentally friendly approaches. Especially in Sri Lanka, it is important to the banking sector to play a vital role to make healthy and litter-free environment to support the global demand for a clean environment. Hence, there is an emerging trend to update the traditional banking system with green banking strategies in the modern banking system.



Green banking refers to the banking business that helps reducing external carbon emission and internal carbon footprint. In the green banking process. banks should finance technology and pollution-reducing projects (Bahl, 2012). Organizations are more concerned about reducing environmental footprints of their operations and direct organizational members to participate in sustainability initiatives (Wiernik, Dilchert, & Ones, 2016). The growing concern of environmental sustainability has created many job opportunities and increased the responsibilities of existing jobs (Wiernik et al., 2016). Sustainability performance management is a newly emerging term, which addresses the environmental, social, and economic (performances) aspects of corporate management in general and of corporate sustainability management in particular (Schaltegger & Wagner, 2006).

In the banking and finance sector, commercial banks play an important role and do have high concern over environmental sustainability. Therefore, they undergo with implementing environmentally friendly practices in relation to their traditional banking processes. It is observed now that there is an internal competition among commercial banks to drive their business activities with greening procedures. Due to the intensifying apprehension about the environment, green activities and organisational sustainability, more studies are directed to motivate organisations to have environmentally friendly business standards and practices, since those practices can impact on creating positive psychological climate (e.g., Lanfranchi & Pekovic, 2014), employee behaviour towards green practices (e.g., Norton et al., 2015), and improved performances of entities (e.g., Norton, Zacher, Parker, & Ashkanasy, 2017). The evidence highlights the relationship between organizational performance and EGB, in general. While concerning the previous contextual and empirical studies, it is clearly possible to identify an interconnection between Green banking practices (GBP), Employee behaviour (EGB),and Sustainability green performances of banks (SPB).

It is observed that Sri Lankan Commercial Banks continually invest in green technology towards sustainable development. They aim to provide financial services to their customers by bringing them into the green banking system with the use of information technology and physical infrastructure to minimise negative (towards zero) impacts on the environment. As green banking is a concept emphasising a proactive and smart way of doing business, with the aim of protecting biodiversity and conserve resources of the environment. Green banking has a vision of initiating eco-friendly future sustainability of the environment. Hence, this smart move of banks for "Go Green" can inevitably lead to the SPB in the long run.

Establishing GBP should be brought, strategized and implemented through the banks' workforce to reach their sustainability performances (SPB), whereas the behaviour of an individual in the banks' workforce with the customers is vital to move towards the banks' performances. In this context, all in consideration, this study emphasizes the mediating role of Employee Green Behaviour (EGB) in the relationship between GBP and SPB. The results of this study indicate that there is a strong positive significant linear relationship between GBP and SPB, between GBP and EGB, and between EGB and SPB. Further results explore the statistically significant mediating role of EGB, i.e., the relationship between GBP and SPB is mediated by EGB. Therefore, it is concluded that the banks provide greater support to their employees to move forward towards the sustainability performance with the green banking practices.

As this paper underlines the mediating role of EGB in the relationship between GBP and SPB, the rest of this paper is organised in support of the related literature, conceptualisation, results, and findings. Accordingly, the significance and study-related research question are presented in the next. Followingly, the related literature to form the conceptual framework, research method for identifying the intermediate role of EGB, findings, and conclusion of the study are presented to explore the study meaningfully.

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1. Green banking practices (GBP)

The concept "Green banking" is first associated with Triodos bank (established in 1980) in Dutch that has directed the banking sector towards environmental sustainability. The Green banking concept in Western countries has then directed the banking systems in other countries into an environmentally friendly sustainable approach. Green banking is a form of banking activities, which the banks put them into practice in society by considering in-house and environmental sustainability external (Zhixia, Hossen, Muzafary, & Begum, 2018). Hasina and Afgan (2014) indicate four logical reasons to go for green banking: a) corporate social responsibilities, b) environmental considerations, c) economic benefits, and d) sustainability risks. Biswas (2011) indicates that the adoption of green banking practices will benefit operational efficiencies and the environment.

GBP as approaches to make risk free environment have been demonstrated by many studies (e.g., Biswas, 2011; Jha & Bhome, 2013; Islam & Das, 2013). Shaumya and Arulrajah (2016) studied and identified 98 green banking practises in private commercial banks in Sri Lanka; and those (98) practices are comprised of 16 instruments (items) with four (4) key dimensions (namely, ABCD) to measure the GBP in Sri Lanka. The dimensions are:

A. *Aim (policy) related practices* – measurable with five (5) items such as green branches, green policy, green partnership, green strategic planning, and green procurement.

B. *Buyer (customer) related practices* – measured by four (4) items such as green loan, green projects, facilitate green enterprises, and green credit evaluation.

C. *Cog* (*employee*) *related practices* – measurable with three (3) items such as environmental training and education, green performance evaluation, and green reward system.



D. *Daily operational practices* – measurable with four (4) items such as paper usage, use of energy-efficient equipment, e-waste management, and eco-friendly banking practices.

Similarly, Sheikh and Odock (2019) also provide GBP, as a recent development, with four dimensions:

1. Environmental policies and goals: Firms are mandated to adopt environmental management practices due to the enforcement by law as environmental legislation, concern over liability, and the direct and indirect costs of regulatory compliance, concern about overall firm competitiveness, and public concern about environmental degradation.

2. *Green lending:* Banks take environmental protection into account while making lending decisions in commercial and wholesale banking. This lending process includes site-visits, accessing client's environmental records, assessing third-party reporting on loan proposal, providing loan to environmental protection and energy-saving related project, and promoting environment-oriented enterprises with facilities.

3. *Green products and services:* Banks develop new products and services to meet consumer demands for sustainable choices, where studies concern about those products and services over their friendliness to the environment. The green product and services include electronic and online banking, mobile banking, and green deposit schemes.

4. *Green processes and procedures:* From recycling programs to energy conservation, banks now adopt operations to reduce the operational footprint impacts on the environment.

Referring to the previous conceptualisations, this study identifies the GBP relative to the practices, activities, and procedures to reduce the negative impacts on the environment, to achieve strategic goals in the banking industry.

2.2. Sustainability performance

Sustainability can be defined as maintaining well-being by an entity over a long, perhaps even an indefinite, period. This covers the environmental dimensions too. It is sometimes interchangeably understood environment and sustainability in the same context; and environment and sustainability are however not synonymous (Kuhlman & Farrington, 2010).

Sustainability performance refers to the performance of a company in all dimensions and for all drivers of corporate sustainability. Sustainability performance management is a newly emerging term, which addresses the environmental, social, and economic (performances) aspects of corporate general and of management in corporate sustainability management in particular (Schaltegger & Wagner, 2006).

Previous studies indicate the sustainability performance achievement of well beings by an entity with the concern of future entities to exist longer. Sustainability is not a short-term response. The term *sustainability performance* is a combination of three (called Triple Bottom Line) dimensions, relative to a) economic, b) social, and c) environmental aspects. Notably, most studies have identified the Triple Bottom Line dimensions uniquely. However, only a few of literature explore the connectivity of these economic, environmental, and social dimensions (Basiago, 1999; Jabbour & Santos, 2008; Álvarez, Galindo, Villardón, & Rosa., 2014; Järlström, Saru, & Vanhala, 2018).

Economic dimension: The economic performance of an organisation refers to its profitability and growth (Judge & Douglas, 1998). Economic performance encompasses issues conventionally reported in a company's annual financial report and involves investments in human capital, research and development, wages and benefits paid, community development, etc. (Kestane, Kurnaz, & Sizer, 2019).

Environmental dimension: Judge and Douglas (1998) refers to environmental performance as a firm's effectiveness in meeting and exceeding society's expectations in the concern over the natural environment. This as an objective extends beyond compliance with existing regulations to a proactive stance concerning future environmental considerations. Environmental performance includes the number of resources that an organization uses in its operations such as energy, land, water, and the results of its activities like waste, air emissions, chemical residues, and effluents. The assessment of environmental performance is still very limited since it is mainly based on primary environmental impacts such as natural resource depletion, pollution consumption, and emissions, energy waste generation, but not on the long term environmental impacts of firms' operations (Kestane et al., 2019).

Social dimension: Social performance refers to "a of business organisation's configuration principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships" (Wood, 1991, p. 693). Social performance includes the firms' (and their suppliers') influence in and on the communities they operate. It includes employee relations, health and safety, remuneration to manage the cost of living, non-discrimination, employee turnover rate. education, and professional advancement, etc. (Kestane et al., 2019).

2.3. Employee green behaviour (EGB)

Ones and Dilchert (2012) indicate that EGB means a measurable individual behaviour to contribute positively or detracts negativity for environmental sustainability goals in an employee's work context. EGB includes recycling paper, printing double-sided, saving electricity, use energy-efficient equipment, and avoiding waste. Many studies have been conducted in the field of EGB (e.g., Norton et al., 2015). Relative individual positive behaviours environmental enrichment for are called pro-environmental behaviours, known as responsible environmental, environmentally sustainable, and environmentally friendly behaviours (Safari, Salehzadeh, Panahi, & Abolghasemian, 2018).

According to DuBois and DuBois (2012), EGB is one of the strategies adopted by organizations to improve their environmental sustainability performance. The demands of the natural environment have impacts on employees' day to day lives and this becomes challenging to an organisation to look after its employees' well-being (like transportation, water, heating/cooling, etc.) to get the optimum output from the employees. This implies that personal pressures due to the demands of the natural environment have an impact on employee work performance (DuBois & DuBois, 2012).

According to Norton et al. (2015), EGB refers to an employee's behaviour (mandated and volunteered) at work to preserve the natural environment by reducing the negativity and/or adding positivity to the ecosystem. EGB behaviour can be conceptualized into two: a) voluntary behaviours and b) required employee behaviour (Norton et al., 2015).

2.4. Conceptual model and hypotheses

Referring to the above, sustainability performance demands for green practices to maintain the

environmental ecosystem, i.e., sustainability performance as a result to be reached needs green practices as strategies. When strategies come into implementation, the employees and their behaviours (EGB) are the main source to implement the strategies (green practices) to reach the ends (sustainability performance). In this theoretical background as illustrated with the above literature, the following can be endorsed: a) Relationship of strategies (green practices) to goals (sustainability performance); b) Relationship of strategies (green practices) to EGB; c) Relationship of EGB to goals: sustainability performance (Iqbal, Hassan, Akhtar, & Khan, 2018). All these relationships are depicted as the conceptual framework of this study in relation to the banking sector in Sri Lanka (Figure 1), where EBG is basically considered as a mediating variable, since GBP towards SPB are related to other aspects too, beyond EGB.

Figure 1. Conceptual framework



Source: Developed for this study

3. SIGNIFICANCE AND INVESTIGATION CONCERN OF THE STUDY

As green banking is nowadays an emerging trend in the banking sector, many studies investigate about it (e.g., Biswas, 2011; Jha & Bhome, 2013; Islam & Das, 2013; Shaumya & Arulrajah, 2016). Notably, there are limited empirical studies available in the Sri Lankan context. This study demonstrates it as the gap, especially in the empirical investigations, and attempts to fill the gap in view of contributing to the existing literature on green banking.

Indicatively, the selected commercial banks' annual reports (e.g., Sampath Bank, 2018, 2019; Seylan Bank, 2018, 2019) provide evidence that the commercial bank's concern on natural capital had increased over the years, thus confirming an increase in GBP towards SPB. In this context, employees (i.e., employees' behaviours) are the main (mediating) source to transform the worthiness of increased natural capital towards SPB; and this study highlights the mediating role of the EGB between GBP and SPB as a gap in the literature. Accordingly, this investigation attempts to find answers to the question:

Whether the Employee green behaviour mediates the relationship between Green banking practices and Banks' sustainability performance?

Further, this study literarily attempts to explore: a) The inter-relationships of GBP, EGB, and SPB, and b) Possible mediating role of EGB in the relationship between GBP and SPB.

Based on the research problem and available literature, the following hypotheses are formulated.

H1: There is a positive relationship between GBP and SPB.

H2: There is a positive relationship between GBP and EGB.

H3: There is a positive relationship between EGB and SPB.

H4: EGB mediates the relationship between GBP and SPB.

4. RESEARCH METHODOLOGY

The survey has been conducted in the natural environment (without interrupting the work) among the banking employees in five (5) selected banks in Sri Lanka: a) Bank of Nuwara-Eliya, Cevlon. b) People's Bank, c) Commercial Bank of Ceylon, d) Seylan Bank and e) Sampath Bank. This study has used the stratified random sampling technique to meet the required number of respondents from each bank in the sample. Therefore, a well-structured questionnaire has been distributed to every employee in the selected banks¹. The study has considered about 220 duly filled and submitted questionnaire for analysis of this study. The study data have been collected from respondents with a degree of agreement related statements over

¹ The structured questionnaire consists of two parts: Part I about employee's general information includes name of the bank, sector, gender, civil status, age, highest qualification, job position, and experience; and Part II focused on EGB, GBP, and SPB.

variables by using *Liker's scale*: 1 = strongly disagree to 5 = strongly agree.

Variable *GBP* is measured with 21 items from Sheikh and Odock (2019) and Shaumya and Arulrajah (2016), comprising four (4) dimensions:

- 1. Environmental policies and goals;
- 2. Green lending;
- 3. Green product and services;
- 4. Green process and procedures.

SPB is measured with nine (9) statements derived from Hussain, Al-Aomar, and Melhem (2019); and *EGB* is measured with five (5) items from Kaiser, Oerke and Bogner (2007), Robertson and Barling (2013) and Kim, Kim, Han, and Holland (2016). Accordingly, reliability tests reveal *Cronbach's alpha* of 0.92, 0.72, and 0.70 for the data of the variables GBP, SPB, and EGB, respectively. All scales have achieved acceptable coefficient alphas of at least 0.70 (Koonce & Kelly, 2014).

Further, Pearson correlation analysis is carried out to confirm the significance of the relationships between the study variables: GBP, EGB, and SPB; and regression analyses are performed to confirm the relative contribution of one variable in predicting the other and the mediating role of EGB in the relationship between GBP and SPB.

$$SPB_i = \alpha_i + \beta_j \ GBP_i + e_i \tag{1}$$

$$EGB_i = \alpha_j + \beta_j \ GBP_i + e_i \tag{2}$$

$$SPB_i = \alpha_j + \beta_j EGB_i + e_i \tag{3}$$

$$SPB_i = \alpha_i + \beta_4 \ GBP_i + \gamma_i \ EGB_i + e_i \tag{4}$$

Where,

SPB = Sustainability performance of the bank; *GBP* = Green banking practices; *EGB* = Employee green behaviour; α_i = Intercept estimate; β_i and γ_i = Coefficient estimates of variables; where j = 1, 2, 3, and 4 and i = 1 to 220;

e = Error term.

The correlation analyses between the variables should reveal a significant relationship at the 5% level ($p \le 0.05$). Similarly, the respective intercepts and/or estimated coefficients should be significant at the 5% level ($p \le 0.05$) to confirm the meaningful explanatory power of the independent variable(s) in the regression equations.

The relationships between the study variables (*GBP*, *SPB*, and *EBG*) and the mediating role of EGB in the relationship between GBP and SPB can also be alternatively confirmed with qualitative analysis. However, the success of such a qualitative investigation depends on the way of designing the questionnaire, which is a crucial part of this alternative method for exploring the roles and relationship of the study variables. Notably, the limitation of such a qualitative study with the questionnaire setting does also exist to that extent.

5. RESULT OF THE ANALYSES

5.1. Correlation analysis and hypotheses

Results of the correlation analyses reveal that all variables (*GBP*, *EGB*, and *SPB*) have significant correlation coefficients at the 1% significance level

 $(p \le 0.05)$. Notably, all the relationships between GBP and SPB, between GBP and EGB, and between EGB and SPB, have positive significant correlation coefficients 0.746, 0.653, and 0.627, even at the 1% level (p < 0.001).

As all the relationships of variables between *GBP*, *EGB*, and *SPB* reveal a positive significant correlation (Table 1), the results confirm that *H1*, *H2*, and *H3* should be accepted.

Table 1. Pearson correlation between green bankingpractice (GBP), employee green behaviour (EGB), andsustainability performance by the banks (SPB)

Variable	SPB	GBP	EGB			
SPB	1.000	0.746**	0.627**			
GBP	0.746**	1.000	0.653**			
EGB	0.627**	0.653**	1.000			
Notes: ** Correlation is significant at the 0.01 level (2-tailed):						

*Notes: ** Correlation is significant at the 0.01 level (2-tailed); Source: Survey Data.*

5.2. Regression analyses and hypotheses

Considering all the hypotheses, regression analyses are also taken place to confirm the relationship between the study variables (as an addition to correlation analyses) and to ensure the mediating role of the EGB in the relationship between GBP and SPB, in consideration of a four-step approach proposed by Baron and Kenny (1986).

5.2.1. Regression of sustainability performance of banks on green bank practices

The summary of regression for equation (1) shows that *Adjusted* $R^2 = 0.555$. This implies that about 55.5% of the variability of SPB can be explained by GBP; and about 44.5% variation of SPB needs to be explained by other variables (Table 2). Further, the significant F-statistics indicates that the model of equation (1) provides a better fit with the explaining variable *GBP* ($\hat{\beta}_1 = 0.728$, p < 0.01) to explain the SPB. However, the model has made a provision in equation (1) for other variables too ($\hat{\alpha}_1 = 0.793$, p < 0.001). The model also validates the significant relationship between GBP and SPB.

5.2.2. Regression of employee green behaviour on green bank practices

The summary of regression for equation (2) shows that *Adjusted* $R^2 = 0.423$. This implies that about 42.3% of variability of EGB can be explained by GBP; and about 57.7% variation of EGB must be explained by other variables (Table 2). Also, the significant F-statistics indicates that equation (2) provides a better fit with the explaining variable *GBP* ($\hat{\beta}_2 = 0.837$, p < 0.01) to explain the EGB. However, the model has not made a significant provision in equation (2) for other variables ($\hat{\alpha}_2 = 0.050$, p > 0.05). The model also validates the significant relationship between GBP and EGB.

Madala	Intercept	Coefficien	t estimates			
(equation 1 to 4, respectively)	α̂ (t-statistic)	$\widehat{\boldsymbol{\beta}}_{j}$ (t-statistic)	$\widehat{Y}_{_j}$ (t-statistic)	Adjusted R ²	F-statistic	
$SPB_i = \hat{\alpha}_1 + \hat{\beta}_1 GBP_i$	0.793** (4.228)	0.728** (16.545)		0.555	273.740**	
$EGB_i = \hat{\alpha}_2 + \hat{\beta}_2 \ GBP_i$	0.050 (0.177)	0.837** (12.719)		0.423	161.775**	
$SPB_i = \hat{\alpha}_3 + \hat{\beta}_3 EGB_i$	2.162** (14.764)	0.477** (11.876)		0.390	141.033**	
$SPB_i = \hat{\alpha}_4 + \hat{\beta}_4 \ GBP_i + \hat{\gamma}_4 \ EGB_i$	0.784** (4.339)	0.573** (10.243)	0.185** (4.248)	0.587	156.598**	

Table 2. Regression summary results of the models (equation 1 to 4)

Note: SPG = Sustainability performance of the bank; GBP = Green banking practices; EGB = Employee green behaviour, $\hat{\alpha}_j$ = Intercept estimate; $\hat{\beta}_j$ and \hat{Y}_j = Coefficient estimates of the variables, where j = 1, 2, 3, and 4, and i = 1 to 220.

5.2.3. Regression of the bank's sustainability performance on employee green behaviour

The summary of regression for equation (3) shows that *Adjusted* $R^2 = 0.390$. This implies that about 39.0% of the variability of SPB can be explained by EGB; and about 61.0% variation of SPB must be explained by other variables (Table 2). Further, the significant F-statistics indicates that equation (3) provides a better fit with the explaining variable EGB $(\hat{\beta}_3 = 0.477, p < 0.01)$ to explain the SPB. However, the model has made a significant provision in equation (3) for other variables ($\hat{\alpha}_2 = 2.162, p < 0.05$). The model also validates the significant relationship between GBP and EGB. Notably, the higher intercept value comparatively implies a possible mediating role of EGB in the relationship between GBP and SPB as depicted in H4. If EGB has a such mediating role, it can be confirmed with the analysis of equation (4).

5.2.4. Mediating role of employee green behaviour (EGB)

In equation (4), regression of SPB on EGB and GBP is devised in view of confirming the mediating role of EGB. The regression results of equation (4) show that about 58.7% variation of SPB can be explained with respect to EGB and GBP; and the model needs other variables too to explain about 41.3% variation of SPB. The significant F-statistic indicates that equation (4) provides a better fit with the significantly explaining variables *GBP* ($\hat{\beta}_4 = 0.573$, p < 0.01) and *EGB* ($\hat{\Upsilon}_4 = 0.185$, p < 0.01). Also, the model equation (4) has made a significant provision for other variables ($\hat{\alpha}_4 = 0.784$, p < 0.01).

^{*} The mediating role of EGB in equation (4) can be confirmed into two approaches, using: a) Coefficient path of variables, and b) Sobel test by estimating the confidence limit of mediated effect.

Coefficient path of variables

In the coefficient path, listing four (4) estimated coefficients in equations (1), (2), and (4)

is important. They are accordingly, $\hat{\beta}_1 = 0.728$, $\hat{\beta}_2 = 0.837$, $\hat{\beta}_4 = 0.573$, and $\hat{\gamma}_4 = 0.185$.

These can be renamed as shown in MacKinnon and Luecken (2011) to facilitate with usual symbols as:

c = coefficient weight of independent variable *GBP* in equation (1) = $\hat{\beta}_1$ = 0.728;

a = coefficient weight of independent variable *GBP* in equation (2) = $\hat{\beta}_2$ = 0.837;

 $c'{=}$ coefficient weight of independent variable GBP in equation (4) = $\hat{\beta}_4$ = 0.573; and

b = coefficient weight of mediating variable *EGB* in equation (4) = $\hat{\gamma}_4$ = 0.185.

The condition for the mediating influence of a variable between independent and dependent variables is: (c - c' = ab). However, the total effect of the independent variable (*GBP*) on dependent variable (*SPB*) is weighted as: $(c = \hat{\beta}_1 = 0.728)$. This total weight can be decomposed into a direct component ($c' = \hat{\beta}_4 = 0.573$) and indirect component ($ab = \hat{\beta}_2$, $\hat{\gamma}_4$) = (0.837) * (0.185) = 0.155. This implies that c = (c' + ab) = 0.573 + 0.155 = 0.728.

It is also notable that $c = \hat{\beta}_1 = 0.728 \rightarrow \text{total}$ effect of GBP on SPB in equation (1).

Indicatively, the condition for the mediating influence of a variable (here *EGB*) between independent (here *GBP*) and dependent (here *SPB*) variables is satisfied, thus confirming that employee green behaviour (EGB) act as a mediating variable between the green bank practices (*GBP* as the independent variable) and sustainability performance of banks (*SPB* as the dependent variable). Therefore, *H4* is statistically confirmed.

Sobel test by estimating the confidence limit of mediated effect

Estimating the confidence limit for indirect/mediated effect (*ab*) is another way of confirming the mediating role of a variable (*EGB*) between independent (*GBP*) and dependent variables (*SPB*). In this context, the confidence limits of the mediating effect (CLME) can be given as:

$$CLME = mediating \ effect \ \pm \ Z_{(95\%)} * (S_{ab}) \tag{5}$$

where,

$$S_{ab} = Standard \ error \ of \ the \ indirect/mediating \ effect = \sqrt{S_a^2 b^2 + S_b^2 a^2};$$

And $a = \hat{\beta}_2 = 0.837$, $b = \hat{\gamma}_4 = 0.185$.

So that, the *mediating effect* = $(ab = \hat{\beta}_2 * \hat{\gamma}_4) = (0.837) * (0.185) = 0.155$.

 S_a = Standard error of *a* in equation (2) and S_b = Standard error of *b* in equation (4).



Therefore, $S_a = 0.066$ and $S_b = 0.044$ (derived from survey data).

$$S_{ab} = \sqrt{S_a^2 b^2 + S_b^2 a^2} = \sqrt{(0.066)^2 * (0.185)^2 + (0.044)^2 * (0.837)^2} = 0.0388$$
(6)

and

$$Z_{(95\%)} = \pm 1.96\tag{7}$$

Therefore,

$$CLME = ab \pm 1.96.(S_{ab}) = 0.155 \pm 1.96.(0.0388)$$
(8)

$$UCL = 0.155 + 0.076048 = 0.231048 \tag{9}$$

$$UCL = 0.155 - 0.076048 = 0.078952 \tag{10}$$

As the upper (0.231048) and lower (0.078952) confidence limit ranges do not include zero (0), the mediated effect of employee green behaviour (EBG) is statistically significant, thus accepting the *H4: Employee green behaviour mediates the*

relationship between green banking practices and sustainability performance. Alternatively, the $Z_{(95\%)} = \pm 1.96$ can also be

compared with the calculated *Z*-value.

Where the calculated:

$$Z = \frac{Indirect \ Effect}{Standard \ Error \ of \ the \ Mediating \ Effect} = \frac{ab}{S_{ab}} = \frac{ab}{\sqrt{S_a^2 b^2 + S_b^2 a^2}}$$
(11)

$$ab = (0.837) * (0.185) = 0.155$$
 (12)

and

$$S_{ab} = \sqrt{S_a^2 b^2 + S_b^2 a^2} = 0.0388 \tag{13}$$

Therefore, calculated:

$$Z = \frac{ab}{s_{ab}} = \frac{ab}{\sqrt{s_a^2 b^2 + s_b^2 a^2}} = \frac{0.155}{0.0388} = 3.995$$
(14)

As the calculated *Z*-value (3.995) lies outside the range of $Z_{(95\%)} = \pm 1.96$, the mediated effect of employee green behaviour (EBG) is statistically significant, as to confirm the hypothesis.

The portion of the effect of the mediating variable = $\frac{Indirect\ effect}{Total\ Effect} = \frac{(c-c'=ab)}{c} = \frac{0.155}{0.728} = 0.213$, that is 21.3%.

6. CONCLUSION

Many entities have concern over environmental protection, and their strategic moves also have links to protect the environment for benefiting the future generation of lives. Therefore, this study has aimed to investigate how the banking practices in Sri Lanka has been changing towards their sustainability performance by utilising their workforce behaviour in the sector. In this context, Green banking practices (GBP), Employee green behaviour (EGB), and Sustainability performance of banks (SPB) have been conceptualised with the existing literature support, where the importance of EGB has been highlighted as a mediating variable in the relationship between GBP and SPB.

As this study initially aims to explore the relationships between GBP, EGB, and SPB, statistical results indicate that there is a strong positive significant linear relationship between GBP and SPB (r = 0.746, p < 0.01), between GBP and EGB (r = 0.653, p < 0.01) and between EGB and SPB

(r = 0.627, p < 0.01), in relation to the specific commercial banks. With the extended analyses, this study explores the statistically significant mediating role of EGB that the relationship between GBP and SPB is mediated by EGB. Therefore, it can be concluded that the banks provide greater support to their employees to move forward towards the sustainability performance with the green banking practices. However, the results show that the mediating effect of the EGB between GBP and SPB seems a little low, though the mediating role of EGB is statistically significantly supported. From a customers' point of view, employees are the prime source to attract and provide value-added services to the banks' customers to achieve organisational ends. Relatively, the statistical portion of the mediating effect of EGB (21.3%) also implies that top management of the banks should take some remedial measures in view of improving the EGB. If the banks want to expedite the process towards performance, reaching their sustainability improvement in EGB is vital; and this becomes an implication of this study.

It is also a need to know how these green banking practices in the banking sector effect on the banks performance. In the Sri Lankan context, the empirical studies on green banking area is limited, because the greening concept is not a rooting concept in Sri Lankan banking sector. However, it is observed that recent approaches in banking sector in Sri Lanka seem blooming the greening concept. Hence, this study provides a contribution not only to the existing literature, but also to fulfil the empirical gap on green banking in Sri Lanka, in particular. However, this study has the main limitation that Sri Lanka is a developing country and the study has concern over a district (Nuwara-Eliya) and the technological systems applications in her banks. It is notable that if this limitation is relaxed, the findings of this study can be strengthened strongly.

However, most studies available in the literature have concern over green banking and how it affects banks' performance in different perspectives (Awino, 2014; Gupta, 2015; Deka, 2015;

Shaumya & Arulrajah, 2017; Risal & Joshi, 2018). However, the studies mainly consider how banks have a "*Going Green*" effect on banks' environmental performances. Beyond this, the current study considers a broad range of banks' performances in an economic, environmental, and social context. It is also notable that many unexplored dimensions in previous studies and a mediating variable are considered in this study; and, thus, this study has significant implication to that extent. Further, the study has implications for academics, practitioners, and future relative researchers, especially the topic of the mediating role of EGB between GBP and SPB.

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APPENDIX. Questionnaire of the study

Questionnaire

Dear Sir/Madam,

We intended to investigate on *"The Mediating Role of Employee Green Behaviour in the Relationship between Green Banking Practices and Banks' Sustainability Performance"*. For this purpose, we need your cooperation in completing this questionnaire to make our study a success. We shall be very much thankful to you if you could spend a few minutes of your valuable time to complete this questionnaire and return it to us as soon as possible. We assure that the data and information collected from you will be kept strictly confidential and used *only* for this study purpose.

Thank you for your kind cooperation and commitment. *Investigators of the study.*

Part I: General information

Please give your answer to following questions by indicating (🗸) or fill the details in the space provided

1.	Name of the Bank	1.	Bank of Ceylon		3.	Commercial Bank		
		2.	People's Bank		4.	Seylan Bank		
					5.	Sampath Bank		
		Note: Private banks coded 3, 4 & 5 are public limited companies.						
2.	Gender	1.	Male		2.	Female		
3.	Civil Status	1.	Single		2.	Married		
4.	Age in years	1.	20-30 yrs.		3.	41-50 yrs.		
	(years = yrs.)	2.	31-40 yrs.		4.	Over 50 yrs.		
5.	Education Qualifications	1.	GCE (O/L)		4.	Postgraduate		
		2.	GCE (A/L)		5.	IABF		
		3.	Graduate		6.	DABF		

(Where GCE = General Certificate Education; O/L = Ordinary Level; A/L = Advanced Level; IABF = Intermediate in Applied Banking & Finance; DABF = Diploma in Applied Banking & Finance)

6.	Job Position	1.	Manager	4.	Banking Asst.	
		2.	Asst. Manager	5.	Banking Trainee	
		3.	Officer	6.	Other	
7.	Experience in years (years = yrs.)	1. 2.	1-3 yrs. 4-6 yrs.	3.	Above 6 yrs.	



Part II: Research information

Please indicate your level of agreement (as described from 1 to 5) with a mark (\checkmark), in respect of each statement in the table below.

1 = Strongly Disagree	2 = Disagree	3 = Moderately Agree
4 = Agree	5 = Strongly Agree	

	VARIABLES/DIMENSIONS/INDICATORS			Degree of Agreement				
	GREEN BANKING PRACTICES	1	2	3	4	5		
Enviro	nmental Policies and Goals							
1	Environment audit is done regularly in our branch/banks.							
2	My bank has environmental (green) policy and pollution prevention plans.							
0	My bank provides training and education to staff on environmental protection.							
3	energy saving, etc.							
4	My bank has hired a designated Environmental/Energy Manager.							
5	"Research & development' is continuous on environmental issues in our bank							
5	My hank has environmental related agreement with relevant narties/stakeholders							
6	(suppliers customers etc.)							
7	Employee incentive programs for environmental suggestions are in place							
	My hank has green environmental performance evaluation practices (environmental							
8	sustainability measures energy saving measures)							
Green	Janding					1		
9	Site visits are done before lending loans							
10	My hank assesses the client's environmental records before lending							
10	My bank assesses the third-narty (Central Environmental Authority) reporting on							
11	loan proposil bafore landing							
	My bank provides loan to environmental protection and energy saving related							
12	projects with low interest rate							
	My hank promotes and facilitates environmental oriented enterprises through		1					
13	special grants loans and guidance							
Croon	Products and Sorvices					<u> </u>		
14	My bank made investment in electronic and online banking		1					
15	My bank made investment in mobile banking.							
15	My bank made mivestment in mobile banking.							
10	My ballk has developed green deposit schemes.							
Green	Process and Procedures		1					
17	My bank uses e-waste management practices.							
18	My bank involves in setting up green branches (energy efficient buildings/green							
10	buildings).							
19	My bank reducing paperwork by using alternative means e.g. emails.							
20	My bank has environmentally friendly banking practices (e-mails, internet, e-							
	statements, online approval system, etc.).	-			-			
21	My bank has introduced energy efficient equipment, system solutions and practices							
011077.4	(ATMs, LED lighting, SWIFT transfer, etc.).							
SUSTA	INABILITY PERFORMANCE							
Econo	mic performance		1					
22	Green banking practices significantly improve revenue and market share of our							
	bank.							
23	Green banking practices significantly decrease operational expenditure of our bank.							
24	Green banking practices significantly improve resource management efficiency in							
	our bank.							
Enviro	nmental Performance		1	1	1			
25	Green banking practices improve banks compliance to environmental standard.							
26	Green banking practices significantly reduce energy consumption in our bank.							
27	Green banking practices significantly reduce paper usage and other materials.					1		
Social	Performance	0			0			
28	Green banking practices have positive effect on the image of our bank.							
20	Green banking practices results in better relationship between community and							
29	stakeholders.					<u> </u>		
30	Green banking practices results in increase compliance with applicable social laws							
30	and regulations.					l		
Emplo	yee Green Behaviour							
21	I make suggestions and bring new ideas about environmentally friendly practices to							
31	my bank.							
32	At work, I take part in environmentally friendly programs.							
33	I share my knowledge about the environment with co-workers.							
34	At work, I question practices that are likely to hurt the environment.		1	1				
25	At work, I perform environmentally friendly tasks that provide more advantages to		1	1				
35	my bank.					l		
·				•				

Thank You for spending your valuable time to complete this questionnaire!

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