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Do human resource management practices influence environmental management in the ready-made garment industry? An empirical analysis

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Do human resource management practices influence environmental management in the ready-made garment industry? An empirical analysis

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Abstract: This study examines the relationship between human resource management (HRM) practices on environmental management (EM) of ready-made garment organisations in Bangladesh. Data were collected from 185 respondents (i.e., 52 human resource managers, 29 chief executive officers, and 104 general employees). The study employed partial-least square-structural equation modelling (PLS-SEM) for robust inferences. Findings reveal that organisational citizenship behaviour for environment (OCBE) and strategic human resource management (SHRM) practices have a significant positive relationship with EM. In contrast, internal environmental operations do not have any significant association with EM in Bangladesh's context. The results suggest that OCBE and SHRM are significant predictors of better EM. There are limited empirical studies presented in the literature linking HRM practices and EM, and this research might help policymakers and researchers to get insights about the significance of HRM practices in improving EM of the ready-made garments (RMG) sector. In addition, this study also discussed the limitations of this study, directions for further studies, and implications for theory and practice.

Keywords: HRM practices; environmental management; RMG sector; Bangladesh.

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1 Introduction

Environmental pollution has been a serious global concern that is perhaps a vital challenge confronted by humankind (Gilal et al., 2014). Recently, organisations worldwide have been under pressure from various stakeholders to reduce the environmental pollution due to their business organisations (Yu et al., 2017; Singh et al., 2019; Longoni et al., 2018). Besides, there is keen awareness, increased customer consciousness about environment-friendly products, and governments are more aggressive towards implementing green policies (Khan et al., 2018). Consequently, organisations, along with adopting environmental values, need to implement effective environmental management (EM) practices to improve their overall organisational performance (Kim et al., 2019; Bals and Tate, 2018). Business organisations operating in the manufacturing sector that aimed to reduce environmental pollution by curbing industrial waste were found to improve their overall performance (Kim et al., 2019). Evidence reveals that hotels that aimed to eliminate their wastes, conserve energy, educate, and train their employees and customers resulted in better EM (Kim et al., 2019). EM is an organisational commitment to protecting the environment and conducting business operations in a manner maintaining environmental standards (Roscoe et al., 2019). Scholars suggested that better EM of companies is driven by adopting human resource management (HRM) practices (Sing et al., 2019). Moreover, HRM develops an organisation's internal capabilities and competencies that are vital for environmental outcomes (Heras-Saizarbitoria et al., 2020). Despite the importance of HRM practices in promoting EM, thus far, very few studies have been conducted to investigate the role of HRM in EM manufacturing organisations (Kim et al., 2019).

Many of the previous studies have studied green human resource management (Gilal et al., 2019; Kim et al., 2019; Pham et al., 2019; Roscoe et al., 2019; Yong et al., 2019; Zhang et al., 2019), environmental CSR (Chuang and Huang, 2016), green motivation (El-Kassar and Sing, 2018), green training (Pinzone et al., 2019), environmentally-specific servant leadership (Tuan, 2019) as predictors towards environmental performance (EP) in several contexts. Some studies have studied green supply chain management towards firm performance (Khan and Qialni, 2017) and economic growth and environment (Khan et al., 2018). Other studies have focused on adopting operational environmental sustainability (Piyathanavong et al., 2019), sustainable HRM and sustainable development goals (Chams and García-Blandón, 2019). However, few studies have paid attention to the plausible influence of HRM practices such as strategic human resource management (SHRM), organisational citizenship behaviour for environment (OCBE), and IEO on EM. Notably, researchers (e.g., Luu, 2019; Robertson and Barling, 2017) have revealed that SHRM (Lu et al., 2017), OCBE (Zientara and Zamojska, 2016; Terrier et al., 2016; Robertson, and Barling, 2017; Lu et al., 2017), and IEO (Norton et al., 2015; Boiral et al., 2013) are significant predictors of EM. Moreover, the role of HRM in EM is neglected and under-researched (Chams and García-Blandón, 2019) and yet to be widespread across different contexts (Islam et al., 2018). Islam et al. (2018) also suggested conducting further studies in other manufacturing sectors as their study was from the Bangladeshi leather industry perspective. Considering the above gap, this study's main motivation is to conduct further study in a vital RMG sector as there is limited attention given to the area.

Also, the literature suggests developing an increased awareness to adopt HRM practices for EM in the manufacturing sector and specifically in the RMG (Rubel et al., 2016). Thus, integrating research on HRM practices and EM, this study aims to contribute to this burgeoning field of research by examining OCBE, SHRM, and IEO as antecedents of EM in context of RMG sector in Bangladesh, hence, to answer the following research questions (RQs):

1 What is the relationship between HRM practices and EM?

2 What are the critical HRM practices for EM?

3 Which HRM practices are relatively more important for useful EM?

This study is essential for emerging economies like Bangladesh because air pollution in some South-Asian cities, including Dhaka of Bangladesh, is so harmful that the cities are seemed to be enveloped by a blanket of smoke that hinders visibility (World Health Organization, 2017). Moreover, Bangladesh ranked 179 in the environmental performance index (EPI) (2018) with 29.56 points. Environmental pollution exceeds limits in two major cities, namely Dhaka and Chottagrom, where most manufacturing companies, including RMG, are located. Bangladesh has become the worst sufferer of climate change due to environmental pollution. As a result, the country has been experiencing the impact of various disasters such as salinity, scarcity of drinking water, flood, waterlogging, heavy rainfall, unusual monsoon, inundation, riverbank erosion, an outbreak of various diseases and lightning strike (Belal et al., 2015) emanating from environmental pollution (Hoque and Clarke, 2013). It is also predicted that climate change could have a devastating impact on agriculture, a critical economic driver in Bangladesh, accounting for nearly 20% of GDP and 65% of the labour force (Roy and Haider, 2018). According to a newspaper report, another hazardous disaster named 'lightning strike' caused a loss of as many as 112 lives within just 20 days from 1 May 2018 to 20 May 2018 only, according to a newspaper report (The Daily Star, 2018). The above-mentioned effects of environmental pollution indicate the importance of EM for manufacturing industries, including RMG, for the country's sustainable development.

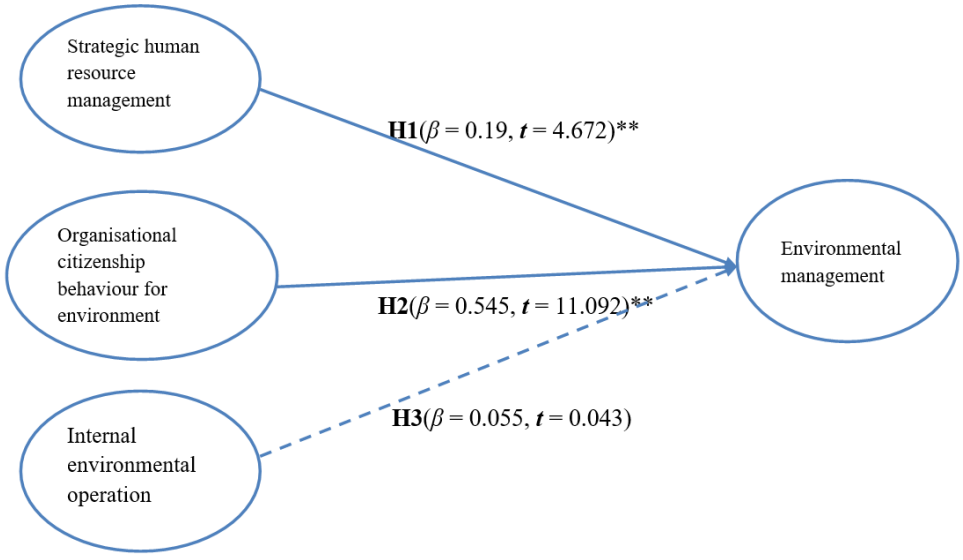
RMG, the largest manufacturing sector in Bangladesh in terms of its contribution to gross domestic product and export earnings worth $24.5 billion (BGMEA, 2018), is a resource-hungry and pollution-intensive sector. RMG is the main contributor to the country's exports (83%) and GDP (16%), with around 4000 factories employing around four million workers (Uddin, 2018). These factories have been continuously dumping million tons of dust and wastages and continuously pollute the air, water, and earth that seriously affect this region's ecological balance (Islam et al., 2018). Moreover, the industry's total water usage in Bangladesh is estimated to be 1, 500 million cubic meters for washing, dyeing, and finishing textiles, 70% of which is principally made of groundwater. Despite this, there is no such particular study that investigates the role of HRM practices on EM of the RMG sector in Bangladesh. The best of the author's knowledge is that this research is a pioneer study relating to examining the influence of HRM practices on EM. The rest of the paper is structured as follows: Section 2 explains the theoretical background and hypotheses. Section 3 describes the research methodology. Section 4 includes the analysis of findings. Finally, Section 5 discusses the implications for theory and practice with limitations and directions for future research.

2 Theoretical background and hypotheses development

2.1 Theoretical background

This study draws upon the *ability-motivation-opportunity* (AMO) theory and the resource-based view (RBV) to investigate and describe HRM-EM link in the context of the RMG sector in Bangladesh. AMO theory postulates that HRM practices affect employees' ability, motivation, and opportunity that contribute to promoting organisational performance (Appelbaum et al., 2000). The AMO theory is widely applied in HRM research and provides better insights on how HRM practices improve EM (Gholami et al., 2016; Guerci et al., 2016; Renwick et al., 2013). AMO theory focuses on developing employees' positive work attitudes and behaviours, and workplace environment stemming from implementing HRM practices (Appelbaum et al., 2000). Mainly, AMO develops EM through leveraging HRM by developing pro-environmental attitudes and capacity of employees (ability), enthusiasm and willingness (motivation), decision making (opportunities) for green initiatives (Opatha, 2015; Renwick et al., 2013). The study argues that HRM practices aim to develop employees' abilities, motivate them, and provide opportunities for better EM of firms. Researchers also viewed AMO theory as the heart of SHRM (Katou and Budhwar, 2010), and hence, this study grounds on AMO theory.

Figure 1 Theoretical framework (see online version for colours)



Note: **indicates significant.

Along with AMO theory, the institutional theory (IT) lenses the theoretical background for HRM practices to examine EM since it provides a clear understanding of the operationalisation of how RHM practices improve EM (Arulrajah and Opatha, 2016). Moreover, institutionalism theory is widely applied and well-established in researching HRM (Boselie et al., 2009; Wright et al., 2005). However, this theory assumes that the integration of HRM practices in the process of EM could better be done through

the institutionalisation of practices at the strategic-, business-, functional-, and operational-levels across the organisations. In line with IT, recent studies posited that the contribution of HRM practices in improving green management to some extent depends on how organisations can accommodate various societal and institutional pressures, and optimise resources for greener management (Sehnem et al., 2019; Macke and Genari, 2019). Benefits emanating from integrating HRM practices with EM entail an increase in institutional green practices, which further, in turn, develop green organisational management. Thus, in line with the above-mentioned theories' relevance, this study aims to examine the proposed model (see Figure 1). The model includes SHRM, OCBE, and IEO as independent variables and EM as a dependent variable, as depicted in Figure 1.

The model provides a better understanding on the mechanisms leading to EM is valuable for practitioners. It allows practitioners to examine the effectiveness of their HRM practices that contribute to better EM. Recent evidence reveals that EM's essential antecedents are SHRM, OCBE, and IEO that induce to go green (Chams and García-Blandón, 2019; Boiral et al., 2016; Gilal et al., 2019). This study includes SHRM, OCBE, and IEO as predictors of EM since they have a varying influence on organisations' EM. The selection of antecedents of EM was based on previous research, revealing SHRM, OCBE, and IEO as having a particularly significant influence on EM (Chams and García-Blandón, 2019; Boiral et al., 2016; Gilal et al., 2019).

2.2 Environmental management

EM refers to the organisations' commitment towards protecting the environmental atmospheres from being polluted due to their business operations. EM is defined as "the degree to which an organization is taking action to incorporate environmental considerations in its operational decisions and following acceptable standards" (Montabon et al., 2007). According to Majid et al. (2019), EM is the association between the organisation and its environment. EM consists of reducing wastes (Rothenberg et al., 2001), a decrease in weight of products and packages (Rao and Holt, 2005), reducing energy, raw materials, and inputs (Severo et al., 2017). Better EM can facilitate organisations' access to valued customers and markets, survive their present markets by serving their customers better, and build new entry barriers for potential competitors to enter (Hsu et al., 2016). Moreover, useful EM also improves market share, the viability of a firm with its financial performance (Majid et al., 2019). Additionally, the EM system improves green performance and brand image with better economic performance (Khan et al., 2018).

2.3 SHRM and EM

The concept of integrating environmental issues at the strategic level is not new. Strategic human resource management (SHRM) is defined as "the pattern of planned HR deployments and activities intended to enable an organization to achieve its goals" (Wright and McMahan, 1992). SHRM highlights the extent to which HR systems and practices contribute to achieving organisational goals and objectives (Boon et al., 2017). The extant literature on EM issues emphasised several aspects and resultant strategies that depict firms' behaviour towards promoting environmental sustainability (Groening

et al., 2018; Gong et al., 2018). Researchers argued that SHRM facilitates to place employees of an organisation to demonstrate green behaviour (Majid et al., 2019). Accordingly, SHRM formulates policies and gives needed directions to promote employees' adoption of an environmental stance (Chen et al., 2015). More considerable evidence also shows that the philosophies, policies, and practices regarding HRM domain towards EM are essential for promoting EM (Robertson and Carleton, 2018). Results show that the success of environmental efforts to some extent depends on strategic practices at the domain of HRM (Robertson and Barling, 2017). Sing (2018) conducted a study on 368 employees and 46 managers in Indian tourist hotels. The findings show that strategic HR planning improves innovation performance as well as mitigates environmental uncertainty. SHRM facilitates to develop the human capital of an organisation to leverage its competencies to overcome environmental challenges. Besides, SHRM ensures corporate-level support, employee empowerment, environmental safety training, rewards-EP link, and develops cross-functional coordination towards better EM (Robertson and Barling, 2017). SHRM, moreover, motivates, and encourage employees by developing competencies and capabilities to use resources in pursuit of attaining green goals (Luu, 2019; Chams and García-Blandón, 2019). Thus, the study hypothesises that:

Hypothesis 1 SHRM is positively related to EP.

2.4 OCBE and EP

OCBE refers to the employees' willingness to demonstrate extra-role activities and behaviours that develop green management (Luu, 2019). Boiral and Pailé (2012), extending the concept of OCB, defined OCBE as "the voluntary and not recognized by the formal reward system and contribute to more effective environmental management by the organization" (p.431). OCBE improves EM by curbing the consumption of personal and organisational resources. Boiral and Pailé (2012) suggested encouraging new green behaviours, promoting employees' environmental efforts, and stimulating innovative eco-ideas and concepts, and employee participation in the EM process. Such kinds of extra-role behaviours contribute to attaining corporate environmental goals (Robertson and Barling, 2017). Employees' discretionary pro-environmental behaviour helps to conserve energy and reduce fuel consumption, reduce and reuse industrial wastage (Robertson and Barling, 2017). Furthermore, a decrease in the use of inputs, raw materials, and resources of a firm, caused by individuals' discretionary environmental efforts, reduces the emission of greenhouse gas by reducing transportation, processing, and extraction of inputs and materials (Swim et al., 2011). In this regard, Khan et al. (2019) in their recent study on Asian emerging economies reported that efficient customs clearance, quality of logistics services and trade and transport-related infrastructure are negatively related to environmental problems (i.e., climate change, global warming, carbon emissions, and poisoning atmosphere). Empirical evidence suggests that when individuals become aware of environmental sustainability, they contribute to discretionary efforts and behaviours for going green (Pham et al., 2019). Thus, we expect the following hypothesis:

Hypothesis 2 OCBE has a positive relationship with EP.

2.5 IEO and EM

The integration of environmental issues in internal organisational operations has been an essential aspect of better EM (Passetti et al., 2014). Evidence, in this regard, shows that various internal organisational operations positively influence EM. For example, according to Khan et al. (2017) and Khan and Dong (2017), integrating green practices with the business operations does develop environmental sustainability and improves financial performance. Khan and Qilani (2017) conducted a study among Pakistani supply chain supervisors, managers, and manufacturing companies' directors. The results show that eco-design, green information systems, and green purchase facilitate better EM of sample manufacturing firms. It is mainly because eco-design easily helps manufacture and recycle the products when product life cycle finishes (Khan and Qilani, 2017). In another study, conducted by El-Kassar and Singh (2018) among employees and managers, findings show that the adoption of green product and process innovation practices reduce consumption of energy, pollution emission, sustainable resource utilisation, waste recycling, and green service delivery and product design, which in turn develop EM of firms. Tuan (2019) researched servant leadership's effects on green performance in Vietnam via green climate and green crafting. The shreds of evidence show that green crafting and green transformational leadership practices positively influence individual green performance. Brammer et al. (2012) found the internal management paradigm to influence a firm's ability to EM in SME firms in the UK.

Besides, numerous studies reported that other IEO such as strategic intent, internal championing of environmental protection and development interventions paperless communication, environ-friendly internal control system, online documentation (Reyes-Rodríguez et al., 2014) result in better EM. Some studies reported contradictory evidence concerning the impact of internal operations on EP. In a meta-analysis, Darnall and Sides (2008) did not find any significant impact of IEO on EM. However, in contrast, a large-scale study conducted on managers of 4187 Spanish firms reported a satisfactory improvement in EM (López-Gamero, and Molina-Azorín, 2016). Some organisations use negative reinforcements such as suspension, criticism, and giving the warning for anti-green behaviour. In this track, López-Gamero and Molina-Azorín (2016) reported the positive impacts of the abovementioned harmful practices on EM. Taken together, internal environmentally-oriented organisations deploy and direct their resources and efforts towards sustainable outcomes that eventually result in improved EM (Gilal et al., 2019). Hence, the study expects the following relationship:

Hypothesis 3 IEO have a significant impact on environmental sustainability.

3 Methodology

3.1 Sample and procedure

This study's sample framework consisted of 469 RMG organisations of the alliance list (Alliance for Bangladesh Worker Safety, 2017). This study collected from one sector (i.e., RMG) and from a single country perspective (i.e., the South-Asian country of Bangladesh) to assure that the findings are not influenced by potential industry and

country variations (Gilal et al., 2019). In total, 280 participants (e.g., corporate-level managers, HR managers, chief executive officers, and general employees) were recruited conveniently from 65 RMG firms selected randomly. Data were collected from multiple respondents to reduce the concern for systematic errors and common method bias (Zhou et al. 2008). All the respondents were asked to respond to evaluate their perceptions of the importance of HRM practices on EM. Participants were given assurance of complete anonymity of their responses that might reduce the likelihood to change their answers and response bias, and increase the likelihood of sincere participation (Podsakoff et al., 2003). However, following an initial screening of the 198 returned questionnaires, 13 incomplete responses were eliminated, yielding a final valid sample of 185 in this study with a reasonable response rate of 66%.

Of the original sample of 185 responses, 52 were HR managers, 29 were CEOs, and 104 were general employees. Moreover, demographics indicate that 83.7% of respondents were married, 65.7% of respondents were between 26 and 35 years old, around 73.5% of respondents were graduates, 76.7% of respondents were male, and 23.3% were female, and average length service of the respondents was 10.09 years.

3.2 Measurement

The study developed a 14-item (Table 1) validated scale to study the independent and dependent variables by adopting items from prior literature with minor changes but with care not to modify the original meaning. The study applied 5-point Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure SHRM, OCBE, and IEO. SHRM practices were studied using a 4-item scale developed Huselid (1995). This study measured OCBE by adopting a 3-item scale provided by Boiral and Paillé (2012). Further, a 4-item measure was adopted from Banerjee et al. (2003) to study IEO, while EM construct was studied using a 4-item from Chow and Chen (2012). 5-point Likert-scale was used to study EM, with the lowest value being 1 (small extent) and the highest 5 (large extent). Reliability coefficients for SHRM, OCBE, IEO, and EM were 0.87, 0.91, 0.83, and 0.87 respectively, which were higher than the threshold limit of 0.60 as recommended by Black and Babin (2019). This study also controlled for respondents' gender, age, and tenure, education, marital status as demographic variables.

3.3 Common method bias (CMB)

This study examined the potential for CMB for study variables due to using cross-sectional data. This study applied Harmon's single-factor test, common method factor, and VIF values to examine whether the dataset was contaminated by the presence of CMB (Podsakoff et al., 2003). The EFA with varimax rotation reported that all constructs altogether accounted for 67% of the total variance explained, with the first (largest) factor being 43% (<50%). Besides, the study examined a confirmatory factor analysis (CFA) model that loaded all of its corresponding indicator variables on a common method factor. The result revealed a very poor model fit, with $\chi 2(df)$ = 1956(102), CFI = 0.82, GFI = 0.75, NFI = 0.81, and SRMR = 0.09. The VIF values (Table 2) were within an acceptable range and less than 3.3 (Kock, 2017). Thus, based on the abovementioned results, CMB is not a concern for the dataset.

Table 1 Constructs/items used in the research instrument

Construct	*Definition*	*Item*	*Adopted from*
Strategic human resource management	The pattern of planned HR deployments and activities intended to enable an organisation to achieve its goals.	*SHRM1:* Our firm identifies managerial characteristics essential to run the firm in the long-term.	Huselid (1995)
		SHRM2: Our firm conducts staff development programs designed to support strategic changes.	
		SHRM3: HRM department can deliver HR-related information for strategic business decisions.	
Organisational citizenship behaviour for environment	Discretionary acts by employees within the organisation not rewarded or required that are directed toward environmental improvement.	*OCBE1:* I undertake environmental actions that contribute positively to my organisation's image.	Boiral and Paille (2012)
		OCBE2: I volunteer for projects, endeavours, or events that address environmental issues in my organisation.	
		OCBE3: I encourage my colleagues to express their ideas and opinions on environmental issues.	
Internal environmental operations	Environmental operations reflect the degree to which firms are committed to protecting the natural environment, and to recognise and to integrate environmental concerns into the business strategy.	*IEO1:* At our firm, we make a concerted effort to let every employee understand the importance of environmental preservation	Banerjee et al. (2003)
		IEO2: Our firm has a clear policy statement urging environmental awareness in every area of operation.	
		IEO3: Our firm members highly value environmental preservation.	
		IEO4: Preserving the environment is a central corporate value in our firm.	
Environmental management	The degree to which an organisation is taking action to incorporate environmental considerations in its operational decisions and following acceptable standards.	*EM1:* Our firm reduces wastes and emissions from operations.	Chow and Chen (2012)
		EM2: Our firm reduces the environmental impacts of its products/services.	
		EM3: Our firm reduces environmental impact by establishing partnerships.	
		EM4: Our firm reduces purchases of non-renewable materials, chemicals, and components	

3.4 Data analysis

This study utilised partial least squares (PLS) analysis applying SmartPLS3.2.8, a second-generation statistical software (Ringle et al., 2015). The data analysis begins with an interpretation of descriptive statistics. Then the study evaluated the measurement model followed by examining the structural model to test the proposed hypotheses.

4 Results

4.1 Descriptive statistics

Descriptive statistics, reliability coefficients, inter-correlations, and variance inflation factors are presented in Table 2. As shown in the Table, reliability coefficients range from 0.78 to 0.86 and higher than the threshold level of 0.60 (Black and Babin, 2019). Of utmost interest, variables (i.e., IEO, OCBE, and SHRM) were found to have significant inter-correlations among them. VIF values were reported to be within the acceptable level (<0.70), indicating no potential presence of CMB.

Table 2 Mean, standard deviations, reliability, correlations, and collinearity

S. no.	*Constructs*	*Mean*	*SD*	*1*	*2*	*3*	*4*	*VIF*
1	IEO	3.87	.76	*(.78)*				1.33
2	OCBE	3.75	.85	.47**	*(.75)*			1.49
3	SHRM	3.88	.72	.37**	.41**	*(.82)*		1.35
4	EP	3.86	.71	.40**	.28**	.26**	*(.86)*	

Notes: Figures in the parentheses indicate Cronbach's alpha values.
**correlation is significant at the 0.01 level (2-tailed).

4.2 Measurement model

While evaluating the measurement model, this study used factor loadings, average variance extracted (AVE), and composite reliability (CR) to examine the convergent validity and the discriminant validity. The results are depicted in Table 3. As can be seen, the result shows that all the constructs demonstrated factor loadings of above 0.70, average variance extracted more than 0.50, indicating the validity and of the variables of interest (Hair et al., 2017).

Further, the study tested discriminant validity applying the HTMT criterion (see Table 4) (Henseler et al., 2015), Fornell Lacker criterion (see Table 5) (Fornell and Lacker, 1981), and CFA. The result of HTMT reveals that the criterion passed the 0.85 (Kline, 2015) and 0.90 (Gold et al., 2001) thresholds.

Table 3 Measurement model

Constructs	*Items*	*Loading*	*t-value*	*CR*	*AVE*
Environmental performance	EP1	0.827	14.02	0.882	0652
	EP2	0.825	13.17		
	EP3	0.791	12.08		
	EP5	0.785	15.17		
Internal environmental operations	IEO1	0.683	15.21	0.802	0.503
	IEO2	0.748	14.06		
	IEO3	0.680	13.64		
	IEO4	0.722	12.36		
Organisational citizenship behaviour for environment	OCB6	0.832	17.56	0.854	0.662
	OCB7	0.812	15.45		
	OCB10	0.797	16.52		
Strategic human resource management	SHRM1	0.805	17.57	0.810	0.587
	SHRM6	0.764	13.41		
	SHRM7	0.727	11.76		

Notes: CR (composite reliability), AVE (average variance extracted).

Table 4 Discriminant validity (HTMT criterion)

Construct	*EP*	*IEO*	*OCB*	*SHRM*
EP				
IEO	0.195			
OCBE	0.617	0.149		
SHRM	0.392	0.309	0.338	

Along with the HTMT criterion, the Fornell-Lacker criterion was also used to examine constructs' discriminant validity (see Table 5). The result shows that the diagonal AVEs ranged from 0.697 to 0.813, which were more than off-diagonal correlations, which passed the criterion.

Table 5 Discriminant validity using Fornell-Lacker criterion

Constructs	*EP*	*IEO*	*OCBE*	*SHRM*
EP	*0.741*			
IEO	0.32	*0.697*		
OCBE	0.289	0.418	*0.791*	
SHRM	0.304	0.360	0.514	*0.813*

In addition to HTMT and Fornell-Lacker criteria, the study also ran a CFA to measure the discriminant validity of the constructs (i.e., SHRM, OCBE, IEO, and EM). In this regard, we calculated standardised root mean squared residual (SRMR), d_ULS, d_G, X^2, gross fit index (GFI), comparative fit index (CFI), and normed fit index (NFI) values to test the goodness of fit for the proposed model. Following a prior process (Gilal et al., 2018), the results revealed acceptable goodness-of-fit indices (X^2 = 1326, degrees of freedom

[df] = 104, p = 0.000, CFI = 0.93, GFI = 0.90, NFI = 0.92, SRMR = 0.04, d_ULS = 0.07, d_G = 0.24). Thus, the results of the HTMT criterion, Fornell-Lacker criterion, and CFA indicate the establishment of discriminant validity and reliability of the constructs.

4.3 Structural model

To test the proposed hypotheses, this study ran a bootstrapping procedure with a resampling rate of 5,000 (Hair et al., 2017) to get *t*-values, *p* values, and bootstrapped confidence intervals. The results are presented in Table 6.

Table 6 Structural model and hypothesis testing

Hypothesis	*Relationships*	*Coefficients*	*Decision*	*t-value*	f^2
H1	SHRM → EP	0.190**	Supported	4.672	0.051
H2	OCBE → EP	0.545**	Supported	11.092	0.454
H3	IEO → EP	0.055	Not supported	0.043	0.005
R^2	0.422				
Adjusted R^2	0.418				
Q^2	0.195				

Notes: **p < 0.01, *p < 0.05.

This study tested three hypotheses, and, as depicted in Table 6, two hypotheses were reported to be statistically significant. Particularly, in hypothesis *H1*, this study proposed a direct positive relationship between IEO and EM. The results reported a t-value of less than 1.645 (β = 0.055, $p > 0.05$, t = 0.043, f^2 = 0.005), and not supporting *H1*. The insignificance of *H1* reveals that the IEO does not have any significant favourable influence on EM. In other words, IEO accounted for a 5% change in EM of sample organisations. Further, regarding *H2* and *H3*, the results demonstrated a significant positive impact of OCBE (β = 0.545, $p < 0.001$, t = 11.092, f = 0.454) and SHRM (β = 0.190, $p < 0.01$, t = 4.672, f^2 = 0.051) on EM of RMG organisations in Bangladesh. Hence, H2 and H3 were supported.

Further, we calculated R^2 value to identify the variance in EM. The result reported an adjusted R^2 value of 0.418, indicating that 41.8% of the EM variance could be explained by the variables proposed in our model. An R^2 value of 41.8% is moderate and thought to be standard, but other factors might influence EM. However, the value of R^2 is dependent on the field of research (Hair et al., 2017).

We also calculated the effect sizes (f^2) and predictive relevance (Q^2) using the blindfolding procedure in support of the proposed model. The f^2 values measure the strength of each predictor variables to explain the outcome variable. The results (see Table 6) demonstrate that OCBE (f^2 = 0.454 > 0.35) and SHRM (f^2 = 0.051 > 0.02 and <0.15) were found to have a substantial and weak effect respectively, whereas IEO was found to not affect EM (Chin, 1998). Regarding predictive relevance (Q^2), the results showed a value of 0.19, and since the value is more than 0 (Fornell and Cha, 1994), providing further evidence of the predictive relevance of the structural model.

In answering RQ1, overall, the evidence indicates a positive relationship between HRM practices and EM. Turning to the RQ2, findings also reveal that OCBE and SHRM are the most critical HRM practices exerting a significant and positive influence on the RMG sector's EM in Bangladesh.

In answering *RQ3*, the results indicate out of three HRM practices, OCBE was reported to have relatively more influence on EM, followed by SHRM, indicating important determinants of EM in the RMG industry in Bangladesh. The IEO showed the lowest, albeit insignificant, influence in explaining EM. The result reported an adjusted R^2 of 0.418 > 0.26 (Cohen, 1988), indicating the model's significance. Altogether, the proposed model explains around 42% of the variance in predicting EM.

5 Discussion

The novelty of this study lies in examining the role of HRM practices in EM. So far, the author's knowledge goes; this study is first of its kind to test the theoretical framework with empirical evidence form an emerging South-Asian context such as Bangladesh. This study will contribute to the overall understanding of the nexus between HRM practices and EM in the context of the manufacturing sector (e.g., RMG).

Drawing upon the AMO theory and the IT theory, this study hypothesised that HRM practices (i.e., SHRM, OCBE, and IEO) would positively impact EM. The results revealed, however, a statistically significant impact of SHRM and OCBE in promoting EM. These findings validate the assumptions of the AMO and the Institutional theories, concerning the influence of HRM practices such as OCBE, and SHRM on EM. Further, our findings validate the research works emphasising on investigating the role of specific types of HRM practices on EM (Zientara, and Zamojska, 2016; Terrier et al., 2016; Robertson and Barling, 2017; Lu et al., 2017; Goldman et al., 2015; Boiral et al., 2013; Norton et al., 2015; Boiral et al., 2016).

Regarding the hypothesis (H2) of OCBE and EM, findings suggest a significant positive impact of OCBE on EM. Findings are partly consistent with previous studies. However, previous studies (e.g., Boiral and Paille, 2012; Daily et al., 2009; Ramus and Killmer, 2007) also explored the decisive role of OCBE on green performance. In their recent study, Robertson and Barling (2017) tested a new scale for OCBE and found a direct and indirect influence of OCBE to improve EP. However, based on the findings, this study suggests that employee's manifestation of voluntary pro-environmental behaviour effectively increases EM. This study suggests that OCBE can increase the active management of the environment. Researchers in this context reported that organisations need to rely on and promote those employees who are likely to something suitable for promoting the environment over their formal job descriptions and concerned with the importance of environmental protection (Molina-Azorín et al. 2009).

Other findings of the significant impact of SHRM on EM (H3) demonstrate that SHRM practices are effective in enriching EP. Empirical evidence supports the hypothesis that entails the significant direct and positive influence of SHRM on EM. This finding suggests that formulating and implementing various SHRM practices could expound the firm's environmental protection and underscores the significance of SHRM practices in the RMG industry in their effort to manage the environment effectively. Based on the results, SHRM promotes environmental protection; organisations' CEOs, HR managers, and outstanding management of the RMG industry hold a pivotal position to assist in reducing environmental pollution by developing and sustaining a green workplace environment.

Notably, the results reported that IEO does not have any significant influence on EM. This finding suggests that IEO in the RMG industry in Bangladesh might not effectively

protect the environment. Although previous studies (e.g., Passetti et al., 2014; Tuan, 2019) reported a positive association between IEO on EM. The finding seems counter-intuitive primarily because it is expected that IEO could expound the EM. For the Bangladeshi RMG industry, however, this might be due to companies are less interested in incorporating environmental issues into their internal business operations, especially in the Bangladeshi context. Another reason might be due to the lack of skills to perform internal business operations in a greener fashion. Moreover, the management of RMG organisations might have failed to integrate the environmental goals and objectives with mainstream business operations.

Moreover, even if firms have incorporated green issues in their internal operations, perhaps only concerned employees deemed are deemed to be affected. Although empirically, previous studies (e.g., El-Kassar and Singh, 2018; Khan and Qianli, 2017) have revealed that internal green operations improve EM. Thus, IEO's role on EM may not be merely apparent, in the perspective of Bangladeshi RMG manufacturing organisations.

Based on our findings, HRM practices have been recommended as an approach to develop both the employees' and organisations' abilities and to motivate employees towards better management of the environment. The findings imply that HRM practices develop environmental commitment among top-level employees such as chief executive employees, corporate-level managers, HR managers, and general employees to demonstrate discretionary efforts to environmental protection. Companies can also diffuse organisational beliefs and values throughout the organisation through the institutionalisation of green norms and standards and incorporating green criteria in the performance, which improves EM (Yong et al., 2019). However, this research contributes to the existing literature in the area of HRM and EM. It provides pieces of evidence regarding two critical HRM practices (i.e., SHRM and OCBE) being able to promote EM of manufacturing companies in the RMG sector in Bangladesh.

6 Conclusions

6.1 Theoretical implications

Although many of the previous studies have been conducted to investigate the role of environmentally-specific servant leadership (Tuan, 2019), environmental best practices (Heras-Saizarbitoria et al., 2020), strategic human capital (Boon et al., 2017), green supply chain management (Longoni et al., 2018; Khan et al., 2018), green ideology in Asian emerging economies (Khan et al., 2019), logistics operations (Zhang et al., 2019), sustainable management of employees (Yap-Peng Lok and Chin, 2019), and pro-environmental behaviour of employees (Saeed et al., 2018), few studies exist to examine the role HRM practices on EM in the context of a major manufacturing sector in South-Asia. Hence, this study is an attempt to fill in this research gap. Second, as stated above, our findings reveal that HRM practices (SHRM and OCBE) significantly contribute to improving EM of RMG organisations. Hence, this research makes an incremental contribution to widening the existing HRM-EM literature in manufacturing settings.

Third, to investigate the role of HRM practices on EM, this study grounds on the two basic theories, such as AMO theory and IT, that originated in the Western and

non-South-Asian settings. Drawing on AMO and IT, this research illuminates the significance of SHRM practice and OCB for the environment in improving EM in a vital manufacturing sector.

Fourth, with the significant impact of SHRM and OCBE, the study confirms that the application of both the SHRM and OCBE are essential HRM practices for the successful accomplishment of EM goals. In doing so, this study also overcomes the limitations of previous studies. Finally, the insignificant impact of IEO on EM warrants furthering investigating the construct using an alternative measure proposed by other studies to ensure whether any influence exists on EM.

6.2 Implications for practice

In addition to theoretical contributions, the findings have several implications for managers, policymakers, and practitioners. Based on our findings, essential aspects relating to the manufacturing industries, managers, and policymakers have been discussed.

From practical perspectives, the findings offer several implications for managers, policymakers, professionals, and practitioners. The model proposed in this study intends to provide an understanding for manufacturing organisations, including the RMG industry, illuminating the effects of integrating HRM practices on EM. Due to the rampant pollution of the environment in recent times and increased pressures exerted by different stakeholders, the manufacturing sector can play a crucial role in environmental protection. Thus, by employing this framework of HRM practices in the RMG industry, professionals and practitioners could develop pro-environmental human resources and implement HRM as a useful strategy to attain EM's desired level. Moreover, since increased carbon emissions, water, air pollution, and global warming have been creating an alarming situation, governmental and regulatory authorities need to formulate policies towards protecting the environment (Khan et al., 2016). Besides, the government needs to strictly control companies' polluted operations by imposing financial penalties and a high tax rate on non-EM to stimulate green practices (Zhang et al., 2019). Fahimnia et al. (2015), in this regard, suggested policymakers to emboss substantial financial penalties on companies to address climate challenges by reducing air and water pollution.

The findings also imply that the RMG companies in Bangladesh that adopted HRM practices (e.g., SHRM and OCBE) had improved their EM. The integration of HRM practices with EM provides other benefits such as increased financial performance, market share, brand image, and viability of firms (Khan et al., 2018; Majid et al., 2019). However, once companies opt for EM as a focused area, the management needs to reshape organisational values, norms, standards, and culture to stimulate employees towards demonstrating extra-role behaviours and developing awareness of EM's significance.

Finally, the RMG sector in Bangladesh is found to have a poor record in EM, yet it is a pivotal contributor to the country's economy. In this context, the government of Bangladesh must devise explicit and instrumental green policies to give necessary strategic directions to stimulate RMG and other manufacturing organisations for going green.

6.3 Limitations and suggestions for future research

Although this study reported significant and robust findings, some limitations need to be acknowledged. Our limitations mainly emanate from the proposed theoretical model and its implication. First, although variables included in the model are not common HRM practices, but can be viewed as essential HRM practices for EM. Thus, other HRM practices may also contribute to our model. Additionally, this study's framework needs to be applied in other industries, countries, and cross-country perspectives that may increase the generalisations of the evidence and can influence the findings. Furthermore, this study mainly utilised cross-sectional data and quantitative research approach and collected data at a single point in time. Finally, the items and constructs included in the survey have their innate shortcomings; they were applied in previous studies.

Despite the abovementioned shortcomings, first, this study can be extended to encompass other HRM functions and green HRM practices such as green values and green organisational support to examine how various HRM functions impact EM. With these variables, future studies can examine whether the relationship between HRM practices and EM is direct or not through testing the moderating and mediating effects. Second, since data were collected data from the RMG sector, only further research may be conducted in other manufacturing industries such as steel, cement, and textile; as being the principal manufacturing industries in Bangladesh. The future sample may also include customers and suppliers to extend our findings. Third, Future studies can be conducted with longitudinal data and apply the mixed-method approach to explore causal relationships between independent and dependent variables. Finally, future research could be conducted in broader geographical perspectives taking the sample from other emerging economies such as Malaysia, China, India, and Taiwan in the South-Asian context.

We expect this research intends to provide an alternative understanding to those who are interested in investigating the association between HRM practices and EM.

Reference

Alliance for Bangladesh Worker Safety, (2017) *Alliance Factory Profile June 2017* [online] http://www.bangladeshworkersafety.org/files/Alliance%20Factory%20Profile%20June%202017.pdf (accessed 20 September 2018).

Appelbaum, E., Bailey, T., Berg, P. and Kalleberg, A. (2000) *Manufacturing Advantage: Why High-Performance Work Systems Pay Off*, Cornell University Press, Ithaca, https://doi.org/10.2307/259189.

Arulrajah, A.A. and Opatha, H.H. (2016) 'Analytical and theoretical perspectives on green human resource management: a simplified underpinning', *Int. Bus. Res.*, Vol. 9, No. 12, p.153, https://doi.org/10.5539/ibr.v9n12p153.

Bals, L. and Tate, W.L. (2018) 'What hybrid business models can teach sustainable supply chain management: the role of entrepreneurs' social identity and social capabilities', in *Social and Environmental Dimensions of Organizations and Supply Chains*, Vol. 5, No. 2, pp.259–282, Cham, Springer.

Banerjee, S., Iyer, E. and Kashyap, R. (2003) 'Corporate environmentalism: antecedents and influence of industry type', *Journal of Marketing*, Vol. 67, No. 2, pp.106–122.

Bangladesh Garment Manufacturer and Exporter Association (BGMEA) (2018) *About Garment Industry in Bangladesh* [online] https://www.bgmea. com.bd/home/about/AboutGarmentsIndustry (accessed 10 January 2018).

Belal, A.R., Cooper, S.M. and Khan, N.A. (2015) 'Corporate environmental responsibility and accountability: what chance in vulnerable Bangladesh?', *Critical Perspectives on Accounting*, Vol. 33, No. 4, pp.44–58, doi:10.1016/j.cpa.2015.01.005.

Black, W. and Babin, B. J. (2019) 'Multivariate data analysis: Its approach, evolution, and impact', in *The Great Facilitator*, pp.121–130, Springer, Cham.

Boiral, O. and Paillé, P. (2012) 'Organizational citizenship behavior for the environment: measurement and validation', *Journal of Business Ethics*, Vol. 109, No. 4, pp.431–446.

Boiral, O., Raineri, N. and Talbot, D. (2016) 'Managers' citizenship behaviors for the environment: a developmental perspective', *Journal of Business Ethics*, Vol. 149, No. 2, pp.395–409.

Boiral, O., Talbot, D. and Paillé, P. (2013) 'Leading by example: a model of organizational citizenship behavior for the environment', *Business Strategy and the Environment*, Vol. 24, No. 6, pp.532–550.

Boon, C., Eckardt, R., Lepak, D. P. and Boselie, P. (2017) 'Integrating strategic human capital and strategic human resource management', *The International Journal of Human Resource Management*, Vol. 29, No. 1, pp.34–67, doi:10.1080/09585192.2017.1380063.

Boselie, P., Brewster, C. and Paauwe, J. (2009) 'In search of balance – managing the dualities of HRM: an overview of the issues', *Personnel Review*, Vol. 38, No. 5, pp.461–471.

Brammer, S., Hoejmose, S. and Marchant, K. (2012) 'Environmental management in SMEs in the UK: practices, pressures and perceived benefits', *Business Strategy and the Environment*, Vol. 21, No. 7, pp.423–434.

Chams, N. and García-Blandón, J. (2019) 'On the importance of sustainable human resource management for the adoption of sustainable development goals', *Resources, Conservation and Recycling*, Vol. 141, pp.109–122, doi:10.1016/j.resconrec.2018.10.006.

Chen, Y., Tang, G., Jin, J., Li, J. and Paillé, P. (2015) 'Linking market orientation and environmental performance: The influence of environmental strategy, employee's environmental involvement, and environmental product quality', *Journal of Business Ethics*, Vol. 127, No. 2, pp.479–500, https://doi.org/10.1007/s10551-014-2059-1.

Chin, W.W. (1998) 'Commentary: issues and opinion on structural equation modeling', *MIS Quarterly*, Vol. 22, No. 1, p.1, http://doi.org/Editorial.

Chow, W. and Chen, Y. (2012) 'Corporate sustainable development: testing a new scale based on mainland Chinese context', *Journal of Business Ethics*, Vol. 105, No. 4, pp.519–533.

Chuang, S-P. and Huang, S-J. (2016) 'The effect of environmental corporate social responsibility on environmental performance and business competitiveness: the mediation of green information technology capital', *Journal of Business Ethics*, Vol. 150, No. 4, pp.991–1009, doi:10.1007/s10551-016-3167-x.

Cohen, J. (1988) *Statistical Power Analysis for the Behavioral Science*, 2nd ed., Lawrence Erlbaum Associates, Hillsdale, NJ.

Daily, B.F., Bishop, J.W. and Govindarajulu, N. (2009) 'A conceptual model for organizational citizenship behavior directed toward the environment', *Business & Society*, Vol. 48, No. 2, pp.243–256.

Darnall, N. and Sides, S. (2008) 'Assessing the performance of voluntary environmental programs: does certification matter?', *Policy Studies Journal*, Vol. 36, No. 1, pp.95–117.

El-Kassar, A-N. and Singh, S.K. (2018) 'Green innovation and organizational performance: the influence of big data and the moderating role of management commitment and HR practices', *Technological Forecasting and Social Change*, Vol. 95, No. 3, pp.96–108, doi:10.1016/j.techfore.2017.12.016.

Fahimnia, B., Bell, M.G., Hensher, D.A. and Sarkis, J. (2015) 'The role of green logistics and transportation in sustainable supply chains', in *Green Logistics and Transportation*, pp.1–12, Springer International Publishing.

Fornell, C. and Cha, J. (1994) 'Partial least squares', in R.P. Bagozzi (Ed.): in *Advanced Methods in Marketing Research*, pp.52–78, Blackwell, Cambridge.

Fornell, C. and Lacker, D. (981) 'Evaluating structural equation modeling with unobservable variables and measurement error', *Journal of Marketing Research*, Vol. 18, No. 3, pp.39–50.

Gholami, H., Rezaei, G., Saman, M.Z.M., Sharif, S., Zakuan, N. (2016) State-of-the-art green HRM system: sustainability in the sports center in Malaysia using a multi-methods approach and opportunities for future research', *J. Cleaner Prod.*, Vol. 124, No. 2, pp.142–163.

Gilal, F.G., Ashraf, Z., Gilal, N.G., Gilal, R.G. and Chaana, N.A. (2019) 'Promoting environmental performance through green human resource management practices in higher education institutions: a moderated mediation model', *Corporate Social Responsibility and Environmental Management*, Vol. 26, No. 6, pp.1579–1590, doi:10.1002/csr.1835.

Gilal, N.G., Zhang, J. and Gilal, F.G. (2018) 'The four-factor model of product design: scale development and validation', *Journal of Product and Brand Management*, Vol. 27, No. 6, pp.684–700, https://doi.org/10.1108/JPBM-11-2017-1659.

Gilal, F.G., Gilal, R.G. and Gilal, R.G. (2014) 'Romanticism v/s antagonism: Battle of minds, a case of Beijing pollution', *Romanian Journal for Multidimensional Education*, Vol. 6, No. 2, pp.57–78 [online] https://doi.org/10.18662/rrem/2014.0602.05.

Gold, A.H., Malhotra, A. and Segars, A.H. (2001) 'Knowledge management: an organizational capabilities perspective', *Journal of Management*, Vol. 18, No. 1, pp.185–214.

Goldman, E.F., Scott, A.R. and Follman, J.M. (2015) 'Organizational practices to develop strategic thinking', *Journal of Strategy and Management*, Vol. 8, No. 2, pp.155–175, doi:10.1108/jsma-01-2015-0003.

Gong, G., Deng, Q., Gong, X., Liu, W. and Ren, Q. (2018) 'A new double flexible job-shop scheduling problem integrating processing time, green production, and human factor indicators', *Journal of Cleaner Production*, Vol. 174, No. 1, pp.560–576, https://doi.org/10.1016/j.jclepro.2017.10.188.

Groening, C., Sarkis, J. and Zhu, Q. (2018) 'Green marketing consumer-level theory review: a compendium of applied theories and further research directions', *Journal of Cleaner Production*, Vol. 172, No. 1, pp.1848–1866.

Guerci, M., Longoni, A. and Luzzini, D. (2016) 'Translating stakeholder pressures into environmental performance – the mediating role of green HRM practices', *Int. J. Hum. Resour. Manage.*, Vol. 27, No. 2, pp.262–289.

Hair, J.F., Hult, G.T. M., Ringle, C.M., Sarstedt, M. and Thiele, K.O. (2017) 'Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods', *Journal of the Academy of Marketing Science*, Vol. 45, No. 5, pp.616–632.

Henseler, J., Ringle, C. and Sarstedt, M. (2015) 'A new criterion for assessing discriminant validity in variance-based structural equation modeling', *Journal of the Academy of Marketing Science*, Vol. 43, No. 1, pp.115–135.

Heras-Saizarbitoria, I., Boiral, O., García, M. and Allur, E. (2020) 'Environmental best practice and performance benchmarks among EMAS-certified organizations: an empirical study', *Environmental Impact Assessment Review*, Vol. 80, No. 2, p.106315, doi:10.1016/j.eiar.2019.106315.

Hoque, A. and Clarke, A. (2013) 'Greening of industries in Bangladesh: pollution prevention practices', *Journal of Cleaner Production*, Vol. 51, No. 1, pp.47–56, doi:10.1016/j.jclepro.2012.09.008.

Hsu, C.C., Tan, K.C. and Mohamad Zailani, S.H. (2016) 'Strategic orientations, sustainable supply chain initiatives, and reverse logistics: empirical evidence from an emerging market',*International Journal of Operations & Production Management*, Vol. 36, No. 1, pp.86–110, https://doi.org/10.1108/IJOPM-06-2014-0252.

Huselid, M.A. (1995) 'The impact of human resource management practices on turnover, productivity, and corporate financial performance', *Academy of Management Journal*, Vol. 38, No. 3, pp.635–672.

Islam, S., Tseng, M., Karia, N. and Lee, C. (2018) 'Assessing green supply chain practices in Bangladesh using fuzzy importance and performance approach', *Resources, Conservation & Recycling*, Vol. 131, No. 2, pp.134–145.

Katou, A.A. and Budhwar, P.S. (2010) 'Causal relationship between HRM policies and organizational performance: evidence from the Greek manufacturing sector', *European Management Journal*, Vol. 28, No. 1, pp.25–39.

Khan, S.A.R. and Dong, Q. (2017) 'Impact of green supply chain management practices on firms' performance: An empirical study from the perspective of Pakistan', *Environmental Science and Pollution Research*, Vol. 24, No. 20, pp.16829–16844.

Khan, S.A.R. and Qianli, D. (2017) 'Does national scale economic and environmental indicators spur logistics performance? Evidence from UK', *Environmental Science and Pollution Research*, Vol. 26, No. 4, pp.26692–26705, DOI 10.1007/s11356-017-0222-9.

Khan, S.A.R., Qianli, D., SongBo, W., Zaman, K. and Zhang, Y. (2017) 'Environmental logistics performance indicators affecting per capita income and sectoral growth: evidence from a panel of selected global ranked logistics countries', *Environmental Science and Pollution Research*, Vol. 24, No. 2, pp.1518–1531, https://doi.org/10.1007/s11356-016-7916-2.

Khan, S.A.R., Sharif, A., Golpîra, H. and Kumar, A. (2019) 'A green ideology in Asian emerging economies: From environmental policy and sustainable development', *Sustainable Development*, Vol. 27, No. 6, pp.1063–1075, doi:10.1002/sd.1958.

Khan, S.A.R., Zhang, Y., Anees, M., Golpîra, H., Lahmar, A. and Qianli, D. (2018) 'Green supply chain management, economic growth and environment: a GMM based evidence', *Journal of Cleaner Production*, Vol. 185, No. 2, pp.588–5999, doi: 10.1016/j.jclepro.2018.02.226.

Khan, S.A.R., Zaman, K. and Zhang, Y. (2016) 'The relationship between energy-resource depletion, climate change, health resources and the environmental Kuznets curve: evidence from the panel of selected developed countries', *Renewable and Sustainable Energy Reviews*, Vol. 62, No. 3, pp.468–477. doi:10.1016/j.rser.2016.04.061.

Kim, Y.J., Kim, W.G., Choi, H.M. and Phetvaroon, K. (2019) 'The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance', *International Journal of Hospitality Management*, Vol. 76, No. 1, pp.83–93, https://doi.org/10.1016/j.ijhm.2018.04.007.

Kline, R.B. (2015) *Principles and Practice of Structural Equation Modeling*, Guilford Publications.

Kock, N. (2017) 'Common methods bias: a full collinearity assessment method for PLS-SEM', in Latan, H. and Noonan, R. (Eds.): *Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications*, Springer International Publishing, Cham.

Longoni, A., Luzzini, D. and Guerci, M. (2018) 'Deploying environmental management across functions: The relationship between green human resource management and green supply chain management', *Journal of Business Ethics*, Vol. 151, No. 4, pp.1081–1095, https://doi.org/10.1007/s10551-016-3228-1.

López-Gamero, M.D. and Molina-Azorín, J.F. (2016) 'Environmental management and firm competitiveness: the joint analysis of external and internal elements', *Long Range Planning*, Vol. 49, No. 6, pp.746–763.

Lu, H., Liu, X., Chen, H., Long, R. and Yue, T. (2017) 'Who contributed to 'corporation green' in China? A view of public- and private-sphere pro-environmental behavior among employees', *Resources, Conservation and Recycling*, Vol. 120, No. 2, pp.166–175.

Luu, T.T. (2019) 'Green human resource practices and organizational citizenship behavior for the environment: the roles of collective green crafting and environmentally specific servant leadership', *Journal of Sustainable Tourism*, pp.1–30, doi:10.1080/09669582.2019.1601731.

Macke, J. and Genari, D. (2019) 'Systematic literature review on sustainable human resource management', *Journal of Cleaner Production*, Vol. 208, No. 1, pp.806–815, https://doi.org/10.1016/j.jclepro.2018.10.091.

Majid, A., Yasir, M., Yasir, M. and Javed, A. (2019) 'Nexus of institutional pressures, environmentally friendly business strategies, and environmental performance', *Corporate Social Responsibility and Environmental Management*, Vol. 27, No. 2, pp.706–716, DOI: 10.1002/csr.1837.

Molina-Azorín, J.F., Claver-Corte´s, E., Pereira-Moliner, J. and Tarí, J.J. (2009) 'Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry', *Journal of Cleaner Production*, Vol. 17, No. 5, pp.516–524.

Montabon, F., Sroufe, R. and Narasimhan, R. (2007) 'An examination of corporate reporting, environmental management practices and firm performance', *Journal of Operations Management*, Vol. 25, No. 5, pp.998–1014, https://doi.org/10.1016/j.jom.2006.10.003.

Norton, T.A., Parker, S.L., Zacher, H. and Ashkanasy, N.M. (2015) 'Employee green behavior', *Organization & Environment*, Vol. 28, No. 1, pp.103–125.

Opatha, H. (2015) 'Organizational behavior', *The Human Side of Work,* Author Publication, Nugegoda, Colombo, Sri Lanka.

Passetti, E., Cinquini, L., Marelli, A. and Tenucci, A. (2014) 'Sustainability accounting in action: lights and shadows in the Italian context', *The British Accounting Review*, Vol. 46, No. 3, pp.295–308.

Pham, N.T., Vo Thanh, T., Tučková, Z. and Thuy, V.T.N. (2019) 'The role of green human resource management in driving hotel's environmental performance: interaction and mediation analysis', *International Journal of Hospitality Management*, Vol. 88, No. 3, p.102392, doi:10.1016/j.ijhm.2019.102392.

Pinzone, M., Guerci, M., Lettieri, E. and Huisingh, D. (2019) 'Effects of 'green' training on pro-environmental behaviors and job satisfaction: evidence from the Italian healthcare sector', *Journal of Cleaner Production*, Vol. 106, No. 4, pp.308–319, doi:10.1016/j.jclepro. 2019.04.048.

Piyathanavong, V., Garza-Reyes, J.A., Kumar, V., Maldonado-Guzmán, G. and Mangla, S.K. (2019) 'The adoption of operational environmental sustainability approaches in the Thai manufacturing sector', *Journal of Cleaner Production*, Vol. 220, No. 2, pp.507–528, doi:10.1016/j.jclepro.2019.02.093.

Podsakoff, P.M., Mackenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003) 'Common method biases in behavioral research: a critical review of the literature and recommended remedies', *Journal of Applied Psychology*, Vol. 88, No. 5, pp.879–903.

Ramus, C.A. and Killmer, A.B.C. (2007) 'Corporate greening through pro social extra-role behaviors: a conceptual framework for employee motivation', *Business Strategy and the Environment*, Vol. 16, No. 8, pp.554–570.

Rao, P. and Holt, D. (2005) 'Do green supply chains lead to competitiveness and economic performance?', *International Journal of Operations & Production Management*, Vol. 25, No. 9, pp.898–916, https://doi.org/10.1108/01443570510613956.

Renwick, D.W.S., Redman, T. and Maguire, S. (2013) 'Green human resource management: a review and research agenda', *International Journal of Management Reviews*, Vol. 15, No. 1, pp.1–14.

Reyes-Rodríguez J.F., Ulhøi J.P. and Madsen, H. (2014) 'Corporate environmental sustainability in Danish SMEs: a longitudinal study of motivators, initiatives, and strategic effects', *Corporate Social Responsibility and Environmental Management*, Vol. 23, No. 4, pp.193–212, doi:10.1002/csr.1359.

Ringle, C.M., Wende, S. and Becker, J-M. (2015) *SmartPLS 3*, SmartPLS GmbH, Boenningstedt [online] http://www.smartpls.com (accessed 25 may 2019).

Robertson, J.L. and Barling, J. (2017) 'Toward a new measure of organizational environmental citizenship behavior', *Journal of Business Research*, Vol. 75, No. 2, pp.57–66.

Robertson, J.L. and Carleton, E. (2018) 'Uncovering how and when environmental leadership affects employees' voluntary pro-environmental behavior', *Journal of Leadership & Organizational Studies*, Vol. 25, No. 2, pp.197–210.

Roscoe, S., Subramanian, N., Jabbour, C.J. and Chong, T. (2019) 'Green human resource management and the enablers of green organizational culture: enhancing a firm's environmental performance for sustainable development', *Business Strategy and the Environment*, Vol. 28, No. 5, pp.737–749, https://doi.org/10.1002/bse.2277.

Roy, A. and Haider, M.Z. (2018) 'Stern review on the economics of climate change: implications for Bangladesh', *International Journal of Climate Change Strategies and Management*, Vol. 11, No. 1, pp.100–117, https://doi.org/10.1108/IJCCSM-04-2017-0089.

Rubel, M.R.B., Kee, D.M.H., Quah, C.H. and Rimi, N.N. (2016) 'Ethical climate and employee turnover intention in the ready-made garment industry of Bangladesh', *Global Business and Organizational Excellence*, Vol. 36, No. 2, pp.61–73, doi:10.1002/joe.21770.

Saeed, B.B., Afsar, B., Hafeez, S., Khan, I., Tahir, M. and Afridi, M.A. (2018) 'Promoting employee's pro-environmental behavior through green human resource management practices', *Corporate Social Responsibility and Environmental Management*, Vol. 26, No. 2, pp.1–15, https://doi.org/10.1002/csr.1694.

Sehnem, S., Vazquez-Brust, D., Pereira, S.C.F. and Campos, L.M.S. (2019) 'Circular economy: Benefits, impacts and overlapping', *Supply Chain Management: An International Journal*, in press.

Severo, E.A., Guimaraes, J.C.F. and Dorion, E.C.H. (2017) 'Cleaner production and environmental management as sustainable product innovation antecedents: a survey in Brazilian industries', *Journal of Cleaner Production*, Vol. 142, No. 1, pp.pp.87–97.

Singh, N. (2018) 'Strategic human resource practices for innovation performance: an empirical investigation', *Benchmarking: An International Journal*, Vol. 5, No. 9, pp.3459–3478, doi:10.1108/bij-08-2017-0215.

Singh, S.K., Chen, J., Del Giudice, M. and El-Kassar, A.N. (2019) 'Environmental ethics, environmental performance, and competitive advantage: Role of environmental training', *Technological Forecasting and Social Change*, Vol. 146, No. 3, pp.203–211, https://doi.org/10.1016/j.techfore.2019.05.032.

Swim, J.K., Stern, P.C., Doherty, T.J., Clayton, S., Reser, J.P., Weber, E.U. … Howard, G.S. (2011) 'Psychology's contributions to understanding and addressing global climate change', *American Psychologist*, Vol. 66, No. 4, pp.241–250.

Terrier, L., Kim, S. and Fernandez, S. (2016) 'Who are the good organizational citizens for the environment? An examination of the predictive validity of personality traits', *Journal of Environmental Psychology*, Vol. 48, No. 1, pp.185–190.

The Daily Star (2018) *Editorial*, p.6 [online] https://www.pharmatutor.org/articles/ chemical-contaminants-and-pollutants-in-the-measurable-life-of-dhaka-city?page=6 (accessed 21 May 2018).

Tuan, L.T. (2019) 'Effects of environmentally-specific servant leadership on green performance via green climate and green crafting', *Asia Pacific Journal of Management*, Vol. 36, No. 3, pp.1–29, doi:10.1007/s10490-019-09687-9.

Uddin, M. (2018) 'The next chapter for our RMG sector: from high street to high fashion', *The Daily Star* [online] https:// www. Thedailystar .net/opinion/perspective/the-next-chapter-our-rmg-sector-1584409 (accessed 01 June 2018).

World Health Organization. (2017) *World Health Atatistics, Monitoring Health for the Sustainable Development Goal* [online] https://apps.who.int/iris/handle/10665/255336 (accessed 20 June 2019).

Wright, P.M. and McMahan, G.C. (1992) 'Theoretical perspectives for strategic human resource management', *Journal of Management*, Vol. 18, No. 2, pp.295–320.

Wright, P.M., Snell, S.A. and Dyer, L. (2005) 'New models of strategic HRM in a global context', *The International Journal of Human Resource Management*, Vol. 16, No. 6, pp.875–881.

Yap-Peng Lok, S. and Chin, T.L. (2019) 'Linking green HRM practices and employee sustainability engagement', *Global Business and Management Research: An International Journal*, Vol. 11, No. 2, pp.151–156.

Yong, J.Y., Yusliza, M., Ramayah, T., Chiappetta Jabbour, C.J., Sehnem, S. and Mani, V. (2019) 'Pathways towards sustainability in manufacturing organizations: Empirical evidence on the role of green human resource management', *Business Strategy and the Environment*, Vol. 29, No. 1, pp.212–228, doi:10.1002/bse.2359.

Yu, W., Ramanathan, R. and Nath, P. (2017) 'Environmental pressures and performance: an analysis of the roles of environmental innovation strategy and marketing capability', *Technological Forecasting and Social Change*, Vol. 117, No. 4, pp.160–169, https://doi.org/10.1016/j.techfore.2016.12.005.

Zhang, Y., Luo, Y., Zhang, X. and Zhao, J. (2019) 'How green human resource management can promote green employee behavior in China: a technology acceptance model perspective', *Sustainability*, Vol. 11, No. 19, pp.5408, doi:10.3390/su11195408.

Zhou, K.Z., Li, J.J., Zhou, N. and Su, C. (2008) 'Market orientation, Job Satisfaction, product quality, and firm performance: evidence from China', *Strategic Management Journal*, Vol. 29, No. 9, pp.985–1000.

Zientara, P. and Zamojska, A. (2016) 'Green organizational climates and employee pro-environmental behaviour in the hotel industry', *Journal of Sustainable Tourism*, Vol. 27, No. 7, pp.1–18.

List of abbreviations

EP	Environmental performance
HRM	Human resource management
RMG	Ready-made garments
EM	Environmental management
EPI	Environmental performance index
GDP	Gross domestic product
RQ	Research question
AMO	Ability, motivation, opportunity
SHRM	Strategic human resource management
HRM	Human resource management
PLS	Partial least square
SEM	Structural equation modelling
OCBE	Organisational citizenship behaviour for environment
IEO	Internal environmental operations
CLM	Corporate level managers
CEO	Chief executive officers
CMB	Common method bias
CFA	Confirmatory factor analysis
CFI	Comparative fit index

NFI	Normed fit index
GFI	Gross fit index
SRMR	Standardised root mean square residual
CR	Composite reliability
AVE	Average variance extracted
H	Hypothesis