

Sustainability: Drivers of employees' workplace environment- friendly behaviour.

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ABSTRACT:

An organization's green performance is dependent on how well and efficiently the employees carry out the green initiatives. Multiple studies have been done to showcase the role of employees' environment friendly behaviour in greening the organizations. In short, an organization's green performance is dependent on how well and efficiently the employees carry out the green initiatives. This lead to explore what are the drivers of such environment friendly behaviours in the employees. However, majority of these studies have only looked into the drivers of such behaviours in the industry. Very little study has been done to explore the drivers of environment friendly behaviours of the teachers of higher education institutions and how it contributes in greening the institution. This study explores the precursors of "workplace environment- friendly behaviour (WEFB)" of the teaching staff of higher education institutions (UG &PG) from tier 1, tier 2 & tier 3 cities of India. Data from sample of 103 teaching staff was analysed using SmartPLS and SPSS software. Results indicate that teachers own "harmonious environmental passion" along with "supervisors" and "colleagues" WEFB significantly promote the teachers' WEFB.

Practical implication: The findings suggest that to improve their environmental performance, educational institutions should work on improving teacher's perception about the Organizational support for environment protection and HODs should 'lead through example'.

KEYWORDS: Workplace behaviour, green initiatives, pro-environmental behaviour at workplace, higher education.

Introduction:

Studies reveal that organizations focus on and invest on policies and practices to reduce the environmental impact through the practices at organizational-level like use of green technologies, sustainability reports, pollution control measures and the implementation of ESG (Boiral et al., 2015). Such practices by the organisations are crucial for environmental protection (Saeed, B. B., et.al., 2019). All organisations, across sectors are investing in environmental protection initiatives and simultaneously also trying to align themselves with the UN SDGs specifically "SDG-11(Sustainable cities and communities): Make cities and human settlements inclusive, safe, resilient and sustainable" (Sachs, J. D., 2012). Green policies for sustainability are becoming important for the competitive edge as per a study conducted by Moon, 2007. Environmental compliances set by the bodies like pollution control boards of center and state are ensuring each organisation does what is necessary to reduce pollution (Hák, T., et al., 2016). Organisations have started looking at waste as a source of wealth as well, best example would be of e-waste to e-wealth as per a study conducted by Mallick, R., Singh, G., & Sharma, A. (2024). Also, (Bhatta, B. S. R., Shetty, D. K., Rodrigues, L. L. R., & Shenoy, S. S. (2024)) studied green supply chain practices in B2C e-commerce as one of the green initiatives by organisations. Similarly, educational institutions too are required to undergo environmental audits, keep a check on pollution, waste generation, environment protection, etc (Fawehinmi, O., et al., 2020). The apex accreditation body in India-NAAC also dedicates a major portion of its criterion 7 to assess the green and sustainable initiatives undertaken by the university.

It is interesting to go through the specific sub-criterion under criterion 7 which capture such initiatives. Here are the metric numbers with the statements:

“7.1.2 The Institution has facilities for alternate sources of energy and energy conservation measures such as Solar energy / Biogas plant / Wheeling to the Grid / Sensor-based energy conservation / Use of LED bulbs/ power efficient equipment”

“7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste.”

“7.1.4 Water conservation facilities available in the Institution such as Rain water harvesting /Borewell /Open well recharge/. Construction of tanks and bunds / Waste water recycling / Maintenance of water bodies and distribution system in the campus.”

“7.1.5 Green campus initiatives include such as the institutional initiatives for greening the campus are as follows: 1. Restricted entry of automobiles 2. Use of Bicycles/ Battery powered vehicles 3. Pedestrian Friendly pathways 4. Ban on use of Plastic 5. landscaping with trees and plants”

“7.1.6 Quality audits on environment and energy are regularly undertaken by the institution i.e. the institutional environment and energy initiatives are confirmed through the following:1. Green audit 2. Energy audit 3. Environment audit 4. Clean and green campus recognitions/awards 5. Beyond the campus environmental promotional activities”

All the above-mentioned matrices try to gauge the environmental performance of the educational institutions. Apart from these NAAC also allows to mention institutional distinctiveness and best practices if any in this regard.

However, success of all such environmental initiatives are actually dependent on individual, voluntary behaviours of the workforce (Ciocirlan, C. E. (2017). Such voluntary behaviours or OCBs are not considered by the formal appraisal systems (Ones and Dilchert, 2012; Boiral et al., 2016) but are most crucial. Organisations through their managers are in a position to promote the sustainable development of organizations (Chang and Kuo, 2008; Hitchcock and Willard, 2009) by influencing employees’ activities through behavioural training (Timur and Timur, 2016). Green human resource management has also come out as a strong concept which includes practices with regard to the following- the recruitment process, performance measurement, training and development, reward and compensation system, green organizational culture (Cohen et al., 2012; Jackson et al., 2011). Green human resource management deals with the employee aspects of pro-environment initiatives of the organisation that contribute to better overall greening of the organization (Renwick et al., 2013; Hooi, L. W., Liu, M. S., & Lin, J. J. (2022)).

Green HRM practices or creation of a “green organizational culture” is imperative for “workplace environmentally friendly behaviour (WEFB)” of the employees (Saifulina, N, 2017; Amrutha, V. N., & Geetha, S. N.,2020). WEFB is a broad concept describing a variety of activities/actions directed toward the betterment of the environment ‘that includes all types of voluntary or prescribed activity undertaken by individuals at work that aim to protect the natural environment or improve organizational practices in this area’ (Boiral et al., 2015).

It has been noticed that forcing of green practices on the employees can, on the contrary, lead to unfavourable consequences or worse decrease pro-environmental behaviours of individuals (Vallerand, 2015; Muster and Schrader, 2011), this study is therefore focused only on voluntary actions or behaviours, that means they are the behaviours that are not included in JDs (job descriptions) or job roles/expectations (Lülfes and Hahn, 2013). This voluntary WEFB has been termed as organizational citizenship behaviour (OCB) (Boiral, 2009; Paillé and Boiral, 2013; Boiral et al., 2013). Turning off lights, recycling garbage, etc are examples of WEFB (Paillé and Boiral, 2013). Workplace environmentally friendly behaviour WEFB improves environmental performance, as it is the employees are the doers of the green initiatives (Chen & Wu, 2022). If they are self-motivated to carry out the green initiatives with full honesty and enthusiasm the organisations’ sustainability increases (Chang and Kuo, 2008; Boiral et al., 2015). The results of implementing WEFB promoting practices could be observed directly (decrease in energy, decrease in pollution and wastes) and indirectly (employees taking pride in the green performance of the organisation, increased brand respect) (Fachada, J, et al. 2022). Also, as the focus of this study

is on the higher educational institutions, it reveals how our educators display environmentally friendly behaviours at the institutions and what motivates them to do so. It can be said that educators directly or indirectly impact the thought process of their students, thus pro-environmental behaviours displayed by them will also impact and spread pro-environmental behaviours by the students. Such voluntary behaviours by the educators and the students will definitely enhance the environmental performance of the educational institution.

Keeping in mind that the major part of the investigations focuses on WEFB at industry of various sectors, the study aspires to add knowledge from the educational sector. It is interesting to note that industry might be motivated to undertake green initiatives as it will improve their financial returns by giving them a competitive advantage, for example, getting chosen by customers due to higher and relevant environmental performance. However, educational institutions do not operate for only competitive advantages or financial returns, because just gaining profits is not important to them. They are essentially doing public service at no profit no loss. As a consequence, motivation for the employees of the industry to enhance “WEFB” may differ from the motivation of the educators at educational institutions. Farooq, K. et al (2023) talks about the factors that promote employee ecological behaviour among academicians at the workplace.

The main objective of this study is to evaluate a research model which underlines the factors that positively affect the “WEFB” of educators at higher educational institutions in India.

Research Model and Hypotheses:

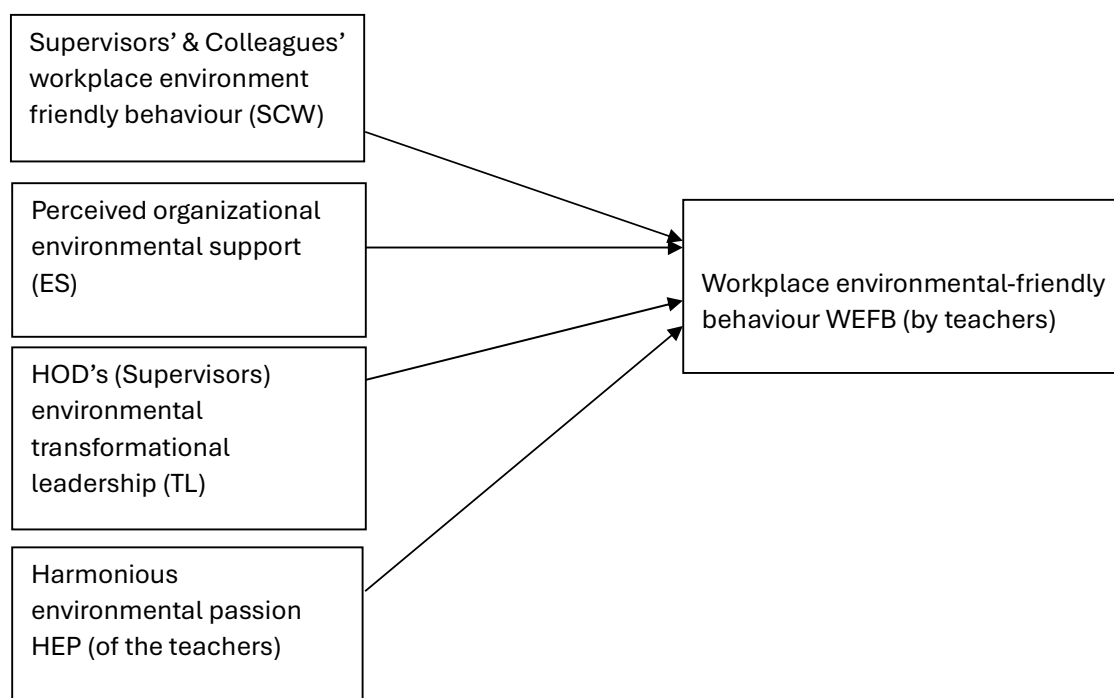


Fig. 1: The research model

Hypotheses:

Hypothesis 1: Supervisor's and Colleagues' WEFB drive the academicians' WEFB.

WEFB by Colleagues and Supervisors (SCW):

The very first hypothesis is based on the Social Cognitive Theory which states that- "individuals learn by observing behaviour of others, which leads to the initiation and imitation of these behavioural patterns" (Bandura, 1977, 1986). Co-workers spend a lot of time together during the working days and thus intentionally and even unintentionally, their behaviours, habits and style rub off on each other. Coworkers get better, learn values and positive attitudes just by being in the coworkers' company, sometimes imitating their behaviours, observing and implementing the positive behaviours. Employees tend to become more proactive if they are in the company of proactive coworkers. WEFB is also a type of proactive behaviour directed towards environment (Ercantan, O., et al, 2022).

Previous study has revealed that social setups such as group norms (Parker et al., 2010) could motivate positive and proactive behaviours at workplace. Few studies have shown that norms with regard to how often a behaviour is performed by a colleague influence the frequency of this behaviour by other workers (Ashford and Northcraft, 1992). Thus, it can be said that "group norms" with respect to "WEFB" can promote pro-environment behaviour of other employees. For example, if coworkers print double side or switch off lights/ACs when leaving the room, other employees would also do such things. "Learning by observation" could be also used by organizations to reinforce the organizational culture, including WEFB, through modelling by leaders (Schein, 1995). Previous researches have highlighted that supervisors could also be role models for employees (Graves et al., 2011), having a relevant impact on employees' environmental attitudes and behaviours (Daily et al., 2009). Assuming that HOD/supervisor must know more about the green initiatives taken by the institution as they are privy to many decisions and policies of higher management, the subordinates value and follow their heads or leaders. Thus, they display more pro-environmental behaviour than the team under them (Boiral et al., 2013).

As some researchers pointed out, behaviours of supervisors with regard to the environment 'tend to be emulated by other employees to have a multiple effect on environmental performance' (Boiral et al., 2013). Hence, colleagues and supervisor could influence employee's WEFB. Considering this, the following hypothesis is proposed.

Hypothesis 2: The organizational support for the environment protection is strongly related to the academicians' WEFB.

Organizational Environmental Support (OS)

Organisational Support refers to what an employee believes as the degree of appreciation the organizational will give to the employees for their contribution and also, how much the organisation focuses on the well-being at workplace (Einsenberger et al., 1997)

According to the organizational support theory, perceived organizational support increases commitment and encourages maintenance of positive behavioural patterns rewarded and/or recognized by the organization (Einsenberger et al., 1997). When the employees feel that their organization really cares for them, the perceived organizational support would be high, and thus encouraging the employees to help the organizations to reach the goals the organisation has set for itself (Cantor et al., 2012). These positive behavioural patterns include extra role positive behaviours, such as Organisational Citizenship Behaviour OCB (Boiral, 2009). OCB refers to the individual behaviour that is directly or indirectly recognized by the organizational reward system, and is positively related to the organizational performance, playing the role of beneficial behavioural pattern (Smith et al., 1983).

Few studies have shown that there is a positive relation between perceived organizational support and OCB (Boiral, 2009), displaying that an increase in perceived support results in an increase in organizational citizenship behaviours (Asgari et al., 2008; Boiral et al., 2013). Similarly, same positive and extra role behaviour for environmental protection or OCBE can be seen (Ali, Q. M., et al., 2023). A similar process can occur when considering environmental issues with regard to OCB (Boiral, 2009). The commitment and support of the employer to the protection of the environment fulfils employees' needs relating their environmental concerns, inciting them to engage in extra-role environmental behaviours in exchange for fair treatment (Paillé et al., 2013). Thus, organizations may achieve employees performing WEFB (Boiral, 2009; Boiral et al., 2013; Roy et al., 2013) by showing their support for environmental practices and applying eco-policies (Cantor et al., 2012). Considering these observations, the second hypothesis is proposed as follows.

Hypothesis 3: HOD's transformational leadership style displaying environment- friendly behaviour greatly affects the academicians' WEFB.

HOD's Transformational Leadership (TL) focused on the Environment

"Transformational Leadership is a type of leadership style that inspires or motivates the team members to achieve extraordinary outcomes and brings about positive change within organizations". Here, the leader has an emotional connect with the team and not just transactional relationship. This leads to increase in trust and commitment. Transformational leadership is defined as a powerful tool to move the followers beyond what was expected (Barling et al., 2002). Transformational leaders are perceived as role models, who are able to use the full range of leadership behaviours (Kelly, 1998). They act in such a way that it motivates the team members and are clear in conveying the desired outcomes and displaying commitment to the organization (Iqbal, R., et al., 2024). Transformational leaders respect individual differences (Bass and Avolio, 1994). They have the capacity to increase the commitment of employees towards the organisation (Leithwood and Jantzi, 2006; Masi and Cooke, 2000). Researchers have noted that employees internalize the values supported by the transformational leader (Bono and Judge, 2003), including environmental values (Graves et al., 2013). By encouraging employees to question as assumptions about environmental issues, providing employees with the resources they need to perform or providing an image of a future where work activities are more environmentally sustainable, those people who exhibit environmental transformational leadership should directly enhance WEFB (Graves et al., 2013). Therefore, the following hypothesis is formulated.

Hypothesis 4: An academicians' own harmonious environmental passion is positively related to WEFB.

Harmonious Environmental Passion (HEP)

High sense of passion about something leads to high motivation towards it. "Passion is described as positive emotion that is under the control of any person." High levels of motivation for an activity is linked with passion towards it that means the activity is liked by an individual and is considered important as well (Fredricks et al., 2010; Robertson and Barling, 2013). Passion has two types i.e. harmonious type (positive emotions) and obsessive type (negative emotions) (Vallerand, 2015). Activities of passion are the ones that are important to an individual and occupy significant space in a person's identity and actions (Philippe et al., 2009). Predominantly, passion is stereotypically linked to romantic feelings, but the term is widely used to describe other concepts such as success in sports (Donahue et al., 2009), career excellence or addictions (Bonneville-Roussy et al., 2011). In short, positive or harmonious passion activities result in positive experiences such as higher levels of concentration, positive emotions and reduced negativity after performing the activity (Philippe et al., 2009; Liu, Z., et al., 2024).

Harmonious environmental passion could motivate employees to display environment- friendly behaviour because harmonious environmental passion is a positive emotion that influences behaviours such as “WEFB” (Robertson and Barling, 2013; Russel, 2010). Harmonious environmental passion is defined as ‘a positive emotion that results in an individual wanting to engage in pro-environmental behaviours’ (Robertson and Barling, 2013, p. 180). Also, harmonious passion leads to motivation for engaging in the activity that is the object of the passion (Fredricks et al., 2010), including behaviours that improve the environment (Gousse-Lessard et al., 2013; Vallerand et al., 2007). Based on such observations the fourth hypothesis is proposed.

Methodology:

An online survey was conducted to understand the relationship between drivers like- Supervisors’ & Colleagues’ workplace environmentally friendly behaviour (SCW), organizational environmental support (ES), HOD’s (Supervisors) environmental transformational leadership (TL), Harmonious environmental passion HEP (in educators) and Employee EWB in the teaching staff of the higher educational institutions (Saifulina, N. et al ,2017). Likert scale ranging from strongly disagree to strongly agree (5-point scale) was used to collect responses. Primary data was collected using a questionnaire of 31 questions adopted from (Saifulina, N. et al ,2017). The questionnaire was distributed online among teachers (respondents) of higher educational institutions in different tier 1, 2 & 3 cities (Delhi, Bangalore, Pune, Nagpur, Gorakhpur, Varanasi, Amravati, Akola) of India. The question set link was sent to the respondents by messages/ e-mail. The sampling technique adopted was based on non-probabilistic (snowball sampling). The percent of female and male respondents are 46.6 % and 53.4% respectively.

Data Analysis and interpretation:

Table 1: Demography of Respondents (Faculty members of higher educational institutions)

		Frequency	Percentage
Gender	Male	48	46.6
	Female	55	53.4
	Other	0	0
Age	20-30 years	12	11.7
	30-40 years	46	44.7
	40-50 years	27	26.2
	50-60 years	18	17.5
Total Years of Experience	0-5 years	18	17.5
	6-10 years	12	11.7
	11-15 years	31	30.1
	16-20 years	12	11.7
	20+ years	30	29.1
Type of institute you work with	University/Deemed University	55	53.4
	Autonomous College	24	23.3
	Affiliated Colleges	24	23.3
City	Tier 1	23	22.3
	Tier 2	66	64.1
	Tier 3	14	13.6
	Total	103	100

Table 2: R-Square value:

	R-square	R-square adjusted
WEFB	0.594	0.577

Interpretation of table 2: R squared is coefficient of determination. The independent variables i.e. SCW, ES, TL, HEP explain the variation in the dependent variable i.e. WEFB up to 59.4% which is an acceptable figure for studies that measure predictors of human behaviour (Stevens, 2012).

Table 3: Construct reliability and validity:

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
WEFB	0.715	0.719	0.774	0.563
HEP	0.874	0.876	0.909	0.666
OS	0.833	0.845	0.882	0.601
SCW	0.852	0.855	0.886	0.594
TL	0.861	0.886	0.896	0.592

Interpretation of table 3: Cronbach's alpha value shows whether the questionnaire items are consistent in measuring the same thing. Any value more than 0.7 is acceptable. Composite reliability more than 0.7 tells the set of items reliably measure an underlying construct, like satisfaction, trust, or motivation.

Table 4: Discriminant Validity using Fornell- Larcker method:

	WEFB	HEP	OS	SCW	TL
WEFB	0.680				
HEP	0.739	0.816			
OS	0.516	0.618	0.775		
SCW	0.637	0.635	0.512	0.703	
TL	0.562	0.671	0.647	0.633	0.770

The Fornell–Larcker criterion tells that the constructs do not overlap with other constructs.

Table 5: Hypotheses testing:

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
SCW->WEFB	0.272	0.291	0.102	2.667	0.008
OS -> WEFB	0.044	0.051	0.098	0.447	0.655
TL -> WEFB	0.000	-0.004	0.119	0.001	1.000
HEP-> WEFB	0.539	0.531	0.104	5.166	0.000

Hypothesis 1: Supervisor's and Colleagues' WEFB drive the academicians' WEFB.

Hypothesis 1 is accepted. The findings indicate that supervisors' and colleagues' workplace environment-friendly behaviours significantly influence academicians' own WEFB. This result suggests that social modelling and peer influence play a critical role in shaping pro-environmental behaviour in academic institutions.

Hypothesis 2: Organizational support for the environment protection is strongly related to the academicians' WEFB.

Hypothesis 2 is rejected. Contrary to expectations, perceived organizational support for environmental protection did not significantly influence academicians' WEFB. These finding challenges assumptions derived from Organizational Support Theory, which suggests that employees reciprocate organizational support with positive behaviours.

Hypothesis 3: HOD's transformational leadership style displaying environment- friendly behaviour greatly affects the academician's WEFB.

Hypothesis 3 is rejected. The non-significant relationship between transformational leadership and academicians' WEFB suggests that leadership influence may not be as strong in academic contexts as it is in corporate environments.

Hypothesis 4: An academician's own HEP i.e. harmonious environmental passion and WEFB are positively related.

Hypothesis 4 is accepted. The acceptance of H4 indicates that personal psychological drivers significantly predict workplace environment-friendly behaviour. Harmonious Environmental Passion (HEP) reflects an internalized, voluntary, and identity-consistent engagement with environmental values.

Table 6: Correlations between the dependent and independent variables.

Correlations					
	EW	SW CW	OS	TL	HEP
EW	1				
SW CW	.630**	1			
OS	.505**	.511**	1		
TL	.540**	.639**	.644**	1	
HEP	.716**	.632**	.605**	.665**	1
**Correlation is significant at the 0.01 level (2-tailed).					

Practical Implications:

Environmental performance metric should be included as a mandatory parameter of the performance appraisal, and the reward & recognition should be set accordingly to enhance environment friendly behaviour at workplace. Environmental training and capacity building needs to be included among the training techniques/ FDPs of the Institute. Rewards, both monetary and non-monetary, could play a key role as a motivational factor in order to encourage environmentally- friendly behaviours. The institute's internal policies, rules and regulations, which form organizational culture, could influence the perspective among employees regarding certain topics.

Limitations and Future Research:

This research has some limitations such as its cross-sectional nature. The study could not check causal relationships between the variables. Future researchers can undertake longitudinal research. Then, this study is focused on direct relationships between the independent and dependent variables. Future researchers should link more precursors to employees' WEFB. Also analyzing indirect relationships is advised. It is possible that social desirability bias could have kicked-in in the respondents' minds. Though the questionnaire did not ask for names, anonymity could have helped reduce the social desirability bias. (Grimm, 2010). Although, the limitations are there, this study adds to the knowledge about the various determinants of WEFB in higher education institutions only and not other industry. Supervisor's and Colleagues' workplace environment friendly behaviour have a significant impact on the teachers' workplace environment friendly behaviour. A teacher's personal harmonious environmental passion enhances teachers' workplace environment friendly behaviour as they are closely related. The obtained findings show that both personal and colleagues behaviours promote workplace environment friendly behaviour. To our knowledge, this is one of the few studies examining the antecedents of workplace environment friendly behaviour WEFB in higher educational institutions, showing interesting avenue for future research.

Discussion and conclusion:

Teachers of higher education institutions show more workplace environment friendly behaviour when they notice their colleagues and HODs displaying workplace environment friendly behaviour. That means colleagues and HODs behaviour have a great influence on the teachers at higher education institutions. Additionally, the teachers own higher harmonious passion enhances their also workplace environment friendly behaviour. If the teachers themselves have a higher harmonious passion directed towards environment, then they will weigh their actions and behaviours. The findings have practical implications, suggesting that organisations might want to apply the Social Cognitive Theory in their green initiatives to witness higher employee involvement. Additionally, activities or incentives that boost the employees' harmonious environmental passion will also reflect in the success of their green initiatives. Curiously, organizational support or perceived organizational support has no bearing on a teacher's environment friendly behaviour. Organisational support must be conveyed more overtly rather than tacitly. Guiding employees to develop pro-environment behaviours could support those teachers interested in improving their environmental performance at work. Similarly, Transformational Leadership is also seemed to have less impact on teachers' green behaviour. Leaders could try to lead by example and demonstrate their environmental commitment to their team to have an effect on the teachers' WEFB.

Furthermore, our findings show that gender, city (tier1,2,3) and type of educational institutions also influence the workplace pro-environment or environmentally friendly behaviour of the teachers. Tier 1 respondents display more workplace environment friendly behaviour than Tier 2 and 3 cities because of better awareness. Thus, it is quintessential for organizations to promote a culture of pro-environmental behaviour to aid in the success of the organization with respect to environmental performance.

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