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Financial Literacy, Green HRM Practices, and Sustainable Consumption: A Comparative Analysis of Generation X and Generation Z in Emerging Economies

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Abstract

Environmental values and attitudes tend to explain sustainable consumption whereas little attention has been given to two resources that define daily consumption decisions by being financial capability of consumer and environmental practices by the organisation where the consumer is employed. This research formulates and validates an integrated model whereby financial literacy and green human resource management (Green HRM) practice affect sustainable consumption behaviour directly and via sustainable consumption attitude, and explores whether or not these are different between Generation Z and Generation X employees in a developing economy. Based on the theory of planned behaviour, ability motivation opportunity framework and work home spill over theory, nine hypotheses are postulated. Exploratory and confirmatory factor analysis, mediation testing based on covariance and bootstrapped with confirmation of mediation Forms and tests of invariance both in measurement and multi-group testing were used to analyse survey data of 200 adults who were employed in India (100 or Generation X and 100 or Generation Z). There was a direct impact of financial literacy on sustainable consumption behaviour (β= 0.22) and a greater impact on attitude (β=0.52) and an indirect impact on behaviour through an attitude. The effect of green HRM practices on attitude (β= 0.31) but not on behaviour was observed; attitude completely mediated the effect. The model attributed 42% of the behaviour variance. Measurement model was also cohort and none of the structural paths varied between Generation X and Generation Z; the cohorts only varied in the perception of Green HRM practices whereby generation Z had more. This work makes contributions by both relating personal financial ability and workplace environmental management to work-related consumption in one model and demonstrating that these two processes are similar in a middle-career and an early-career cohort. Conclusions are applied to employers, monetary educators and policymakers with Sustainable Development Goal 12.

Keywords: financial literacy; green human resource management; sustainable consumption behaviour; Generation X; Generation Z; multi-group structural equation modelling; emerging economies.

1. Introduction

One of the seventeen goals of the 2030 Agenda on Sustainable Development is responsible consumption and production (United Nations, 2015) and the difference between that goal and household behaviour observed in countries and regions with emerging economies is most pronounced, due to the escalating rate of consumption in the region alongside a lack of environmental protection measures. Psychological theories of motivation have dominated the research as to why people consume sustainably, including: values, environmental concern, attitudes, norms and perceived behavioural control (Ajzen, 1991; Stern, 2000; Paul et al., 2016; Yadav and Pathak, 2017). These models explain intention quite effectively but there remains a continuing gap between attitudes and behaviour (Vermeir and Verbeke, 2006; Kollmuss and Agyeman, 2002) that implies that the resources and contexts in which consumers operate merit as much focus as their dispositions (White et al., 2019).

This study explores two of these resources. The first is financial literacy, the knowledge, skill and confidence that it takes to make good financial choices (Remund, 2010; Lusardi and Mitchell, 2014). Green alternatives often involve a premium price at the point of purchase and a reduced total cost over the lifetime, thus deciding on these selections involves budgeting, comparisons of long-run costs and deferred gratification which are elements of financial capability. Studies are gathering to show that financially literate people interact more with green financial products (Anderson and Robinson, 2022; Filippin et al., 2024), but the ability to translate this to everyday consumption has not been studied much, especially beyond high-income countries with the lowest financial literacy levels (Klapper et al., 2015).

The second tool is the work place. Green HRM involves applying recruitment, training, performance management, rewards and involvement measures to create an ecologically responsible workforce (Renwick et al., 2013; Tang et al., 2018). An extensive literature reveals that Green HRM increases the level of pro-environmental behaviour of employees in the workplace (Dumont et al., 2017; Kim et al., 2019; Saeed et al., 2019; Pham et al., 2019). There is little information on whether the knowledge, habits and identity developed within such practices carry over to personal consumption in the employees, although there is a strong rationale to anticipate these spillovers based on the theory of spillover (Edwards and Rothbard, 2000) and spillover of behaviour in the environmental field (Truelove et al., 2014; Nilsson et al., 2017).

Both mechanisms are likely to be conditioned by the generational cohort. The Gen X (1965-1980) generation are in the height of their earning and home-provisioning, have a long history of handling money and have significantly worked in organisations that are even earlier than official environmental management. Generation Z (born 19972012) is a relatively new generation, highly sustainability-conscious and digitally savvy (Francis & Hoefel, 2018; Dimock, 2019), yet lacking financial experience and having limited purchasing power with a propensity that is not always willing or able to afford a premium on green products (Gomes et al., 2023). There is little comparative evidence on these two cohorts, with the available generational research on sustainable consumption focused on Millennials or on a single cohort (Bulut et al., 2017; Kamenidou et al., 2019), and very few sources include an antecedent at the workplace in the comparison.

It is on this backdrop that the study answers three questions. The first question is: Does financial literacy and Green HRM practices anticipate sustainable consumption behaviour in employees in an emerging economy? Second, do sustainable consumption attitude mediate the effects of these antecedents? Third, is the strength of these relationships and level of the constructs different in Generation X and Generation Z? The remainder of the article reviews the literature and develops the hypotheses, describes the method, presents the analysis and discusses the theoretical and practical implications.

2. Theoretical Background and Hypothesis Development

2.1 Theoretical foundations

The model is based on three compatible views. The theory of planned behaviour (TPB) also believes that behaviour is the result of a positive assessment of the behaviour along with the perceived ability to execute the behaviour (Ajzen, 1991); it has been successfully applied to green purchasing in India and other developing countries (Paul et al., 2016; Yadav and Pathak, 2016, 2017). In the current model, the proximal antecedent of

behaviour is the attitude towards sustainable consumption, and a real rather than perceived control resource is financial literacy. The capacity-motivation-opportunity (AMO) model (Appelbaum et al., 2000) involves the approaches to behaviour development carried out in response to HRM systems that develop ability, motivation and opportunity; the Green HRM uses the same rationale to the environmental behaviour (Renwick et al., 2013). Lastly, work-home spillover theory suggests that abilities and values and affect created in one part of the life are carried into another (Edwards & Rothbard, 2000), which brings the point of view provided to the workplace environmental practices, towards consumption at home. The generational cohort theory (Mannheim, 1952) adds on this that individuals who have had formative experience during the same stage in life develop common views that drives the comparative aspect of the study but empirical record of generational differences is to be carefully tested not presumed (Parry and Urwin, 2011; Twenge et al., 2010).

2.2 Sustainable consumption behaviour

Sustainable consumption behaviour (SCB) refers to how we obtain, use, and dispose of goods and services in a manner that avoids going to the maximum possible damage to the environment but satisfy current needs without reducing the needs of future generations. It is broader than green purchasing: Quoquab et al. (2019) list quality of life, care about the environment and the resources of future generations as its dimensions, and previous literature considers it as a pattern of ecologically conscious consumer behaviour (Roberts, 1996). Personal (concern, knowledge, values, perceived effectiveness) and situational (price, availability, product attributes) factors are identified as determinants during reviews (Joshi and Rahman, 2015; White et al., 2019). The binding properties of price sensitivity and low availability are especially strong in emerging markets, hence the rationale behind the potential research on financial capability and attitudes.

2.3 Financial literacy and sustainable consumption

Financial literacy is a combination of awareness, knowledge, skill and attitude and behaviour to make good financial decisions (Atkinson & Messy, 2012; Huston, 2010). It is known to be related to saving, planning and managing debt (Lusardi and Mitchell, 2014; Lusardi, 2019), despite the magnitude of impact of knowledge on behaviour being controversial (Fernandes et al., 2014). Three reasons can be discussed why there should be a connection to sustainable consumption. Planning, budgeting, by financially literate consumers helps prevent impulsive and excessive purchases and this is an aspect of sustainable consumption. They can more easily consider total cost of ownership, so that energy-efficient or durable goods with a higher up-front cost start to pay off. And they show an extended time horizon, typical of worry about consequences in the future that defines pro-environmental choice. Green investment research demonstrates a positive correlation between financial literacy and the possession and the knowledge of sustainable financial products (Anderson and Robinson, 2022; Filipppini et al., 2024). Applying this argument to consumption, it would then be hypothesized that:

H1: Financial literacy has a positive effect on sustainable consumption behaviour.

H3: Financial literacy has a positive effect on sustainable consumption attitude.

2.4 Green HRM practices and sustainable consumption

Green HRM includes green recruiting, green selection, green training, green performance management, green pay and reward, and green involvement (Tang et al., 2018). The positive effects of employee green behaviour and environmental performance are recognized as stable over time (Ren et al., 2018; Paillé et al., 2014; Jabbour and de Sousa Jabbour, 2016). The conceptualisation of employee green behaviour has been based in the primary workplace (Norton et al., 2015), whereas the processes of how Green HRM functions, including environmental knowledge gained during training, environmental values reinforced by appraisal and reward, and an environmental self-identity achieved by being involved, do not exist though work hours only. The presence of behavioural spillover studies suggests that engaging in pro-environmental behaviours in one context is more likely to be followed by similar behaviours in another context when they are ascribed to one self or when they are forced by external factors (Truelove et al., 2014; Nilsson et al., 2017). A positive perspective on sustainable consumption and a more sustainable consumption at home are thus likely to be held by employees that see high Green HRM practices:

H2: Perceived Green HRM practices have a positive effect on sustainable consumption behaviour.

H4: Perceived Green HRM practices have a positive effect on sustainable consumption attitude.

2.5 The mediating role of sustainable consumption attitude

The strongest predictor of green purchase intention and behaviour has been attitude in TPB research studies in developing nations (Paul et al., 2016; Yadav and Pathak, 2016, 2017). Part of the way that capability and context should work is by influencing this assessment: the economic case of sustainable options is made apparent through financial literacy, and the environmental case should become apparent and socially acceptable through Green HRM. Marked path is however still retained in respect of each antecedent, since financial ability can also can change behaviour but not attitude (as, by loosening a budget constraint) and workplace habits can be learned but not assessed intentionally.

H5: Sustainable consumption attitude has a positive effect on sustainable consumption behaviour.

H6: Sustainable consumption attitude mediates the relationship between financial literacy and sustainable consumption behaviour.

H7: Sustainable consumption attitude mediates the relationship between Green HRM practices and sustainable consumption behaviour.

2.6 Generational cohort as a moderator

There are conflicting findings on age and environmental behaviour. Small relationships tend to be found in a meta-analysis (and where found, favour older people in their sustainability behaviour, including resource conservation and harm avoidance behaviours; Wiernik et al., 2013), and socio-demographic profiling of green consumers has led to modest outcomes (Diamantopoulos et al., 2003; Gifford and Nilsson, 2014). As studies involving cohorts show, younger consumers are more concerned, but do not necessarily behave (Bulut et al., 2017; Kamenidou et al., 2019; Gomes et al., 2023). These trends indicate that the two generations can achieve sustainable consumption in dissimilar ways. Financial literacy ought to be readily converted into actual buying to the generation of the Generation X, who are going to spend more money at home and possess greater experience in financial matters. Green HRM practices must be the more significant resource to Generation Z, who are at the organisational socialisation stage and whose values are those of employers at best a reference point. Since Generation Z has a lower budget constraint, the attitude to behaviour conversion will be poorer than in the case of Generation X. As such:

H8: Generational cohort moderates the structural relationships in the model, such that (a) the effect of financial literacy on sustainable consumption behaviour and (b) the effect of financial literacy on sustainable consumption attitude are stronger for Generation X; (c) the effect of Green HRM practices on sustainable consumption behaviour and (d) the effect of Green HRM practices on sustainable consumption attitude are stronger for Generation Z; and (e) the effect of sustainable consumption attitude on sustainable consumption behaviour is stronger for Generation X.

H9: Generation X and Generation Z differ significantly in their mean levels of (a) financial literacy, (b) perceived Green HRM practices, (c) sustainable consumption attitude and (d) sustainable consumption behaviour.

The conceptual model is shown in Figure 1.

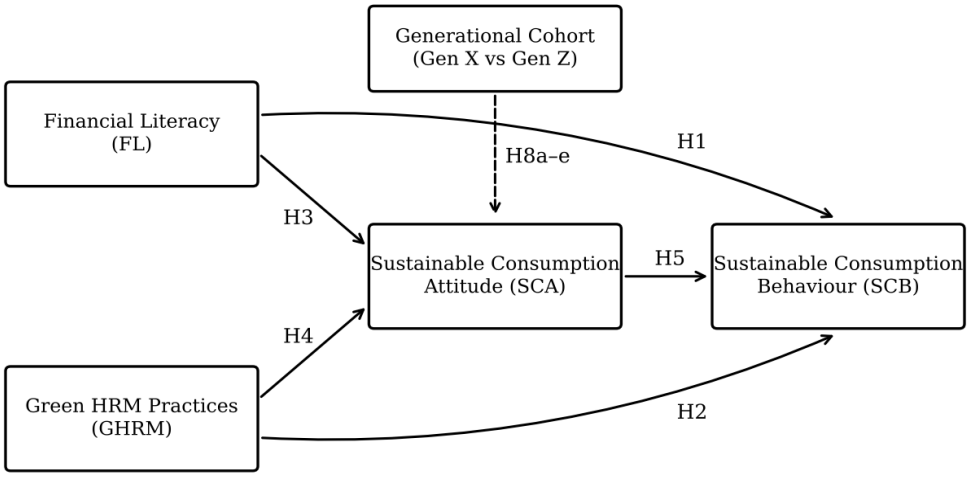

Figure 1. Conceptual model and hypotheses

3. Research Methodology

3.1 Research design and study setting

The research has a cross-sectional, descriptive, explanatory design. India is chosen as the environment of the emerging economy: it has a very large and young workforce, a fast-growing consumer market, a national financial-inclusion/financial-education agenda, and a culture of mandatory sustainability reporting of large listed companies, which has speeded up the shift to environmental management and Green HRM practices. The level of analysis is the individual employee. Since Green HRM is quantified as perceptions of the employee regarding practices in the employing organisation, the population can be limited to adult employees that are currently working in organisations in the organised-sector (information technology and IT-enabled services, banking and financial services, manufacturing, and education and other services).

3.2 Sample and procedure

The membership to generations depends on the year of birth according to the Pew Research Center classification (Dimock, 2019): Generation X, 19651980, and Generation Z, 19972012 (only respondents 18 years and older may be considered). The stratified purposive sampling method is employed to give equal distribution to both cohorts to ensure that multi-group analysis has equal groups. The last sample is 200 useable responses, 50 per cohort. The suggested 200 sample size is a minimum covariance multigroup analysis (Hair et al., 2019; Kline, 2016); the cohort sub- samples of 100 are small enough to conduct the comparisons between groups, and their interpretation is done based on them. Between [month, year] and [month, year], a structured, self-administered English questionnaire was sent out to human resource departments and professional networks in [cities/states to be specified] via the human resource departments. It was voluntary and anonymous and informed consent was taken on the first page of the questionnaire and no information was recorded. It had no missing values and no straight-line responses in the data.

3.3 Measures

Multi-item scales are used to measure all constructs, which are adjusted based on validated scales and rated on a five-point Likert scale (1 = strongly disagree, 5 strongly agree). Financial literacy (six items) is an individual self-rated financial knowledge, behaviour and attitude based on the OECD/INFE framework (Atkinson and Messy, 2012), and Lusardi and Mitchell (2014). Adapted items of Perceived Green HRM practices (six items) are based on the works of Tang et al. (2018) and Dumont et al. (2017) and include green recruitment, training, performance

management, rewards and involvement. The attitude towards sustainable consumption (four items) is modified by Paul et al. (2016), and Yadav and Pathak (2016). Sustainable consumption behaviour (six items) is based on Quoquab et al. (2019) and Roberts (1996). The profile variables include gender, education, monthly income and sector. Reviewed by [number] academic and industry experts to check content validity and pilot tested on [number] respondents; the complete item list is covered in the Appendix (Table A1).

Table 1. Operationalisation of constructs

Construct	Code	Items	Source of scale
Financial literacy	FL	6	Atkinson & Messy (2012); Lusardi & Mitchell (2014)
Green HRM practices	GHRM	6	Tang et al. (2018); Dumont et al. (2017)
Sustainable consumption attitude	SCA	4	Paul et al. (2016); Yadav & Pathak (2016)
Sustainable consumption behaviour	SCB	6	Quoquab et al. (2019); Roberts (1996)

3.4 Data analysis strategy

The two-step (Anderson and Gerbing, 1988) approach was followed in analysing and the covariance-based models were estimated using maximum-likelihood analysis achieved in Python. When data screening and descriptive analysis have been completed, exploratory factor analysis (principal component extraction with promax rotation) is applied to interrogate the day of structure of factors and Adequacy checks come in form of the KaiserMeyerOlkin measure and Bartlett test of sphericity are performed. The measurement model is then evaluated using confirmatory factor analysis. Reliability is checked by Cronbach alpha and composite alpha (level 0.70), convergent validation with standardised loadings and average variance extracted (AVE 0.5 or higher), and discriminant validation with FornellLarcker summary (Fornell and Larker, 1981) and Heterotraitmonotrait quotient (HTMT 0.85 or less; Henseler et al., 2015). Model fit is judged against $\chi^2/df < 3$, CFI and TLI ≥ 0.90, RMSEA ≤ 0.08 and SRMR ≤ 0.08 (Hu & Bentler, 1999). Due to the fact that all variables were obtained in the respondents, single-factor test by Harman complements all the procedural remedies (anonymity, separation of predictors and criterion items) (Podsakoff et al., 2003).

Structural model is tested on the pooled sample to test H1 up to H5. Bootstrapping is determined as the method of having the indirect effects (H6, H7) estimated with bias-corrected and 5,000 resamples and confidence interval of 95 per cent (Preacher and Hayes, 2008). Cohorts are compared with configural, metric and scalar invariance first being tested (Steenkamp and Baumgartner, 1998), with a change in CFI of not more than 0.01 considered as an indicator of invariance (Cheung and Rensvold, 2002). H8 is experimented with multi-group SEM, and each structural path is constrained to equality across cohorts in turn and the difference in chi-square is analyzed. H9 will be tested, after testing for scalar invariance, using independent-samples t-tests and the Cohen d on composite scores.

4. Results

4.1 Respondent profile

In the end, 200 respondents (100 per cohort) formed the final sample (Table 2). The proportion of men in the sample was 57.5% and the distribution of the genders was equal in both cohorts. Most of them (52.5%), had postgraduate qualifications. The cohorts had vastly different incomes as they were supposed to be earning, with a majority of the Generation X earners (55 percent) earning more than INR 60,000 per month compared to one-fifth

of the respondents in Generation Z (18 percent) and one-fourth of the lost earners in Generation Z (44 percent). The biggest sectors were IT/ITES (32.5%) and education and other services (29.0%).

Table 2. Demographic profile of respondents (N = 200)

Characteristic	Category	Gen X n (%)	Gen Z n (%)	Total n (%)
Gender	Male	59 (59.0)	56 (56.0)	115 (57.5)
	Female	41 (41.0)	44 (44.0)	85 (42.5)
Education	Graduate	34 (34.0)	36 (36.0)	70 (35.0)
	Postgraduate	55 (55.0)	50 (50.0)	105 (52.5)
	Professional / doctoral	11 (11.0)	14 (14.0)	25 (12.5)
Monthly income (INR)	Below 30,000	13 (13.0)	44 (44.0)	57 (28.5)
	30,001–60,000	32 (32.0)	38 (38.0)	70 (35.0)
	60,001–1,00,000	35 (35.0)	16 (16.0)	51 (25.5)
	Above 1,00,000	20 (20.0)	2 (2.0)	22 (11.0)
Sector	IT / ITES	32 (32.0)	33 (33.0)	65 (32.5)
	Banking and financial services	22 (22.0)	25 (25.0)	47 (23.5)
	Manufacturing	11 (11.0)	19 (19.0)	30 (15.0)
	Education and other services	35 (35.0)	23 (23.0)	58 (29.0)
Total		100 (100.0)	100 (100.0)	200 (100.0)

4.2 Exploratory factor analysis

The factor analysis data were appropriate: the Kaiser-Meyer-Olkin = 0.906 and the test of sphericity (Bartlett) was significant (χ^2=1897.60, p = 0.001, df = 231). Four factors had eigenvalues above 1 (6.97, 3.02, 2.07, 1.34; the fifth was 0.76) and together explained 60.9% of the variance. Upon promax rotation all items loaded on the desired factor without any cross-loadings exceeding 0.23, primary loadings of 0.65 to 0.87 (Table 3), and all 22 items were thereupon retained. In the single-factor test by Harman, the first factor described by the unrotated factor explained 31.7% of the variance, which is too small, in comparison with the 50 percent parent, suggesting that common method variance is not a major issue.

Table 3. Exploratory factor analysis: rotated pattern matrix

Item	Factor 1 (SCB)	Factor 2 (FL)	Factor 3 (GHRM)	Factor 4 (SCA)	Communality
FL1		0.752			0.590
FL2		0.651			0.455

Item	Factor 1 (SCB)	Factor 2 (FL)	Factor 3 (GHRM)	Factor 4 (SCA)	Communality
FL3		0.781			0.612
FL4		0.823			0.685
FL5		0.719			0.591
FL6		0.871			0.769
GHRM1			0.725		0.588
GHRM2			0.738		0.601
GHRM3			0.754		0.573
GHRM4			0.742		0.576
GHRM5			0.763		0.601
GHRM6			0.821		0.689
SCA1				0.813	0.671
SCA2				0.665	0.470
SCA3				0.760	0.600
SCA4				0.688	0.507
SCB1	0.765				0.623
SCB2	0.786				0.634
SCB3	0.819				0.674
SCB4	0.669				0.466
SCB5	0.785				0.618
SCB6	0.753				0.621
Rotation sums of squared loadings	3.648	3.640	3.579	2.346	

4.3 Measurement model

The four-factor measurement model fitted the data very well ($\chi^2 = 202.91$, df = 203, p = 0.489; $\chi^2/df = 1.00$; CFI = 1.000; TLI = 1.000; RMSEA = 0.000; SRMR = 0.050). All standardised loadings were significant ($p < 0.001$) and were between 0.62 to 0.78 (Table 4). Cronbach alpha (0.77-0.87) and composite reliability (0.77-0.87) were above 0.70 in all the constructs. AVE reached 0.50 for financial literacy and sustainable consumption behaviour, was marginally below it for Green HRM practices (0.498) and was 0.459 for sustainable consumption attitude. Convergent validity is still deemed sufficient as in the case of Fornell and Larcker (1981), AVE less than 0.50 is

still considered adequate as long as composite reliability is higher than 0.60, which is the case here; however, the attitude scale is still characterized by the lowest convergent validity and this is a weakness. Discriminant validation was achieved: each square root of the AVE was larger than the correlations of the construct with the other constructs, and the maximum ratio of the HTMT was 0.62, which is much lower than 0.85 (Table 5).

Table 4. Descriptive statistics, reliability and convergent validity

Construct	Items	Mean	SD	Loading range	Cronbach's α	CR	AVE
Financial literacy	6	3.14	0.83	0.64–0.78	0.866	0.868	0.524
Green HRM practices	6	3.13	0.81	0.67–0.74	0.855	0.856	0.498
Sustainable consumption attitude	4	3.00	0.81	0.62–0.75	0.771	0.771	0.459
Sustainable consumption behaviour	6	3.09	0.85	0.70–0.76	0.873	0.873	0.534

Table 5. Discriminant validity: Fornell–Larcker criterion and HTMT

Construct	FL	GHRM	SCA	SCB
FL	*0.724*	0.207	0.590	0.501
GHRM	0.203	*0.705*	0.415	0.326
SCA	0.578	0.417	*0.677*	0.619
SCB	0.500	0.330	0.621	*0.731*

4.4 Structural model and hypothesis testing

The structural model fits exactly (Table 6), since all structural relations between the four latent variables are estimated, coupled with the fact that the measurement model is statistically identical to the structural model. The model was used to explain 42.8 percent of the sustainable consumption attitude variance, and 42.3 percent of the sustainable consumption behaviour.

Table 6. Model fit indices

Index	Recommended value	Obtained value	Assessment
χ^2 (df), p	$p > 0.05$	202.91 (203), 0.489	Good
χ^2/df	< 3.00	1.00	Good
CFI	≥ 0.90	1.000	Good
TLI	≥ 0.90	1.000	Good
GFI	≥ 0.90	0.917	Good

Index	Recommended value	Obtained value	Assessment
RMSEA	≤ 0.08	0.000	Good
SRMR	≤ 0.08	0.050	Good

Table 7. Structural path estimates (pooled sample, N = 200)

Hypothesis	Path	Std. β	S.E.	C.R.	p	Decision
H1	FL → SCB	0.218	0.092	2.33	0.020	Supported
H2	GHRM → SCB	0.096	0.079	1.22	0.224	Not supported
H3	FL → SCA	0.515	0.084	5.42	< 0.001	Supported
H4	GHRM → SCA	0.313	0.073	3.83	< 0.001	Supported
H5	SCA → SCB	0.454	0.134	3.79	< 0.001	Supported

Financial literacy significantly positively influenced sustainable consumption behaviour (β = 0.218, p = 0.020) in line with H1 and sustainable consumption attitude (β = 0.515, p < 0.001) in line with H3. Green HRM practices did strongly predict attitude (β = 0.313, p < 0.001 and H4 was thus confirmed), but no longer significant in predicting behaviour (β= 0.096, p = 0.224 and H2 was thus not confirmed). H5 was the best direct predictor of behaviour (β = 0.454, p < 0.001).

Table 8. Mediation analysis (bias-corrected bootstrap, 5,000 resamples)

Hypothesis	Indirect path	Indirect effect	95% CI	Direct effect (p)	Total effect	Type of mediation
H6	FL → SCA → SCB	0.234	[0.131, 0.385]	0.218 (0.020)	0.452	Partial
H7	GHRM → SCA → SCB	0.142	[0.061, 0.269]	0.096 (0.224)	0.239	Full

The indirect influence of financial literacy on behaviour via attitude was also substantial (β = 0.234, 95% CI [0.131, 0.385]) but the direct influence was also not trivial, therefore partly attitude mediated this relationship and H6 is confirmed. The indirect impact of the practices of Green HRM was also substantial (= 0.142, 95% CI [0.061, 0.269]) but not the direct impact, which provided the full mediation and H7 was supported. In terms of total effects, financial literacy (0.452) was almost twice as influential as Green HRM practices (0.239).

4.5 Measurement invariance and multi-group analysis

The fitted configural model was reasonable in the two cohorts at the same time (Table 9). The relation to constraining factor loadings to equality did not deteriorate fit ($\Delta\chi^2 = 7.20$, $\Delta df = 18$, $p = 0.988$) or the additional constriction of equal item intercepts ($\Delta\chi^2 = 9.69$, $\Delta df = 18$, $p = 0.941$). The complete metric and scalar and hence the invariance between the two generations, Generation X and Generation Z, was thus present hence allowing you to compare the two structural paths and the means.

Table 9. Measurement invariance across Generation X and Generation Z

Model	χ^2	df	CFI	RMSEA	$\Delta\chi^2$ (Δdf)	p	ΔCFI	Decision
Configural	474.97	406	0.961	0.041	–	–	–	Supported
Metric	482.17	424	0.967	0.037	7.20 (18)	0.988	+0.006	Supported
Scalar	491.87	442	0.972	0.034	9.69 (18)	0.941	+0.005	Supported

Table 10. Multi-group structural comparison

Hypothesis	Path	Gen X β (p)	Gen Z β (p)	$\Delta\chi^2$	p	Decision
H8a	FL → SCB	0.195 (0.173)	0.218 (0.076)	0.03	0.866	Not supported
H8b	FL → SCA	0.549 (< 0.001)	0.464 (< 0.001)	0.14	0.713	Not supported
H8c	GHRM → SCB	-0.020 (0.871)	0.175 (0.105)	1.26	0.262	Not supported
H8d	GHRM → SCA	0.351 (0.001)	0.245 (0.035)	0.89	0.347	Not supported
H8e	SCA → SCB	0.519 (0.005)	0.428 (0.004)	0.20	0.654	Not supported

All five structural paths had no significant difference between the cohorts ((all $\Delta\chi^2 \leq 1.26$, $p \geq 0.262$) and combining the five structural paths together did not negatively affect the fit ($\Delta\chi^2 = 2.34$, $\Delta df = 5$, $p = 0.801$). H8a to H8e were thus not supported. Among the cohorts, both financial literacy-attitude and Green HRM practices-attitude as well as attitudinal-behaviour were significant but direct attitudinal-behaviour were not. The effect that Green HRM practices had on behaviour in Generation X ($\beta = -0.020$) and Generation Z ($\beta = 0.175$)was in the same direction as hypothesised but statistically unreliable.

Table 11. Cohort differences in construct means

Hypothesis	Construct	Gen X mean (SD)	Gen Z mean (SD)	t (198)	p	Cohen's d
H9a	Financial literacy	3.20 (0.88)	3.09 (0.79)	0.95	0.344	0.13
H9b	Green HRM practices	2.97 (0.77)	3.28 (0.82)	-2.83	0.005	-0.40
H9c	Sustainable consumption attitude	2.98 (0.82)	3.03 (0.80)	-0.44	0.662	-0.06
H9d	Sustainable consumption behaviour	3.07 (0.87)	3.11 (0.83)	-0.30	0.761	-0.04

Generation Z reported significantly higher perceived Green HRM practices than Generation X (M = 3.28 vs 2.97; $t(198) = -2.83$, $p = 0.005$, $d = -0.40$), supporting so H9a, H9c and H9d were not supported since there was no difference in financial literacy, sustainable consumption attitude ($p = 0.662$) or sustainable consumption behaviour

($p = 0.761$) between the cohorts. In general, the pooled model (H1 and H3–H7), and one hypothesis of the cohort-difference (H9b) were both supported; H2, H8a–e, H9a, H9c and H9d did not

5. Discussion

The researchers investigated whether two resources which are not part of the typical attitudinal explanation, personal financial capability and environmental management practices of the employer, contribute to explain sustainable consumption among workers in an emerging economy, and whether these differences exist between Generation X and Generation Z. Four results are distinguished.

To begin with, sustainable consumption has a significant antecedent in financial literacy. It had the best predictor of attitude, and had a natural impact on behaviour even after accounting the effect of attitude leaving it the largest total impact in the model. This assumes the role of daily consumption of the correlation between financial literacy and green financial decisions reported by Anderson and Robinson (2022) and Filippini et al. (2024) and helps uphold the thesis that sustainable choice is in part an inter-temporal choice which entails budgeting, the comparison of long-run costs and restraint. The partial mediation reveals two paths, the financially able consumers being more positively assesses towards sustainable options and independent of the assessment being mobile, they are more advantageous to take action and this follows the comprehension of financial literacy as a control resource in the TPB (Ajzen, 1991). The effect in itself is small, which complies with the small direct effect of financial knowledge on behaviour reported by Fernandes et al. (2014).

Second, Green HRM practices can only be delivered to the employees personal consumption by attitude. The employees who felt an enhanced green recruitment, training, appraisal, reward and involvement exhibited more positive attitudes towards sustainable consumption and by those attitudes consumed more sustainably, however there was no direct transfer to behaviour. This supports the fact of work-to-home spillover (Edwards and Rothbard, 2000) and extends the findings of Green HRM past green behaviour in the workplace and governmental environmental outcomes (Dumont et al., 2017; Kim et al., 2019; Ren et al., 2018). This entire mediation qualifies the nature of such a spillover: the Green HRM seems to alter what employees value, instead of transferring certain habits in office to home, which aligns with the opinion that behaviour generalises across settings when internalised (Truelove et al., 2014; Nilsson et al., 2017).

Third, the proximal determinant of behaviour is always attitude as in previous TPB studies in India (Paul et al., 2016; Yadav and Pathak, 2017). Nonetheless, the model explains a somewhat more than two fifths of the behaviour variance and thus there is still a significant attitude/behaviour gap (Vermeir and Verbeke, 2006) and the mean score close to the scale mid-point on all four constructs indicates that sustainable consumption lies in the moderate range in this sample.

Fourth, and in a twist to the expectations, the model works similarly both with the Generation X and Generation Z. The measurement tool used was invariant, there was no difference in the structural path between the cohorts and the cohorts were similar in financial literacy, attitude or behaviour. The main stereotype about the youth of the generation Z as a purportedly constitutive sustainability-based generation, and the anticipation of the increased financial resources of Generation X, is not proven right. The results are consistent with those reviews, which find that there are smaller generational differences than usually believed (Parry and Urwin, 2011) with meta-analytic findings that age has weak effects on environmental behaviour (Wiernik et al., 2013). The difference which is detected is a contextual rather than a dispositional one: Generation Z employees feel that more activity of green HRM in their organisations, which is natural: recently presented green induction or training and, managing involvement efforts are targeted towards newcomers. Increasing exposure did not yet lead to increasing scores of attitude and behaviour in this group of cohort, which could be contributed by the income constraint depicted in the sample profile and mentioned by Gomes et al. (2023). The no differences in paths are to be interpreted keeping the size of the sample in mind; with 100 respondents per generation the analysis would only find quite substantial differences and the direct Green HRM effect, though null, was in the direction of the hypothesis in the case of Generation Z.

6. Implications

6.1 Theoretical implications

The analysis has three contributions. It encompasses the TPB, the AMO framework and spillover theory in a single model of private consumption and demonstrates that financial literacy functions both as a source of favourable attitude and enabling resource, unlike Green HRM which functions as a source of attitude only. It goes beyond the organisational boundary to enrich the literature on Green HRM by illustrating an attitudinally mediated impact on household consumption by employees. And it predicts generational cohort as a test of multi-group invariance in an emerging-economy context, finding equivalence in most instances where difference is typically assumed; this warns not to construct a cohort stereotype into theories of sustainable consumption.

6.2 Practical implications

To the employers, the findings indicate that Green HRM has societal benefits that are not just to the firm on its own footprint but only to the degree that it transforms the attitude of the employees. So, the number of practices that justify why environmental action is important and engage employees in making decisions are likely to have more impact at home than the rules that have compliance orientation. With less exposure to Green HRM in Generation X employees, organisations ought to go beyond induction programmemes and extend green training and engagement to mid career and senior employees. The high position of financial literacy encourages financial educators and regulators to cover sustainability material, including life-cycle costs of purchasing long-lasting items and preventing excessive consumption via credit, in their financial-literacy curricula and their workplace financial-wellness programmes. To marketers, the two cohorts have shown similarities and this implies that between generations the less sustainable products are broken rather than those with greater financial potential and attitude; the messages that tend to make long-term savings more visible should still appeal to them across the age brackets. The results suggest two complementary avenues of implementation of the Sustainable Development Goal 12 to policy makers as financial education and the workplace.

7. Limitations and Directions for Future Research

There are a few restrictions to be mentioned. The age, period and cohort effects can not be disaggregated using a single wave of data and the cross-sectional design does not allow causal inference. The 200 sample size used in the pooled model is sufficient, but does not give much statistical power in the multi-group comparison, and may overlook small differences in cohort; it should be replicated in larger cohort studies. Measurement of all measures is self-reported, financial literacy is measured subjectively, and AVE of the attitude scale is less than 0.50, and objective knowledge tests and purchase records and a fine-tuned attitude measure would be important to future work. The use of purposive sampling of the employees of organised sector in a single country restricts the ability to generalize to the informal sector, to the members of the non-working population of each group who are not involved in the study, and to other developing economies. Additional future research may involve Millennials to provide the complete generational contrast, consider income and the green product availability as moderators to the attitude-behaviour relationship, include subjective norms and the perceived ability to control behaviour into the equation, and involve longitudinal designs to track spillovers between workplace and home.

8. Conclusion

Sustainable consumption cannot only be based on what people consider important but also on what they can do and what is promoted by the surrounding. Financial literacy in this research enhanced sustainable consumption behaviour both directly and indirectly through developing a favourable attitude, whereas Green HRM practices did so wholesale and purely through attitude; and the two accounted for approximately 42 per cent of the variance in behaviour. Generation Z and Generation X were the same in these relationships, level of financial literacy, attitude and behaviour, the only difference between them was that Generation Z perceived exposure to Green HRM at a higher level. Enhancing financial capacity and application of people-management practices to develop environmental attitudes are thus parallel paths, but across generations, through which organisations and policy makers can reduce the gap between sustainable attitudes and sustainable behaviour.

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Appendix

Table A1. Measurement items (five-point scale: 1 = strongly disagree, 5 = strongly agree)

Code	Item
FL1	I prepare a budget and keep track of my monthly income and expenses.
FL2	I understand how interest rates and inflation affect my savings and loans.
FL3	I compare prices and long-term costs before making a major purchase.
FL4	I set long-term financial goals and work towards achieving them.
FL5	I am confident in my ability to make sound financial decisions.
FL6	I avoid buying things that I cannot afford or do not really need.
GHRM1	My organisation considers environmental awareness when recruiting and selecting employees.
GHRM2	My organisation provides training that develops employees' environmental knowledge and skills.
GHRM3	Environmental targets and responsibilities are included in performance appraisal.
GHRM4	My organisation rewards or recognises employees for environmentally friendly behaviour.
GHRM5	Employees are encouraged to take part in environmental initiatives and to make green suggestions.
GHRM6	My organisation clearly communicates its environmental policies and goals to employees.
SCA1	Consuming in an environmentally responsible way is a good idea.
SCA2	I feel positive about choosing sustainable products and services.
SCA3	Sustainable consumption is important for protecting resources for future generations.
SCA4	It is worthwhile to make an effort to consume sustainably.
SCB1	I buy products that are energy-efficient or environmentally friendly whenever possible.
SCB2	I avoid buying more than I actually need.
SCB3	I reuse, repair or recycle products instead of discarding them.
SCB4	I try to reduce my use of electricity, water and fuel in daily life.
SCB5	I avoid products with excessive or non-recyclable packaging.
SCB6	I am willing to choose a sustainable product even when it costs somewhat more.

Note. FL = financial literacy; GHRM = Green HRM practices; SCA = sustainable consumption attitude; SCB = sustainable consumption behaviour. Items adapted from the sources listed in Table 1.