Evaluating the pro-environmental strategies of ethnic minority retail SMEs

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Author Biographies

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Morven G. McEachern is Professor of Sustainability & Marketing Ethics at the University of Chester. Her research interests focus on business and consumer behaviour within a variety of sustainable production and consumption contexts. In addition to various peer-reviewed international conferences, she has published in academic journals such as the European Journal of Marketing, Marketing Theory, Sociology and the Journal of Business Ethics. She has also co-edited various Journal special issues and contributed to edited books around topics such as social business, green marketing, ethical consumption, and consumption of place and space.

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Dr Tribikram Budhathoki is a Senior Lecturer in Marketing and Communications at the Queen Mary University of London. Dr Budhathoki's research sits at the cutting edge of marketing scholarship, focusing on the intersections of artificial intelligence, technology adoption, cross-cultural studies, and brand management. His work has been published in several high-impact journals, including the Journal of Business Research, International Marketing Review, Journal of Strategic Marketing, Studies in Higher Education and the International Journal of Entrepreneurial Behaviour & Research.

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Sunil Sahadev is a Professor in Marketing and Responsible Enterprise at Sheffield Hallam University. He has previously worked at the University of Brighton, Salford University, University of Sheffield and at the Indian Institute of Management Kozhikode. His area of research interest includes managing boundary spanning elements, especially managing frontline employees in service organisations, sustainable marketing, digital marketing and innovation strategy. He has authored papers in highly reputed peer reviewed journals like the British Journal of Management, Journal of World Business, Journal of Travel Research, Journal of Business Research etc.

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Abstract

Purpose: Despite increasing pressure to adopt pro-environmental behaviour (PEB), limited research acknowledges the sustainability efforts of ethnic minority retail small and medium-sized enterprises (SMEs). This is despite forming over half of all UK SMEs. Consequently, this research aims to advance our understanding of, how and to what extent, commercial gains (CG) (i.e. profit) and social embeddedness (SE) (i.e. people) impact ethnic minority retail SME's decisions to adopt pro-environmental behaviours (i.e. planet).

Design/methodology/approach: Drawing on the theoretical lens of the value-beliefs-norm theory, this research uses survey data from 352 owner-managers. The hypothesised model is tested in a structural equation model (SEM) using maximum likelihood estimation.

Findings: Our results indicate that SE and CG have a positive *direct* impact on PEB. However, in contrast to previous studies, results reveal an insignificant *indirect* relationship between CG and values. Similar to previous studies, our results confirm that values influence PEB *indirectly* and *directly* through general beliefs to activate personal norms (PN) to predict PEB.

Original Value: This research provides a nuanced insight into the under-researched, PEB of ethnic minority retail SMEs. By incorporating SE and CG as two important antecedent constructs, we reveal that profit objectives are prioritised over both people and planet. Subsequently, we envisage that voluntary opt-in, net-zero policies towards environmental targets are unlikely to be adopted at the pace necessary to meet either industry or policy targets by 2040 and 2050, respectively.

Practical/theoretical implication: Theoretical and practical implications are discussed to assist retail owner/managers and policy makers.

Keywords: Pro-Environmental Behaviour, Commercial Gains, Social Embeddedness, Ethnic Minority Retailers, SMEs; Sustainability; Structural Equation Modelling.

Introduction

Retailing is considered to be one of the top ten most carbon-intensive sectors (Fereira *et al*., 2019). Consequently, there have been mounting calls for retailers to embrace sustainability and conduct their operations in a more pro-environmental way (BRC, 2025; Ghaffar *et al.,* 2023). To help achieve this, a retail sustainability initiative promoted by the British Retail Consortium (BRC) Climate Action Roadmap strategy -

https://brc.org.uk/priorities/sustainability/climate-action/), highlights five pathways for retail businesses to secure net zero targets by 2040[1]. These pathways include: (1) putting greenhouse gas data at the core of business decision-making; (2) operating energy efficient outlets powered by renewable energy; (3) moving to low-carbon logistics; (4) sourcing raw materials sustainably; and (5) assisting employees/customers to live low-carbon lifestyles. A popular toolkit available to business owners when considering sustainability measures, is the 3Ps - Profit, People and Planet (also known as the triple-bottom-line approach – see Wilson, 2015). However, current research suggests that retailers are making minimal efforts to decrease their use of natural resources and reduce emissions (Vadakkepatt *et al*., 2021). The lack of economic incentives to be gained from making pro-environmental improvements is often cited by retailers' to justify their limited commitment (Maniu *et al*., 2021; Qian and Xing, 2018).

While many extant studies appear to have already investigated retail levels of commitment to sustainability (e.g. Hultman and Elg, 2018; Wilson, 2015), Dagilienė *et al*., (2022) argue that this research largely focuses on secondary data from the world's biggest retail chains only (Jones and Comfort, 2018). This is surprising as retail SMEs are

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[1] The UK's net zero strategy aims to decarbonise all sectors of the UK economy by 2050 (https://www.gov.uk/government/publications/net-zero-strategy)

responsible for 50% - 80% of the total environmental impact caused by retailers globally (European Commission, 2017).This therefore, points to a retail knowledge gap concerning academic scrutiny of small and medium-sized enterprises (SMEs) and their commitment to sustainability (Smith *et al*., 2022).

Also noted within prior research, is that much of the extant retail sustainability/pro-environmental literature relates to retailers from mainland Europe and/or International countries (see for example, Bilinska-Reformat *et al*., 2019 – Poland; Dagilienė *et al*., 2022 - Germany/Lithuania; Elg, 2024 – Sweden; Razalan *et al.,* 2017 - USA) and therefore, is not always transferable to a UK context. This warrants further research into the UK retail marketplace. For example, SMEs represent the dominant business type and account for 99.9% of all UK businesses (Smith *et al*., 2022). Moreover, a further socio-cultural difference is that over half of all UK retail SMEs are owned/managed by individuals from ethnic minority groups (Association of Convenience Stores, 2020) and increasing year-on-year. While there exists much research on ethnic minority business ownership *per se*, a focus on ethnic retailing has been minimal (Legrain and Fitzgerald, 2021), despite an increased presence across UK neighbourhoods. More specifically, further research into ethnic minority retailing is important, given the additional market challenges that they face such as access to financial and management resources (Rahman *et al*., 2018), all of which could impact upon their ability to behave in a more pro-environmental way and meet sustainability targets. Consequently, this study aims to respond to these knowledge-gaps, as a more nuanced understanding of the UK retail market is needed to help generate "better-informed insights into changing urban economic landscapes" (Dolega *et al*., 2021, p.133) and thus, will be of interest to retail practitioners, community planners and public policymakers (Hewidy and Lilius, 2022; Smith *et al*., 2022).

Notably, ethnic minority enterprises display several characteristics that differentiate them from other retail SMEs (Akintunde, 2017). For example, while mainstream retail SMEs aim for a broad, mass-market appeal, ethnic retailers typically concentrate on providing culturally specific products and a more personalised shopping experience (Parzer and Astleithner, 2018). Moreover, ethnic retail SMEs located in multicultural residential areas, offer greater opportunities to contribute to enhancing ethnic community neighbourhoods (Hewidy and Lilius, 2022). Consequently, ethnic retail SMEs prefer to live in clusters and be embedded in their local communities where they can share culture-specific information and meet multilingual needs (Szkudlarek and Wu, 2018), otherwise known as social embeddedness (SE). More formally, SE is described as the interaction between social behaviour and economic activities where businesses become a part of the local structure (Qian and Xing, 2018). Prior research reveals that international retailers who are socially embedded in their local communities are more likely to engage and adopt pro-environmental practices (Dekker and Hasso, 2016; Razalan *et al.,* 2017), but limited research exists as to the prioritisation of SE for ethnic retail SMEs and whether this influences their motivation towards behaving in a pro-environmental way.

Therefore, our research asks to what extent the role of SE (i.e. people) and CG (i.e. profit) help to explain the pro-environmental behaviour of ethnic minority retail SMEs? In responding to this question, we contribute to the extant retailing literature in two ways:

- Provide a more nuanced insight to the pro-environmental behaviour of ethnic minority retail SMEs, which form an important yet under-researched sub-sector of the UK retail sector;
- Expand the extant knowledge of factors that drive pro-environmental behaviour, by incorporating social embeddedness and commercial gains as two important antecedent constructs in pro-environmental decision making. In so doing, we address recent calls

(see Farrukh *et al.*, 2023; Ghaffar *et al.,* 2023) to expand and extend the range of exogenous factors acknowledged within pro-environmental research and retail sustainability research in particular.

To realise the above contributions, we utilise Stern's (2000) value beliefs norm (VBN) theory to investigate the PEB process among ethnic minority retail SMEs as it offers versatility across a variety of research contexts (Arfaoui and Gnonlonfin, 2020; Lebrument *et al*., 2025) and it facilitates a clear understanding of PEB via a causal chain whose links are values (i.e. biospheric, altruistic, egoistic), beliefs, personal norms (PN) and behaviour. Although previous studies have modified the VBN model to explain PEB of individuals in a variety of sustainable consumption contexts (e.g. car sharing, recycling), this research uniquely tests a modified VBN model that reflects the unique constraints and challenges faced by UK ethnic minority retail SMEs.

Theoretical Framework and Hypotheses

Pro-Environmental Behaviour (PEB)

Retailing in a pro-environmental way is achieved by implementing a business model that minimises negative impacts on the environment, while actively pursuing regenerative outcomes for the planet and society (Ghaffar *et al.,* 2023). The adoption of PEB is regarded as a primary determinant of sustainable consumption and influenced by personal factors such as values, attitudes and beliefs about the natural environment (Ghaffar *et al.,* 2023; Steg *et al.*, 2014). As causal relationships between these variables can also vary depending on political, socio-cultural and/or external constraints (Qian and Xing, 2018; Razalan *et al.,* 2017), this highlights the importance for ethnic minority retail SMEs to respond to industry-

led, sustainability initiatives such as the British Retail Consortium's Climate Action Roadmap programme (BRC, 2025).

Relationship among the constructs within the Value-Belief-Norms (VBN) Theory

A variety of explanatory models exist to help explain individual environmental behaviour. One early example is Schwartz's (1977) norm activation model (i.e. NAM). Originally designed to predict altruistic behaviour, the NAM proposes that behaviour results from the activation of PN which reflect an individual's moral obligation to engage or not. It is based on four constructs – problem awareness, ascription of responsibility (AR), outcome efficacy and self-efficacy (Lebrument *et al.,* 2025). Although widely tested, self-efficacy and outcome efficacy were typically not included and therefore, the NAM was perceived as a very general model (Steg and Nordlund, 2018). Followed by further research on the powerful predictive role of attitudes upon PEB, Dunlap *et al.* (2000) created the new environmental paradigm (NEP) scale, designed to assess an individual's ecological worldview through a 15-item assessment of their values, attitudes, and beliefs. Although researchers support its use as a reliable predictor of environmental attitudes, a criticism of the scale, is that it overtly focuses on psychological attributes and ignores social influences (Stern *et al*., 1995).

Validated as a more robust model for testing a variety of contexts and behaviours (Arfaoui and Gnonlonfin, 2020; Lebrument *et al*., 2025), both the NAM and NEP theories were adapted by Stern (2000) to create the Value-Belief-Norm (VBN) theory. The VBN proposes three dimensions: values, beliefs, and personnel norms and through an interrelated causal chain, these three dimensions are explained through a Values orientation [VAL] (i.e. egoistic, altruistic, biospheric – these can be at play altogether at any one time), the New Environmental Paradigm (NEP), awareness of adverse consequences (AC), ascription of responsibility (AR), and personal norms (PN).

Thus, in line with a triple bottom line approach (Wilson, 2015) to conducting retail operations, ethnic minority retailers' egoistic/self-interest values could emphasise economic interests (i.e. a focus on profits); their altruistic values could relate to maximising the interests of their local community (i.e. a focus on people); and their biospheric values might relate to ecological concerns (i.e. a focus on the planet), which could collectively, influence an individual's beliefs about: their ability to behave irresponsibly with regards to the environment; the existence of limits to growth for human societies; and an individual's right to rule over nature (i.e. NEP). Therefore, the following hypothesis is developed:

H1: VALs have a direct positive relationship with the NEP.

Once an individual develops strong beliefs about the NEP, a series of environmental beliefs are triggered (Stern, 2000) and these beliefs occur in a sequence. As a result, individuals become aware of the adverse consequences (AC) of environmental degradation, which then leads to a strong belief in the AR; that is the belief that actions they initiate could avert those (adverse) consequences (Stern, 2000). A strong AR then leads to strong feelings of moral obligation to perform or refrain from specific actions or pro-environmental PNs. If an individual has strong, pro-environmental PNs, then PEB consequently follows. Similarly, we expect ethnic minority retailers to go through this sequence as they adopt PEB within their business operations. Hence, in the case of ethnic minority retailers, we can hypothesise that:

H2: The NEP has a direct positive relationship with AC.

H3: AC has a direct positive relationship with AR.

H4: AR has a direct positive relationship with PN.

H5: PN has a direct positive relationship with PEB.

As highlighted previously, SE is influential in the decision-making patterns of ethnic minority retail SMEs (Akintunde, 2017; Szkudlarek and Wu, 2018). Hence, we argue that local communities have a significant interest in environmental preservation and mitigation, thus:

H6: SE levels of ethnic minority retail owner-managers have a direct positive relationship to their PEB.

H7: SE has a direct positive relationship with VALs in the case of ethnic minority owner-managers.

Impact of Commercial Gains (CG)

Commercial gains (CG) often serve as instrumental motives for adopting PEB. This is because firms pursue sustainability actions that yield measurable financial returns or cost savings (Maniu *et al*., 2021; Qian & Xing, 2018). Recent SME studies confirm that profit-related drivers, such as energy efficiency, resource reduction, and reputational improvement, predict higher PEB adoption than intrinsic environmental values (Murshad *et al*., 2021). Thus, in our model, the direct CG–PEB path reflects a rational economic orientation where environmental engagement is justified when it enhances competitiveness or profitability. CGs also have a positive direct relationship with values. As values are stable factors of individuals and potentially impact PEB, hypotheses H8 and H9 are as follows:

H8: CGs have a direct positive relationship with PEB.

H9: CGs have a direct positive relationship with VALs.

Values guide PEB through the NEP to activate general beliefs (i.e. AC, AR) which then activates a sense of moral obligation (PN) to predict PEB (Arfaoui and Gnonlonfin, 2020; Stern, 2000). In addition, Dekker and Hasso (2016) also suggest that there are many

external factors (socio-economic, cultural) and internal factors (awareness, attitudes, beliefs, emotions and values) that have a significant impact on PEB and that Values can mediate the relationship to adopt PEB. As the adoption of PEB is dependent on the SE of different social groups within the local community (Smith *et al.*, 2021), we further hypothesise that there is a serial mediation between SE and PEB through the causal chain of the VBN model. Therefore, H10 and H11 are developed as follows.

H10: VALs, NEP, AC, AR and PN serially mediate the effect of SE on PEB.

H11: VALs, NEP, AC, AR and PN serially mediate the effect of CGs on PEB.

Considering the above literature and hypotheses, the sequential mediation among VALs → NEP → AC → AR → PN → PEB is grounded in Stern's (2000) VBN theory, which specifies a causal cognitive chain, linking values to behaviour through successive belief and normative activations. Empirical research confirms that testing the full VBN sequence provides stronger theoretical validity and explanatory power than partial or parallel models (Arfaoui and Gnonlonfin, 2020; Jansson *et al.*, 2017). Therefore, specifying a serial-sequential mediation path conceptually aligns with the process logic of the VBN theory and empirically captures the stepwise activation of environmental concern leading to PEB.

The NEP is identified as a cognitive manifestation of biospheric and altruistic values that mediate an individual's influence on environmental awareness and moral obligation (Steg *et al.*, 2014). Therefore, treating NEP as an intervening belief construct between VALs and AC is consistent with both theoretical reasoning and empirical findings within the VBN framework (de Groot and Steg, 2008). Therefore, positioning NEP as a mediator allows a more precise representation of how value orientations translate into environmental cognitions and subsequent behavioural norms. Figure 1 presents our conceptual model which will now be tested and interpreted in our Results section.

Insert Figure 1 here

Methodology

Research Approach and Context

Following the adopted lens of VBN theory, a positivist and deductive approach was considered appropriate for this study. The Northwest of England was selected as a research context given it is the second most ethnic populated area in the UK after London (Etikan, 2016). Although, potential selection bias may limit generalisability and external validity (Hulland *et al.*, 2018), the target population was owner-managers of UK ethnic minority food retailers (EMFRs) from the Northwest of England. In total, 360 responses were collected via an online survey, of which 8 responses were discarded due to missing information. This resulted in a sample size of 352, which shows a response rate of 47% and is therefore, considered appropriate for structural equation modelling.

Selection of Variables and Measurement

The dependent variable for this research was PEB and independent variables included SE, CG, VALs, NEP, AC, AR and PN. Measurement items for all constructs were on a 7-point Likert scale. To measure SE, our survey included items adopted from Kim *et al.* (2014). The CG scale was adopted from Brammer *et al.* (2012). Scales to measure VALs were adopted from de Groot and Steg (2008) and to measure NEP, scales were adopted from Han (2015). AC and AR scales were adopted from Yuan *et al.* (2016) and PN scales were adopted from van der Werff *et al.* (2013). Finally, PEB scales were adopted from Whitmarsh and O'Neill (2010). All adopted measurement scales were valid and reliable. To test the measurement and conceptual model (i.e. Figure 1) simultaneously, a two-step approach is warranted (Hair *et*

al., 2017). This two-step process began by testing the measurement model using the confirmatory factor analysis (CFA) within SPSS-AMOS v28.

Although the CFA results demonstrate acceptable convergent and discriminant validity, the hypothesised model contains an extended causal chain where distal antecedents (i.e. CGs, SE, VALs) exert influence through multiple mediators. Full laddering, that is, testing the complete VBN sequence was considered essential to accurately estimate these indirect effects and prevent omitted-variable bias. The modern mediation analysis literature recommends bootstrapped serial mediation to account for the cumulative indirect effects within such overloaded causal chains (Hair *et al*., 2019; Hayes, 2022). Consequently, employing full laddering enhances construct validity and provides a comprehensive test of the theoretical process linking antecedents to PEB.

Results

Sample Profile

The majority of SME owner-managers were men (79%), aged below 40 years old (52%) and over half (52%) had between 4 and 10 years' experience in the food retail sector. Ethnically, the majority of respondents were Asian (71%), 5% were African, 4% were Arab and the remaining respondents were European (20%). Echoing Ghaffar *et al*. (2023), PEB in retailing is important to EMFRs. However, many of the PEB initiatives that EMFRs engaged in, could be motivated by CGs (Dagilienė *et al.,* 2022) – that is, egoistic values. For example, disposing of waste in an environmentally-friendly way and saving water were significant PEB priorities, with 84% and 86% of EMFRs positively engaging in such behaviours. Minimising transport/haulage costs was another PEB which was seen as important to EMFRs, with 74% regularly attempting to reduce travel costs. Although saving energy and advising staff on how to save energy were important to EMFRS (86% and 76% respectively),

only 56% of EMFRs had actually installed energy conserving equipment in their retail stores.

Similarly, while 80% of EMFRS positively engaged in community-activities, only 59% of

EMFRs felt included in the local, community.

Measurement Model

The CFA results indicate that the measurement model fits well with the data (χ^2=338.773,

degree of freedom (df) = 176, CFI = 0.956, TLI = 0.942, and RMSEA = 0.051). That is, the

standardised loading of constructs was greater than 0.60 and statistically significant (p

<0.000). All constructs have Cronbach Alpha values above 0.7 which are above the

acceptable threshold recommended (see Hair *et al.*, 2017) and therefore, have good internal

consistency. To verify convergent validity, the average variance extracted (AVE) and

construct reliability were calculated. In general, an AVE of 0.5 or greater and a composite

reliability (CR) of 0.6 or greater is desirable (Hair *et al.*, 2017). In fact, CR values for all

eight latent constructs (VALs, PEB, SE, CG, AR, AC, NEP and PN) were greater than the

recommended value. AVEs of the eight latent constructs ranged from 0.501 to 0.699, above

the recommended value. Thus, convergent validity is confirmed (see Table 1).

Insert Table 1 here

To verify discriminant validity, we compared the square root of the AVE and the

correlation coefficients with the other variables. If the square root of the AVE is greater than

the correlations with other variables, discriminant validity holds (Hair *et al.*, 2017). As all

latent variables met this condition, the discriminant validity is confirmed (see Table 2).

Overall, our research model has no validity or reliability issues and our measures demonstrate

acceptable measurement properties.

Insert Table 2 here

Common Method Variance and Multicollinearity

Harman's single factor test was conducted to check for common method variance (Harman, 1967). A single factor explained 41% (i.e. below the 50% threshold) of the total variation. If no single majority of the variance emerges and accounts for majority of the variance, this means there is no common method bias issue (Lowry and Gaskin, 2014). Results show that no common factor emerged and thus, common method bias is not an issue within our data. Daoud (2017) concludes that multicollinearity should be resolved before starting to model the collected data. The variance inflation factor (VIF) helps to detect or determine the presence or absence of multicollinearity; however, it cannot help to detect which variable is the cause of multicollinearity. Many scholars (Kim, 2019; Lowry and Gaskin, 2014) agree that the VIF value ideally should be less than 3, but in rare cases, it could be accepted up to 5 and sometimes up to 10 is acceptable. For this dataset, the all-construct VIF value was less than five (see Table 3), suggesting there was no multicollinearity in our model.

Structural Model

We test the hypothesized model in a Structural Equation Model (SEM) using maximum likelihood estimation. The overall results (see Table 3) indicate a good fit for the path model: $\chi 2 = 476.282$, degree of freedom (df) = 189, CFI =0.922, TLI = 0.904, and RMSEA = 0.066. First, the *direct impact* among the variables within the VBN theory (VALs, NEP, AC, AR, PN, PEB) were assessed (H1-H5). As expected, the links were all significant (β = VALs → NEP, β = 2.728, $p < 0.01$; NEP → AC; β = 0.523, $p < 0.01$; β = AC → AR; β = 0.489, $p < 0.01$; β = AR → PN; β = 0.150, $p < 0.05$; β = PN → PEB β = 0.252, $p < 0.05$). Therefore, hypotheses 1,2,3,4 and 5 are supported.

Insert Table 3 here

In addition, hypothesis 6 tests the direct relationship between SE and PEB. Our results show a direct positive impact of SE on PEB ($\beta = 0.145$, $p <0.05$), which confirms H6. Hypothesis 7 tests the direct relationship between SE and VALs. Our results show a direct positive impact of SE on VALs ($\beta = 0.130$, $p <0.01$), which confirms H7. Hypothesis 8 tests the direct relationship between CG and PEB. Our results show a direct positive impact of CG on PEB ($\beta = 0.191$, $p <0.01$), which confirms H8. Hypothesis 9 tests the direct relationship between CG and VALs. Our findings indicate a significant negative impact of CG on VALs ($\beta = -0.030$, $p <0.05$). This contradicts H9, which theorises a positive relationship between the two.

To test our hypotheses on the *indirect impact* of SE and CG on PEB, serial mediated by VALs, NEP, AC, AR and PN we performed a bootstrapping analysis using Preacher and Hayes' (2008) process macro. The number of bootstrap samples was fixed to 5,000 and the confidence level of the biased corrected confidence interval was 0.95. The results of this analysis (see Table 3) shows that SE has a significant indirect impact ($\beta=0.769$, $p<0.05$) which is $p=.0002$ on PEB mediated by VALs, NEP, AC, AR and PN. Hence, this result confirms H10. Similarly, our results show a positive significant indirect relationship ($\beta= 0.777$, $p <0.05$) which is $p=.0027$, between CG and PEB that is mediated by VALs, NEP, AC, AR and PN. Thus, H11 is also confirmed.

Discussion and Implications

Through the theoretical lens of VBN theory, our findings offer a nuanced understanding of not just revealing the extent to which SE and CG influence PEB among ethnic minority retailers but also add further insight into how they balance the adoption of pro-environmental behaviour with other strategic objectives. The hypotheses confirm that VBN theory is widely

supportive of the adoption of PEB in the context of ethnic minority retail SMEs. However, as identified by previous retail studies (Dagilienė *et al.,* 2022), ethnic minority retailers chose to focus on a subset of environmental focus areas such as energy, transport and waste.

As our data suggests, many of our direct relationship hypotheses (from H1 to H8) were significant. Here, results revealed that values and general beliefs (NEP, AC, AR) directly influence a sense of moral obligation (i.e. PN) which directly predicts PEB. Moreover, our SEM results confirm that values influence PEB *indirectly* through general beliefs to activate personal norms to predict PEB similar to previous studies (Jansson *et al.*, 2017). However, our results indicate that there is an insignificant relationship between CG and values, which is in contrast to previous studies (e.g. Kim *et al.*, 2014). This substantiates the theoretical value of our retail context, as ethnic minority retail SMEs do not indicate the prioritisation of pro-environmental values over CG.

This study finds that both SE and CG have a positive direct impact on pro-environmental behaviour in the context of ethnic minority retail SMEs in the UK. Consistent with previous studies that observe socially embedded retailers as being more likely to engage and adopt pro-environmental behaviour practices (see Dekker and Hasso, 2016; Razalan *et al.,* 2017), 80% of UK ethnic minority retail SMEs participated in local community activities, but only 59% actually felt included in the local, community.

Through testing the VBN theory in the context of UK ethnic minority retail SMEs to find out the direct and indirect role of SE and CG towards the adoption of PEB, this study aligns with previous research (see Steg *et al.*, 2005; Stern, 2000) and confirms the causal chain of VBN theory and serial mediation from values through general beliefs (NEP, AC, AR and PN) to PEB.

These results also confirm that for ethnic minority retail SMEs, values have a genuine impact upon the adoption of PEB. Therefore, the strong model fit of our conceptual model

(Figure 1) suggests that we have successfully extended VBN theory in the context of ethnic minority retail SMEs to explain the process of adoption of PEB in the UK. Similarly, these results also support the serial mediation relationship between CG and PEB through the VBN chain, as they engender the process of adoption of sustainable practices.

Conclusion

Through the theoretical lens of the VBN theory and a triple-bottom line approach to meeting sustainability targets, this research has successfully addressed recent calls to expand and extend the range of exogenous factors in PEB research (Farrukh *et al.*, 2023) and retail-specific sustainability research in particular (Ghaffar *et al.,* 2023; Wilson, 2015). In so doing, we advance the retailing literature by providing a more nuanced insight of ethnic minority SME retailers who form an important yet under-researched sector operating within the UK retail sector (Dolega *et al*., 2021; Hewidy and Lilius, 2022; Legrain and Fitzgerald, 2021).

Our results indicate that CG have a stronger positive influence on PEB compared to SE. This finding is surprising as prior research suggests that a positive social role within ethnic community neighbourhoods offers greater economic opportunities (Hewidy and Lilius, 2022) and loyalty from ethnic consumers (Parzer and Astleithner, 2018). However, in spite of the many cited financial and market benefits of adopting more pro-environmental operations, our results echo Maniu *et al*. (2021) in that our ethnic minority owner-managers of retail SMEs were only interested in behaving in a more pro-environmental way if it helped to reduce operational costs. This may be explained by the fact that ethnic minority retail SMEs have limited access to financial and management resources (Rahman *et al*., 2018), Moreover, while regulatory pressure enhances pro-environmental engagement (Qian and Xing, 2018; Razalan *et al.*, 2017), the UK's one-size, fits all regulatory approach towards meeting retail

Net Zero targets by 2050, means that environmental measures are unlikely to be adopted by ethnic minority retail SMEs at the pace necessary to meet the British Retail Consortium's Net Zero targets by 2040 unless targeted assistance is provided.

Managerial and Policy Implications

To help meet Net Zero targets within the BRC's targeted timescale, policymakers also need to stimulate greater adoption of pro-environmental practices within the ethnic retail SME sector. For example, due to specific barriers such as navigating systemic biases in lending, securing commercial leases, and overcoming language barriers or different cultural norms in the broader market (see Rahman *et al*., 2018), policymakers and industry bodies such as the BRC could implement financial incentives to encourage greater PEB. Moreover, as local authorities and urban planners have a limited understanding of ethnic retailing and lack culturally-tailored toolkits (Hewidy and Lilius, 2022), policymakers may need to focus on providing more pro-environmental education in multilingual formats to appeal to owner-managers of ethnic minority SMEs that are still not fully engaged with a sustainability agenda.

Research Limitations and Future Research

Despite the above theoretical and practical contributions, there are some limitations related to this research which also open new avenues for future research. For example, the study's generalisability could be limited due to its potential selection bias through a convenience sampling technique and its focus on small ethnic businesses in the food retail sector. As non-probability methods risk over-representing accessible respondents, and therefore, restrict the generalisability of findings, future research should consider probability-based or multi-regional sampling and longitudinal designs to strengthen inference and enhance the broader

applicability of the results. Data collection can also be extended to other ethnic groups as well as other non-retail firms to compare differences and similarities between them and ethnic minority retail SMEs when it comes to pro-environmental behaviours.

Another limitation of this study was its cross-sectional approach. Therefore, future research could take a longitudinal dimension to help measure the changes in the behaviour of ethnic minority retail SMEs which could help present a clearer picture to understand their changing impact on the natural environment.

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Figure 1: Conceptual Model
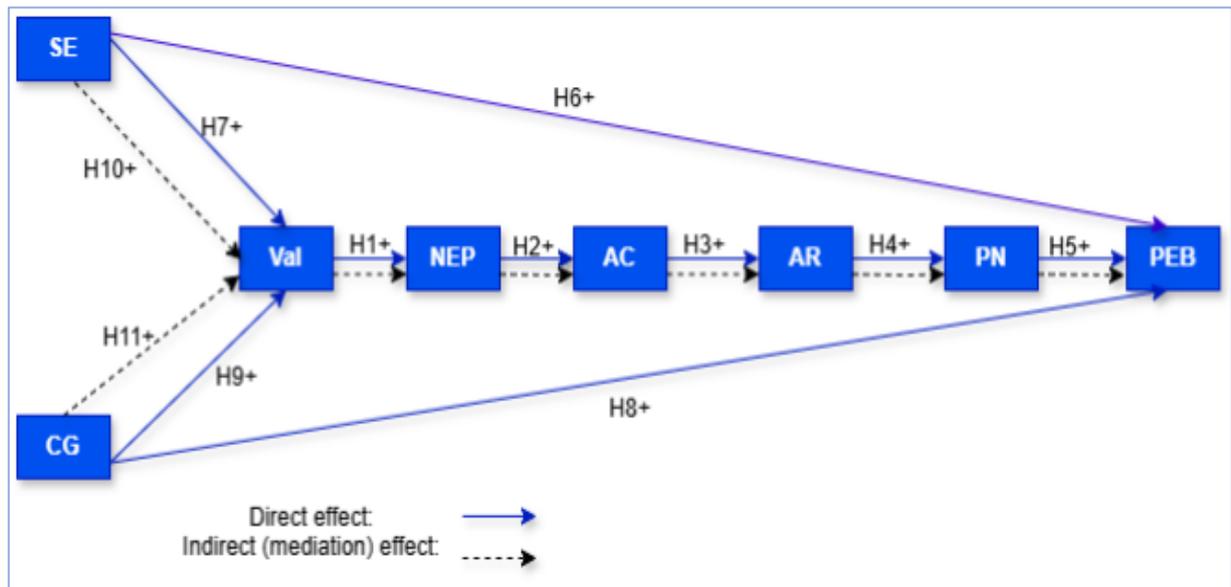
Note: SE stands for Social Embeddedness, CG for Commercial Gains, Val for Values, NEP for New Environmental Paradigm, AC for Awareness of adverse Consequences, AR for Ascription of Responsibility, PN for Personal Norms and PEB for Pro-Environmental Behaviour.

Source: Authors own work

Table 1: Results of Statistical Measures

Constructs	Items	Factor Loading	α^*	CR	AVE
Social Embeddedness (SE)	I am involved in a community in which I have strong sense of belongingness and attachment to.	.72	0.885	0.865	0.618
	In my community I often interact and discuss my environmental concerns.	.91			
	I have an extensive network within my community with whom I see or talk to once or week or more often.	.74			
	I feel that I am well included within the key communities that I am involved in.	.78			
Commercial Gains (CG)	My business can enter lucrative new markets by adopting environmental strategies.	.81	0.837	0.874	0.699
	My business can increase market share by making our current products more environmentally friendly.	.83			
	Reducing the environmental impact of my business activities will lead to a quality improvement in our products and processes.	.86			
Values (VAL)	Wealth	.72	0.888	0.861	0.675
	Authority	.81			
	Influential	.92			
New Environmental Paradigm (NEP)	The balance of nature is very delicate and easily upset.	.73	0.709	0.709	0.549
	Humans are severely abusing the environment.	.75			
Awareness of Adverse Consequences (AC)	The quality of the environment will improve if we use less energy.	.88	0.702	0.723	0.574
	The depletion of resources is a problem.	.61			
Ascription of Responsibility (AR)	Not only the government and the industry are responsible for the depletion of the environment, but I am too.	.72	0.849	0.856	0.666
	I am partly responsible for environmental and resource shortage problems in society today.	.91			
	In principle, sole individuals like me contribute to the increase of the use of resources.	.82			
Personal Norms (PN)	I feel morally obliged to act in an environmentally friendly manner.	.75	0.700	0.701	0.501
	I would feel guilty if I did not act in an environmentally friendly manner.	.66			
Pro-Environmental Behaviour (PEB)	I give a lot of importance to not waste water in my business.	.64	0.737	0.824	0.613
	I try to reduce unnecessary travel/transportation for my business.	.82			
	I constantly advisee my staff to conserve energy.	.87			

Source: Authors own work

Table 2: Descriptive Statistics and Correlation Matrix

	VIF	VAL	PEB	CG	AR	AC	NEP	PN	SE
PEB	1.00	**0.822**							
VAL	1.116	0.151*	**0.783**						
CG	1.501	0.026	0.429***	**0.836**					
AR	1.626	0.000	0.165**	0.373***	**0.816**				
AC	1.413	0.145*	0.229***	0.240***	0.436***	**0.758**			
NEP	1.387	-0.041	0.231***	0.224***	0.442***	0.418***	**0.741**		
PN	1.896	0.029	0.479***	0.563***	0.455***	0.572***	0.702***	**0.706**	
SE	1.435	-0.068	0.399***	0.431***	0.381***	0.305***	0.431***	0.553***	**0.786**

Notes: Diagonals represent the square root of the AVE. Other entries represent the correlations *p<0.10, **p ≤ 0.05, ** p≤ 0.01

Source: Authors own work

Table 3: Structural Model Results

Hypotheses	Structural Paths	Estimate	S.E.	C.R.	P-value	Decision
Direct Impact						
H1	VAL→NEP	2.728	.168	16.195	0.000	Accepted
H2	NEP→AC	.523	.081	6.432	0.000	Accepted
H3	AC→AR	.489	.085	5.761	0.000	Accepted
H4	AR→PN	.150	.064	2.344	0.019	Accepted
H5	PN→PEB	.252	.082	3.058	0.002	Accepted
H6	SE→PEB	.145	.052	2.778	0.005	Accepted
H7	SE→VAL	.130	.022	5.804	0.000	Accepted
H8	CG→PEB	.191	.044	4.316	0.000	Accepted
H9	CG→VAL	-.030	.015	-2.077	0.038	Rejected
Indirect Impact	Structural Paths	Bootstrapping		95% Bias-Corrected CI	P-value	Decision
		Coefficient	SE	LLCI	ULCI	
H10	SE→VAL→NEP→AC→AR→PN→PEB	.2939	.0769	.1426	.4452	.0002	Accepted
H11	CG→VAL→NEP→AC→AR→PN→PEB	.2353	.0777	.0824	.3882	.0027	Accepted

Notes:
(i)   Val stands for values, NEP for new environmental paradigm, AC awareness of adverse consequences, AR for ascription of responsibility, PN for personal norms, PEB for pro-environmental behaviour, SE for social embeddedness and CG for commercial gains.
(ii)   SE-Standard error, LLCI-Lower Limit Confidence Interval, ULCL-Upper Limit Confidence Limit. Indirect effects were tested using the bootstrapping procedure with 5000 bootstrap samples.

Source: Authors own work