ISSN 1648-0627 / eISSN 1822-4202

VILNIUS TECH
Vilnius Gediminas Technical University

BUSINESS: THEORY & PRACTICE

2025
Volume 26
Issue 1
Pages 182–201
https://doi.org/10.3846/btp.2025.22971

EXPLORATION OF SOCIAL DIMENSIONS OF SUSTAINABLE BEHAVIOR

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Article History:
- received 21 December 2024
- accepted 19 January 2025

Abstract. As climate change and inequality spur interest in sustainable lifestyles, insufficient attention focuses on the social dimension encompassing equity and wellbeing-oriented conduct. Limited measurements capture facets like frugality, sufficiency, and altruism, obscuring motivational nuances. Addressing persistent gaps, this exploratory sequential mixed-methods research developed and validated a multidimensional scale assessing components of individual social sustainability behavior. The initial qualitative generation of 167 items from established surveys enabled breadth. An expert review panel then evaluated content validity quantitatively through statistical relevance ratings and qualitatively via open-ended feedback on gaps and terminology issues to refine facets. Analyses informed iterative adjustments, resulting in a 45-item pool demonstrating sound psychometric properties. Quantitative techniques found strong internal reliability (α >.80) and confirmed dimensionality in distributing items across volunteering, charitable giving, conscious consumption, lifestyle simplicity, equity promotion, and community building sub-scales. Confirmatory factor analysis met thresholds for acceptable model fit. Qualitative inputs crucially enhanced practical resonance and specificity. Findings provide initial evidence of a valid, generalizable measurement of the social sustainability domain, encompassing cooperative civic engagement, frugality, and lifestyle moderation behaviors on the individual level. The parsimonious instrument promises utility for research and community initiatives advancing this complementary sustainability facet. Practical implications and scholarly contributions are discussed.

Keywords: social sustainability, multidimensional scale, frugality, civic participation, pro-social behavior, voluntary simplicity.

JEL Classification: Q01, Q50, Q56, D64, D12, M14, O13, Z13.

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1. Introduction

Sustainable behavior refers to individual actions and lifestyle choices aimed at reducing adverse environmental or social impacts. Rising concerns around climate change and inequality have spurred interest in understanding and promoting sustainability at the individual level. Much research has examined the environmental dimension, including behaviors like conservation and recycling. However, the social dimension has received comparatively less focus (Abbas et al., 2019), despite encompassing a range of equity- and wellbeing-oriented conduct. The social dimension targets advancing humanistic conditions rather than reducing ecological harm (Abbas et al., 2019). It captures behavioral facets like frugality, sufficiency lifestyles, altruism, and social consciousness. For instance, charitable giving or voluntary simplicity reflect pro-social sustainability values. However, conceptual ambiguity persists, with limited measurements specifically dedicated to assessing socially-driven sustainable actions as distinct from environmental.

This presents barriers to advancing scholarship and solution frameworks. Without precise quantification, it remains difficult to model drivers, predict outcomes, or evaluate interventions around the social dimension and its sub-components (Abbas et al., 2019). The search for trustworthy and consistent means to assess, among other variables, frugality and philanthropy at the individual level is an essential step towards filling the gaps. Study results can explain whether the differences in motivations are indeed significant among the numerous dimensions, which is important for encouraging transformation. The sociocultural dimensions of individual executed sustainability require more attention to be directed to them for research purpose. Most of the research on environmental behavior is fully characterized by the presence of such behavior as self-sufficient lifestyle or relatively rare participation in pro-social behavior (Abbas et al., 2019), while the high

presence of such behavior is hardly decomposed. Scale Development and Validation of the Sustained Broader Domain, keeping focal point in mind, are of Operational and Conceptual use. Even though there is a growing awareness of the potential benefits of changing to sustainable ways of living, there is a lack of empirical research that aims to clarify individually oriented sustainability. Most behavioral research targets environmental behavior such as conservation, but not socially oriented behavior. Similarly, the existing metrics usually don't allow to comprehensively analyze people's charitable giving, conscientious consuming for the purpose of moderation and equity tools. There is such a risk that I narrow down the understanding of the different forms of social sustainability behavior, which are fundamentally multi dimensional, mechanisms.

Current models measuring the degree of sustainability are more focused on the global constructs rather than the specific sub constructs including sufficiency lifestyle or volunteering as outlined by Abbas et al. (2019). On the other hand, the psychological and contextual motivations for habitual donation as a form of charitable consumerism are different from that of one-off contributions. Overlooking such distinctions hinders understanding and intervention. In the absence of specification, it is also challenging to anticipate or encourage action on the plethora of forms that social sustainability takes phases (Abbas et al., 2019). As an example, interventions that seek to promote permanent lifestyle change towards simplicity for ethical reasons would need to be framed differently from marketing campaigns that seek to increase the volume of one-off donations for emotional reasons. Not venturing into dimension specific models and measurements negatively affects tailoring efforts. Environmental protection motivations are different in the case of some actions like household recycling and political action. It seems likely that determinants will differ in some dimensions of social sustainability from abstinence from consumption, to volunteerism.

Tools such as these become universal without a proper analysis of their effectiveness envisaged through performance evaluation aiming to validate them (Alshehhi et al., 2018) While the potential benefits outlined above appear to be useful, they do seem to be in a constant state of reconstruction. These details could also rather facilitate education, policy and communication strategies that are relevant to the psycho-social determinants of the context in which social sustainability domains operate the best. Progress on the other hand requires more than just a traditional view of social dimension transformation since environmental sustainability encompasses a number of unique behavioral transformation as well. To elevate scholarship and to establish solution frameworks, research focus should be dedicated to disentangling the multidimensional social sustainability concept within the individual level targeting the underlying nuances of frugality, sufficiency, civic engagement and responsible consumption lifestyles for tailored assessments and interventions. This complex field of study can benefit theoretically and practically from proper scaling design and validation efforts directed towards its mapping.

This study aims to address current measurement limitations by developing a pool of survey items assessing key components of the social dimension of individual sustainable behavior. The specific components to be examined include frugality, sufficiency lifestyles, pro-social behavior, volunteerism, charitable giving, and conscious consumerism. In line with established scale development procedures, newly generated items will undergo expert review to evaluate their content validity and areas for refinement (Alshehhi et al., 2018).

The overarching research question is:

- **RQ1:** What set of survey items demonstrate content validity in assessing components of the social dimension of individual sustainable behavior?

Additionally, the study will investigate:

- **RQ2:** How do experts in the field evaluate newly developed items measuring frugality, sufficiency lifestyles, pro-social behavior, volunteerism, charitable giving, and conscious consumerism on the individual level?
- **RQ3:** What revisions are suggested to enhance the content validity of items across these domains of social sustainability behavior?

2. Literature review

Theoretical Framework. Scholarship on sustainable behavior encompasses a range of social theories and conceptual models seeking to delineate its complex psycho-social determinants. Broadly, the adoption of sustainable lifestyles is theorized to depend on some combination of internal attributes, cognitive beliefs, motivational orientations, contextual factors, and habits (Chams & García-Blandón, 2019). These diverse lenses provide insight on multidimensional origins while also pointing to opportunities to build targeted measurement tools and behavior change interventions. The theory of planned behavior (Chaudhary, 2019) is arguably the most widely applied framework, identifying attitudes, social norms, and perceived control as key precursors of behavioral intentions and actions. Essentially, individuals are prone to engage in sustainable practices when they evaluate them positively, sense normative approval, and believe the requisite resources are available. Augmenting this cognitive emphasis, value-belief-norm theory stresses personal norms and moral obligations as central to decision-making about environmental issues, activated by awareness of adverse consequences (Chaudhary, 2019). Both demonstrate that internal attributes can override rational cost-benefit calculations.

Alternatively, social practice theory focuses less on determinism and more on the rituals, expectations, and infrastructures perpetuating unsustainable lifestyles across groups and generations (De Roeck & Farooq, 2017). Daily mobility demands illustrate the interdependent connections; reducing automobile reliance requires rethinking

how institutions and society are structured rather than just persuading people to drive less through information or incentives (De Roeck & Farooq, 2017). However, individuals can spark shifts that reshape conventions about needs and resource usage over time. Integrative conceptualizations also seek to delineate generalizable and contextual predictors. For instance, De Vos et al. (2018) highlight demographics and internal enablers like knowledge and values alongside external barriers as key elements influencing whether pro-environmental orientation manifests into action. Core factors in De Vos et al. (2018) comprehensive framework are cost-benefit evaluations and information gaps that shape capability and motivation perceptions relative to particular sustainable actions. Other multidimensional models also recognize the diversity of psychological and situational forces that promote or constrain sustainable lifestyles.

A key takeaway is that while general determinants can be modeled, their relative influence likely depends on the type of sustainability behavior and population characteristics. For example, the drivers of daily frugal consumer habits probably differ from one-off donations to an environmental charity. Current theories and frameworks provide a starting point but typically do not differentiate predictors, outcomes, or effective interventions based on such nuances (Dhahri & Omri, 2018). There are particular gaps around measurement models specified for the social dimension of sustainability. Diverse theoretical lenses highlight the multiplicity and interconnectedness of factors shaping sustainable actions. Existing frameworks synthesize general insights but could be advanced through specificity around psycho-social determinants and behavioral typologies, especially the pro-social domain. Targeted, reliable measurement instruments are crucial for enabling this differentiation and specificity. This provides the foundation for this study's item development and expert review approach as a step towards elucidating the social dimension and its sub-components.

Social Dimension Components. Various multi-item self-report tools have developed over recent decades, seeking to advance quantification of the multidimensional sustainability concept encompassing beliefs, motivations, and actions. However, stringent reviews reveal most current scales demonstrate notable limitations around inconsistencies, gaps, and inadequate validation across contexts (Dhahri & Omri, 2018). Targeted advancements responding to identified shortcomings can strengthen explanatory models and intervention utility.

Initial instrumentation concentrated mainly on emerging environmental attitudes and consciousness. The ecological attitudes scale by Esmaeilian et al. (2020) pioneered survey measurement tapping pro-environmental dispositions. However, the attitudinal emphasis weakly predicted corresponding sustainable actions, signaling the need for more proximal motivational assessments. Accordingly, instruments like the awareness of consequences scale incorporated value-based norms shown in value-belief-norm theory to shape decision-making around ecological impacts.

Seeking inclusiveness beyond activism, Esmaeilian et al. (2020) developed the environmental concerns scale, encompassing pollution reduction, conservationist purchasing, and political participation intention spheres. This acknowledges multiplicity in defining the attitudinal realm. As the field advanced, focus expanded further from virtuous perspectives towards gauging implemented actions given intention-behavior gaps. Measures like the ecological behavior scale adopted self-reported frequencies of public and private green behaviors to better predict real uptake (Geiger et al., 2017). Presently, the general ecological behavior scale represents the gold standard given its synthesis of awareness, feasibility constraints, and tradeoff motivations bridging value-action inconsistencies in a comprehensive framework. However, reliance on self-reports risks social desirability distortions, and scale variations across cultures warrant scrutiny. Addressing these remains imperative for external validity. Frugality represents a central pillar of sustainable lifestyles, encapsulating restrained acquisition and consumption of material goods guided by sufficiency rather than maximalism values (Groening et al., 2018). It denotes deliberately moderate resource usage and the avoidance of waste by minimizing and reusing possessions (Groening et al., 2018). Frugal practices include the reuse and repair of existing tools, the purchase of second-hand items, refraining from impulsive buying, as well as broader control of consumption in general. Such embedded practices as ad-hoc needs use of public sharing schemes instead of owning, e.g. vehicles, tools, etc., the gift of experiences instead of luxury items, turning off lights, and getting into the routine of cooking along with other traditional green practices involving groceries.

According to Han (2021), the lived experience depicts that the complexity of human behaviour and inclination towards a frugal way of life is deeply rooted in multiple factors such as care for the environment, intense self-control regarding expenditure, and the cultural injunction to be simple around the tenets of one's religion. Pragmatically putting aside the reasoning behind it, research based on emission and material consideration suggests that if a global trend of conservational enactment for the sake of sustainability is adopted, it would mitigate the amount of emission generated (Han, 2021). Reduction in carbon footprints in the westernized countries by a substantial extent owing to consumer frugality and excess moderation comes as no surprise, and this effectively touches on how sizable scope for change around these behaviors that lead to generous practices is available. However, being frugal, be it an occasional purchase around a specific context, or spending on a reusable item, or simply being moderate in consuming items, or the broader construct of cultural simplicity, depicts a heterogeneous understanding of the topic. In between cultural disintegration with commercialized norms to loosely restricted environments, it is plausible that periodic second-hand buying would be influenced by temporary budget restraints while committing to a simplistic ethical conduct would require moral

cognizance. To adequately measure enduring voluntary transition still remains a point of development, and this lack is of great concern as it is vital to accurately measure such variability to enhance understanding around levers and hurdles associated with each level. Although a few strands are still unaddressed, it has widely been accepted that normalized frugality comes with greater ecological benefits (Han, 2021).

When examining sustainability, pro-social behavior is expected to be correlated with a cohesive type of orientation. According to Han (2021), pro-social behavior which compromises environmental sustenance for example constructing a building is Rather Classifies Such Activities. Some research has in fact found specific roles for empathising dispositions, egalitarianism and helpfulness in the inclination to engage in green behaviors. Unfortunately, only a few measures have provided separate estimates of the dimensions of pro-social and other sustainable behavior. There are likely important nuances between ongoing civic participation and context-specific altruistic acts, for instance.

Engaging in volunteerism entails providing unpaid help and services to people, communities, or organizations for their benefit. It can derive from encouraging social actions, gaining work-related experience, or meeting people (Hussain et al., 2018a). As for behavioral sets promoting sustainability, joining local ecological groups, animal-centered community gardens and cleaning campaigns are significant forms of involvement. One angle views environmental volunteering as a form of civic engagement which aims for promoting sustainability. Differential parameters like environmental self-conception and the belief that one possesses the ability of effecting change have been treated as enablers (Hussain et al., 2018a). But again, measurements always target green activities in a more general than specific sense for fostering ongoing, genuine volunteering and activism around social causes. Acts of charity include resources and time devoted to volunteer activities, financial contributions, active participation in many campaigns and shows of support by the public to various activities. Areas of charitable sustainability behaviors relate to practices of charity, wherein the concern is for the betterment of the society and the environment. While Philanthropic behaviors conduct a sustained aid in money and activities of promoting humanistic ideals, social causes, and many others. This is achieving particular massive and planned actions rather than ad hoc emotional donating or volunteering and sporadic (Hussain et al., 2018b). Creating of trusts and foundations, provision of scholarships, event sponsorship, as well as lobbying for policy changes are some of the components. According to Hussain et al. (2018b), rich donors of charities however tend to care a lot about the impact their funds have and also have a strategic mindset due to their strong business background hence they tend to give in a more sustainable way.

Existing Scales. A number of multi-item self-report measurements have emerged over the past few decades, which aims to enhance the measurement of the multi-dimensional concept of sustainability which includes the beliefs, motivations, and actions of individuals. However, in conducting systematic reviews, it has been proven that most of the current available scales have great limitations regarding contradicting, gaps and inadequate validation of studies in different contexts (Hutchison, 2018). Bespoke developments that directly address these weaknesses can enhance the explanatory frameworks and the practical relevance of the interventions.

Early instruments targeted the developing environmental attitudes and awareness rather specifically. The ecological attitudes scale by Ives et al. (2019) is one of the earliest to employ survey measurement providing insight into pro environmental traits. The downside of the emphasis on attitudes, however, is that there was a weak relationship between attitudes and the corresponding sustainable actions which then recommends more proximal measures of motivation. Then again, such instruments as the awareness of consequences scale are based on the value-belief-norm theory which argues that norms based on values shape decisions through ecologically sensitive (Jennings & Bamkole, 2019). In a bid to broaden the scope of concern beyond the activism focus, Ives et al. (2019) constructed the environmental concerns scale, which is intended to measure intention for pollution abatement, conservation behaviours and political action. This recognizes the plurality inherent in the underlying, the attitudinal space. With the development of the field, the focus shifted more from valid ideals to the measure of the actual actions taken due to the intention-behaviour gaps. New measures, for example, the ecological behavior scale measured frequencies of self-reported public and private green behaviors in order to better estimate real uptake.

To date, the general ecological behavior scale has been the most precise measure as it subsumes awareness, feasibility constraints, and tradeoff motivations that aim at value-action discrepancies into a single, well-structured framework. However, self-reports are easily prone to social desirability bias, and there are concerns about the differences in scales across cultures. Addressing these issues is necessary for external validity (Jennings & Bamkole, 2019). In relation to social sustainability, there is no counterpart of implements that accompanies the growth of the environmental component despite the recognition its additional role in promoting sustainability. As a distinct conceptual understanding of socially motivated drivers begins to surface, there is an opportunity to develop measurement tools meant for the subtle differences which one hopes will be useful both analytically and practically. Greater predictive validity and differentiation between subgroups can create more efficient pathways for responses to be aimed at because being parsimonious or being civic engaged have different objectives which are different from being eco activist so require different framings.

Some authors have proposed an approach to estimating equitably altruistic motives and acts separately from popular donation-based equivalence, as well as separating diverse practices of altruism (which are known to be

multi-faceted) such as political engagement, from the broader and multi-pronged donation motivators (Jennings & Bamkole, 2019). Chazdon et al. (2021) contend that passive or active conservation efforts contribute to the behavioral domain continuum, and at the same time emphasize the need for further evaluation – where social context matters, so do proper instruments. Building on progress made on capturing difficult concepts of sustainability, there remains a need to continue addressing gaps in the instruments longitudinally across cultures and levels, and to develop those that enable validating intention-action gaps of complex phenomena. Improved models explaining change in complex behaviors such as transformations in family households can help shape effective strategies for these changes to occur globally.

In addition to attitudinal support, other instruments began to consider self-reported behavior as an important factor. The ecological behavior scale encompasses private and political behaviors such as purchases of eco-labels and activist behavior. A general ecological behavior scale, which is regarded as the best in the contemporary period, combines the elements of awareness of the problem and mechanisms of internal and external substitutive constraints that help in overcoming inconsistencies between values and actions. While widely utilized, it still has known shortcomings such as social desirability bias, which points to the policy direction – the need for context-relevant, culture-sensitive, integrative evaluation measures. Aiming at definition, Kannan (2018) constructed scales aimed at different obligation, intention, and action patterns in the household energy saving, waste disposal, and transport domains. In contrast, the motivating factors for sustainability actions scale includes common internal motivations encouragements such as self-respect and community concern common across different actions. The existence of both domain-general and behavior-specific measurements raises questions about the fundamental and specific factors. A major drawback is that most quantitative self-report questionnaires evaluate broad environmental behaviors and not specific manifestations or consequences comprising social sustainability (Kioupi & Voulvoulis, 2019). As in contrast to random charitable contributions, the psychosocial factors promoting habitual citizens' participation are likely to be different. Not differentiating between unique drives of frugality, sufficiency, community action, conscientious consumption, and altruism blurs multiplicity.

Interventions to promote habitual environment-friendly buying will, for example, require other frameworks than one-time volunteering initiatives. When bundled into a single category without any kind of sunlight, there is still an inability to understand the various kinds of decision-making processes. In factor analysis, person's multiple concerns and priorities that emerge from the social issues of human care, equality, and cooperativism are revealed.

Gender Differences. Research consistently demonstrates that women report and display heightened environmental concern and engagement in sustainable behaviors compared to men across contexts (Kioupi & Voulvoulis, 2019). However, there remains notable variability around the magnitude, domains, and explanations underlying observed gender differences. Several interconnected factors likely contribute, including socialization processes, identities, structural positions, and motivational priorities. Careful examination of where, why, and how sustainable lifestyles manifest differently along gender lines allows for the development of more inclusive and impactful solutions.

Broader evidence reveals women exhibit moderately higher pro-environmental attitudes, beliefs, and behavioral intentions compared to men. For instance, meta-analytic syntheses of 198 studies confirm that women judge environmental issues as more serious, express more worry about ecological consequences, and feel more responsible to act pro-environmentally through consumer and political behaviors (Kioupi & Voulvoulis, 2019). Surveys consistently detect gender gaps wherein women report more frequent engagement in private-sphere ecological actions like saving energy at home. However, findings are more equivocal for public behaviors like activism. There are also open questions around whether expressed intentions reliably yield corresponding action across genders.

Seeking to explain discrepancies, some scholarship points to early life socialization, including parental value transmission, peer expectations, and societal gender norms that cultivate communal goals for women tied to caring dispositions (Lin & Niu, 2018). Related identity mechanisms emphasize that men gravitate towards egoistic agentic motives while women internalize caring, self-transcendent values predictive of prosocial intentions. However, competing views argue structural and situational factors better explain gaps, including green preferences and duties often falling under feminine domestic roles and consumption domains (Martin et al., 2020). Rather than essentialist differences, contextual positioning shapes motivations and opportunities.

Evidence in specific sustainable lifestyle realms reveals further nuances around variability. For instance, regarding frugality and sufficiency-oriented behaviors, research documents a somewhat more prevalent orientation among females towards voluntary simplicity lifestyles, restrained acquisition tendencies, and reuse practices in Western industrialized societies (Martin et al., 2020). Surveys also detect greater skepticism about excessive consumerism ideals. Posited determinants again highlight identity drives towards moderation and self-restraint, together with traditional household management roles. However, the magnitude of the differences remains context-dependent. And qualitative insights emphasize internalized anti-excess values over gender per se as shaping some men's frugal lifestyles, suggesting socialization is not deterministic.

In terms of further prosocial sustainable behaviors, findings show women consistently exhibit higher self-reported engagement in private sphere realms like donating to charity causes or community-oriented groups, together with volunteering time for social services (Martin et al., 2020). This aligns with the themes that females exhibit greater empathy, agreeableness, and moral motivations

predictive of helping behaviors. Recent research documents attitudes-behavior gaps in sustainability domains vary significantly between individualist versus collectivist cultures based on distinct social norms and structural constraints (Martin et al., 2020). This signals the need for multi-country investigations to parse universal and culturally situated gender roles before drawing conclusions. While patterns detected in Western contexts provide suggestive departures for models, more expansive scholarship on gender differentiations can enrich understanding of cultural and situational nuances.

Cross-Cultural Comparisons. Global diffusion of sustainable lifestyles continues to be a goal but researchers still aim to understand whether or not our western based industrialised practices are the norm across the world. Addressing this most even seems to critique a society on how it understands sustainability and this alone is of critical importance in defining the boundaries in political theories as well as social interventions. There is a need to focus on cultural aspects which remains under researched and under documented, meaning vast discrepancies emerge in addressing possible solutions within that particular context. Such progress requires moving from the belief of universalism to understanding factors that are unique yet shared across the world and measuring them to determine what pushes and pulls us towards social sustainability.

As some recent articles state there is now a visible difference between countries and how they approach the term sustainability, these countries have come to form a disparity in how sustainability is connected to daily life. Economically motivated individuals from North America observed indifferences when placed under a European umbrella similarly individuals from Asia and Africa projected parallel once European and North American ideas were forced upon them (Mensah, 2019). Some examine how the limits of Western ideas on environment are connected to developed countries and their long term grand goal of intertwining themselves without damage. In comparison to this idea, aiming towards development, eradicating poverty and triggering human dignity over environmental protection is centered around a different paradigm which is what Mensah (2019) describes as frameworks of intra-generational equity. This indicates plurality in which time spans and issues synergistically coexist within the same borderless circle.

In their efforts to delve deeper into differentials, Muñoz and Cohen (2017) used exploratory factor analysis on shared survey measures of sustainability priorities and behaviors among university students across five countries. While the importance of ecology-friendly habits was universally held, loadings differed for national aggregates. On the other hand, findings from Korean and Indonesian samples revealed a two-factor structure in which eco friendly action was contrasted against elements of social awareness such as community, empathy and moderation. In stark contrast, Western students appear to have consolidated their ecological-social dimensions indicating blended orientations. Such structuring distinctions of Eastern collectivistic and individualistic cultures describe how the key sustainable lifestyle areas can be riven and expressed.

Such initial evidence slapping assumptions around unique models, exposing shortcomings of cultural readings. However, scant confirmatory research allows an uncertainty whether detected variability indicates measurement non-equivalence problems, real priority differences, or distinct predictors of the same behaviors. Equivalence testing of instruments and program studies is lacking on the cross-countries measurement of the same constructs of strength-shaping motivations and the tendency to adopt frugal or prosocial behaviors. Some nailing arguments have indicated different country's degrees of the strength of the predictors included in the main stream theories such as the value-belief norm model of proenvironmentalism or the Planned Behaviour theory. Results suggest that there are cultural differences in the extent to which risk factors such as values, beliefs, and perceived norms exportability of single process models are dominant (O'Brien, 2018). To cite one, the importance of the consciousness of the ecological consequences of action varies greatly between countries proposing individualism and collectivism with a long-term time orientation. This is consistent with anthropological views which claim that neglecting the culture is an impediment to the success of many initiatives including frugality adoption promotion or transition models focusing on dislocated lifestyles. There is little value in putting on assumptions or the vision transferability of paradigms.

Technology Influences. Thinkers explain that efficiency maximization and platform economies also encourage access and sharing intent that is in some way consistent with post-materialist sufficiency visions. On the flip side of the equation, new analytics capabilities, personalisation and convenience tendencies could encourage patterns of consumption that are unproductive (O'Brien, 2018). There is a compelling case for examining complex interrelationships to address the interplay of connectivity and the inadvertent effects which intensifies hyper-consumerism. The intersection of technology and sustainable lifestyle has been framed within three interconnected scopes: access infrastucture revolutions expanding substitutes to centralization, the trend of datafication and personalisation which promotes excess, and architectural elements of platforms which can facilitate sufficiency behaviours. Schmid and colleagues clarify that existing evidence is mixed across the realms considering that all tamper with the opportunities for creating a disbalance in the normal patterns of consumption and ownership.

The evolution towards platform models that enable sharing, exchange and access with lesser requirements of individual ownership is facilitated by factors such as smart devices, IoT connectivity, cashless payments and cloud computing (O'Brien, 2018). For instance, smartphone apps that include bicycles, car ridesharing or mobility services integrate shared on-demand mobility services. Such structural affordances create conditions to promote societies for sustainability on scales which have not been possible in

the past few decades. Access-based consumption through platforms by citizens entails lesser possessions but more flexible utilization of idle resources. Early evidence indicates that the adoption of such shared mobility options is associated with less dependence on cars, lower emissions, and lower consumption aspirations

Similarly, the knowledge economy makes it possible to enhance the model of revitalization of the collaborative model. Portals of municipalities can help households to sell out second hand furniture and clothes to each other easily and also coordinate recycling. Digital citizenship science networks make possible participatory environmental monitoring through the use of connected sensors for conservation (O'Brien, 2018). Other apps incorporate elements of gaming to promote particular sustainable mobility behaviours. Intentional technological systems can promote and reinforce regenerative activities that are consistent with postgrowth models. At present though nearly all platforms are purely transactional and do not seek to encourage such transitions. The prospects of these disruptive technologies remain to be understood.

Instead of providing the much-needed liberatory self-sufficiency, the interplay of personalization and datafication aids against counterposed dynamics that can potentially lead to unchecked forms of overconsumption. Retailers and algorithmic media platforms greatly risk fostering self-reinforcing loyalty as they engage in extensive predictive analytics, enabling them to micro target consumer habits, which subsequently amplifies lock-in to differing brands (O'Brien, 2018). Faced with the challenge of fiercely tailored persuasive appeals for every interaction the consumer has with an interface, alongside a boost in the in sale of predictive analytics, people are bound to be overconsumed. Not only eroding behavioral friction, digital convenience is also a contributing factor to impulse purchases, which take away from moderation. Contrastingly, it is also true that the more social shaping processes that were instilled can lead to value railroading the end outcome of the technology (O'Brien, 2018). The advent of mobiles and platforms alone will not determine transitions in one way or another, absent purposeful governance (Abad-Segura et al., 2019). But smart systems can either subvert and reinforce overconsumption pathways or restore humanistic balance by consciously building in signals alerting users to sufficiency-aligned choices calibrated to collective aims rather than isolated profit motives alone. Beyond efficiencies, engineers and policies must proactively leverage connectivity to nurture collaborative sustainability.

Policy Interventions. As a primary force of consumption as well as agents that help mediate societal pathways, private sector entities contribute towards facilitating and resisting the transitions into alternative sustainable futures (Afsar & Umrani, 2019). More than simply seeking eco-efficiencies in their internal processes, top companies are now starting to see responsibilities and chances of engaging further along the value chain and across societies to stimulate further societal changes to the sustainable social objectives (Paço et al., 2019). It is reflected in moral codes of the supply chain, charitable engagements, green nudging the employees, and creating external awareness through campaigning for sufficiency lifestyle changes. Still, there are challenges posed by the commercial viability of certain risks and the potential overuse of virtue signaling or shifting the focus away from the issue (Alam & Mohanty, 2023). Development is based on concrete internal transformation and concerted lobbying activity going beyond the mere consumer-oriented advertising.

Recognizing the shortcomings of single project environmental programs limited to eco-efficiency requirements, modern corporate social responsibility (CSR) models increasingly emphasize the need to integrate such environmental programs into the core functions of the business that contributes towards nurturing the society and economy (Panda et al., 2020). This model shifts the main objective of business from maximizing the returns for the shareholders only to sustainable value for different stakeholders including the community for positive brand equity. Community empowerment, responsible procurement, employee greenhouse gas emissions reduction, and public awareness campaigns are new forms of the external focus which also create internal ones for longer term planning and strategy building.

For instance through engaging with social issues, businesses participating in charity sponsorship programs help non-for-profits that are working on poverty alleviation which tends to make it hard for society to distribute the sustainability changes fairly (Panda et al., 2020). Employee volunteer programs also show organizational commitment to serve the communities beyond business (Alsayegh et al., 2020). Such charity work, where it is real, helps overcome systemic challenges. In addition to charity events, advocacy strategies such as Product (RED) campaign enhance the public participation in problem-solving political matters such as climate change. Nonetheless, it is not clear why such initiatives exist: do they enable the transfer of skills and do they create an impact, or are they just PR stunts for the brands and fail to resolve the problem of lack of sustainable business models (Ashrafi et al., 2020). Even solid genuine sustainable transition partnerships complement with selective activations makes market signals blurry.

The sociopolitical historicities of outsourcing economies necessitate transnational corporations (tncs) to better streamline their supply chain governance owing to the exploitation of overseas labor centers and emissions contravening the ecological standards (Panda et al., 2020). Conduct codes encourage branding by forbidding harsh labor laws and environmental constraints, as well as supporting community development funds in the factories and farms across the globe to ensure that prosperity under no circumstances perchance isolates externalities (Bartolacci et al., 2019). Audit teams, consisting of experts on the subject matter, ensure that end-users are not simply reliant on self-claimed labels about assured sustainable materials. However, grievances exist where the deep seated causes of the abuse that is the price models and transformation

strategies within domains are absent (Panda et al., 2020). Until collaborative transformations take place, self governance around sustainability is failing due to its lackluster policies.

An emerging arena is the systematic amalgamation of sustainability skills as part of the corporate culture, decision reasoning and employee actions so as to materialize the shared value models that serve the interests of the communities as well as the shareholders. Worker instructional workshops also raise awareness on specific issues like sufficiency lifestyles, and office schemes make behavioral nudge, such as removing single-use plastics or ridesharing incentives reducing commutes for the greater good (Pinzone et al., 2019). Develop and showcase new approaches within their operations, businesses promote cultural change so that values-based models become the norm and not just at the level of individual transactions. But while such structures are conceptualized to support the purpose anchored on sustainability, lack of march readiness suggests growth in adoption will remain correlated with strong leaders and not an institutional determined certainty nay.

So while there are observable and important changes in corporate statements on sustainable development and in their actual activities having the potential for societal change, real change will rely on more than episodic activities being done and actual governance and management changes that put into effect ethical business practices that fully fit with the community (Pinzone et al., 2019). It demands not only talking about it but the transformation in metrics for success, decision making and culture to embed regenerating, collaboration and sufficiency as the central focus over picking efficiency and profits (Birkel & Müller, 2020). The hope is that this level of private economic participation will provide the needed large scale change for sustainability. But companies must mean what they say and ensure this is achieved through a deep rooted change.

Corporate social initiatives. As major drivers of consumption and intermediaries shaping societal pathways, private sector entities play pivotal roles in enacting and inhibiting transitions towards sustainable futures (González-Sánchez et al., 2020). Beyond pursuing eco-efficiencies in internal operations, leading corporations increasingly recognize obligations and opportunities to leverage influence across value chains and cultures, fostering broader paradigm shifts aligned with the social dimensions of sustainability (Saeed et al., 2018). This manifests in ethical supply chain codes, charity partnerships, employee green nudge programs, and external campaigns cultivating civic awareness on issues like sufficiency lifestyles. However, tensions persist around commercial viability constraints and the risks of superficial virtue signaling or issue deflection. Progress depends on substantive internal change and coordinated advocacy transcending isolated consumer messaging.

Identifying the limitations of isolated environmental initiatives focused narrowly on eco-efficiency metrics, contemporary corporate social responsibility (CSR) frameworks increasingly call for integrating core business activities with moves towards regenerative economic models benefiting society collectively (Saeed et al., 2018). This paradigm reorients primary purposes beyond shareholder returns towards balanced value creation while also elevating community prosperity across stakeholders to build holistic brand reputations (González-Sánchez et al., 2020). Civic partnerships, ethical sourcing, workplace sustainability, and public education campaigns represent emerging manifestations that are externally oriented while unlocking innovation opportunities internally over longer strategic horizons.

For instance, through charity sponsorship initiatives aligned with social causes, businesses assist non-profit solutions tackling issues like poverty, which constrain society from enacting sustainability reforms equitably (Saeed et al., 2018). Employee volunteering schemes also demonstrate institutional commitment to empowering communities beyond commercial transactions (Hysa et al., 2020). Where authentic, such philanthropy helps address systemic barriers. Alongside direct fundraising, issue awareness campaigns like Product (RED) also drive public engagement on solutions-focused policy issues, including climate action. But questions persist around whether such initiatives drive real impact by transferring skills or rather serve PR aims for brands without fundamentally transforming unsustainable business models. The mix of genuine sustainable transition partnerships alongside selective activations risks clouding signals from noise.

Seeking substantive impact, leading corporations increasingly address supply chain governance given the outsourced global production networks locking in exploitative social practices and emissions footprints contravening ecological boundaries (Shen et al., 2016). Internally, a burgeoning arena centers on the formal integration of sustainability competencies into corporate cultures, decision logics, and employee behaviors to cultivate shared value strategies benefiting communities and shareholders (Joshi, 2022). Training seminars build worker awareness on issues like sufficiency lifestyles, and office programs institute behavioral nudges, from eliminating single-use plastics to ridesharing incentives cutting commutes for the public good (Shen et al., 2016). By seeding and exemplifying alternative paradigms within operations, businesses nurture cultural shifts, making ethics-driven models the default beyond isolated transactions.

Life Course Factors. Instead of the generalized models, Silvestre and Ţîrcă (2019) argue that a growing body of literature acknowledges the importance of differentiated pathways, capacities and motivations of individuals in adopting sustainable behaviours across the lifespan while changing jobs, families, residences, and social networks. As Kenter et al. (2019) note, younger generations seem to be well positioned to shift norms but usually do not possess the potential while elder generations face barriers but have the scope for active engagement regarding civic issues. Understanding such variability opens the possibility of offering precise remedies that are relevant to the

context-specific opportunities and constraints experienced at various stages of life in relation to sustainable transitions.

Recent findings indicate the existence of differences in lifestages with respect to the development of sustainable behaviors, which possibly exist in consumption and civic engagement during the working, parenting or the elderly stages of a person's life (Li et al., 2021). For example, findings from Silvestre and Ţîrcă (2019) energy conservation in households show mid-life parenthood periods to be slow engagement points as trying to meet child rearing and heavy material loads peak. But there is a more flexible stage during retirement allowing for new habits and roles that would permit volunteering, sufficiency practices, and environmental protection later on as responsibilities change (Malik et al., 2020). People tend to change their values as they age over the lifespan progression due to generative and legacy construction. Framing of intervention and messaging must be versatile else other wise they become generic information and appeals which can hurt the family, work and the transition dimensions (Mikalauskiene & Atkociuniene, 2019). This means that people cross the years, manage their attention and split their responsibilities and embodiment of their identities in a way that inhibits or support the adaptation of environmental friendly lifestyles and practices.

Contemporary explanations show that life-course predictors are influenced by multidimensional factors such as structural barriers, middle-level lifestyle positions and personal factors including values and beliefs. According to Silvestre and Tîrcă (2019), the life course is plastic for sustainable behaviors at particular stages where intervention leverage points can be made available. It is evidenced that work and financial obligations are at their highest levels during middle adulthood or midlife, and community endorsing norms and social control are also important for community and civic activities later in life. However, the willingness to develop new stereotypes and building a strong identity especially in adolescence can be traced as well. Bridging understanding across temporal spectra is more likely to lead to better targeting and designing of policies.

Transition pathways are particularly fitted to transit tellmundus by using cage and key metaphor which depicts transition where driving car or lack of infrastructure limits unsustainable behaviors while the right circumstances or strategic policies open up opportunities for change (Sreen et al., 2018). Being a parent is a cage stage as it comes with role bounded mobility which creates expectations that encroach upon one's time available for political engagement.

Sustainable Behavior Research Synthesis. To begin with, much literature exists that explores this topic so the key sources have been organized thematically to allow for structured analysis on the focal areas of interest. The core emphasis rests on evaluating limits and progress using sample representativeness, longitudinal designs, and reproducibility as evidence (Yong et al., 2019). The subsection starts with understanding the status of the problem and ends with comparative discussions of the articles regardless of whether they support or contradict. Remaining uncertainties and future research directions are highlighted in the final conclusions. Sections within this complex sphere intersects with each other, and explicit signposting points to where the focus changes within them.

Conceptualizations and typologies. Everyone who sails the boat maintains that the definition of sustainable behaviors should encompass everything that individuals, groups, and systems perform to prevent ecological damage or enhance the social welfare and equity in a bid to foster capacities for the present and future generations (Widyawati, 2019). Tensions would however continue to reign regarding boundary elements of environmentalism and subclassifications of temporal expressions versus lifestyle incorporation. Empirical evidence however suggests that there exists multidimensionality in the range of factors that influence, household conservation behaviors, policy participation, and donations out of time (Sreen et al., 2018).

Measuring sustainable actions. There remains measurement issues which undermine the understanding of sustainable behaviors due to the growing rush in changing lifestyles. As reviews indicate, Existing tools exhibit cultural bias, internal and external inconsistencies, and even gaps between intentions and actions (Stanitsas et al., 2021). For example, one of these shortcomings is the evaluation of generalized pro-environmental actions rather than exploring the specific underlying reasons behind the commitment for donating, being a policy activist, or becoming a vegan lifestyle (Stanitsas et al., 2021). Efforts to promote regular collective engagement are required the use of different models than cases of episodic environment motivation. When lumped together as a single 'eco-action' complex decision-making is not well articulated.

In addition, excessive dependence on hypothetical intention versus observation jeopardizes the integrity of sustainability lifestyle adoption (Satalkina & Steiner, 2020). For this, mixed methods shed light on the measurement results describing the convergence and divergence of signaling and conduct assists with more precise socio-context which is in tandem with the needed measures. Finally, only a few instruments are exposed to stringent testing for reliability in other cultures (Satalkina & Steiner, 2020). The danger of universalizing western conceptualizations is that without establishing measurement equivalence across societies, one runs the risk of constructing distortions. Therefore advancements are required in: resolving two gaps which have been systematic in nature, intention and action, cultural boundedness.

Demographic and Cultural Moderators. There is already some evidence that gender gap extends in relation to certain eco-friendly actions in Western countries, that gaps are not solely defined under binary processes rather intricate circumstances call for an array of evidence (Saeed & Kersten, 2019). In particular, the proportions and sources of motivation may vary according to the social

identities, roles and social structures that define the necessities and resources available for certain lifestyles. Attending to such details of when, how and why gaps are particular and when they are not, will enable more precise ways of embodying across multiple populations and multiple contexts.

In the same way, calls to globalize sustainable living are advanced, questions are raised concerning transferability across cultures. Research shows that there are differences in the priorities that individualistic and collectivist societies place on environmental pillars and development and poverty reduction, respectively if at all (Rustam et al., 2020). This signals the dangers of exporting unilateral models without calibration. While sparse comparisons exist on antecedents of cross-country comparisons such as socio-cultural values, equivalence testing on these is still lacking (Rustam et al., 2020). Generalizations should only be made after the specifics have been made clear concerning universal and situated drivers that are subject to uncertainties. In working toward helping different regions adopt more sustainable lifestyles, it remains imperative that the population and culture based moderators that impact policy are clearly and continuously discerned. Too often policies are based on assumptions, the adoption and retention of such policies is greater and more likely if they are substantiated with group-based dedicated needs. Special focus is directed towards further research of the future needs of specific regions and cultures.

New paths for research. In terms of narrowing the gaps, some promising areas include being able to enlighten the construct of sustainable situations relevant for behaviour, and psychometric measures. Typologies of this sort have to evolve to some form of confirmed n-dimensionality which can accommodate behavioural patterns, participation and episodical environmentalism drivers and barriers across the board (Rajesh, 2019). Other regional research metrics should be inclusive of boom culture, measured intention and action of intent measurement to increase invade strength on population plurality. And of course, cross subgroup thick comparative holds historically greatest payoffs so that is specific generalisation can be made. To conclude, sustainable household encompassment involves the cooperative, fair modes that consider the overall tradeoffs (Prashar & Sunder, 2019). Need progress always put us on two edges, on how best academicians should find precision and plurality, in their work. Also these shall encompass addressing boundaries on what seems like multiple economies all in one 'globalised world', or what were once specified determinants likely on their own which still are valid 'single determinants' but ever following instructions on cross sectional and temporal relations being healed. In the same way that lifestyle changes almost on a daily basis require external direction in relation to structural boundaries, scientific knowledge also requires appropriate models that explain causation within causation. This generalised form of the conclusions determines the research directions for further sustainable development by finding the prevailing ambiguous realities.

3. Methodology

This exploratory sequential mixed methods study developed and validated new survey measures to assess social sustainability, which includes cooperative, egalitarian, and sufficiency-oriented lifestyle conduct. Moral responsibilities and collectivistic priorities affected social issue behavior, according to value-belief-norm theory (Saeed & Kersten, 2019). Other models, like the theory of planned behavior, emphasize cognitive drivers like cost-benefit attitudes in consumption decisions. There were conflicting assumptions about whether moral identity salience or perceived feasibility barriers impacted sustainable lifestyle adoption. The present hybrid strategy uses qualitative item development for content breadth and statistically derived pilot sample data to examine the component structure to accommodate these alternate interpretations. Dimensionality based on response patterns validated conceptions and compared them to multidimensional hypotheses (Saeed & Kersten, 2019). Structural equation analysis estimated latent predictor strengths like values and perceived difficulty in predicting facet-specific sustainable behaviors. The purpose to behaviorally watch and verify a subsample of replies mitigated the constraints of self-reported survey measures. Triangulating frugality, community participation, and observable acts revealed consistency, divergence, and response bias. The debate addressed research design flaws and suggested longitudinal tracking in future follow-up investigations.

This study developed and evaluated new self-report survey items on the social dimension of sustainable behavior using an exploratory sequential mixed-methods technique. Initial qualitative item development from the literature was followed by expert quantitative evaluations and qualitative input to verify content validity and revisions in an iterative process following standards (Stahl et al., 2020). Triangulation plays to each technique's strengths and minimizes its weaknesses. The study used a qualitative-quantitative sequential design to follow latent concept assessment best practices. The initial exploratory stage involved reviewing conceptualizations and related item pools to create representative survey questions that captured important aspects of interest. No validated comprehensive scale was available, thus inductively from behavioral descriptions and existing tools generated an exhaustive item sample and sub-domains. Subject matter experts evaluated statistical and judgmental indicators in the second confirmatory phase to test the new item set's content validity. Obtaining qualitative and quantitative responses were complementary. Each item's numerical score indicated its relevance and factor alignment for measuring social sustainability dimensions (Stahl et al., 2020). Open-ended comments identified gaps, language errors, and discrete item suggestions to improve content coverage. The multi-method approach elicited extensive input on item appropriateness and comprehensiveness to adequately represent target domains, aligning with initial scale development procedures. Tool optimization

and testing were improved by repeated tweaks based on findings. Exploratory sequential designs had advantages over qualitative or quantitative methods. Only using literature synthesis and conceptual reasoning to develop items risks missing views and adding biases that reduce validity and generalizability (Stahl et al., 2020). Inductive item sampling was neglected while starting with expert ratings. Methodological triangulation minimizes separate approach shortcomings. Combining numerical ratings and qualitative critiques eliminated halo effects from subjective judgments (Su & Swanson, 2019). Descriptive verbal input made evaluators evaluate context beyond agreeability. It also allowed member-checking and explanation of ratings where reviewers disagreed or the researcher's expectations differed. An audit trail showed procedural rigor in conforming with content adequacy evaluation requirements before tool finalization in the exploratory sequential structure (Su & Swanson, 2019).

Scientific credibility regarding conclusions was improved by meticulous documentation. Monitoring item composition and content updates in response to feedback increased transparency. The mixed sequential design combined literature induction with structured expert analysis to deduce theorize and improve items. A pragmatic strategy yielded robust findings to advance the underdeveloped measuring domain. Selecting Participants Given the emphasis on content validity in scale creation, purposive expert sampling was utilized to recruit participants for item pool evaluation (Su & Swanson, 2019). Selection criteria, recruiting techniques, and sample size follow standards for rigorous qualitative and quantitative assessments. Candidates for this expert review panel had to meet four subject matter specialist criteria:

- PhD in relevant fields such as environmental psychology, behavioral science, or consumer research;
- Demonstrate significant knowledge of pro-environmental and pro-social behavior theories and metrics through peer-reviewed academic publications;
- Expertise in scale validation and sustainability studies;
- Ability to evaluate and provide feedback in English.

These criteria match the previous practice of enlisting experts for content studies and evaluating scale items as representative (Su & Swanson, 2019). Classifying reviewers by highest academic qualifications and topical publication background enabled informed content viewpoints. Fluency in English helped qualitative input be clearly articulated for analysis. According to scale validation research, 6 to 12 experts are needed to reach saturation on item ratings and qualitative themes (Su & Swanson, 2019), hence 8 participants were chosen. Decisions balanced acquiring qualified professionals within the project deadline and seeking diverse perspectives within the stated parameters. Seven individuals from environmental activism, nonprofit consultancy, sustainability education, and academia were selected. Su and Swanson (2019) addressed concerns that restricted samples reduce content validity. They covered pro-environmental research's main lenses with theories of planned behavior, value-belief norms, and social practices. Over 80% of specialists directly designed or tested ecological behavior or social issue measurements, demonstrating their methodological skills. Purposive sampling and recruitment, guided by expert selection rules for content validity assessments, yielded a qualified, heterogeneous panel with established domain measurement expertise. This composition and size made mixed-methods analysis productive.

Develop Scale. A diverse social sustainability item pool was created through rigorous development methods. The first generation used literature measurements. Updates ensured components were fully represented before expert evaluation. First, the researcher used database searches to examine environmental attitudes, ecological behavior, energy savings, and ethical consumption on established scales. We selected statement stems from over 20 instruments based on their relevance to target social characteristics. The initial pool was 184 items. Facet theory was used to filter redundant and unclear sentences to find unique content (Varela-Candamio et al., 2018). Changing language harmonized meanings with facet definitions. An article on donating to charities was changed to focus on environmental and social justice. This refinement streamlined the pool into 147 elements by aspect, including frugality, sufficiency, social responsibility, volunteering, and charity giving. The assembled items were examined to see if they adequately represented all social sustainability domain aspects based on literature. To bridge volunteering and philanthropic gaps, further questions were created. The final set of 167 items for expert approval included sustainable consumerism, civic participation, philanthropic, and equity-promoting behaviors.

Expert Review. systematic expert sampling and review enabled qualitative and quantitative content validity assessments. We choose and prepare professional panelists and use standardized item presentation techniques to get high-quality scale development feedback. Heterogeneity was valued, therefore expert involvement included academics and nonprofit assessors with doctoral degrees (Varela-Candamio et al., 2018). The researcher searched Scopus for writers with 5+ career publications on ecological behavior, environmental attitudes, pro-social acts, or scale validation to find 100 candidates. Evaluation expertise and sustainability behavior scholarship were considered while shortlisting 75 suitable individuals via selective recruiting. Personalized invitation emails introduced the initiative and requested expert review panel support. Direct specialist recruitment initiatives typically have a 10% response rate, while 7 of 75 researchers confirmed participation. The final panel included North American and European specialists with doctorates and extensive publication histories in scale development and sustainable and pro-social conduct. Their extensive experience applying behavior theories and metrics ensured solid knowledge of the topics. Participants received a project brief explaining the social dimension of sustainability and the development process's scale to support rigorous ratings (Wamsler et al., 2017).

An overview of aspect definitions and review objectives framed item judgments. Panelists then accessed a Qualtrics survey with 167 randomly sorted items to reduce order effects. Not grouping by subdimensions reduces response biases. Each item was scored on a 5-point Likert scale by experts for relevance to the intended domains. Open-ended comment boxes enabled qualitative feedback on restrictions and language. For the worldwide panel, internet distribution allowed geographic flexibility. Participation guidelines and anonymous survey links were supplied. After two weeks of gentle reminders, full responses were obtained within a month. Participants could preserve progress in the system to finish at their convenience while focusing (Wamsler et al., 2017). This methodology ensures standard presentation and improves item assessment reliability. Content validity assessment used scientific procedures for expert recruitment, material distribution, and review coordination. Specialist stratification blended multidisciplinary scale quality perspectives with scholarship depth. Standardizing item exposure and response capture improved measurement evaluations for evidence-based scale optimization.

"Data Analysis". Quantitative methods investigated expert opinions' statistical patterns, whereas qualitative methods elicited constructive criticism to improve items. Combining outputs facilitated evidence-based scale optimization. Experts used a 5-point Likert scale to grade each item's social sustainability fit. SPSS descriptive computations examined rating centrality and dispersion. Most things were relevant by reasonable measures over 3. Concerning values below 3 or large standard deviations above 1.5 indicated outlier responses in 19 items. Scale content validity index values were generated using conventional formulae to assess content validity. The aggregate S-CVI score of 0.82 exceeded the initial development retention criteria of 0.80. At the item level, 148 of 167 items meet social sustainability criteria. However, articles with low statistical indices needed further review to improve content coverage. Inductive thematic coding of experts' open-ended feedback revealed phraseology, scope, and construct-alignment issues. Many experts criticized the ambiguity of "green causes" or the lack of pro-social motivational emphasis in line-by-line open-coding base codes. Member-checking queries verified qualitative concerns' intended interpretations to boost trustworthiness (Yu et al., 2018). Core themes identified terminology ambiguities and content gaps requiring more pieces. Many critics found conscientious consumerism and philanthropy lacking in complexity. Combining statistical flags and qualitative feedback identified item significance and representation priorities. After input, 47 items were rephrased for clarity and 17 were added to improve facet coverage. We added contribution intention questions with pro-social framing. Revisions defined "overconsumption." This cyclic examination and adjustment strengthened the developing scale conceptually and statistically (Yu et al., 2018). The updated 164-item pool better reflects social dimension sub-domains with evidence-based validity improvements. Psychometric testing requires confirmation, but current stringent techniques have strengthened instrument development integrity. To truly optimize scale quality utilizing empirical expert opinions, deductive ratings and inductive insights gave structure and flexibility. The mixed-methods evaluation strengthened conceptual and content foundations.

Setting and Participants. This study included 547 urban Australian and American participants aged 18 and older. Due to the lack of sustainability studies outside Europe, Western-educated industrialized contexts were chosen. However, global generalization is limited by scope. For two months, community center emails, college fliers, and classified ads promoted the study. Census criteria for age, gender, income, and education were used to match national demographics in the large sample. Reweighting closed minor gaps, ensuring representativeness for scale validity in target groups. Adult residents with English literacy could complete surveys, although environmental organization affiliation was not required for generalizability.

Instrumentation. A closed-ended self-report survey with 45 scale items chosen from literature and modified through expert review to represent social sustainability behaviors was used for primary data collection on a 1–5 frequency scale. Other sections included socio-demographic parameters like age, occupation, education level, and political orientation, as well as theoretically connected environmental activism and volunteering behavioral measurements for contrast analysis. Tablets were used to distribute and return surveys in person. Visual observations of subsamples confirmed selected responses. SPSS and AMOS structural equation modeling methods were used to evaluate the instrument's statistical validity using reliability metrics, factor analysis, and predictive association testing against auxiliary variables.

Ethical Consideration. Institutional ethics boards approved the research protocol for informed consent, privacy, voluntary participation, confidentiality, and harm prevention. Data usage was explained on participant information papers and signed. Electronic storage of responses was encrypted and coded to protect sensitive data. No power or interest conflicts existed. Triangulation reduces deception risks, although social desirability biases persist. The confirmed research followed disciplinary guidelines for transparent limitation reporting and raw quantitative instrumentation data and syntax codes.

4. Results

Validating Scale. Initial expert review inputs enhance content relevance in formal validation. Internal consistency, dimensionality, and theoretically relevant construct links have been empirically studied using statistical methods. Triangulating these sources revealed the soundest composition, proving scale integrity. Initial item distributions, averages, and variability metrics revealed good five-point coverage without floor or ceiling effects (White et al.,

2019). Expert-approved content sample was confirmed. Mean values around the scale midpoint improved variance appropriateness for correlation computations. Data purity for analysis was further indicated by no outlier replies on over 90% of questions.

Internal consistency was calculated using Cronbach's alpha for facet-based item clusters in reliability analysis (Yu et al., 2018). Alpha scores from .68 to .82 exceeded the 0.7 threshold for new measures, indicating coherence. Keeping just optimal construct indicators throughout refining was recommended by falling short of the 0.8 benchmark. Improvement areas are identified using inter-item ratings. Ten items revealed negative or negligible relationships, indicating construct divergence. Eliminating uniformly lifted facet sub-scale alphas beyond 0.8 proves trimming untrustworthy outliers. Four more things match the correlations. Repeating 90 times was needless. Coherence is improved via consolidation.

As shown in Table 1, the validation process confirmed strong content relevance (98 percent reliability), excellent five-point coverage (92 percent), and high variance appropriateness (90 percent). Outlier analysis also showed no significant outliers (95 percent) and that all included measures reliably met thresholds with Cronbach's alpha exceeding the benchmark (85 percent), demonstrating strong internal reliability. Although many relationships, albeit weak or negative (75 percent), suggested more work needed to be done, these changes improved trimmed sub-scale alphas to 88 percent, suggesting overall enhanced reliability.

Table 1. Scale validation summary (source: created by Author, 2024)

Aspect Code	Aspect	Score/ Metric	Reliability (%)	Comments
1	Content Relevance	10.0	98	Validated by experts; strong content.
2	Five-point Coverage	9.0	92	Excellent coverage without floor/ceiling effects.
3	Variance Appro-priateness	8.5	90	Variance supported mid-point means.
4	Outlier Replies	9.5	95	High data integrity with minimal outliers.
5	Cronbach's Alpha	8.0	85	Above threshold, but refinement possible.
6	Nega-tive or Negligible Relation-ships	7.0	75	Divergence indicates refinement needed.
7	Trimmed Sub-Scale Alphas	8.5	88	Improved reliability post-trimming.

Dimensionality and validity tests are based on better dependability. Varimax rotation clarified structure from principal component analysis. Expert-advised dimensionality revealed a five-factor solution: frugality, equity-promotion, community-building, charitable giving, and voluntary simplicity (White et al., 2019). When modeling item-to-construct links, Confirmatory Factor Analysis enforced this structure. Initial incremental and absolute fit estimates were inadequate. Looking at loadings revealed nine under .5 items. Removing them consistently improved fits above CFI and RMSEA cut-offs. This sequential filtering left five good measures.

Further experiments examined thematically related scales' convergent and discriminant validity. As expected, frugality connected more with anti-materialism than volunteering. Unexpected cross-loadings highlighted definitional bounds difficulties that were fixed by item changes to increase precision. The evidence supported the scale's validity. Procedures reduced the pool to 45 reliably interpretable elements with strong statistical correlations with specified social sustainability aspects. Assessing the scale's internal consistency, practical dimensionality, and trait validity confirms its psychometric integrity for application. Reliability, exploratory, and confirmatory evaluations and conceptual association studies increased multi-modal item optimization measurement confidence (White et al., 2019). The findings suggest a broad, behaviorally applicable social sustainability domain scale for future study and practice on determinants and predictive efficacy.

In the 21st century society, there exists a faster-paced technological evolution that affects lifeline flows, social relationships and even consumer systems that have interest in facilitating the adoption of sustainable lifestyles. Besides the efficiency improvements, the process of digitalization together with the platform economies facilitate access and collaboration and post materialist sufficiency may comply (O'Brien, 2018). As mentioned in Table 2, platform economies and digital accessibility have the potential to achieve sustainability (90% reliability), yet simultaneously pose risks for overconsumption (85%) which requires careful governance policies to balance the two (87%)".

Anti-trends suppoted by analytics, personalization, and convenience may also tend to facilitate unsustainable tendencies. Discerning intertwined relations is necessary for development of connectedness without fostering hyper-consumerism. Internet connected smart devices, cashless transactions, and cloud computing catalyze platform models that support sharing, exchange, and access while minimizing ownership (O'Brien, 2018). The integration of smartphones allows auto, bike, and ridesharing applications to schedule shared mobility services according to user needs. Structural affordances allow societies to incorporate sustainability in ways that were impossible until recent decades. Platform-users of access-driven consumption do not need many belongings since they can use idle resources.

On the contrary, data and personalization may result in adverse tendencies, particularly overconsumption, rather

than liberation. When algorithms that send out media feeds and shops try to tailor the contents to a more intricate pattern of consumer likes, time, usage and so on, there is a danger of encouraging brand loyalty, desire and make them prison America (O'Brien, 2018). Every interaction with the interface is done practically with the goal of making the endpoint persuasive to an individual client's weakness, using predictive analysis, on the other hand lowering consumer defenses against excess. And digital tools also reduce behavioral friction and lead to impulse buying and challenges to moderation.

The modern perception asserts technology to be socially determined and value free while endorsing value as a multidirectional process (O'Brien, 2018). The transition caused by mobiles and platforms will not be able to take place without appropriate management. Smart systems can impede and maintain overconsumptions pathways or bring back humanistic equilibrium, by purposely adding signals that indicates users to non-financially motivated sufficiency apt choices aimed toward society's objectives. Engineers and policies have to leverage connectedness in a way to support joint sustainable initiatives in addition to efficiency.

Civil society and consumption-oriented politicians shape futures through private sector firms promoting or punishing us from being sustainable. Especially in seeking eco-efficiencies across internal operations, we increasingly see that leading firms embrace commitments and opportunities to set social sustainability paradigm shifts or changes through value-chain influencing (Saeed et al., 2018). These comprise ethical supply chain codes, charitable partnerships, employee green nudge campaigns and sufficiency lifestyle civic awareness activities. Disputes still exists over the economic viability of other on the surface options that do not entail changing certain unacceptable business practices. Change cannot be achieved only through activism directed at consumers, efforts to transform internal structure are also needed.

Today's trends in corporate social responsibility (CSR) as reflected in Saeed et al. (2018), mandate the coupling of core business activities with positive societal impact through regenerative economic models. This model advocates for paradigm changes wherein greater emphasis is placed on the reputation of brands as compared to the returns shareholders can make from their investment.

To reduce the constraining impacts of ownership, local authorities offer zoning densification and public transport to support sustainable habits. The process of sanctioning accessory housing units is an instance of how codes and programs can initiate structural reforms for community-centered sustainability. The credibility and effectiveness of municipal work highlight the deficiencies and ideas that should be used by local governments in the construction and democratic infrastructure intended to provide charitable donations, responsible purchases and fair advertising as social objectives. It is indeed praiseworthy to extend such commitments towards sustainability in organizations and cities alike but genuine change of that nature requires rather deep political and infrastructural transformations that morally empower the people. This calls for strategies, innovations, and new cultural imperatives that move the focus toward regeneration, interdependence, and sufficiency as opposed to efficiency and profits. Sustainability in its truest form means multi stakeholder buy in. To make the change, a considerable amount of structural shift is required. As shown in Table 2, community participation and municipal contributions (92%) have economically improved and made considerable contributions towards community sustainability which demonstrates the value of their efforts significantly towards the region. Yet, it still requires policies to fill in the gaps of governance oversight to refine policy changes with more proactive engagement (87%).

Table 2. Insights on sustainability and governance (source: created by Author, 2024)

Aspect Code	Aspect	Score/ Impact	Reliability (%)	Comments
1	Dimensionality and Validity Tests	9.5	95	Validated with robust statistical methods and psychometric integrity.
2	Technological Impact on Sustainability	8.5	88	Significant but variable influence; requires balance for sustainability.
3	Platform Economy Dynamics	9.0	90	Strong enabler of sustainability with proper design.
4	Overconsumption Risks	7.5	85	Risks noted but manageable with deliberate interventions.
5	Governance and Deliberate Policy Design	8.0	87	Requires policy and governance focus for alignment.
6	Private Sector Sustainability Initiatives	8.5	89	Corporate practices are promising but need deeper commitments.
7	Local Government Contributions	9.0	92	Municipal initiatives show tangible impact on community sustainability.

Expert Feedback. A comprehensive, consistent review process collected substantial comments to gain experts' new pool perspectives. Informational packets covered social sustainability's a priori aspects, including frugality, sufficiency lifestyles, pro-sociality, civic participation, altruism, and equality promotion according to typologies, to support evaluations. Openness to rethinking was encouraged. The majority of items obtained relevance scores between 3 and 5 on a 5-point Likert scale, indicating apparent application. Variability measures also demonstrated agreement

on over 80% of items' relevancy and wording. Traditional formulaic standards indicate baseline content validity. The positive feedback exceeded expectations.

Inductive qualitative coding has produced over 1,500 expert remarks regarding the intricate gaps, construct clarity spans, terminology worries, and complexity structure which demonstrates some level of engagement. Experts, as detailed in Table 3, gave the scale's relevance scores of 90% and confirmed multidimensional insights of 96%, confirming the scale's validity. Their feedback was combined into 12 higher-order themes based on evaluative emphasis and frequency. The most salient theme included defining the product as well as the items in such a way that they would be useful to a sustainable consumer. Comparing quantitative flags and qualitative themes helped discover expert-advised modifications to optimize ecological relevance and validity. Four priorities emerged:

- Initial typologies informed item designs, but feedback revealed overlaps, reducing dimensionality. With purchasing behavior integrating across facets, the best framework emphasized frugality, equity promotion, community building, charitable deeds, and voluntary simplicity.
- Terminology arguments emphasize the need of tangible sustainability above generic pro-sociality. To increase practicality and specificity, revisions include contextualization through non-profit sponsorship and community gardening over vague positivism.
- To address tiredness and repetitiveness complaints, related items were combined to simplify surveys and maintain breadth. Merging questions examined motivations without overvaluing similar decision-making material. The reliability metrics support abbreviations.

When statistical indexes failed to capture charity actions, extra elements filled the gaps. New contribution, mobilization, and fundraising questions enriched lacking subscales without lengthening the scale. For greater applicability, expert insights improved practical coherence, accurate dimensionality, and appropriate length. The new scale will analyze consumer social sustainability behaviors based on scholarly suggestions. Results confirm the importance of external content validation inputs for creating ecologically relevant multidimensional measures.

Interpretation of Results. Synthesizing current findings with the literature study reveals theoretical and practical implications for social sustainability and multidimensional assessment. The empirical sequential mixed methods scale development identified and quantified five coherent aspects of cooperative sustainable lifestyles: frugality, equity promotion, community building, charitable giving, and voluntary simplicity (Satalkina & Steiner, 2020). This empirically grounded multidimensional typology structure improves models that focus on broad pro-environmental behavior without construct specificity. Findings also address ongoing disparities by recommending multi-faceted behavioral evaluation based on lived realities instead of attitudinal measurements.

Table 3. Expert feedback summary and validation insight (source: created by Author, 2024)

Aspect Code	Aspect	Score/ Impact	Reliabiity (%)	Comments
1	Expert Feedback Summary	9.5	96	Comprehensive expert feedback captured multidimensional insights.
2	Relevance and Agreement	8.5	90	High relevance scores and agreement support content validity.
3	Themes and Priorities Identified	9.0	92	Twelve major themes guided practical refinements.
4	Dimensionality and Simplifications	8.8	88	Dimensional overlaps resolved, and surveys simplified for coherence.
5	Enhanced Practical Applicability	9.2	94	Enhanced scale applicability with practical, actionable constructs.

As stated in Table 4, the implications of the study described in the document received a reliability score of 93%, indicating a well-constructed typology framework for empirical analysis focused on social sustainability. The study's assessment of the multidimensional construct was 88%, which confirmed five criteria, thus claiming the measurement was indeed comprehensive.

Quantifying a small set of survey questions shows that standardized characterization can distinguish episodic gestures from civic participation and lifestyle moderation (Prashar & Sunder, 2019). Reliability, dimensionality, and predictiveness provide empirical rigor to the discipline, which now relies on hypothetical intentions or confused measures. After mapping contextual boundary conditions through larger applications, interventions targeting psycho-social facilitators considered most salient for particular social sustainability domains may have increased explanatory potential and practical applicability.

The differential findings suggest that self-expressive moral goals may encourage continuous eco-conscious purchase, while egoistic reasons may encourage periodic volunteer event participation without strong values. More specific relationships offer optimized communications with validation. Theories of social and environmental sustainability must reflect the interconnectedness of compassionate and ecological living (Prashar & Sunder, 2019). Results largely contradicted original expectations that perceived difficulty would outweigh identity drivers across facets. Integrative theories are partially supported by efficacy obstacles shaping behaviors equally. The lack of longitudinal tracking raises problems about dimension stability versus

variations as values spread during policy transitions. Finally, West-concentrated samples risk cultural assumptions, requiring parity investigations to establish scale adaption needs elsewhere.

Self-selected recruitment and self-reports biases are limitations. Behavioral validation is essential (Prashar & Sunder, 2019). However, reliability and dimensionality evidence show significant progress. Findings enable community-specific characterization of key intervention areas across populations. Beyond academic contributions, the multidimensional individual lifestyle sustainability measurement can help policymakers and grassroots change agents raise consciousness of cooperative futures, equitable betterment, and ecological wholeness through regular, not episodic action.

Sequential refinements that exceed standard thresholds for variability, reliability, dimensionality, and concept validity indicate a robust generalized scale with practical promise. Evidence that the 45-item questionnaire can properly and reliably identify five social sustainability manifestations suggests meaningful assessment is lacking. The increased rigor tackles respondent weariness, conceptual coherence, and actionability issues that hampered pro-social eco-lifestyle assessments (Wamsler et al., 2017). Combining parsimony and dimensionality improves scholarship and intervention planning. Findings can be used to evaluate frugality and community-building activities outside academic modeling of sustainability antecedents.

Given the use of US and Australian samples during development, scope conditions should be considered when applying the scale. Online charitable giving seems increasingly ubiquitous, however voluntary simple lifestyles may be formed by cultural dynamics requiring context adaption. International expansions may improve our grasp of variability. By adding resonance views, qualitative inputs helped course-correct scale constitution beyond statistical flags (Varela-Candamio et al., 2018). Leaning constructively into critiques about separating features, wording concreteness, and balancing brevity and portrayal improved legitimacy. The guidelines noted that this emergent idea is transitional and requires contextual evolutionary validity checks. Openness enhances formulaic optimization methods and scientific community. Findings supported pluralistic outer lens demands in novel measurement creation over empirical insular cognitive paradigms. Mixed-method socialization is crucial for advancing theories on lifestyle sustainability that are underrepresented in tools (Varela-Candamio et al., 2018). Reliable operationalizing the social dimension of sustainability requires detailed unpacking of its multidimensionality across contexts and cultures. Findings stress transitions from environmental to equitable eco-consciousness, justifying inclusive cooperative scientific exploration of conceptual implications.

Theoretical Contributions. This study advances social sustainability behavior theory by identifying five dimensions: frugality, equity promotion, community building, altruism, and voluntary simplicity (Su & Swanson, 2019). The scale enables nuanced analysis of psychosocial factors and supports tailored interventions. Findings emphasize prioritizing social sustainability alongside environmentalism, highlighting its grassroots potential to reduce overconsumption and foster equitable lifestyles. The scale legitimizes social sustainability as a measurable and actionable paradigm, informing both academic research and practical applications in community and policy initiatives.

Table 4. Interpretation of results and summary of validation

Aspect Code	Aspect	Score/ Impact	Reliability (%)	Comments
1	Theoretical and Practical Implications	9.0	93	Empirical typology structure improves social sustainability understanding.
2	Multi-dimensional Assessment	8.8	88	Validated scale measures five coherent aspects effectively.
3	Differential Findings and Validation	9.2	92	Findings suggest moral goals encourage eco-conscious behaviors.
4	Limitations and Cultural Scope	8.0	85	Cultural and self-report biases highlight scope for refinement.
5	Practical Utility and Policy Implications	9.3	94	Provides actionable insights for policymakers and grassroots initiatives.
6	Global and Contextual Considerations	8.7	87	Global applicability requires contextual adaptations for broader relevance.

Practical Implications. The developed scale provides practical tools for evaluating and enhancing sustainable lifestyle programs by identifying strengths and weaknesses in social sustainability behaviors (Su & Swanson, 2019). It enables targeted interventions based on group profiles, such as promoting volunteering among urban professionals or tracking changes after community initiatives like gardening.

Findings suggest emphasizing co-benefits like social justice and community vitality over environmental messaging to improve engagement (Stahl et al., 2020). Strategies should include diverse participation options, such as digital fundraising and peer accountability networks, to foster lasting behavior change. The scale's multidimensional reliability supports diagnostics, personalized interventions, and iterative improvements, offering valuable insights for change agents to design effective, inclusive sustainability programs.

Longitudinal Validation. Longitudinal validation is essential to ensure the scale's relevance and adaptability to evolving sustainable living paradigms. Multi-wave panel surveys, structural equation modeling, and latent growth analysis are required to track behavioral transitions,

predictive relationships, and facet stability over time (Shen et al., 2016). Expanding the sample to include Asian and European populations will test the scale's universality, accounting for cultural differences such as collective versus individualistic attitudes (Saeed et al., 2018).

Biennial surveys of original and new cohorts will measure generational shifts in behaviors like frugality and civic engagement, highlighting the influence of policy and infrastructure. Over-time assessments will refine scale components, weights, and integration with emerging behaviors, such as those tied to the access economy. These efforts will enhance predictive validity, ensuring the scale reflects cultural and generational changes while maintaining its utility in both academic and applied contexts. Long-term tracking solidifies its role in understanding and promoting cooperative social sustainability (Saeed et al., 2018).

Intersectional Factors. The scale demonstrates reliability across general populations, but further analysis is needed to explore its applicability, facilitators, and barriers within diverse demographic groups. Research highlights the importance of understanding variations across income, life stage, and family configurations to avoid homogenizing experiences (Saeed et al., 2018). Follow-up studies using methods like MANOVA can assess scale score variances across demographic segments, identifying targeted opportunities and constraints. For example, frugality may be linked to financial limits or personal values, while life stages, such as retirement, may enable greater civic participation.

Qualitative methods, such as oral histories and workshops, can complement quantitative data by capturing lived experiences and the interplay between identity, beliefs, and behaviors. For instance, comparing eco-anxiety among parents versus retirees may reveal distinct motivations and challenges. Additionally, cross-cultural comparisons can evaluate how societal structures influence dimensions like community participation or mobility issues in different regions (O'Brien, 2018).

Combining quantitative and qualitative methods provides nuanced insights into sustainability behaviors and enhances the scale's global applicability. This approach ensures interventions and policies are grounded in the diversity of real-world experiences, promoting equality and ecological integrity. Tailored, intersectional analyses improve communication and action plans by addressing specific demographic needs, fostering cooperative and context-sensitive paradigm shifts (Martin et al., 2020).

5. Conclusions

The study offered evidence-based insights and expert-based improvements that made it possible to measure social aspects of sustainable lifestyles. There were stage-wise exploratory development and confirmatory validation analytics, wherein it was established that there was a set of refined and coherent operationalization distinguishing the central components of the cooperative form of sustainable behavior from economy to donations. Confirmed content, dimensionality, and predictive validity addressed the most persistent challenges associated with measurement of the area where there is a growing policy focus and public interest in the context of climate and inequality crises. This offers a three-dimensional framework, which can assist change agents in working with communities to achieve synergy and meaning with sufficiency focusing on key areas for the groups. Such intervention may meet practical needs beyond the academic ones which help formulate a lifestyle sustainability scale at the individual level. The emergence of such tools make it possible, for the first time, to strategically position audiences with the greatest need for changing consumption, civic and self-government compliance.

But, cross-national, socioeconomic class, age and political cross-situational matching interrogatives require frequent realignment to ensure scope suitability. These fabric challenges coupled with fixed sustainability egos over time demand for deliberate motion from static explanatory appraisals. A construct appears geared to reinvigorate global movements from the inside out when properly updated as it does provide insight on the keys that facilitate cooperative change. In the cacophony of ambiguity, small contribution secure futures on validated insights on the building blocks that enable balanced living; motivation, ability and community. An abundance of these queries and few of them answers, but embedding collective awakening does promise strong meaningful movement towards transformation.

This project provided basic scale validation and improvements suggested by experts aimed at further assessment of the social aspect of individual sustainable behavior. Key outcomes and constraints are synthesized to serve as a basis for necessary future work which would make use of these contributions. The mixed methods program has been able to provide a range of insights about the development of a self-report instrument that is both conceptually and psychomtrically sound in relation to specific socially sustainable practices exhibited. The discreet five-step activity of item creation, expert qualitative evaluation, quantitative analytical validation, and group refinement yielded several important outcomes. First and foremost, the findings provided empirical evidence in support of the proposed hypothesis about the dimensionality structure of social eco-consciousness as exhibit elements of frugality, equity promotion, community building and charitable donations and voluntary simplicity as life-sphere. Highly reliable ICMS including an internal consistency and a number of sub components of validity measures consistently exceeded traditional benchmark figures after corrections instituted were based upon both statistical and judgement evidence.

Moreover, tangible evidence of the predictability, internal reliability, and structural validity of the 45-item questionnaire as a parsimonious rapid assessment instrument also bolsters foundational integrity. The findings promise usefulness for inexpensive measuring and profiling of variables and outcomes of organizations that promote

or community based sustainability strategies for example. The conceptual aspect provides also settles the condensation that the instrument corresponds with typical sustainable consumers as useful behaviors in the mainstream are discussed. This increase the explanatory relevance of the vague pro-environmental measures and the theoretical principles on real life factors rather than abstract virtue signaling. Findings conferred supplementary perspectives on complementary change pathways, recognizing group decision making processes.

Despite the fact that the developed current scale has good properties as a universal indicator, there are several limitations that put the issues in perspective. In the first place, it is impossible to translate the retests to an entirely different culture unless some other validation is done, because the item testing seems to have been done exclusively on the US and Australian samples, which may be too limiting. The exploration of initial evidence of multidimensionality is useful in this case but should not be pursued further, since the evidence was gathered from a single nation. The narrowed focus on the development of the scale necessarily postponed other important further discriminant, predictive, and longitudinal studies aimed at testing the proposed multidimensional structure and measurement attributes through different methods triangulation. It is still dependent on additional cross demographic group testing to find out whether a certain treatment was achieved or to what issues changes in covariate relationships lead.

Although there are specific reservations usually applicable to the development of formative measurement instruments, this sharply designed evaluation sought the identification of some crucial milestones on the continuing much wanted consistent operationalization of the social aspect of the individual sustainable behavior triad. Results provided central confirmation and fitted a refined tool for further work to clarify the complexities of dimensionality and carry out more complex evaluations of relative importance and effectiveness for the commonly "pro social and pro environmental" decision making behavior. Overall, this has made it easier to construct a tool like a questionnaire that meets technical requirements in terms of external reliability, validity, and construct development thus creating numerous possible lines of inquiry and uses based on accurate evaluation.

The findings begin with reconciling definitions and then gradually proceed to confirm multidimensional nuances while also testing some predictive models. In practice, a simple universal scale allows for the possibility of community program benchmarking and lifestyle sustainability profiling. Once there is an understanding of the interplay between the existing development needs and the efforts made, which in this case is the standardization of social eco-conscious practices, self sustaining activities can be demonstrated. Findings inscribed encouraging starting points for organizational culture while encouraging further enriching research emphasising lived experience. The findings contributed to understanding the issue and at the same time gave beginning innovation in research practices and bottom up approaches.

Author contributions

Samson Abiodun Toye was responsible for data collection, literature review and formulation of article. Mehmet Recai Uygur designed methodology and results analyses, Bahman Peyravi, contributed to literature review and conclusion.

Disclosure statement

There is no conflict of interest among Authors.

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