

Exploring Gendered Drivers of Public Participation in Voluntary Carbon Offset: Evidence from Indonesia

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Abstract

Climate change mitigation through Voluntary Carbon Offset (VCO) initiatives is trending globally, but gender's role in shaping public participation remains underexplored, especially in Indonesia. Therefore, the motivations driving men and women to participate in carbon offset programs need further investigation.

This research aims to address the gap in Indonesia by analysing the gender-based differences in public behaviour towards VCO initiatives. The study seeks to identify the key drivers behind Willingness to Offset (WTO) among men and women, contributing insights for developing targeted strategies to promote broader public engagement in carbon offset programs.

A quantitative approach was applied, combining descriptive analysis and ordered logistic regression models. Data were gathered from an online national survey of 868 respondents, weighted by gender, education, income, and age to represent the Indonesian population. Six variables were assessed: Knowledge (KNL), Attitude (AT), Social Norms (SN), Perceived Behavioral Control (PBC), and Personal Moral Norms (PMN).

The findings reveal significant gender differences in the variables influencing WTO. For men, PBC and PMN were the primary determinants, while women were more motivated by PMN, with SN also playing a strong role. Despite lower scores in knowledge and attitudes, women exhibited higher willingness to offset compared to men.

The study concludes that women are primarily driven by moral and social motivations, whereas men are influenced more by knowledge and perceived control over their actions. These insights suggest that gender-sensitive policies and communication strategies are necessary to enhance public participation in VCO initiatives. Understanding these differences can help design more effective programs to support Indonesia's net zero commitment in combating climate change.

Keywords:

Voluntary Carbon Offset; gender differences; public behavior;
climate action; willingness to offset

Introduction

Women play a pivotal role in climate action, particularly through their involvement in household and community resource management, which fosters greater environmental concern compared to men. This is supported by ecofeminist theory, which emphasises that women, often in caregiving roles, develop a deeper connection to environmental sustainability to combat climate change (Gaard, 2015). Studies have shown that the participation of women in natural

resource management leads to better governance and conservation outcomes, making them essential actors in climate mitigation strategies such as Voluntary Carbon Offset (VCO) initiatives. This is especially true in under-developed regions like Africa, gender-inclusive approaches have demonstrated the potential for women's leadership to enhance both environmental sustainability and gender equality, underscoring the importance of integrating women into climate action frameworks (Achakpa, Ezegwu, Ibaishwa, & Anne-Marie, 2023). This highlights the need to address barriers to women's participation in VCO initiatives in Indonesia.

The global action for carbon neutrality, marked by commitments from over 140 countries, cities, businesses, and institutions, emphasizes the need for inclusive participation—especially from women—in emission reduction efforts. Collectively, these pledges target net-zero emissions for approximately 88% of global emissions. As part of this initiative, more than 9,000 companies, 1,000 cities, over 1,000 educational institutions, and 600 financial organizations have joined the Race to Zero campaign, committing to ambitious actions aimed at reducing global emissions by 2030 (United Nations, 2023). Commitments from significant emitters such as China, the United States, and the European Union are focused on reaching net-zero emissions by 2050, with a key milestone of reducing global emissions by half by 2030. In this effort, integrating women into Voluntary Carbon Offset (VCO) initiatives is essential, not only to help meet these ambitious climate targets but also to ensure that the benefits of climate action are shared equitably across all segments of society.

Despite global efforts to promote carbon offset initiatives, research and development in Indonesia remain underexplored, particularly in consumer behaviour studies. The Indonesian carbon market, which includes voluntary carbon offset programs, is still in its initiation stages, with limited studies examining how Indonesian consumers perceive and engage with these programs. Additionally, regulatory uncertainties and the lack of clear guidelines have hindered the growth and effectiveness of voluntary carbon offset programs, which further limits research and public engagement in these initiatives.

There is a lack of studies exploring how individual perceive and engage with voluntary carbon offset initiatives, making this research critical in providing foundational data on public preferences and decision-making processes. By examining the factors that drive consumers' willingness to participate in carbon offsetting, this study offers valuable insights into their motivations and barriers. Understanding these behavioural aspects will help inform more effective strategies to promote consumer participation in voluntary carbon offset programs. Ultimately, the findings from this research will contribute to the development of policies and

frameworks that align with consumer preferences, encouraging broader involvement in carbon offsetting and supporting Indonesia's climate goals.

Simply put, voluntary carbon offsetting refers to a variety of customer-end financial instruments which may be purchased by individuals or organisations to compensate for their carbon emissions. The purchases would then be directed to fund programs that reduce the impact of their carbon emission such as reforestation, renewable energy development, or carbon capture initiatives. Consequently, using voluntary carbon offsetting, the impact of carbon emissions may be distributed amongst consumers by market mechanisms (Doda, La Hoz Theuer, Cames, Healy, & Schneider, 2021).

Several literatures have examined the impact of voluntary carbon offsetting amongst individuals. Prior research finds that carbon offsetting induce psychological effects on consumers amongst them are: mental accounting, the practice of keeping track and balancing environmentally friendly and environmentally critical decisions; moral licensing, environmentally friendly decisions which are driven by self-image; and cognitive dissonance, uncomfortableness and guilt over previous decisions which are not consistent, amongst them green consumption (Warburg, Frommeyer, Koch, Gerdt, & Schewe, 2021). In a related analysis, according to Maloney (2021), the voluntary carbon market operates in a flexible and largely unregulated space, where consumers and firms engage in offsetting as a form of private provision of public goods (Maloney, 2022). The "warm glow" effect described by Maloney echoes the psychological responses identified by Warburg et al., as individuals gain emotional satisfaction from participating in climate mitigation efforts through voluntary carbon offsets. This aligns with the findings that consumers are willing to engage in offsetting, not just for environmental impact but also for personal benefits, such as alleviating guilt and enhancing self-perception. Meanwhile, the effect of voluntary carbon offsetting on household electricity consumption in Europe has been thoroughly examined (Gordic, Nikolic, Vukasinovic, Josijevic, & Aleksic, 2023). It argues that additional carbon offsetting costs is miniscule compared to base electricity costs. This suggests that while the financial impact of offsetting is limited, its psychological effects play a more significant role in consumer behaviour.

Another distinct strand of recent literature also has focused on the aviation industry due to its contribution to carbon emissions. These studies focus on the promotion of carbon offsetting choice and the psychology of decision making of individuals. For example, customers have higher willingness to pay for voluntary carbon offsetting on local programs (Ritchie, 2021). Additionally, disclosing the effectiveness and having higher effectiveness overall also is a significant determinant of willingness to offset. This is supported by Chen (2021) who likewise concluded

for an accountable and robust system of reputation more generally for carbon offsetting(Chen, 2021). Moreover, another study in the aviation industry, Homar & Cvelbar (2023) conducted an experiment and discovered discrepancy between attitude and offsetting behaviour(Ropret Homar & Knežević Cvelbar, 2023). This suggests that offsetting behaviour may be induced under certain external conditions. Guix et al. (2021) analyses misleading communication of airlines and claims of voluntary carbon offsetting(Guix, Ollé, & Font, 2022). Furthermore, third-party certification for carbon offsetting does not hinder misleading claims from airlines. Finally, a meta-analysis conducted by Cordes et al. (2024) found that young, high-income, and highly educated air travellers are most likely to offset while gender played no role in willingness to offset for air travel.

Additionally, there also exist literature which are more critical of carbon offsetting which asserts that there are still heterogeneous understandings of carbon offsetting amongst citizens (Karhunmaa, et al., 2023). Understanding of carbon offsetting as a financial instrument is still not clear even in a developed country such as Finland, where 1 in 4 respondents from the research describes carbon offsetting as simply employing a lesser carbon producing activity such as taking public transportation instead of using cars. In comparison, Watt (2021) provides a psychoanalytic critique of carbon offsetting, emphasising that the practice is sustained by ideological fantasies(Watt, 2021). He argues that despite widespread recognition of its failures, carbon offsetting persists due to a complex interplay of disavowal, trust in authority, and the desire for its unattainable promises. Practitioners acknowledge the problems but continue to engage with the practice through partial belief and reliance on experts to validate it, perpetuating its allure even when its effectiveness is questioned.

While discussion of carbon offsetting has been overwhelmingly extensive in the realm of behavioural economics and psychology, perspective from public policy is somewhat scarce in the literature despite the public nature of climate action. This research then positions itself not only to add to the library of descriptive studies of public behaviour, but also to critically assess the role of public policy in shaping the understanding and implementation of voluntary carbon offsetting. Given the public nature of climate action, it is essential to explore how governmental policies, regulatory frameworks, and public institutions can influence consumer choices and corporate practices related to carbon offsetting. Moreover, this research aims to bridge the gap between individual behavioural insights and broader policy-making approaches, highlighting the importance of integrating psychological and economic findings into policy design. By doing so, it can potentially address the issues of accountability, transparency, and the effectiveness of carbon offsetting schemes at both the consumer and corporate levels.

Additionally, several sources indicate that Indonesia's carbon offset projects, including major efforts, have faced challenges in implementation and monitoring. Furthermore, recent regulatory developments in Indonesia, such as the 2021 Presidential Regulation on Carbon Pricing, show progress but lack the clarity necessary to fully activate consumer-driven carbon markets, thus limiting data on consumer preferences and behaviours (Sebastian, 2022). This scarcity of research, coupled with regulatory and operational challenges, highlights the need for more focused studies on voluntary carbon offset participation, especially from a consumer behaviour perspective, to help bridge the gap in Indonesia's carbon offsetting strategies

Moreover, this paper aims to address the significant research gap in Indonesia by focusing on consumer behaviour in the context of carbon offsetting. This paper employs the Theory of Planned Behaviour (TPB) developed by Ajzen (1991)(Ajzen, 1991). According to TPB human behaviour is shaped by three different beliefs: belief of consequences and experience relating to certain behaviours (behavioural beliefs); beliefs of norms and societal expectations especially those important to individuals (normative beliefs); and beliefs of factors which may facilitate or hinder those behaviours (control beliefs). We also derive the instrument from Tao et al. (2021) which previously measured willingness to offset (Tao, Duan, & Deng, 2021).

Methods

This study employs a quantitative approach, beginning with descriptive analysis and followed by ordered logistic regression. The research design consists of a national survey of the Indonesian population, conducted via an online platform using meta-ads. After filtering incomplete responses, 868 eligible participants were selected, and the data were weighted based on gender, education, income, and age to align with national census data. However, the sample leaned heavily toward urban populations, likely due to higher carbon consumption and, consequently, greater awareness of voluntary carbon offsetting in these areas. Therefore, the quantitative method was chosen to explore relationships between variables and generalize the findings to the broader Indonesian population (Masters, Carlson, & Pfadt, 2006). In addition, rake weighting was applied to address potential sampling imbalances (Battaglia, 2009), and ordered logistic regression was used for the analysis, as it is suitable for examining categorical variables. There are six variables with one dependent variable (y) which is willingness to offset (WO) and 5 independent variables (x); (1) knowledge (KNL); (2) attitude (AT); (3) perceived behaviour control (PBC); (4) social norms (SN); and (5) perceived moral norms (PMN). For more detail here is the equation used to construct our model in this research:

$$\text{logit}(P(Y \leq j)) = \alpha_j - (\beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5)$$

This model will be the baseline of this research. After this model is used then we construct a new model to extract the odds ratio number for our model. This odds ratio will be used as the main analysis for our regression model. By analysing the odds ratio, we will be able to see the probability of impact on y variable from x variables. To construct the Odds Ratio, we use this equation:

$$OR_j = \exp(\beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5)$$

Result and Discussion

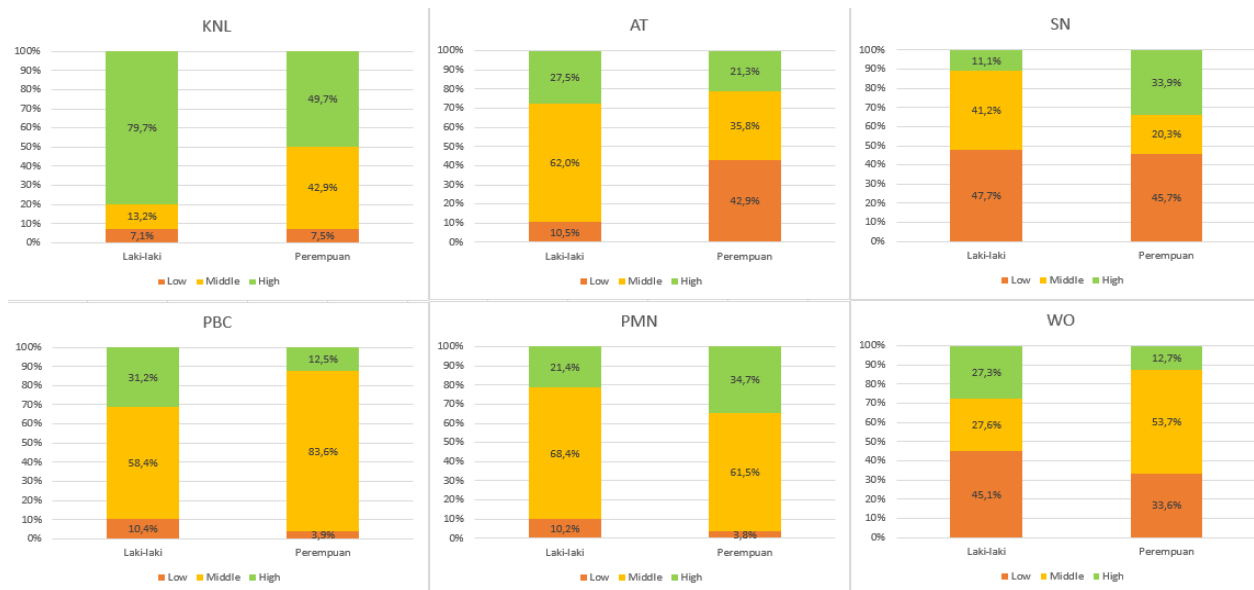
This chapter is structured to present the findings in a systematic manner, beginning with a descriptive analysis to offer an overview of the key variables related to willingness to offset, followed by the ordered logistic regression analysis to explore deeper relationships between variables.

The descriptive analysis aims to summarize the general distribution and tendencies of the key variables, such as knowledge, attitude, social norms, perceived behavioral control, and personal moral norms, across male and female respondents. This initial section provides a clear understanding of how each gender differs in their familiarity, attitude, and behavioral tendencies toward voluntary carbon offsetting. By focusing on basic statistical summaries, the descriptive analysis highlights the patterns that set the stage for more complex evaluations.

Following this, the ordered logistic regression analysis is conducted to examine the relationships between the independent variables and WTO, focusing on gender differences. The objective here is to determine which factors significantly influence public willingness to participate in carbon offsetting initiatives and how these factors vary between men and women. This regression analysis provides more detailed insights into the underlying motivations and barriers for each gender, moving beyond simple observations to offer a predictive understanding of how these variables interact. The findings from this analysis serve to inform the discussion on how tailored strategies can be developed to promote carbon offsetting participation more effectively among different demographic groups.

Descriptive Overview

Figure 1 presents the descriptive statistics comparing men and women across six core variables. The data highlights significant differences in gender-related behavior towards carbon offsetting, particularly in terms of familiarity, attitudes, and the willingness to engage in environmental actions.

Figure 1.**Percentage Distribution of Key Variables by Gender**

Source: obtained from primary data

For the Knowledge variable, the data shows that 79.7% of men exhibit high knowledge compared to only 49.7% of women. This disparity suggests that men are more familiar with key environmental terms such as "carbon", "carbon footprint" and "carbon offsetting." They are also more knowledgeable about the practical steps involved in balancing carbon emissions and the benefits derived from voluntary carbon offsetting. Studies suggest that this knowledge gap may stem from differences in access to information and education related to environmental issues, which is often gendered, with men having more opportunities to engage with technical aspects of climate (Adeola, Evans,, & Ngare, 2024).

The same pattern is observed in the Attitude variable, where 62% of men fall into the medium attitude category, while 42.9% of women report low attitudes towards carbon offsetting. This suggests that men are more likely to understand the importance of carbon offsetting and agree that reducing personal carbon emissions contributes to overall environmental health. Furthermore, men in this study are more inclined to recommend carbon-friendly products, which supports findings from similar studies on pro-environmental behavior (Vicente-Molin, A., & Izagirre-Olaizola, 2018).

In terms of Social Norms, both men and women report low support from their social networks to engage in voluntary carbon offsetting. Specifically, 47.7% of men and 45.7% of women experience low social pressure to adopt carbon offsetting behaviors. This reflects a broader societal issue where voluntary carbon offsetting is not yet widely promoted or endorsed by social circles in Indonesia, as shown by the Climate Transparency report that concludes

Indonesia is not on track for a carbon emission reduction target cause a low commitment in the updated Nationally Determined Contributions (NDCs) (Climate Transparency, 2020)

For Perceived Moral Norms, both genders report moderate moral obligations related to carbon offsetting, with men scoring 68.4% and women at 61.5%. This variable reflects the degree to which individuals feel a moral responsibility to engage in carbon offsetting as part of their environmental ethics. The relatively moderate scores suggest that, while there is some recognition of moral duty, it is not yet a strong driver of behavior in either gender. This aligns with previous literature that suggests that while people recognize the ethical importance of carbon offsetting, moral norms alone are often insufficient to drive actual behavior change unless coupled with stronger external incentives or (FAO, 2021).

The most notable difference appears in Perceived Behavioral Control (PBC). A significant 83.6% of women report medium control over their ability to offset carbon emissions, compared to 58.4% of men. However, a higher percentage of men (31.2%) report high control, indicating that men feel they have more autonomy, resources, and opportunities to engage in carbon offsetting. This could be linked to the higher levels of knowledge and access to relevant information and resources reported by men. The literature suggests that perceived control is a strong predictor of pro-environmental behavior, as individuals who feel they have more control over their actions are more likely to engage in behaviors such as carbon offsetting.

Finally, the Willingness to Offset variable presents a striking gender difference. Women dominate the medium (53.7%) and high (12.7%) willingness categories, whereas men show higher levels of low willingness (45.1%). This indicates that despite having lower knowledge and attitude scores, women demonstrate a stronger intention to participate in carbon offsetting activities, particularly through purchasing products that are designed to offset carbon emissions. It is hypothesized that women may be more driven by ethical and social motivations, which increases their willingness to engage in carbon offsetting initiatives, a trend also observed in other climate-related studies.

These findings highlight the complex interplay between knowledge, social norms, and perceived control in influencing willingness to participate in carbon offsetting. Although men exhibit higher knowledge and attitudes towards carbon offsetting, women's stronger willingness to pay suggests that other factors, such as moral motivations or social incentives, may be at play. These insights are critical for shaping future carbon offset policies and engagement strategies that take gender differences into account, especially in Indonesia where consumer behavior research on this topic remains scarce (Tomich, de Foresta, & Dennis, 2002).

Regression Analysis

As Mention earlier, we use Ordered Logistic Regression in order to see the relationship between X variables and Y variables. Ordered logistic regression chose as it has ability to explore the relationship specially in ordinal variable. For this research we use three different model. Each model has it spesific category. The first model analyze the general impact betweee y and x varibale. The model 2 and 3 are gender spesific, male and female.

This study employs three regression models to analyze the factors influencing Willingness to Offset (WTO) among different respondent groups based on gender. Each model focuses on specific variables such as Knowledge (KNL), Perceived Behavioral Control (PBC), and Personal Moral Norms (PMN), which are known to influence an individual's likelihood of participating in voluntary carbon offsetting.

Model 1 serves as the baseline, examining all respondents regardless of gender to determine how these variables collectively affect the willingness to offset. Model 2 narrows the focus to male respondents, exploring how their willingness is influenced, particularly highlighting the roles of self-control and moral norms. Model 3 focuses on female respondents, demonstrating that moral values play a more significant role in motivating women to offset their carbon emissions than knowledge or perceived control.

These models provide a nuanced understanding of the gendered dynamics in carbon offset behaviors, offering key insights into how tailored strategies might be developed to promote carbon offsetting among different demographic groups.

Ordered Logistic Regression Model 1

Model 1 is designed to incorporate both male and female respondents, analyzing the combined impact of key variables across genders. This comprehensive model aims to provide an overall understanding of the factors influencing public participation in Voluntary Carbon Offset initiatives, without differentiating between gender-specific behaviors or motivations.

Table 1.
Ordered Logistic Regression Model 1

Willingness to Offset	OR	SE	95% CI		P
			LL	UL	
SN	1.00	0.006	0.99	1.01	0.26
AT	0.99	0.009	0.97	1.01	0.59
KNL	1.02	0.006	1.01	1.03	0.00
PBC	1.05	0.008	1.03	1.07	0.00
PMN	1.06	0.008	1.04	1.08	0.00
Cut 1	4.61	0.80	3.04	6.18	
Cut 2	6.27	0.59	5.10	7.44	
Cut 3	7.93	0.55	6.85	9.01	
Cut 4	10.04	0.58	8.90	11.18	
Cut 5	11.87	0.61	10.66	13.08	

<i>Cut 6</i>	14.14	0.66	12.83	15.45
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Source: obtained from primary data

Based on the model, it can be concluded that the highest increase in the Odds Ratio (OR) for Willingness to Offset is primarily influenced by three variables: Knowledge (KNL), Perceived Behavioral Control (PBC), and Personal Moral Norms (PMN). These three variables significantly affect the Willingness to Offset (WTO), as evidenced by their OR values being greater than 1. This suggests that individuals with higher knowledge, stronger control over their own behavior, and a stronger sense of personal moral obligation are more likely to participate in carbon offsetting activities.

Ordered Logistic Regression Model 2

Model 2 is a model specifically focused on examining the Willingness to Offset based on the variables tested for respondents who identified themselves as male.

Table 2.

Ordered Logistic Regression Model 2

Willingness to Offset	OR	SE	95% CI		P
			LL	UL	
SN	1.00	0.008	0.98	1.01	0.85
AT	0.99	0.014	0.96	1.02	0.84
KNL	1.03	0.009	1.01	1.05	0.00
PBC	1.05	0.012	1.03	1.08	0.00
PMN	1.05	0.012	1.02	1.07	0.00
<i>Cut 1</i>	5.16	1.01	3.17	7.15	
<i>Cut 2</i>	6.08	0.88	4.34	7.83	
<i>Cut 3</i>	7.77	0.82	6.14	9.39	
<i>Cut 4</i>	9.91	0.87	8.19	11.63	
<i>Cut 5</i>	11.85	0.94	10.00	13.69	
<i>Cut 6</i>	14.13	1.01	12.15	16.12	

Source: obtained from primary data

Based on the model, it can be observed that for male respondents, the likelihood of engaging in carbon offsetting is primarily influenced by **Perceived Behavioral Control (PBC)** and **Personal Moral Norms (PMN)**, as opposed to **Social Norms (SN)** and **Attitude (AT)**. This indicates that personal factors such as self-awareness and moral values play the most significant role in motivating men to participate in carbon offsetting, followed by their knowledge.

Additionally, Model 2 shows that the cut-off values for men are much higher than those in the base model at every level. This suggests that men require higher levels of **SN**, **AT**, **KNL**, **PBC**, and **PMN** to develop the willingness to engage in carbon offsetting. Simply put, men tend to find it more challenging to engage in carbon offsetting compared to women, as they need stronger motivations across multiple variables to be influenced.

Ordered Logistic Regression Model 3

Model 3 is a model specifically designed to examine the Willingness to Offset based on the tested variables for respondents who identified themselves as female.

Table 3.**Ordered Logistic Regression Model 3**

Willingness to Offset	OR	SE	95% CI		P
			LL	UL	
SN	1.01	0.009	0.99	1.03	0.16
AT	0.99	0.012	0.97	1.01	0.63
KNL	1.01	0.007	1.00	1.03	0.01
PBC	1.04	0.012	1.02	1.07	0.00
PMN	1.07	0.012	1.05	1.10	0.00
<i>Cut 1</i>	3.34	1.56	0.27	6.41	
<i>Cut 2</i>	6.57	0.80	4.98	8.15	
<i>Cut 3</i>	8.20	0.74	6.74	9.66	
<i>Cut 4</i>	10.31	0.78	8.77	11.84	
<i>Cut 5</i>	12.07	0.83	10.44	13.69	
<i>Cut 6</i>	14.35	0.89	12.58	16.11	

Source: obtained from primary data

In Model 3, the Personal Moral Norms (PMN) variable holds more significance than both Perceived Behavioral Control (PBC) and Knowledge (KNL). This suggests that women are more motivated to engage in carbon offsetting due to their moral beliefs, as indicated by the PMN variable, rather than by their perceived control or knowledge about carbon offsetting, represented by PBC and KNL.

When compared to men, it is evident that while men are influenced by a combination of moral values, self-control, and knowledge, the difference in odds ratios (OR) for these three variables is relatively small. However, for women, the moral value variable (PMN) has a significantly higher OR than PBC and KNL, indicating that moral beliefs are a stronger driving factor for women.

Additionally, Model 3 shows that women generally have a greater Willingness to Offset than men, as evidenced by the lower cut-off values in comparison to Model 2 and Model 1. This suggests that women are more inclined to engage in carbon offsetting, and this tendency is further reinforced by the influence of their social environment (Social Norms, SN), which plays a stronger role in shaping their behaviour than it does for men.

Conclusion & Recommendation

In conclusion, this research has provided insights into the gender-specific factors influencing Willingness to Offset (WTO) in voluntary carbon offset initiatives in Indonesia. By employing three regression models, the study revealed that men are primarily driven by

Perceived Behavioral Control (PBC) and Personal Moral Norms (PMN), while women are more motivated by their moral beliefs, with social norms enforcing a significant influence on their willingness to engage in carbon offsetting.

The findings suggest that knowledge, while important, plays a secondary role for women compared to their moral obligations and the influence of their social environment. In contrast, men require higher levels of control and knowledge to develop the same willingness. These differences highlight the need for tailored approaches to encourage carbon offset behaviors, considering the distinct motivations and barriers faced by men and women.

Given the lack of public behaviour research on carbon offsetting in Indonesia, this study fills a critical gap by providing foundational data that can inform future policies and programs aimed at increasing participation in carbon offset initiatives. By understanding the unique drivers for each gender, more effective strategies can be designed to support Indonesia's climate goals through enhanced consumer engagement in voluntary carbon offsetting.

To enhance public participation in Voluntary Carbon Offset (VCO) initiatives, policies should adopt gender-sensitive approaches by addressing the distinct motivations of men and women. Programs targeting men should focus on building knowledge and providing practical tools to enhance their sense of control over environmental actions, while initiatives for women should leverage social and moral motivations, emphasizing community involvement and ethical responsibility. Simplifying participation through accessible platforms and integrating offset options into everyday transactions can further encourage engagement. Additionally, fostering community-based projects and collaborative efforts will enhance participation, particularly among women. Monitoring gender-based participation outcomes is essential to evaluate and refine strategies, ensuring they remain effective in driving broader public involvement aligned with Indonesia's climate action goals.

Limitation

As mentioned, study by Karhunmaa et al. (2023) has uncovered, knowledge and understanding of voluntary carbon offsetting is still inconsistent, even amongst highly developed countries. As a developing nation, it should be assumed that public consciousness on what voluntary carbon offsetting is not any better.

This limitation impacts the interpretation of the findings, as lower levels of public knowledge could influence the responses in the survey, particularly in relation to variables such as Knowledge and Attitude. Without a clear understanding of voluntary carbon offsetting, respondents may not accurately reflect their true willingness to engage in these programs, leading to potential underreporting or misrepresentation of their Willingness to Offset (WTO).

Additionally, this lack of awareness may skew the results, making it difficult to assess the true potential for public participation in carbon offset initiatives.

Further research is needed to explore ways to increase public understanding of voluntary carbon offsetting in developing countries like Indonesia. Future studies should also consider educational interventions or awareness campaigns as a means of improving the accuracy of responses and fostering more informed public engagement in carbon offset programs.

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