

Self-Determination Theory on Repurchase Intention of Green Product Mediating Customer Engagement: Study the Middle-Class Squeeze

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Abstract

This study investigates the role of customer engagement in shaping repurchase intentions for green products within a handicraft MSME community in Indonesia, using Self-Determination Theory (SDT) as a theoretical framework. SDT explains how the regulation of motivation from external to intrinsic drives individual engagement and purchasing behavior. The research context is middle-class squeeze, where consumers face increasing needs but limited purchasing power, creating challenges for sustainable consumption. A total of 354 respondents participated in the survey, and the data were analyzed using WarpPLS. The results of the structural model confirmed the validity and reliability of the measurement instrument. Identified and introjected motivations contributed significantly to engagement, while intrinsic motivation played a weaker role. Surprisingly, customer engagement did not significantly predict repurchase intentions, creating a paradoxical finding where high engagement does not necessarily translate into repeat purchases under economic constraints. These results highlight the complexity of sustainable consumer behavior during middle-class pressure and provide strategic implications for MSMEs, including the need for inclusive pricing, value-based communication, and gender-sensitive marketing approaches to strengthen repurchase intentions in the green product market.

Keywords: Self-Determination Theory, Customer Engagement, Class Middle, Repurchase, Ittention

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1. Introduction

The issues of climate change, natural resource scarcity, and environmental degradation have driven global awareness of the importance of consuming sustainable products (Gilal et al., 2020)(Yoo et al., 2021). Green products, designed to minimize negative impacts on the environment, are now a key strategy in achieving the Sustainable Development Goals (SDGs) (Azizah, 2023)(Azizah, Azim, et al., 2024). However, the adoption of green products is not always accompanied by sustainable repurchase behavior, especially among the middle-class consumer segment currently facing economic pressures (Azizah, 2024).

The middle-class squeeze phenomenon describes a condition where the middle class experiences a decline in purchasing power due to real income stagnation, increasing living costs, and economic uncertainty (Ahmad, 2024) (CNBC, 2024). In Indonesia, the middle class plays a significant role in driving national consumption and is a primary target for green product marketing (BPS, 2024). However, the middle-class squeeze can trigger more cautious consumption behavior, even tending to sacrifice sustainability preferences for more affordable prices (Han, 2021). This raises the question: how can consumers remain loyal to green products amidst financial constraints?

One key to answering this question is customer engagement. Customer engagement is the psychological and behavioral involvement of customers, reflected in their attention, emotions, and interactions with a product, service, or brand. This engagement is multidimensional, encompassing Enthusiasm, the customer's feelings of enthusiasm, high interest, and excitement about the brand or product. Attention, the customer's focused attention in receiving, understanding, and remembering brand-related information. Absorption, the customer's deep involvement in the experience of using the product or participating in brand activities. Interaction, the customer's active participation in communications and activities involving the brand, both directly and through

social media. Identification, the customer's sense of identity attachment, where the customer sees the brand as a representation of their values or lifestyle (So et al., 2016)

Consumers' emotional, cognitive, and behavioral engagement with a brand. Previous research has shown that customer engagement can increase repurchase intentions, but this engagement doesn't emerge spontaneously. Consumer motivation is a determining factor in whether such engagement can form and persist, especially when economic pressures reduce material incentives to purchase green products.

Self-Determination Theory (SDT) offers a powerful conceptual framework for understanding the dynamics of consumer motivation (Ryan & Deci, 2019)(Gilal, Chandani, et al., 2019)(Azizah, 2023)(Azizah, 2024). This theory views motivation as a spectrum that moves from external control to intrinsic motivation, through five forms of regulation: external regulation, introjection regulation, identification regulation, integration regulation, and intrinsic regulation (Zycinska & Januszek, 2021)(Ryan & Deci, 2000). In the context of green products, consumers may initially purchase due to incentives or social pressure (external regulation and introjection), then begin to identify sustainability values as important (identification), integrate them into their identity (integration), and finally purchase due to personal conviction and satisfaction (intrinsic) (Gilal et al., 2020). This process becomes crucial amidst the middle-class squeeze, because strong autonomous motivation is able to maintain purchasing behavior even when external incentives are reduced (Van den Broeck et al., 2016).

The research gap arises because most studies on marketing, including green products, still focus on external factors such as product quality, price, and brand image (Gilal, Zhang, et al., 2019)(Sheldon, 2016)(Azizah, 2022c). Studies that integrate Self-Determination Theory with the middle-class squeeze phenomenon to understand the motivations of middle-class consumers are still very limited, especially in the context of developing countries like Indonesia.

Therefore, this study aims to analyze how the motivational taxonomy in Self-Determination Theory shapes customer engagement and influences repurchase intentions for green products among middle-class consumers experiencing middle-class squeeze. The research findings are expected to expand the literature on sustainable marketing and provide practical guidance for businesses in designing strategies that not only attract interest but also maintain consumer loyalty in this economically vulnerable segment.

1. Self Determination Theory

Self-Determination Theory (SDT) is a psychological framework that explains human behavior in terms of the degree to which it is self-motivated and self-determined (Coccia, 2018)(Ryan & Deci, 2020). At its core, SDT emphasizes the role of autonomy (the sense that one's actions are freely chosen and aligned with personal values alongside competence (the feeling of effectiveness and mastery in performing an activity) and relatedness (the sense of connection and belonging with others). Together, these three basic psychological needs form the foundation for understanding why individuals engage in certain behaviors and how their motivation evolves over time.

In the SDT continuum, motivation ranges from controlled forms such as external regulation (acting due to external rewards or pressures) and introjected regulation (acting to avoid guilt or gain approval), to more self-determined forms such as identified regulation (valuing the behavior as personally important), integrated regulation (aligning the behavior with one's identity and core values), and ultimately intrinsic regulation (engaging in the behavior for inherent enjoyment and satisfaction)(Gilal, Zhang, et al., 2019) (Rahi & Abd. Ghani, 2019). Self-Determination Theory (SDT) explains that motivation moves along a continuum. At first, people may act without clear reasons, or simply because of external pressures such as rewards or social expectations. Over time, motivation can become internalized, where actions are guided by personal values. At the highest level, motivation becomes intrinsic, meaning people act because they find joy and satisfaction in the activity itself (Ryan & Deci, 2019).

The indicator SDT is External Regulation: Behavior is driven by external demands, rewards, or punishments. For example, a consumer buys green products only because of government rules or social pressure. Introjected Regulation: Behavior is guided by internal pressures such as guilt, pride, or obligation. For instance, a consumer chooses green products because they would feel guilty if they did not. Identified Regulation: Behavior is motivated by recognizing and valuing its importance. A consumer purchases green products because they believe it contributes to health or environmental protection. Integrated Regulation: Behavior is fully integrated with a person's identity and values. Consumers in this stage view buying green products as part of who they are and what they stand for. Intrinsic Regulation: Behavior is performed out of inherent enjoyment, interest, or satisfaction. In this case, consumers feel genuine pleasure and fulfillment when choosing eco-friendly products (Gilal, Zhang, et al., 2019) (Van den Broeck et al., 2021) (Azizah, 2023) (Azizah, Yulisetiari, et al., 2024)(France & Pitchay, 2017).

2. Green Product Study

A green product refers to a product that, throughout its entire life cycle from design, manufacturing, and usage to disposal is created with the intention of causing as little harm as possible to the environment. In other words, such products are developed by considering efficient use of resources, reduction of waste, and the prevention of pollution. Green products embody the principles of environmental friendliness and sustainability, as they are not only concerned with economic value but also with the preservation of ecosystems and the well-being of future generations.

Moreover, green products often utilize renewable materials, recyclable components, or biodegradable substances that naturally decompose without leaving harmful residues. Examples include packaging made from organic materials, energy-efficient household appliances, or organic agricultural goods free from harmful pesticides. The main goal behind the green product concept is to establish a balance between human needs and environmental preservation, promoting consumption that is no longer exploitative but more responsible and sustainable (Ottman, 2017)(Tan et al., 2019)(Yang et al., 2021)(Azizah, 2024)(Azizah, 2022a)(Azizah, 2022b)(Azizah, 2023)(Azizah, Azim, et al., 2024).

3. Customer Engagement

Customer engagement can be understood as the degree to which consumers are emotionally, cognitively, and behaviorally connected with a particular brand, product, or service. It goes beyond simple transactions, reflecting how customers think, feel, and act in relation to their interactions with the company. From an emotional perspective, engagement shows the attachment, trust, and feelings of satisfaction that customers develop toward the brand. From a cognitive perspective, it reflects the attention, awareness, and interest that customers dedicate to understanding and evaluating the offerings. Meanwhile, from a behavioral perspective, engagement is expressed through concrete actions such as repeat purchases, word-of-mouth recommendations, participation in brand communities, or interaction on digital platforms.

In essence, customer engagement is not only about maintaining loyalty but also about creating a two-way relationship where customers actively contribute to the growth and success of the brand. Highly engaged customers often become advocates, co-creators, and long-term supporters, making engagement a crucial element for sustainable business performance (Lim et al., 2022)(Kim & Kim, 2014)(Rather & Sharma, 2016)(Kritzinger & Petzer, 2021). Customer engagement represents the intensity of emotional, cognitive, and behavioral involvement that consumers have with a brand, product, or service. It reflects not only how customers think, feel, and act toward a company, but also the depth of relationships that are formed through meaningful interactions and memorable experiences. These interactions whether through direct purchases, digital communication, or participation in brand-related activities help shape trust, loyalty, and long-term commitment.

In this sense, engagement is more than just transactional behavior; it is a dynamic process where customers develop emotional bonds, pay consistent attention, and actively contribute to the brand's growth. Strong customer engagement indicates that consumers are not only satisfied but also motivated to advocate for the brand, share their experiences with others, and remain connected over time.

Customer engagement refers to the extent of consumers' emotional, cognitive, and behavioral involvement with a brand, product, or service. It reflects not only how customers think, feel, and act, but also the depth of relationships shaped through meaningful interactions and valuable experiences. This engagement is multidimensional and can be observed through the following indicators:

Enthusiasm: the emotional excitement, passion, and positive feelings customers show toward a brand or product. Engaged consumers often feel proud or happy to be associated with the brand. Attention : the degree of focus and mental effort customers devote to a brand. This can be seen when consumers actively seek information, follow updates, or pay close attention to product innovations. Absorption : the level of immersion and involvement in the brand experience, where customers may lose track of time because they are deeply engaged with the brand's content, services, or community. Interaction: the behavioral expression of engagement, such as participating in discussions, sharing feedback, creating user-generated content, or maintaining communication with the brand through multiple channels. Identification – the sense of connection and alignment customers feel with the brand's values, image, or mission. This dimension reflects how consumers integrate the brand into their self-concept and identity. Many studies (Hollebeek et al., 2021)(Sukendia & Harianto, 2021) (So et al., 2016).

4. Repurchase Intention

Repurchase intention refers to a consumer's willingness, tendency, or commitment to buy the same product or service again in the future, primarily influenced by their previous consumption experiences. It reflects the degree of satisfaction, trust, and perceived value that consumers associate with the brand. When customers feel that a product consistently meets or exceeds their expectations whether in terms of quality, price,

convenience, or emotional benefits. They are more likely to form a positive attitude that leads to repeat purchasing.

This intention is not merely a behavioral prediction but also a psychological state that indicates customer loyalty and long-term relationship potential. In marketing and consumer behavior research, repurchase intention is often considered a key outcome variable because it demonstrates how well a brand has succeeded in creating positive experiences and retaining its customers. (Azizah, 2022c)(Azizah, 2023).

In the context of green products, repurchase intention refers to a consumer's ongoing motivation to continue purchasing environmentally friendly products after an initial experience. Drawing on Self-Determination Theory, this motivation can be explained through a continuum of regulatory processes, ranging from external regulation (e.g., buying green products to gain social approval or avoid criticism) to intrinsic regulation (e.g., purchasing green products because it is inherently satisfying and enjoyable).

Under the pressures experienced by the middle class, the relationship between these motivational regulations, customer engagement, and repurchase intention becomes particularly important. This study seeks to examine how the different forms of regulation influence the likelihood of consumers repeatedly choosing green products, with customer engagement serving as a mediating mechanism. By analyzing this dynamic, the study highlights how deeper, more self-determined motivations (identified, integrated, and intrinsic regulation) are more effective in sustaining repurchase behavior compared to controlled forms of motivation (external and introjected regulation).

This research is expected to contribute theoretically by extending SDT into the field of sustainable consumption and showing how motivational regulations explain repeat purchasing behavior for green products. At the practical level, the findings can guide marketers in designing strategies that nurture more self-determined forms of motivation such as emphasizing personal values, identity alignment, and intrinsic enjoyment in order to strengthen customer engagement and encourage long-term loyalty to green products, even amid middle-class economic challenges.

2. Methods

Validity and reliability testing is carried out to ensure that the indicators used in the model accurately and consistently measure the intended latent constructs. The assessment begins with convergent validity, which is evaluated through outer loadings, Average Variance Extracted (AVE), and Composite Reliability (CR). Ideally, each indicator should have an outer loading above 0.70, although values between 0.50 and 0.70 may still be acceptable if AVE and CR are adequate. Furthermore, AVE values above 0.50 indicate that more than half of the variance of the indicators is explained by the construct (Hair et al., 2019)(Hair et al., 2021).

No	Variable	Composite Reliability (CR)	Average Variance Extracted (AVE)
1.	External Regulation	0.726	0.686
2.	Introjection Regulation	0.799	0.815
3.	Identification Regulation	0.800	0.816
4.	Integration Regulation	0.747	0.704
5.	Intrinsic Regulation	0.829	0.786
6.	Customer Engagement Identification	0.843	0.802
7.	Enthusiasm	0.732	0.694
8.	Attention	0.825	0.736
9.	Absorption	0.779	0.738
10.	Interaction	0.760	0.666
11.	Niat	0.734	0.693

Table 1. Composite Reliability and Average Variance Extracted (AVE)

Data source: Processed research results

Discriminant validity is examined to confirm that each construct is distinct from others. This can be tested using the Fornell-Larcker criterion, which requires that the square root of AVE for a construct is greater than its correlations with other constructs. Cross loadings are also checked to ensure that each indicator loads higher on its respective construct than on any other construct. In this study, all constructs were met. The results can be seen in Table 1 below.

	Extern	Introj	Identif	Integr	Intrins	CE.Ident	Antusias	Perhatia	Serap	Interaks	NiatRep	Type (as defined)	SE	P value
EXT1	(0.618)	0.263	-0.111	-0.304	0.087	-0.038	-0.217	0.274	1.041	-0.459	0.430	Reflective	0.049	<0.001
EXT2	(0.764)	0.500	0.671	0.598	0.023	-0.075	0.202	-0.172	-0.401	-0.941	-0.835	Reflective	0.048	<0.001
EXT3	(0.668)	-0.815	-0.665	-0.402	-0.107	0.121	-0.030	-0.057	-0.506	1.502	0.557	Reflective	0.049	<0.001
INRO1	-0.040	(0.815)	-0.124	-0.540	0.066	0.003	-0.071	-0.142	-0.037	0.401	0.547	Reflective	0.047	<0.001
INTRO2	0.040	(0.815)	0.124	0.540	-0.066	-0.003	0.071	0.142	0.037	-0.401	-0.547	Reflective	0.047	<0.001
IDEN2	-0.039	-0.305	(0.816)	0.494	-0.088	0.139	-0.033	0.024	-0.038	0.515	-0.753	Reflective	0.047	<0.001
IDEN3	0.039	0.305	(0.816)	-0.494	0.088	-0.139	0.033	-0.024	0.038	-0.515	0.753	Reflective	0.047	<0.001
INTE1	0.374	-0.562	-0.137	(0.717)	-0.240	0.300	-0.184	0.090	0.070	0.209	0.410	Reflective	0.048	<0.001
INTE2	-0.480	0.216	-0.574	(0.696)	0.138	-0.185	0.212	-0.095	-0.042	0.260	0.861	Reflective	0.048	<0.001
INTE3	0.095	0.360	0.711	(0.700)	0.109	-0.123	-0.023	0.002	-0.030	-0.473	-1.277	Reflective	0.048	<0.001
INTRIN1	0.020	-0.044	-0.012	-0.051	(0.804)	0.021	-0.058	0.110	0.000	0.002	-0.155	Reflective	0.048	<0.001
INTRIN2	-0.322	-0.076	-0.169	-0.198	(0.798)	-0.436	0.115	-0.027	0.166	0.389	0.146	Reflective	0.048	<0.001
INTRIN3	0.319	0.127	0.191	0.263	(0.755)	0.438	-0.059	-0.089	-0.174	-0.413	0.011	Reflective	0.048	<0.001
CE.ID1	0.386	0.011	-0.276	-0.189	0.082	(0.812)	0.011	0.113	-0.483	0.097	0.322	Reflective	0.048	<0.001
CE.ID2	-0.205	0.005	0.044	0.116	0.196	(0.853)	0.028	-0.045	0.099	0.069	-0.100	Reflective	0.047	<0.001
CE.ID_3	-0.188	-0.019	0.254	0.073	-0.317	(0.736)	-0.045	-0.073	0.418	-0.187	-0.239	Reflective	0.048	<0.001
ANT1	-0.010	0.019	-0.047	-0.073	-0.226	0.006	(0.803)	-0.092	-0.139	0.031	0.061	Reflective	0.048	<0.001
ANT2	-0.600	-0.247	-0.048	0.252	0.098	-0.102	(0.563)	0.156	0.448	0.512	-0.549	Reflective	0.049	<0.001
ANT3	0.499	0.179	0.093	-0.120	0.182	0.076	(0.694)	-0.020	-0.203	-0.452	0.375	Reflective	0.048	<0.001
PERH1	-0.133	-0.343	-0.346	-0.039	0.008	0.039	-0.224	(0.707)	0.268	0.408	0.105	Reflective	0.048	<0.001
PERH2	-0.114	-0.062	-0.112	-0.391	-0.095	0.120	0.090	(0.799)	-0.036	0.224	0.308	Reflective	0.048	<0.001
PERH3	0.560	0.552	0.480	0.516	-0.056	-0.053	-0.107	(0.746)	-0.364	-0.786	-0.508	Reflective	0.048	<0.001
PERH4	-0.339	-0.174	-0.035	-0.066	0.163	-0.123	0.242	(0.687)	0.161	0.172	0.085	Reflective	0.048	<0.001
PENY1	-0.747	-0.456	-0.377	-0.135	-0.176	0.177	-0.003	-0.170	(0.783)	0.968	0.142	Reflective	0.048	<0.001
PENY2	-0.155	0.199	-0.127	-0.328	0.067	-0.026	-0.184	0.258	(0.808)	-0.366	0.462	Reflective	0.048	<0.001

Notes: Loadings are unrotated and cross-loadings are oblique-rotated. SEs and P values are for loadings. P values < 0.05 are desirable for reflective indicators.

Additionally, WarpPLS provides several overall model fit indices, such as the Average Path Coefficient (APC), Average R-squared (ARS), and Average Variance Inflation Factor (AVIF), which may be reported to complement the validity and reliability results. Together, these assessments provide evidence that the measurement model in WarpPLS meets the necessary standards of validity and reliability. This has met the fit criteria in Warppls with appropriate results. The results can be seen in Figure 1.

Model fit and quality indices

Average path coefficient (APC)=0.201, P<0.001
Average R-squared (ARS)=0.638, P<0.001
Average adjusted R-squared (AARS)=0.632, P<0.001
Average block VIF (AVIF)=1.422, acceptable if <= 5, ideally <= 3.3
Average full collinearity VIF (AFVIF)=3.130, acceptable if <= 5, ideally <= 3.3
Tenenhau GoF (GoF)=0.592, small >= 0.1, medium >= 0.25, large >= 0.36
Sympson's paradox ratio (SPR)=0.771, acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)=0.981, acceptable if >= 0.9, ideally = 1
Statistical suppression ratio (SSR)=1.000, acceptable if >= 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)=0.929, acceptable if >= 0.7

Figure 1. Model Fit and Quality Indices

3. Results and Discussion

a. Descriptive Statistics with Respondent Characteristics

The demographic analysis reveals that women constitute the majority of green product consumers within the handicraft MSME community (60.45%). This dominance aligns with prior evidence that women are more involved in household-related purchasing decisions, particularly for products with aesthetic, ethical, and environmental value. Handicraft MSMEs often design and promote products such as clothing, accessories, and decorative items with women as the primary market segment, confirming gender-based market orientation in sustainable product consumption. Based on income, it can be seen in the following table 1:

Income Range (Rp)	Number of Respondents	Percentage (%)
Under 1,000,000	0	0%
1,000,000 – 2,000,000	81	22.88%
2,000,000 – 4,000,000	164	46.33%
4,000,000 – 6,000,000	109	30.79%
Total	354	100%

Table 1. Distribution of Respondents Based on Monthly Income

Data source: Processed research results

Income distribution shows that the largest consumer group (46.33%) falls within the IDR 2,000,000–4,000,000 range, classified as the lower-middle class in the Indonesian context. Combined with the IDR 1,000,000–2,000,000 group, 77.12% of consumers belong to households vulnerable to the *middle-class squeeze*, where rising needs are constrained by limited purchasing power. Interestingly, despite these financial pressures, consumers continue to purchase green handicraft products, reflecting a paradox in which environmental and cultural values outweigh short-term economic considerations. This finding suggests opportunities for inclusive pricing strategies and communication of long-term benefits such as durability, eco-friendliness, and support for local economies. Distribution based on type of work can be seen in table 2.

Type of work	Number of Respondents	Percentage (%)
Businessman	112	31.63%
Private sector worker)	188	53.11%
Government employees	47	13.28%
Farmer	0	0%
Breeder	0	0%
Other	7	1.98%
Total	354	100%

Table 2. Distribution of Respondents Based on Type of Work

Data source: Processed research results

In terms of occupation, private-sector employees dominate (53.11%), followed by entrepreneurs (31.63%) and government employees (13.28%). The absence of respondents from the agricultural sector highlights a limited penetration of green handicraft MSMEs into rural and agrarian communities. This indicates that distribution channels and promotional strategies remain concentrated in urban and semi-urban markets, leaving rural communities underrepresented. Such insights emphasize the importance of expanding market reach while tailoring engagement strategies to socio-economic conditions.

Of the 354 green product buyers from the handicraft MSME community, 60.45% were women and 39.55% were men. This indicates that women are more involved as consumers of green products produced by handicraft MSME actors. Women are more involved in purchasing decisions for craft, decorative, and environmentally ethical products. Green handicraft products often have aesthetic value and household functions, which culturally attract more women. The handicraft MSME community also frequently holds events or promotions targeting the female market as the main target, namely items such as clothes, umbrellas, flowers, and various accessory products. The dominance of women as buyers can indicate the main market segmentation for green product handicraft MSMEs. These findings can be used for gender-based marketing strategies by MSMEs to optimize customer engagement and repeat purchases.

he results of the data analysis produced the following research model:

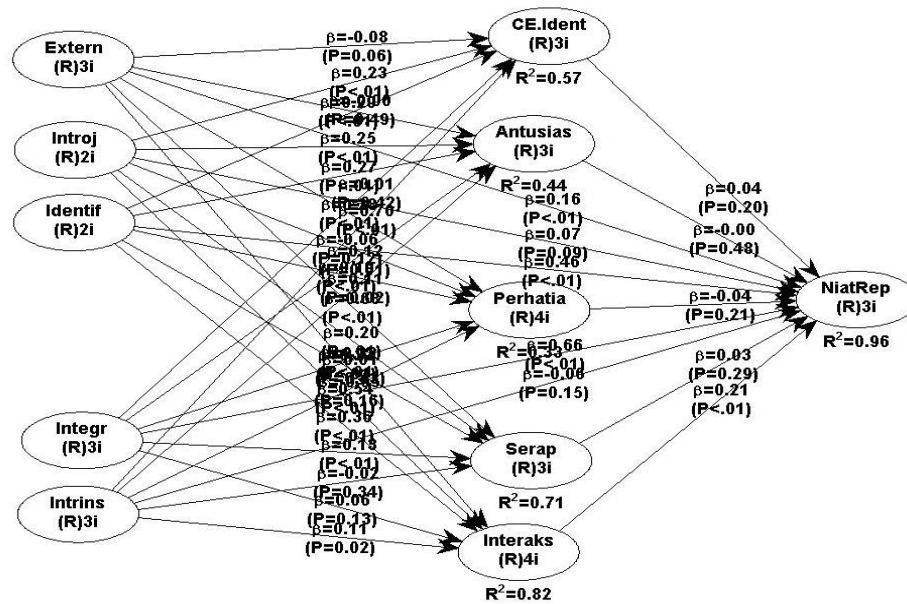


Figure 2. Output of the Research Model from WrapPLS
Source: WrapPLS Data

The explanatory strength of a structural model is commonly evaluated using the coefficient of determination (R-square, R^2). As noted by Kock (2013) and Hair et al. (2013), R^2 values can be classified into three levels: weak (0.02), moderate (0.15), and substantial (0.35). Within the Partial Least Squares (PLS) framework, a higher R^2 value indicates that the proposed model demonstrates stronger predictive capability. The R^2 results for this study are presented in

Extern	Introj	Identif	Integr	Intrins	CE.Iden	Antusia	Perhati	Serap	Interak	NiatRep
					0.561	0.433	0.32	0.704	0.814	0.962

Table 3. R-Square Value

The R-square (R^2) values presented in Table 3 indicate the explanatory power of the model for each endogenous construct. Customer engagement dimensions demonstrate moderate to substantial levels of variance explained, with CE.Identity ($R^2 = 0.561$), Enthusiasm ($R^2 = 0.433$), and Attention ($R^2 = 0.320$) falling within the moderate category, while Absorption ($R^2 = 0.704$) and Interaction ($R^2 = 0.814$) are considered substantial. Most notably, Repurchase Intention ($R^2 = 0.962$) reflects an exceptionally high level of variance explained, suggesting that the proposed model has strong predictive accuracy in capturing consumer behavioral intentions toward green handicraft products.

This pattern suggests that while motivational factors derived from Self-Determination Theory (SDT) significantly shape various aspects of customer engagement, the strongest contributions are observed in deeper forms of engagement such as absorption and interaction. Moreover, the high R^2 for repurchase intention implies that customer engagement acts as a robust mediator linking motivation to actual behavioral outcomes, even within the context of economic constraints faced by middle-class consumers.

Hypothesis	Relationship	Path Coefficient	P. Value	Results
H1.1	The influence of external regulation on customer engagement Identification	0.322	<0.001	Accepted
H1.2	The influence of introjected regulation on customer engagement Identification	0.089	0.046	Accepted
H1.3	The influence of Identification regulation on customer engagement Identification	0.236	<0.001	Accepted
H1.4	The influence of integration regulation on customer engagement Identification	0.209	<0.001	Accepted
H1.5	The influence of intrinsic regulation on customer engagement Identification	0.038	0.239	Rejected
H2.1	The influence of external regulation on enthusiasm	0.188	<0.001	Accepted

Hypothesis	Relationship	Path Coefficient	P. Value	Results
H2.2	The influence of introjected regulation on enthusiasm	0.189	<0.001	Accepted
H2.3	The influence of Identification regulation on enthusiasm	0.197	<0.001	Accepted
H2.4	The influence of integration regulation on enthusiasm	0.247	<0.001	Accepted
H2.5	The influence of intrinsic regulation on enthusiasm	0.069	0.098	Rejected
H3.1	The influence of external regulation on Attention	0.168	<0.001	Accepted
H3.2	The influence of introjected regulation on Attention	0.353	<0.001	Accepted
H3.3	The influence of Identification regulation on Attention	0.205	<0.001	Accepted
H3.4	The influence of integration regulation on Attention	0.156	0.002	Accepted
H3.5	The influence of intrinsic regulation on Attention	0.148	0.003	Accepted
H4.1	The influence of external regulation on Absorption	0.129	0.007	Accepted
H4.2	The influence of introjected regulation on Absorption	0.343	<0.001	Accepted
H4.3	The influence of Identification regulation on Absorption	0.256	<0.001	Accepted
H4.4	The influence of integration regulation on Absorption	0.254	<0.001	Accepted
H4.5	The influence of intrinsic regulation on Absorption	0.138	0.004	Accepted
H5.1	The influence of external regulation on Interaction	0.369	<0.001	Accepted
H5.2	The influence of introjected regulation on Interaction	0.249	<0.001	Accepted
H5.3	The influence of Identification regulation on Interaction	0.261	<0.001	Accepted
H5.4	The influence of integration regulation on Interaction	0.319	<0.001	Accepted
H5.5	The influence of intrinsic regulation on Interaction	0.113	0.016	Accepted
H6.1	The influence of external regulation on Intention repurchase	0.251	<0.001	Accepted
H6.2	The influence of introjected regulation on Intention repurchase	0.308	<0.001	Accepted
H6.3	The influence of Identification regulation on Intention repurchase	0.131	0.006	Accepted
H6.4	The influence of integration regulation on Intention repurchase	0.124	0.010	Accepted
H6.5	The influence of intrinsic regulation on Intention repurchase	0.205	<0.001	Accepted
H7.1	The influence of customer engagement Identification on Intention repurchase	0.157	0.001	Accepted
H7.2	The influence of enthusiasm on Intention repurchase	0.400	<0.001	Accepted
H7.3	The influence of Attention on Intention repurchase	0.512	<0.001	Accepted
H7.4	The influence of Absorption on Intention repurchase	0.289	<0.001	Accepted
H7.5	The influence of Interaction on Intention repurchase	0.205	<0.001	Accepted

Table 3. Hypothesis Test Results

Data source: WrappIs Data

The hypothesis testing results reveal that most of the proposed relationships were supported. In the first group (H1), external regulation ($\beta = 0.322$, $p < 0.001$), introjected regulation ($\beta = 0.089$, $p = 0.046$), identified regulation ($\beta = 0.236$, $p < 0.001$), and integrated regulation ($\beta = 0.209$, $p < 0.001$) significantly influenced customer engagement in terms of identification. However, intrinsic regulation ($\beta = 0.038$, $p = 0.239$) showed no significant effect.

Similarly, in the second group (H2), external regulation ($\beta = 0.188$, $p < 0.001$), introjected regulation ($\beta = 0.189$, $p < 0.001$), identified regulation ($\beta = 0.197$, $p < 0.001$), and integrated regulation ($\beta = 0.247$, $p < 0.001$) significantly influenced enthusiasm, while intrinsic regulation ($\beta = 0.069$, $p = 0.098$) was not significant.

For attention (H3), all five motivational regulations were significant, with path coefficients ranging from 0.148 to 0.353 (all $p < 0.05$). A similar pattern appeared in absorption (H4), where all motivational forms had significant effects, with introjected ($\beta = 0.343$, $p < 0.001$) and integrated regulation ($\beta = 0.254$, $p < 0.001$) showing the strongest influences.

In the case of interaction (H5), all motivational regulations significantly contributed, with external regulation ($\beta = 0.369$, $p < 0.001$) being the strongest predictor. For repurchase intention (H6), external ($\beta = 0.251$,

$p < 0.001$), introjected ($\beta = 0.308$, $p < 0.001$), identified ($\beta = 0.131$, $p = 0.006$), integrated ($\beta = 0.124$, $p = 0.010$), and intrinsic regulation ($\beta = 0.205$, $p < 0.001$) all showed significant positive influences.

Finally, in H7, customer engagement dimensions were examined as predictors of repurchase intention. Identification ($\beta = 0.157$, $p = 0.001$), enthusiasm ($\beta = 0.400$, $p < 0.001$), attention ($\beta = 0.512$, $p < 0.001$), and absorption ($\beta = 0.289$, $p < 0.001$) significantly affected repurchase intention, while interaction also showed a significant positive effect ($\beta = 0.205$, $p < 0.001$).

Discussion

The findings provide several important insights into the role of motivational regulations in shaping customer engagement and repurchase intention for green products. First, the results demonstrate that external, introjected, identified, and integrated regulations consistently influence customer engagement dimensions such as identification, enthusiasm, attention, absorption, and interaction. This indicates that both controlled motivation (external and introjected) and autonomous motivation (identified and integrated) are relevant in engaging customers. Particularly, introjected and identified regulations show relatively strong and consistent path coefficients, suggesting that customers are motivated not only by external pressures but also by internalized values that align with sustainable consumption.

Interestingly, intrinsic regulation appears to have a limited role in customer engagement. The rejection of hypotheses related to intrinsic regulation in identification (H1.5) and enthusiasm (H2.5) implies that pure enjoyment or inherent satisfaction in green product consumption is not the main driver of engagement. This may reflect the context of the middle-class squeeze, where financial pressures and pragmatic considerations overshadow intrinsic enjoyment. In such situations, consumers may not engage with green products purely out of personal interest or pleasure, but rather because of social expectations, self-identity, or perceived obligation. However, the role of intrinsic motivation becomes significant in repurchase intention (H6.5). This finding suggests that while intrinsic motivation may not strongly encourage engagement behaviors such as enthusiasm or identification, it can directly influence the ongoing decision to repurchase. Consumers who find inherent value or personal satisfaction in green product consumption are more likely to translate this feeling into a sustained purchasing decision. This aligns with SDT, which emphasizes that intrinsic regulation is the most self-determined form of motivation and, once presented, can lead to long-term behavioral commitment.

The results for customer engagement dimensions (H7) reinforce the importance of engagement as a mediator between motivation and behavioral intention. Identification, enthusiasm, attention, and absorption all significantly enhance repurchase intention. Among these, attention shows the strongest effect, indicating that when consumers allocate mental focus and interest toward green products, they are more inclined to repurchase. Enthusiasm and absorption also contribute meaningfully, reflecting the affective and cognitive immersion in customer engagement. Interaction, although statistically significant, demonstrates a weaker effect compared to other dimensions, which might suggest that social interaction around green products is less influential than personal psychological engagement.

These results highlight a paradoxical role of intrinsic regulation: it is less relevant for immediate engagement behaviors but crucial for long-term purchasing decisions. Meanwhile, external and introjected motivations, although less autonomous, play an essential role in initiating engagement, especially in contexts where consumers face financial constraints. This underscores the complexity of motivating middle-class consumers to adopt sustainable practices, where both external incentives and internalized values are necessary to foster engagement and repurchase intention. Intrinsic motivation may not directly trigger active involvement (such as liking or enthusiasm), but it is an important trigger for forming strong intentions that result in real purchasing actions.

4. Conclusion

This study highlights a paradox in the role of intrinsic regulation. While intrinsic motivation does not significantly enhance customer engagement dimensions such as identification and enthusiasm, it demonstrates a significant influence on repurchase intention. In contrast, external, introjected, identified, and integrated regulations consistently contribute to both customer engagement and repurchase intention. These results suggest that, under the condition of a middle-class squeeze, consumers may not engage emotionally or behaviorally with green products out of intrinsic enjoyment, but intrinsic motivation still plays a critical role in shaping long-term purchasing decisions.

Theoretical Implications

The findings extend Self-Determination Theory (SDT) by confirming that controlled motivations (external and introjected) remain relevant in contexts of financial pressure, particularly in stimulating initial engagement.

However, intrinsic regulation, though weaker for engagement, is crucial for sustaining behavioral commitment, thus reinforcing SDT's argument about the enduring nature of intrinsic motivation. The paradox observed in this study emphasizes the importance of considering different motivational pathways in predicting customer engagement and repurchase intention.

Practical Implications

For businesses and policymakers promoting green products, these findings suggest that strategies should balance external incentives (e.g., promotions, discounts) with approaches that cultivate intrinsic values (e.g., environmental awareness, gamification experiences, storytelling). Over-reliance on external motivation may risk undermining intrinsic drivers in the long run, whereas strengthening intrinsic values ensures consumer loyalty and sustainable purchasing behavior.

Conclusions explain the findings of the study that are relevant to the research question and research objectives without using statistical data. The conclusion section includes the implications of further research and research.

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