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Profiling Green Property Consumers: A Demographic Analysis of Purchase Intention for Residential Units with Urban Farming Concepts in Makassar City

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ABSTRACT

Although the trend toward environmentally friendly housing (*green property*) continues to rise, mass marketing strategies often prove ineffective due to highly heterogeneous consumer preferences. This study aims to dissect the demographic characteristics of consumers in Makassar City and analyze how differences in age and educational attainment influence their knowledge, perceptions, attitudes, and purchase intentions regarding housing concepts integrated with *urban farming*. Utilizing data from 196 respondents, this research applies comparative descriptive analysis and Multi-Group Analysis (MGA) via SEM-PLS. The findings reveal a clear polarization in preferences: the young productive age group (20–29 years old) and highly educated consumers (Bachelor's/Postgraduate degree holders) possess significantly higher ecological literacy and perceived benefits compared to other groups. These results challenge conventional market assumptions and provide actionable insights for property developers to execute precision niche marketing strategies based on demographics in Makassar City.

Keywords: Demographics, Young Generation, Green Property, Market Segmentation, Urban Farming.

INTRODUCTION

The rapid advancement of the property sub-sector in Makassar City has led to a high rate of greenfield conversion into built-up areas. This land-use conversion phenomenon not only reduces the city's Green Open Space (RTH) index but also triggers micro-environmental degradation, such as the urban heat island effect and a decline in rainwater catchment capacity. On the other hand, the high rate of urbanization in Eastern Indonesia demands the provision of

housing that goes beyond mere shelter, serving also to support quality of life and independent food security. Integrating the concept of *urban farming* (urban agriculture) into residential landscape design (*green property*) emerges as an innovative architectural and ecological solution.

However, for real estate industry players, the ultimate challenge lies in commercialization. Eco-friendly properties often require higher upfront investment costs, compelling developers to devise precise marketing frameworks to ensure optimal market absorption. Unfortunately, property marketing approaches in Makassar City have historically leaned toward mass marketing strategies, assuming all prospective homebuyers share identical motives and preferences when presented with green attributes. In reality, the socio-economic and demographic heterogeneity of urban communities heavily influences how housing innovations are embraced.

The majority of previous studies regarding *green property* and green consumer behavior have predominantly examined the direct or indirect effects of psychological factors such as knowledge, perception, and attitude, on purchase intention aggregately or universally (Laroche *et al.*, 2001; Cheah & Phau, 2011). Research publications across major Indonesian cities also generally conclude that environmental awareness correlates positively with purchase intention. The existing literature gap shows a scarcity of studies testing whether these psychological influence paths are invariant (identical) or vary across different consumer demographic groups. Fundamental questions such as "Are young consumers driven by the same factors as established consumers when evaluating homes with urban farming concepts?" remain empirically unanswered, particularly within the social landscape of Makassar City.

Based on recent empirical studies in emerging markets, socio-demographic variables have proven far more effective in explaining variations in green purchasing behavior than pure psychological variables (Witek & Kuźniar, 2021). Consequently, failures in green marketing strategies are frequently rooted in the producer's inability to profile the target consumers' demographics specifically (Sreen *et al.*, 2020). The novelty of this study lies in refocusing the analysis onto consumer demographics using the Multi-Group Analysis (MGA) approach. This article moves beyond merely proving whether knowledge influences purchase intention, choosing instead to specifically dissect the structural strength of those influences based on consumer age segmentation and educational strata in Makassar City.

To anchor this demographic approach, Generation Cohort Theory (Meredith & Schewe, 1994) posits that individuals born within the same time frame and experiencing their formative years under similar socio-historical environments develop relatively homogenous values, preferences, and consumption behaviors. In the realm of green consumption, generational differences serve as highly robust predictors (Ottman, 2011). The younger generation (late Millennials and Gen Z) grew up amid intense exposure to global warming issues, digitalization, and healthy lifestyle movements. For them, pro-environmental activities like *urban farming* are viewed as vital components of their social identity and self-expression. Post-global pandemic, urban community preferences have shifted massively toward residential spaces that offer independent food security, with young consumers acting as the primary drivers of this trend (Oliveira *et al.*, 2021). Conversely, older generations (such as Gen X or Baby Boomers) tend to adopt deep-seated economic pragmatism (Meredith & Schewe, 1994). For established age groups, properties are evaluated based on conventional investment parameters, such as physical building area, asset liquidity, and strategic location, rather than the presence of ecological amenities which they often perceive as potential additions to home maintenance burdens.

Furthermore, educational attainment serves as a primary indicator of a consumer's cognitive capacity. According to the *Theory of Planned Behavior* (Ajzen, 1991), planned behavior is rooted in the availability of accurate information that is subsequently processed into beliefs. Consumers with higher educational backgrounds possess a more mature ecological literacy, enabling them to comprehend the long-term impacts of environmental degradation alongside the circular economy benefits of urban agriculture (Alwitt & Pitts, 1996). On the flip side, consumers with secondary or lower education levels frequently experience limitations in deciphering a property product's "green" claims. Consequently, they require much more concrete and short-term marketing stimuli, such as immediate savings on daily operational costs, rather than promises of long-term environmental sustainability (Laroche *et al.*, 2001).

Based on this theoretical synthesis, variations in demographic characteristics are projected to moderate the structural relationships within the green property purchase intention model. Demographic segmentations such as age and educational background create wide variances in the strength of green product purchase intentions (Sreen *et al.*, 2020). Therefore, the comparative hypotheses proposed are: H1: There is a significant difference in the effect of

Knowledge on Attitude toward houses with urban farming concepts between the young productive age group (20–29 years old) and the established age group (≥ 40 years old). H2: There is a significant difference in the effect of Perception on Purchase Intention for houses with urban farming concepts between highly educated consumers (Bachelor's/Postgraduate) and consumers with secondary education (High School/Equivalent).

METHOD

This quantitative study explores primary data collected from 196 respondents in Makassar City. Sampling was executed using a *purposive sampling* technique with inclusion criteria of respondents being at least 20 years old and residing in Makassar. Based on the Lemeshow formula for unknown populations, the minimum required sample size was determined to be 196 respondents.

Diverging from standard structural analysis, the methodological focus here relies heavily on Partial Least Squares Multi-Group Analysis (PLS-MGA) utilizing SmartPLS 4.0 software. Aligned with the latest methodological guidelines from Hair *et al.* (2020), the analysis steps were strictly executed as follows:

1. Outer Model Evaluation: Testing convergent validity (*loading factor* > 0.7; AVE > 0.5), discriminant validity (Fornell-Larcker Criterion), and reliability (*Cronbach's Alpha* > 0.7; *Composite Reliability* > 0.7).
2. MICOM (Measurement Invariance of Composite Models) Testing: A mandatory procedure prior to conducting MGA to ensure that the measurement tools (questionnaire indicators) are understood equally across the demographic groups being compared, thereby avoiding estimation bias (Henseler *et al.*, 2016). This procedure includes three steps: testing configural invariance, compositional invariance, and the equality of means and variances (Hair *et al.*, 2020).

PLS-MGA Testing: The structural path coefficient parameters (β) between groups were tested for statistical significance differences using Henseler's *p-value* approach (if $p < 0.05$ or $p > 0.95$, the difference between paths is declared statistically significant).

RESULT AND DISCUSSION

Respondent Demographic Profile

Data collection from 196 respondents produced a demographic map of potential consumers heavily concentrated among young productive and highly educated communities in Makassar City.

Table 1. Respondent Demographic Profile

Demographic Variable	Sub-Category	Frequency (n)	Percentage (%)
Age Group	20 – 29 Years Old (Late Millennials/Gen Z)	112	57.1%
	30 – 39 Years Old (Early Millennials)	47	24.0%
	≥ 40Years Old (Gen X / Established)	37	18.9%
Education Level	Secondary Education (High School/Equivalent)	64	32.6%
	Higher Education (Diploma/Bachelor's)	108	55.1%
	Postgraduate (Master's/Doctorate)	24	12.3%

This profile data highlights a highly dynamic market segment. The dominance of the 20 – 29 age segment (57.1%) reflects a massive surge in first-time home buyers among young professionals in Makassar. On the other hand, the cumulative higher education level reaching 67,4% indicates that the majority of respondents possess the cognitive foundation necessary to process and accept new, non-conventional property concepts.

Comparative Analysis of Ecological Literacy Based on Age

To identify how age affects the level of understanding regarding urban farming concepts, respondents' knowledge index scores were categorized:

Table 2. Distribution of Knowledge Level on Urban Farming Concepts by Age

Age Group	Level		
20 – 29 Years Old (n=112)	71.4% High	25.0% Moderate	3.6% Low
30 – 39 Years Old (n=47)	51.0% High	40.4% Moderate	8.6% Low
≥ 40 Years Old (n=37)	43.2% High	43.2% Moderate	13.6% Low

The data visualization above strongly confirms Generation Cohort Theory. The young age group (20 – 29 years old) exhibits absolute dominance in the "High" knowledge category at

71.4%. This occurs because digital penetration and sustainability lifestyle campaigns within urban Makassar have been adopted more responsively by the younger generation. Conversely, within the ≥ 40 age group, high knowledge accounts for only 43.2%, with a distribution trend evenly spread across the moderate category. Established consumers are generally less exposed to technical details concerning modern urban farming operationalization, such as automated hydroponics or vertical gardening.

Analysis of Benefit Perception Polarization Based on Education

Descriptive data analysis reveals sharp variations in product evaluations when dissected by the consumers' educational backgrounds. Respondents from highly educated groups unanimously agreed on the functional ecological dimensions of residential urban farming: 96.1% of respondents agreed with aspects of microclimate improvement within the housing estate, and 91.6% confirmed family food security benefits. This educated group maintains a high awareness that urban agriculture provides tangible contributions toward reducing carbon footprints and improving the environmental quality of residential spaces (Puigdueta *et al.*, 2021).

However, a contrasting pattern was found among respondents with secondary education (High School/Equivalent). This group demonstrates a significant inclination toward perceived risk. They worry about operational concerns, maintaining that farming components in residential yards will drain their leisure time, demand complex maintenance routines, and potentially create unhygienic conditions or attract pests if improperly managed.

Multi-Group Analysis Results (PLS-MGA)

After successfully clearing the measurement invariance test (MICOM), which declared the data valid for comparative assessment, the PLS-MGA test generated structural parameters that address the comparative hypotheses:

Table 3. Multi-Group Analysis Results (PLS-MGA)

Structural Path	Path Coefficient (β) Young Age (20 – 29)	Path Coefficient (β) Established Age (≥ 40)	MGA Henseler p-value	Conclusion
Knowledge →	0.384	0.082	0.011*	Significant (H1

Attitude				Supported)
Perception → Purchase Intention	0.458	0.182	0.003*	Significant (H2 Supported)

**Significant at alpha 5% (p < 0.05 or p > 0.95)*

Discussion

The MGA results reveal a highly contrasting and significant path coefficient difference (p = 0.011) between the young consumer group (β= 0.384) and established consumers (β = 0.082). This implies that for young consumers in Makassar, expanding insights into urban farming linearly succeeds in building emotional interest and positive attitudes toward supporting the ownership of such housing. This finding aligns with a recent study by Witek and Kuźniar (2021), which reinforces that the coherence of green values forms far more adaptively among younger generation cohorts in emerging markets. Conversely, for senior consumers, additional knowledge does not influence their attitude. This pattern supports Meredith & Schewe's (1994) study concerning the rigidity of consumption values in older age cohorts, which are less easily swayed by novel, emerging issues.

Furthermore, education moderation on the Perception → Purchase Intention path also yields a highly robust significant difference (p = 0.003) between consumers with higher education (β = 0.458) and secondary education (β = 0.182). For educated citizens in Makassar, cognitive evaluations of the health, ecological, and food security benefits of urban farming homes are immediately converted into strong purchase intentions. This confirms the analysis by Sreen *et al.* (2020), which states that formal education levels act as a primary cognitive stimulant capable of mitigating consumer hesitation when adopting green property innovations that require high investment values. Conversely, in the secondary education group, this relationship is remarkably weak; positive perceptions do not automatically transition into purchase intentions due to the intervening interference of cost risks and over-anticipated maintenance complexities.

CONCLUSION

This study provides empirical confirmation that the green property consumer market featuring urban farming concepts in Makassar City is sharply polarized by demographic characteristics. The young productive age group (20 – 29 years old) and individuals with higher educational backgrounds display vastly superior ecological literacy, benefit perceptions, and purchase intention conversions compared to alternative demographic groups. These findings effectively dismantle assumptions of market homogeneity and demonstrate that segmentation approaches are absolutely vital in green property commercialization.

Based on these results, real estate developers in Makassar City are strongly recommended to deploy Targeted Niche Marketing strategies by dividing their marketing communication frameworks into two distinct demographic focuses. For the primary target segment, which consists of young and educated consumers, developers must position residential units with urban farming concepts as symbols of a modern, healthy, and prestigious lifestyle (*smart & healthy living*) through minimalist, functional designs and vertical or hydroponic structures that integrate aesthetically with the architecture. Conversely, when targeting the secondary segment composed of established and secondary-educated consumers, developers are obligated to actively mitigate perceived risks by steering away from environmental aesthetics and focusing instead on economic pragmatism and ease of maintenance. This can be achieved by offering built-in amenities such as automated watering systems driven by the *Internet of Things* (IoT) to ensure low-maintenance setups, alongside concrete mathematical simulations showing how utilizing the agricultural space can slash family grocery expenditures over the long haul.

REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

Alwitt, L. F., & Pitts, R. E. (1996). Predicting Purchase Intentions for Environmentally Sensitive Products. *Journal of Consumer Affairs*, 30(1), 132-152.

Cheah, I., & Phau, I. (2011). Attitudes Towards Environmentally Friendly Products: The Influence of Ecoliteracy, Interpersonal Influence and Value Orientations. *Marketing Intelligence & Planning*, 29(5), 452-472.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2020). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing Measurement Invariance of Composites Using Partial Least Squares. *International Marketing Review*, 33(3), 405-431.

Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting Consumers Who are Willing to Pay More for Environmentally Friendly Products. *Journal of Consumer Marketing*, 18(6), 503-520.

Meredith, G. E., & Schewe, C. D. (1994). The Power of Cohorts. *American Demographics*, 16(12), 22-29.

Oliveira, M., Manta, J., & Ribeiro, T. (2021). The role of urban agriculture in sustainable city development: A systematic review. *Land Use Policy*, 109, 105632.

Ottman, J. A. (2011). *The New Rules of Green Marketing: Strategies, Tools, and Inspiration for Sustainable Innovation*. Berrett-Koehler Publishers.

Puigdueta, I., Aguilera, E., & Sanz-Cobena, A. (2021). Carbon footprint of urban agriculture: A comparison of different production systems in Madrid. *Environmental Science & Policy*, 124, 112-122.

Sreen, N., Purbey, S., & Sadarangani, P. (2020). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 53, 101965.

Witek, L., & Kuźniar, W. (2021). Green purchase behavior: The effectiveness of socio-demographic variables for explaining green purchases in emerging markets. *Sustainability*, 13(9), 5101.