



READINESS FACTORS OF MEDIUM-SCALE HOUSING DEVELOPERS IN ADOPTING THE GREENSHIP HOME CONCEPT IN DEVELOPING CITIES: A CASE STUDY OF PADANG CITY

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ABSTRACT

Empirical evidence on the readiness of medium-scale housing developers to implement the Greenship Home concept in regional Indonesian cities remains limited. This study identifies and prioritizes factors associated with developer readiness in Padang City. A quantitative, cross-sectional, descriptive-exploratory survey was conducted with 56 respondents from housing developers registered with Real Estate Indonesia (REI) West Sumatra. Twenty-nine indicators across four domains: understanding, perceived benefits, implementation constraints, and adoption strategies were assessed using a five-point Likert scale. Instrument validity was tested using Pearson correlations, internal consistency using Cronbach's alpha ($\alpha = 0.95$), and factor priorities using the Relative Importance Index (RII). Interest in Greenship Home design ranked highest in the understanding domain (RII = 0.932), while knowledge ranked lowest (RII = 0.736), indicating a possible interest knowledge gap. Improved quality of life was the highest-ranked perceived benefit (RII = 0.861). Lack of government incentives was the strongest constraint (RII = 0.896), exceeding initial investment costs (RII = 0.821). Cost-benefit analysis was the highest-priority strategy (RII = 0.896), followed by human resource capacity building (RII = 0.875). The findings indicate that readiness reflects both internal capability and external enabling conditions, supporting targeted incentives, technical capacity building, market education, and project-level economic assessment.

Keywords: Readiness Factor, Medium-Scale Housing Developers, Greenship Home

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1. INTRODUCTION

Rapid urbanization and growing housing demand intensify the environmental implications of residential development through land conversion, energy and water consumption, material use, waste generation, and long-term operational impacts. Sustainable housing therefore depends not only on technical solutions but also on the decisions of housing developers, who determine project concepts, investment priorities, design specifications, procurement choices, and market positioning. A Recent synthesis of sustainable building research shows that adoption is shaped by interacting government, social, financial, technical or market, technological, knowledge, and environmental factors (Dharmarathna et al., 2026). Consequently, understanding developer readiness is important because developers translate sustainability requirements and market signals into project-level investment and implementation decisions.

In this study, developer readiness is treated as the organizational and decision-making preparedness to consider and implement the Greenship Home concept, rather than as actual certification or adoption performance. This preparedness includes cognitive familiarity with green housing, perceived value, recognition of implementation constraints, and willingness to pursue practical adoption strategies. Earlier developer-focused studies established that awareness alone is insufficient. Zainul Abidin Nazirah (2010) found that Malaysian developers' application of sustainable construction was influenced by their level of awareness and organizational response, while Ibrahim et al. (2014) emphasized institutional, technological,

organizational, and market-related considerations in housing developers' readiness. Gomez & Yung (2018) further showed that green building readiness in the housing industry is associated with green-design knowledge, experience, financial commitment, specification quality, and leadership. These findings support a multidimensional view of readiness and justify examining both internal preparedness and external enabling conditions.

The literature also shows that developers' adoption decisions are strongly connected to perceived project and market benefits. Zhang et al. (2011) demonstrated that green strategies in housing development can create competitive advantages through improved environmental performance, corporate image, and market differentiation. An international expert survey by Darko et al. (2017) identified energy efficiency, reduced environmental impacts, water efficiency, occupant health and comfort, and company image as major drivers of green building-technology implementation. Similarly, Tran et al. (2020) found that perceived advantages of green building technologies significantly affect developers' adoption intentions in a developing economy context. However, developer studies often aggregate these advantages into broad constructs. For residential development, it is also necessary to understand how developers prioritize specific benefits such as property value, operating-cost reduction, electricity and water savings, indoor environmental quality, thermal and acoustic comfort, climate resilience, and residents' quality of life.

Economic feasibility remains a persistent concern. Hwang & Tan (2012) identified project cost as a major obstacle in green building project management, while the systematic review by Darko & Chan (2017) identified cost, lack of information, insufficient incentives, weak market demand, and inadequate codes and regulations among the most frequently reported barriers to green building adoption. In developing countries, higher technology costs, limited financing, knowledge gaps, and government-related constraints have also been repeatedly observed by Chan et al. (2018) and Akcay (2023). Financing is therefore part of readiness rather than a separate issue. Debrah et al. (2024) showed that return on investment, emerging business opportunities, ethical investment considerations, resource conservation, and mandatory regulations and standards can motivate green building finance. These findings indicate that developers' perceptions of upfront investment should be considered together with their understanding of life-cycle benefits, financing conditions, and investment risk. Institutional and market conditions are equally important. He et al. (2018) found that development capability, market conditions, government policy, and corporate responsibility influenced developers' willingness to construct green dwellings in China. Tran et al. (2020) similarly demonstrated the significance of top-management leadership, government support, project partners' readiness, and social demand. Thus, the state of the art has moved from treating green-building barriers as isolated technical or cost problems toward a multilevel perspective in which organizational capacity, policy, financing, market development, collaboration, and technology interact.

Indonesian research has identified regulatory enforcement, market and technology limitations, training, and incentives as important conditions for green-building implementation (Zakiah, 2023), while also identifying cost risks and knowledge and information barriers to implementation (Prasetyawan et al., 2023). Research has also begun to examine developer readiness more directly. Roosdiawan & Rachmawati (2026), studying affordable-housing developers in East Java, identified decision-making processes, financial budgeting, awareness of green design, practical knowledge, and collaboration networks as important readiness issues. Accordingly, the present study does not claim to be the first investigation of developer readiness for green housing in Indonesia. Instead, it addresses a more specific unresolved question concerning how medium-scale developers in Padang prioritize readiness-related factors within the Greenship Home context.

The Padang context remains underexamined from the developer perspective. Local research has assessed green-construction performance in a building project in Padang (Arman et al., 2022), but this differs from evaluating the readiness of housing developers as supply-side decision makers. To the best of our knowledge, based on the literature identified for this study, no empirical study has systematically ranked the relative importance of medium-scale housing developers' understanding of Greenship Home, perceived implementation benefits, perceived constraints, and preferred adoption strategies in Padang. Therefore, the research gap is not the absence of sustainability research in Padang, but the absence of an integrated,

developer- side prioritization of the conditions that may support or hinder Greenship Home adoption in this regional housing market.

Accordingly, this study aims to identify, evaluate, and rank factors associated with the readiness of medium-scale housing developers to adopt the Greenship Home concept in Padang City. Using a structured quantitative survey and the Relative Importance Index (RII), the study prioritizes readiness across four analytical domains: understanding of the concept, perceived benefits, implementation constraints, and adoption strategies. The novelty is primarily empirical, contextual, and integrative rather than methodological: the study connects the broader international literature on green building adoption with the Indonesian Greenship Home framework, focuses on the comparatively underexamined medium-scale developer segment, and provides a local priority structure that can inform incentive design, capacity building, market education, financing support, and institutional collaboration. In this paper, Padang is treated as a regional city in an emerging-economy context where the green residential market is still developing, rather than as a formal administrative category of a “developing city.”

2. DATA AND METHODS

2.1. Research Design and Analytical Scope

This study employed a quantitative, cross-sectional, descriptive-exploratory survey to identify and prioritize factors associated with housing developers’ readiness to adopt the Greenship Home concept in Padang City. The cross-sectional design captured respondents’ perceptions within a single period of observation, while the descriptive-exploratory orientation was consistent with the study objective of ranking predefined readiness-related factors rather than testing causal relationships. Developer readiness was operationalized through four analytical domains derived from the literature synthesis: (1) understanding of the Greenship Home concept, (2) perceived benefits of implementation, (3) perceived implementation constraints, and (4) preferred adoption strategies. These domains were used to structure the questionnaire and the subsequent Relative Importance Index (RII) analysis.

2.2. Research Design and Analytical Scope

The sampling frame comprised 125 housing developer companies listed in the Real Estate Indonesia (REI) West Sumatra Province database during the preceding three years and operating in Padang City. Respondents were drawn from personnel with strategic or operational knowledge relevant to housing-development decisions, including president directors, project managers, engineering staff, marketing staff, legal staff, and other relevant company personnel. The required sample size was calculated using the Slovin formula, with a population size (N) of 125 and an error tolerance (e) of 0.10:

$$n = \frac{N}{(1+Ne^2)} = \frac{125}{(1+125 \times 0.10^2)} = 55.56 \approx 56 \tag{1}$$

The calculated sample size was rounded to 56 respondents, which constituted the final analytic sample.

Table 1. Respondent characteristics

Item		Frequency	Percentage
Registered associations	Real Estate Indonesia (REI)	56	100 %
	Asosiasi Pengembang Perumahan dan Permukiman Seluruh Indonesia (APERSI)	-	-
Position within company	President Director	36	64.29 %
	Project Manager	10	17.86 %
	Engineering staff	5	8.93 %
	Marketing staff	2	3.57 %

Item		Frequency	Percentage
	Legal staff	2	3.57 %
	Other staff	1	1.78 %
Length of experience in property	0-5 years	6	10.71 %
	5-10 years	12	21.43 %
	> 10 years	38	67.86 %

Source: Analysis, 2025

Table 1 summarizes the respondents' organizational affiliation, position, and property-sector experience. All 56 respondents were affiliated with REI. President directors represented 64.29% of the sample, followed by project managers (17.86%), engineering staff (8.93%), marketing staff (3.57%), legal staff (3.57%), and other staff (1.78%). Regarding professional experience, 67.86% of respondents had more than 10 years of experience in the property sector, 21.43% had 5–10 years, and 10.71% had 0–5 years. The sample was therefore dominated by experienced respondents, many of whom occupied senior decision-making positions within their companies.

2.3. Questionnaire Development and Measurement

The questionnaire was developed from the readiness factors synthesized in Appendix 1 and contained 29 items organized into four analytical domains: understanding of the Greenship Home concept (5 items; F1–F5), perceived benefits of implementation (8 items; F6–F13), perceived implementation constraints (9 items; F14–F22), and preferred adoption strategies (7 items; F23–F29). Each item was rated on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. For the understanding, benefits, and strategy domains, higher scores represented stronger agreement or perceived priority. For the constraint domain, higher scores represented a stronger perceived barrier. This directional interpretation was retained when the items were ranked using RII.

2.4. Validity and Reliability Assessment

Item validity was assessed using the Pearson product–moment correlation. With 56 respondents, the degrees of freedom were $df = n - 2 = 54$; at $\alpha = 0.05$, the critical correlation coefficient was $r = 0.263$. Items with calculated r -values greater than 0.263 were retained. The observed item correlations ranged from 0.270 to 0.870, and all 29 items therefore met the stated validity criterion. Internal consistency was evaluated using Cronbach's alpha. The questionnaire yielded $\alpha = 0.95$, exceeding the 0.70 criterion reported for this study and indicating high internal consistency. Reliability was interpreted at the instrument level, whereas item retention was determined from the validity test.

Table 2. Item validity results

Code	Factor	Pearson correlation (r)	Critical r	Item variance	Decision
Understanding of the Greenship Home Concept					
F1	Knowledge of the Greenship Home concept	0.534	0.263	0.222	Valid
F2	Interest in Greenship Home design	0.582	0.263	0.265	Valid
F3	Perception of the Greenship Home concept as a design trend with positive impacts	0.311	0.263	0.392	Valid
F4	Awareness of the benefits of adopting the Greenship Home concept in residential development	0.346	0.263	0.513	Valid
F5	Optimism regarding the future development of Greenship Home design in contemporary housing	0.270	0.263	0.400	Valid
The Benefits of Implementing the Greenship Home Concept					

Code	Factor	Pearson correlation (r)	Critical r	Item variance	Decision
F6	Increase in property value	0.839	0.263	0.322	Valid
F7	Reduction in operational costs	0.723	0.263	0.319	Valid
F8	Savings in electricity and water consumption, leading to lower utility expenses for residents	0.870	0.263	0.290	Valid
F9	Improved air quality and a healthier living environment	0.621	0.263	0.345	Valid
F10	Enhanced thermal and acoustic comfort	0.766	0.263	0.345	Valid
F11	Promotion of healthier lifestyle habits	0.554	0.263	0.488	Valid
F12	Greater resilience to climate change	0.642	0.263	0.436	Valid
F13	Improved overall quality of life for residents	0.840	0.263	0.543	Valid
Constraint Factors in the Implementation of the Greenship Home Concept					
F14	Higher initial investment costs	0.395	0.263	0.425	Valid
F15	Limited understanding and knowledge among developers regarding Greenship Home design	0.774	0.263	0.228	Valid
F16	Low market demand for Greenship Home developments	0.545	0.263	0.488	Valid
F17	Lack of government incentives for developers adopting green concepts in housing projects	0.751	0.263	0.654	Valid
F18	Complexity of design and construction processes, requiring specialized expertise	0.769	0.263	0.352	Valid
F19	Unclear or insufficient regulations governing the implementation of green concepts	0.789	0.263	0.395	Valid
F20	Limited availability of green materials and technologies	0.395	0.263	0.574	Valid
F21	Longer construction time compared to conventional housing	0.451	0.263	0.311	Valid
F22	Insufficient public education and awareness regarding the importance of Greenship Homes	0.684	0.263	0.545	Valid
Strategies for Adopting the Greenship Home Concept					
F23	Educating the public about the importance of Greenship Homes	0.824	0.263	0.483	Valid
F24	Collaborating with relevant agencies and institutions to promote the development of green housing concepts	0.761	0.263	0.352	Valid
F25	Advocating through developer associations (e.g., REI, APERSI) for government policies that support green building initiatives	0.824	0.263	0.483	Valid
F26	Promoting innovation in green technologies and sustainable design	0.776	0.263	0.420	Valid
F27	Enhancing human resource capacity and expertise in green building principles	0.856	0.263	0.509	Valid
F28	Conducting cost-benefit analyses of investments in Greenship Home development	0.757	0.263	0.217	Valid
F29	Integrating sustainability principles into the company's vision and mission	0.757	0.263	0.217	Valid

Source: Analysis, 2025

2.5. Data Analysis and Relative Importance Index (RII)

Data analysis was conducted in three stages. First, respondent characteristics were summarized using frequencies and percentages. Second, item validity and internal consistency were evaluated as described above. Third, the relative importance of each retained factor was determined using the Relative Importance

Index (RII), a ranking approach used in construction-management research. The RII for each item was calculated as follows:

$$RII = \Sigma W / (A \times N) \quad (1)$$

Where W is the sum of the weights assigned by respondents to a given item, A is the maximum possible weight on the response scale ($A = 5$), and N is the number of respondents ($N = 56$). RII values range from 0 to 1. Factors were ranked in descending order within each of the four analytical domains. Higher RII values indicate greater perceived importance; specifically, a higher RII in the constraint domain indicates a stronger perceived barrier. The analysis was used to establish relative priorities and was not intended to infer causal effects or predict actual adoption behavior.

3. RESULT AND DISCUSSION

3.1. Understanding of the Greenship Home Concept

The RII results in Table 3 show a clear distinction between attitudinal receptivity and technical familiarity. Interest in Greenship Home design was the highest-ranked factor ($RII = 0.932$), followed by the perception that the Greenship Home concept represents a design trend with positive impacts ($RII = 0.918$). In contrast, knowledge of the Greenship Home concept received the lowest RII (0.736). Rather than indicating that knowledge is unimportant, this pattern suggests that respondents expressed greater interest in green housing and more positive perceptions of it than confidence in their detailed knowledge of the concept. Comparable evidence is provided by Anzagira et al. (2024) who ranked lack of knowledge and awareness of green building technologies and their benefits as the second most critical adoption barrier in Ghana. Together with prior findings that perceived advantages and social demand shape adoption intentions (Tran et al., 2020) while lack of green building knowledge remains a major barrier (Akçay, 2023; Ayarkwa et al. 2022), the present results suggest that attitudinal receptivity does not automatically translate into implementation capability. The intermediate scores for awareness of benefits ($RII = 0.836$) and optimism regarding future green-home development ($RII = 0.800$) reinforce this interpretation. Practically, developer training, technical guidance, demonstration projects, and access to Greenship Home assessment knowledge may help convert strong interest into implementation readiness.

Table 3. Understanding of the Greenship Home Concept

Code	Factors	RII	Rank
F1	Knowledge of the Greenship Home concept	0.736	5
F2	Interest in Greenship Home design	0.932	1
F3	Perception of the Greenship Home concept as a design trend with positive impacts	0.918	2
F4	Awareness of the benefits of adopting the Greenship Home concept in residential development	0.836	3
F5	Optimism regarding the future development of Greenship Home design in contemporary housing	0.800	4

Source: Analysis, 2025

3.2. The Benefits of the Greenship Home

Within the perceived-benefits domain (Table 4), improved overall quality of life for residents was ranked first with an RII value of 0.861. Improved air quality and a healthier living environment and enhanced thermal and acoustic comfort followed with RII values of 0.804. This ordering indicates that developers attached relatively high importance to benefits that are directly experienced by occupants. The finding is consistent with Wang et al. (2025) who reported that design quality, indoor air quality, and energy efficiency significantly improved resident satisfaction in eco-friendly housing. It is further supported by Lee et al. (2019) who found that occupants of Green Mark-certified buildings reported significantly higher satisfaction with

temperature, humidity, lighting, air quality, and the overall indoor environment, together with lower risks of several acute building-related health symptoms. Although Lee et al. (2019) studied office buildings, the evidence strengthens the interpretation that directly experienced health, comfort, and indoor-environment benefits can make a strong contribution to perceived quality of life. The result also aligns with Tran et al. (2020) who found that perceived advantages of green building technologies positively contributed to developers' adoption intentions.

By contrast, greater resilience to climate change received the lowest score ($RII = 0.754$), followed by the promotion of healthier lifestyle habits ($RII = 0.761$). The lower ranking of climate resilience should not be interpreted as evidence that developers consider resilience unimportant. Rather, it may reflect the comparatively indirect, long-term, and less readily monetized nature of this benefit relative to immediate attributes such as comfort, health, and household resource savings. L. Zhang et al. (2018) similarly noted that long-term and intangible benefits are often insufficiently incorporated into green-building economic decisions, even when life-cycle benefits are positive. More recent real-estate evidence provides a complementary explanation. Villalba Muñoz et al. (2026) found that climate-adaptation action can remain limited despite institutional pressures because adaptation goals are not consistently prioritized, policy enforcement is partial, and decision makers hold divergent views about climate uncertainty. Although their study focused on institutional commercial real estate rather than housing developers, it supports the interpretation that long-horizon resilience benefits may receive lower immediate decision salience than tangible occupant benefits. The Padang ranking therefore indicates a prioritization pattern, not a judgment that climate resilience lacks value. Communication and policy strategies should make resilience more decision-relevant by connecting it to life-cycle value, physical-risk reduction, asset durability, and future marketability.

Table 4. The Benefits of Implementing the Greenship Home concept

Code	Factors	RII	Rank
F6	Increase in property value	0.786	5
F7	Reduction in operational costs	0.768	6
F8	Savings in electricity and water consumption, leading to lower utility expenses for residents	0.793	4
F9	Improved air quality and a healthier living environment	0.804	2
F10	Enhanced thermal and acoustic comfort	0.804	3
F11	Promotion of healthier lifestyle habits	0.761	7
F12	Greater resilience to climate change	0.754	8
F13	Improved overall quality of life for residents	0.861	1

Source: Analysis, 2025

3.3. The Constraint Factors in the Implementation of the Greenship Home Concept

The constraint rankings in Table 5 show that lack of government incentives was the most important perceived barrier ($RII = 0.896$), followed by insufficient public education and awareness ($RII = 0.846$) and higher initial investment costs ($RII = 0.821$). Thus, the two highest-ranked constraints are external or institutional rather than project-operational factors. This pattern is consistent with developer-focused evidence showing that the policy and market environment can materially shape green-housing decisions. He et al. (2018) found that government policy influenced developers' willingness to construct green dwellings and that developers were particularly responsive to financial incentives. Tran et al. (2020) likewise identified government support and social demand as significant determinants of developers' green building technology adoption intentions. The Padang result differs somewhat from the findings of Akcay (2023) who reported that higher construction cost was the leading barrier in Turkey, followed by lack of knowledge, an inadequate rating system, material availability, and weak market demand. This contrast reinforces the context-dependent nature of green building barriers: investment costs are important in Padang, but respondents assigned even greater relative importance to incentives and public awareness. Longer

construction time was ranked lowest (RII = 0.725), which is broadly compatible with Akcay's (2023) finding that longer design time was among the least critical barriers. This does not mean that schedule effects are absent; it means only that respondents regarded them as less important than policy, awareness, cost, regulation, and supply-side constraints. Accordingly, accelerating adoption is likely to require a combination of financial or non-financial incentives, clearer implementation guidance, market education, and measures that reduce perceived investment risk.

Table 5. Constraint Factors in Adopting the Greenship Home concept

Code	Factors	RII	Rank
F14	Higher initial investment costs	0.821	3
F15	Limited understanding and knowledge among developers regarding Greenship Home design	0.779	6
F16	Low market demand for Greenship Home developments	0.732	8
F17	Lack of government incentives for developers adopting green concepts in housing projects	0.896	1
F18	Complexity of design and construction processes, requiring specialized expertise	0.779	7
F19	Unclear or insufficient regulations governing the implementation of green concepts	0.814	4
F20	Limited availability of green materials and technologies	0.814	5
F21	Longer construction time compared to conventional housing	0.725	9
F22	Insufficient public education and awareness regarding the importance of Greenship Homes	0.846	2

Source: Analysis, 2025

3.4. The Strategies for Adopting the Greenship Home Concept

The strategy rankings in Table 6 provide a useful explanation of how developers may prefer to respond to the barriers identified above. Conducting cost-benefit analyses of green-home investments was ranked first (RII = 0.896), followed by enhancing human-resource capacity (RII = 0.875) and promoting technological innovation and sustainable design (RII = 0.868). The high priority given to cost-benefit analysis is consistent with the economic uncertainty surrounding green building investment. L. Zhang et al. (2018) showed that green buildings can be economically attractive from a life-cycle perspective, yet developers may still face uncertainty because upfront costs, long-term benefits, information asymmetry, and policy conditions are not always aligned. A project-specific cost-benefit analysis therefore offers an immediately actionable mechanism for translating environmental benefits into financial evidence and reducing perceived investment risk. The importance assigned to human-resource capacity is also supported by Ayarkwa et al. (2022) who identified education, personnel with green building expertise, and the early establishment of sustainability priorities as important strategies for improving readiness for sustainable building processes.

Integrating sustainability principles into the company's vision and mission was ranked last (RII = 0.807), although its absolute RII remained relatively high. This result should not be interpreted as a rejection of strategic sustainability commitments. A more cautious interpretation is that respondents assigned greater immediate priority to interventions that can directly inform project feasibility, investment decisions, skills, and technology. A corporate vision or mission is a higher-level and longer-term governance mechanism whose practical value depends on whether it is translated into budgets, project criteria, technical procedures, performance indicators, and investment decisions. He et al. (2018) similarly showed that developers' willingness is shaped by development capability, market development, government policy, and corporate responsibility, indicating that strategic commitment functions within a wider decision environment rather than in isolation. Advocacy through REI or APERSI is an external or institutional strategy, and its RII of 0.821 should be interpreted only as a lower relative priority than cost-benefit analysis, capacity building, innovation, collaboration, and public education. It does not imply that external policy action is unimportant. Indeed, Tran et al. (2020) found that government support, project-partner readiness, and social demand all significantly affected developer adoption intentions, He et al. (2018) demonstrated the

importance of policy incentives. Taken together, the findings support a complementary two-level strategy: developers need internal project-level evidence and capability to act, while government, associations, technical institutions, and the market need to create a supportive policy and demand ecosystem. As with the other RII results, this interpretation concerns relative perceived priorities and does not establish causal relationships.

Table 6. Strategies for adopting the Greenship Home concept

Code	Factors	RII	Rank
F23	Educating the public about the importance of Greenship Homes	0.846	5
F24	Collaborating with relevant agencies and institutions to promote the development of green housing concepts	0.868	4
F25	Advocating through developer associations (e.g., REI, APERSI) for government policies that support green building initiatives	0.821	6
F26	Promoting innovation in green technologies and sustainable design	0.868	3
F27	Enhancing human resource capacity and expertise in green building principles	0.875	2
F28	Conducting cost-benefit analyses of investments in Greenship Home development	0.896	1
F29	Integrating sustainability principles into the company's vision and mission	0.807	7

Source: Data analysis, 2025

4. CONCLUSION

This study prioritized 29 factors associated with the readiness of medium-scale housing developers in Padang City to adopt the Greenship Home concept across four analytical domains. Within the understanding domain, interest in Greenship Home design was ranked highest (RII = 0.932), whereas knowledge of the Greenship Home concept was ranked lowest (RII = 0.736), indicating stronger attitudinal receptivity than self-reported technical knowledge. Among perceived benefits, improved overall quality of life for residents ranked highest (RII = 0.861), while greater resilience to climate change ranked lowest (RII = 0.754). For implementation constraints, lack of government incentives was the highest-ranked barrier (RII = 0.896), whereas longer construction time was the lowest-ranked barrier (RII = 0.725). Regarding adoption strategies, conducting cost-benefit analyses received the highest priority (RII = 0.896), while integrating sustainability principles into the company's vision and mission ranked lowest (RII = 0.807). These results should be interpreted as relative priorities within the four domains; the RII analysis does not establish causal effects, nor does it directly measure an overall latent level of developer readiness.

The pattern observed in Padang is broadly consistent with the international literature while also showing important contextual differences. Knowledge and awareness have long been identified as prerequisites for sustainable construction, but smaller and medium-sized developers may face greater capability, capital, and expertise constraints than larger firms (Zainul Abidin Nazirah, 2010). Green building adoption is also shaped by drivers operating at external, corporate, property, project, and individual levels (Darko & Chan, 2017), while energy and water efficiency, reduced environmental impacts, and occupant health and comfort are consistently reported as major implementation drivers (Darko et al., 2017). Conversely, cost (Hwang & Tan, 2012), limited information (Darko & Chan, 2017), weak market demand, insufficient incentives, and unclear regulations repeatedly emerge as barriers (Chan et al., 2018). The importance of the policy environment is further supported by evidence that both financial and non-financial incentives can stimulate green building uptake (Olubunmi et al., 2016) and that government-related barriers can weaken adoption, whereas company-related drivers, regulations, standards, incentives, and research-and-development support can strengthen it (Darko et al., 2018).

The practical implication for Padang is that accelerating Greenship Home adoption should not rely on awareness campaigns alone. A coordinated policy and implementation ecosystem is needed in which local government, developer associations, green building institutions, developers, financial institutions, suppliers, and the public play complementary roles. Priority measures include appropriately targeted financial and non-

financial incentives, clearer implementation guidance, public education to strengthen market demand, technical training, access to green materials and expertise, and project-level cost-benefit tools. Accordingly, the high ranking of cost-benefit analysis in the present study can be understood as a preference for an immediately actionable decision-support mechanism, whereas corporate sustainability vision remains an important but more distal governance mechanism that must be translated into budgets, design criteria, procurement requirements, performance indicators, and project controls to affect implementation.

The principal contribution of this study is therefore empirical, contextual, and integrative rather than methodological. It provides evidence from medium-scale housing developers in a regional Indonesian city and simultaneously prioritizes four readiness-related domains: understanding, perceived benefits, constraints, and implementation strategies within the Greenship Home context. The findings provide a basis for more targeted interventions by local government, REI, GBCI, developers, and other market actors. Nevertheless, the study is limited by its cross-sectional and self-reported design, its sample of 56 respondents affiliated with REI and operating in Padang City, and the use of RII as a prioritization method rather than an inferential or causal model. Actual project-level adoption or certification outcomes were not tested. Future research should therefore employ larger multi-city samples, longitudinal designs, and inferential approaches such as structural equation modeling or adoption-choice models; link developer perceptions to actual certified housing projects; and evaluate the effectiveness of alternative incentive, financing, and cost-benefit scenarios in accelerating Greenship Home adoption across different Indonesian urban contexts.

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Appendix 1. Readiness factors to adopt the Greenship home concept according to previous studies

Code	Readiness factors	References																											
		(Rao et al., 2008)	Mirhosseini et al., (2015)	(Fachrudin, KA, Fachrudin, n.d.)	(Nordin et al., 2017)	(Shen et al., 2018)	Muhammed et al., (2019)	Mark et al., (2020)	Widyanto et al., (2020)	(Sin et al., 2021)	(Fitriani & Hilala, 2018)	(Adzmi, Azira;Abdullah, n.d.)	(Nikezi, 2021)	Saka, N., et al (2021)	Gunagama et al., (2022)	Liu et al., (2022)	Kota et al., (2022)	Willis & Larasati, (2022)	Ayarkwa et al., (2022)	Utama & Raga, (2023)	Masukujjaman et al., (2023)	Prasetyawan et al., (2023)	(Zakiah, 2023)	Eze & Omoboye, (2026)	(Khan et al., n.d.)	Supriyanto & Matantu, (2024)	Masagung & Prasetyo, (2025)	Wang et al., (2025)	(Alfajari et al., 2025)
I	Understanding of the Greenship home concept																												
F1	Knowledge of the greenship home concept									√									√										
F2	Interest in green home design																		√	√									√
F3	Perception of the greenship home concept as a design trend with positive impacts			√						√							√		√										
F4	Awareness of the benefits of adopting the greenship home concept in residential development					√					√			√					√										
F5	Optimism regarding the future development of green home design in contemporary housing					√						√							√										
II	The Benefits of implementing the greenship home concept																												
F6	Increase in property value														√														√
F7	Reduction in operational costs										√																		√
F8	Savings in electricity and water consumption, leading to lower utility expenses for residents					√					√			√															√
F9	Improved air quality and a healthier living environment			√		√	√				√																√		√
F10	Enhanced thermal and acoustic comfort	√				√																					√		√
F11	Promotion of healthier lifestyle habits					√									√												√	√	√

474

[illegible]