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Green Residential Buildings Purchase Intention in Thai Perspective

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Abstract

Purpose *– From a Thai viewpoint, the aim of this study is to investigate the influence of variables that affect residential green purchase intention.*

Design/Methodology/Approach *- In this study, secondary data analysis and an archive study approach are used to analyze the factors influencing the decision to buy a green residential property. Thailand-based 384 respondents with an interest in green residential construction submitted the information. In addition, this study developed a new conceptual framework by combining three frameworks from past investigations.*

Findings – *This study looked at the variables that affect consumers' intent to buy. The study's conclusions showed that attitudes toward green residential buildings, environmental concerns, perceived risk, and perceived value all have an impact on buyers' intentions to buy green residential.*

Research Limitations/Implications *– There are various challenges in analyzing the factors that affect consumers' purchase intentions. Because this study is based on the viewpoint of Thai individuals who are interested in green residential projects, it may not be fully relevant to people from other cultural backgrounds in other nations.*

Originality/value *The key factors that affect buying intention are the subject of this study.*

Keywords *– Attitudes toward the green residential building, environmental concern, perceived risk, perceived value, green residential purchase intention*

JEL code classification *– M10, M12, M15*

1. INTRODUCTION

1.1 Background of the study

An abundance of resources and energy is consumed as the construction sector expands, and this contributes to several environmental problems, including the greenhouse effect and harsh weather. Buildings account for 40% of all energy usage and 30% of all greenhouse gas emissions in developing countries (Geng et al., 2019). By encouraging the sensible use of resources such as electricity, water, and materials, green buildings, as opposed to conventional ones, may reduce environmental pollution, make buildings more inexpensive over the course of their whole lives, and enhance human health and welfare (Darko et al., 2017).

The built environment currently plays a key part in the larger discussions about environmental preservation since buildings' development and operation require a lot of energy and emit a lot of carbon. Because buildings have the greatest potential to reduce greenhouse gas emissions, The physical design of ecologically friendly constructions is a growing social concern (Fuerst & McAllister, 2011; Levine et al., 2007). According to research by Deng et al. (2012), Nearly 33% of the world's greenhouse gas emissions are caused by building construction and related activities, and 40% of the resources and energy consumed worldwide go toward building and maintaining structures. The construction industry's greenhouse gas emissions will more than double in the following 20 years if nothing is done (United Nations Environment Programme, 2009). Extreme greenhouse gas emissions also alter the climate, putting all life on Earth at peril. The crisis involves rising sea levels, an unbalanced ecosystem, declining biological variety, and extreme temperatures (Chen & Chang, 2012). Then the green residential building the house will be the option of sustainability to help the environment by making the residential that impact less pollution to the environment by using the green building standards of Excellence in Design for Greater Efficiencies (EDGE Advanced) established by the International Finance Corporation (IFC) to build the house

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that aims to reduce the energy usage compared to the conventional building.

The goal of the study is to examine customer interest in purchasing green homes (Tan & Goh, 2018) in Thailand contributing to attitudes toward green residential building, Environmental concerns, Perceived risk, and Perceived value that have an impact on green residential purchase intention. This study will help house developers understand the factor that can have an impact on green residential customer purchase intention in Thailand. Secondly, the result of this research will help investors that want to make a green residential have more information to decide.

1.2 Statement of the problem

As the world becomes more polluted this time most countries are concerned more about the environment and trying to make less pollution to the environment one of the methods is using green building standards of Excellence in Design for Greater Efficiencies to make the residential reduce energy. In Thailand, people become concerned more about the environment also but a developer that has used green building standards is not popular yet. As a result, this study will tell the developer about the variables that affect residential green purchase intent. This study is crucial for Thai real estate development companies to understand what influences client buying intent. Businesses can leverage client purchase intentions to enhance their operations.

Building activities are responsible for almost half of all CO2 emissions, and the construction industry also uses a lot of non-renewable resources and generates a lot of waste. recent research in industrialized countries found that the building industry consumes between 30 and 40 percent of natural resources, requires 50 percent of energy to heat and cool buildings, accounts for around 40 percent of global material consumption, and uses 30 percent of energy (Geng et al., 2019; Bourdeau, 1999). Poor pollution resource management and a lack of environmental considerations in resource extraction, development, and management are the main causes of the country's numerous environmental problems. These problems, if not systematically resolved, will worsen, and pose obstacles to environmentally friendly buildings in the following ways. It was found that Thailand's building industry still lags behind wealthy nations in terms of managing trash, collecting rainfall, and lowering carbon footprints.

1.3 Objectives of the study

Repurchase intention is impacted by a number of important elements, as was previously stated. Green residential purchase intention is influenced by independent variables such as attitude toward green residences, environmental concern, perceived risk, and perceived value. This study intends to assess the relationships between the factors that may affect whether a homeowner will repurchase a green residential.

1) To explain a significant effect of attitude towards green residential buildings and green residential purchase intention.
2) To explain a significant effect of environmental concern towards green residential purchase intention.
3) To explain a significant effect of perceived risk towards green residential purchase intention.
4) To explain a significant effect of perceived value towards green residential purchase intention.

1.4 Research questions

The objectives of this study have been considered when setting up the research questions, as shown below in more detail.

1) Does attitude towards green residential buildings significantly affect green residential purchase intention?
2) Does environmental concern significantly affect green residential purchase intention?
3) Does perceive risk significantly affect green residential purchase intention?
4) Does perceived value significantly affect green residential purchase intention?

1.5 Significance of the study

Green residential construction may promote resource conservation, reduce environmental pollution, be more cost-effective over the length of the building's lifetime, and improve the health and welfare of occupants (Darko et al., 2017; Hoffman & Henn, 2008; Li et al., 2018). The development of green residential construction is fundamentally advantageous for society, the environment, and the economy (Olubunmi et al., 2016). In Thailand people are becoming more understanding about pollution like PM2.5 in Bangkok which makes people give priority to nature more than before, the result of this research will help nature in terms of producing less pollution from the residential.

The results of this study will first benefit real estate businesses in their understanding of the variables influencing purchase intention. This study also might help the real estate sector better understand buyers' intentions. Moreover, the researcher may find it useful to use this study as a reference for future research on repurchase intentions for green residential businesses, including factors like attitudes toward green residential buildings, environmental concern, perceived risk, and the perceived value that influence

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Theories related to each variable

2.1.1 Purchase intention of green residential buildings

For a range of environmentally friendly items, including organic foods, the buying intention has been studied by Teng and Wang (2015), Eco-friendly products, including eco-friendly electric motorbikes (Barber et al., 2012), eco-friendly electric apparel (Kang & Kim, 2013), eco-friendly items (Barbarossa & Pelsmacker, 2014), and eco-friendly wines (Wu et al., 2015). Due to growing public awareness of corporate social responsibility, buyers prefer socially responsible developers who are committed to meeting their housing needs (Yam & McGreal, 2010). Research also showed that homeowners, whether they owned traditional or green homes in sustainable residential additions, were willing to spend more money and had strong preferences for enhancing many aspects of environmental performance.

*Corresponding Author: **Naphat Huang.**

2.1.2 Attitude towards green residential buildings

To forecast their purchasing intentions, it is crucial to comprehend how potential homeowners feel about green residential constructions. A person's attitude may be viewed as the extent of their favorable or negative evaluation of the provided conduct, according to Ajzen (1991). According to the idea of planned behavior, behavioral intentions are significantly influenced by attitudes. One's perspective on green items affects their desire to purchase them (Schniederjans & Starkey, 2014; Kang & Kim, 2013). One's attitude toward green products has an impact on their willingness to purchase them. Tan et al. (2017) supported energy-efficient appliances that consumers' purchasing decisions are influenced by positive emotions. According to certain studies Dean et al. (2012), and Teng and Wang, (2015), Customers' opinions of organic food significantly and favorably impacted their propensity to purchase. Furthermore, Tan (2013) highlighted the likelihood that buyers of green homes will have a more upbeat attitude on (Tan, 2013). This is in line with Liu et al. (2018), who found that tenants' opinions of residences with green labels had a favorable impact on their behaviors and intention to use.

2.1.3 Environmental concern

The degree to which a person personally cares about and is willing to address environmental issues is referred to as their level of environmental concern (Bamberg, 2003). Consumers that care more about environmental issues will be aware of how their consumption affects the environment (Newton et al., 2015; Zhang & Nuangjamnong, 2022). They are also more likely to alter their original lifestyles to reduce their environmental impact. Numerous research has demonstrated that environmental concern significantly affects the decisions made towards environmental protection, such as reducing waste (Fujii, 2006), saving water (Untaru et al., 2016), and making green purchases (Goh & Balaji, 2016). Environmental concern is an innate psychological component influencing people' Green residential buying decisions since green residential might be thought of as exceptional pro-environmental items (Xie et al., 2017).

2.1.4 Perceived Risk

Consumer behavior is significantly influenced by perceived risk (Hong, 2015). Consumers may feel uneasy when interacting with goods or services because they predict some sort of unfavorable outcome that leads to suffering or an imbalance (Wu et al., 2011). According to studies environmentally conscious apparel, electric motorbikes, and other green items are all negatively impacted by perceived risk (Han & Chung, 2014; Kang & Kim, 2013; Wu et al., 2015). Measures for perceived risk linked to performance, social, time or convenience, financial, physical, and psychological risks are considered in the literature (Girard & Dion, 2010). Despite this, the dimensions of perceived risk may vary depending on the type of product (or service) (Lee, 2009).

2.1.5 Perceived Value

Consumer value has evolved into a key issue that must be addressed in every marketing endeavor. Customer value is the best notion, according to Leo and Mello (2007), to study consumer behavior and decision-making. The fundamentals of customer value, according to Paananen and Seppänen (2013), consist of understanding and summarizing customer requirements, creating and providing pleasurable customer experiences, and managing customer feedback.

Studies on customer value often contrast costs and advantages (Payne & Holt, 2001). According to Zeithaml (1988), "perceived value is the consumer's total appraisal of the utility of a product based on perceptions of what is received and what is given," Perhaps the most popular definition of perceived worth is this one. In the context of green marketing, "green perceived value" refers to a consumer's overall assessment of the net benefit of a product or service between what they get and what they get based on their environmental preferences, sustainable expectations, and green requirements (Chen & Chang, 2012).

2.2 Related literature review

2.2.1 Related literature review between Attitude toward green residential buildings and Green Residential Purchase Intention

An interaction or quick assessment of a specific object in memory is referred to as an attitude (Fazio, 1995). Previous research has shown that a consumer's behavior reveals how they feel about a product (Eagly & Chaiken, 1995; Schiffman et al., 2007). Environmental views have been found to directly influence consumer purchase intentions (Irland, 1993). When it comes to green products, attitude is a key indicator of how much money people plan to spend (Tsenet et al., 2006). Across cultures, conduct is motivated by attitudes (Mostafa 2007). A significant impact of attitude on customers' behavioral intentions, which drive their green purchasing behavior, is seen in the context of greenhouses (Liu et al., 2018; Zhang et al., 2018). Customers are more likely to purchase green items if they can buy green homes for less than 5% more than standard residences (Patel & Chugan, 2016). Higher education also addresses issues related to the environment's nourishment (Liere & Dunlap, 1980). People who are knowledgeable about green products have goals and attitudes to expand their use of green goods (Zhang et al., 2018).

2.2.2 Related literature review between Environmental concern and Green Residential Purchase Intention

A concern for the environment from Franzen and Meyer (2010), is the understanding or awareness that human resource misuse and pollution pose a threat to the environment's ability to maintain its natural state (Zhou, 2013). The phrase "new environmental (or ecological) paradigm" is occasionally used to describe it, and it also expresses peoples' pro-environmental perspective (Sánchez & Lafuente, 2010). People may have varying levels of environmental worry, from having no environmental concern at all to having extreme environmental concern (Mostafa, 2007).

According to Mainieri et al. (1997), consumers don't always factor in their pro-environmental beliefs when making

*Corresponding Author: **Naphat Huang.**

purchases. According to Bamberg (2003) study, after taking into consideration the impacts of situation-specific attitudes, environmental concern had very little of an influence on either behavioral intention or conduct itself. Additionally, it only explained around 8% of the difference in the choices made by students to seek green electrical products. Kim and Choi (2005) discovered a direct correlation between environmental awareness and green purchasing practices. In this study, the substitute of buying intentions for actual purchase activity since intentions are the fastest and most reliable predictors of actual action (Ajzen, 1991).

2.2.3 Related literature review between Perceived Risk and Green Residential Purchase Intention

This study chose the financial hazards that are regarded to be crucial to the risk of financing the development of green homes (Xie et al., 2017). In this study, the term "financial risk" refers to worries about the cost of environmentally friendly residential structures and the potential for financial stress that is based on the cost of the buildings (Wu et al., 2011). Kang and Kim (2013) shown that, when making a green purchase, behavioral intentions towards adopting environmentally sustainable clothing goods are negatively impacted by financial risk. The same findings were drawn by Han and Chung (2014), who found that buyers' propensity to buy organic cotton clothes was significantly influenced by financial risk.

2.2.3 Related literature review between Perceived Value and Green Residential Purchase Intention

The importance of perceived value (PV) in determining consumers' purchasing intentions (Wu, 2013; Wongsawan & Nuangjamnong, 2022; Z. Zhang & Nuangjamnong, 2022). Perceived value has been identified as a discriminating factor that affects purchase intentions in a large body of prior studies (Hsu and Lin, 2015; Ponte et al., 2015; Chen et al., 2012). Chen and Chang (2012) revealed that people's decisions to make green purchases were positively influenced by their perception of the value of green products. Additionally, Chen et al. (2012) emphasized that perceived value serves as a primary identifier of the purchase intention for a hydrogen-electric vehicle.

2.3 Theoretical frameworks

2.3.1 The first research model is from "Exploring residents' purchase intention of green housings in China: An extended perspective of perceived value" by Zhao and Chen (2021). This study examines the impact of individual traits and shows how they relate to perceived advantage (functional benefit, emotional benefit, green benefit, social benefit), perceived risk, and perceived benefit (environmental concern, social trust) (Perceived performance risk, Perceived financial risk) impact on Perceived value towards Green House Purchase Intention.

2.3.2 According to Tan and Goh (2018), psychological variables play a part in determining customer purchasing intentions for green residential buildings. The effects of attitudes toward green residential buildings, subjective norms, perceived behavioral control, perceived moral responsibility, environmental concern, perceived value, perceived self-identity, perceived risk (financial risk, performance risk, psychological risk), and willingness to pay are examined in this study with regard to the intention to purchase green residential buildings.

2.4 Hypotheses development

Hypotheses 1 (H1): An attitude towards green residential buildings has a significant effect on green residential purchase intention.

Hypotheses 2 (H2): An environmental concern has a significant effect on green residential purchase intention.

Hypotheses 3 (H3): A perceived risk has a significant effect on green residential purchase intention.

Hypotheses 4 (H4): A perceived value has a significant effect on green residential purchase intention.

2.5 Conceptual framework

Based on two theoretical frameworks from Zhao and Chen (2021) and Tan and Goh (2018), the conceptual framework was created to test whether independent variables' perceived benefit has an effect on perceived value which has an impact on dependent variables green residential purchase intention. Moreover, attitudes towards the green residential building, environmental concerns, and perceived risk affect green residential purchase intention the conceptual framework for a study of green residential purchase intentions in Thailand is shown in Figure 1.

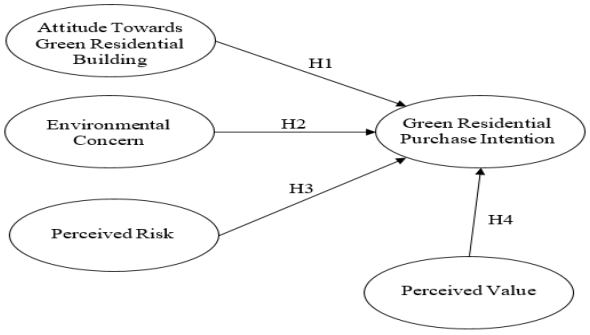

Figure 1: Green Residential Buildings Purchase Intention in Thai Perspective

Source. Researcher.

3. RESEARCH METHODOLOGY

3.1 Research Design

This study's objective is to determine the factors affecting consumers' intention to buy., including perceived risk, perceived value, and attitudes toward green residential structures. The study will also establish the extent to which factors influencing purchasing intention have an impact. As this study is quantitative, the following analysis types are used in this research, such as Cronbach's Alpha, Multiple Linear Regression, and Descriptive Data Research.

The questionnaire is divided into three sections and has a total of 23 items, of which 2 are screening questions, 15 are measuring variables, and 6 are demographic questions relating to the five variables of this study model.

*Corresponding Author: **Naphat Huang.**

3.2 Sampling

The target demographic for this study is those living in Thailand, representing 70.1 million persons. Since the respondents in this study will be pre-screened following the study's objectives, As non-probability sampling methods, the researcher utilized convenience sampling and snowball sampling. Due to the time constraints and current circumstances, which called for social distance, In this investigation, researchers chose to employ a non-probability sampling method. Because the researcher can simply collect the data based on convenience, this strategy is the best one.

3.3 Questionnaire Design

There are three parts to the questionnaire. Part one, the responses are checked against the requirements of the study, and those that don't meet the criteria are left out. Are you from Thailand? And do you plan to buy a house someday? If people who filled out the first part of the questionnaire said "Yes," they moved on to the next question. If they choose "No," on the other hand, they will be taken to the end of the survey. Part two, most of the questions in this part of the survey are about the respondent's background. To find out about the demographics of the respondents. Using basic information about you, like your gender, age, level of education, monthly income, nationality, and employment status. Part three aims to determine what factors affect a customer's decision to buy a green home in Thailand. Using a Likert scale with 16 items, the researcher found out how people felt about each variable and how much they agreed with it.

3.4 Validity

3.4.1 Content validity with the index of item-objective congruence - the item quality of each questionnaire question is evaluated by the researchers using the Item Objective Congruence (IOC) Index. Three experts were consulted by the researchers to determine the content validity score. IOC value came out to be 0.67. The results are higher than 0.5, thus all questions can be distributed to the responders.

3.4.2 Cronbach's Alpha Reliability with a pilot test - in order to check for errors or inconsistencies in the questionnaire's variables, the researcher chose to conduct a pilot test with 51 participants. Cronbach's alpha, which evaluates the accuracy of any given measurement variable, is one technique for gauging consistency. According to Cronbach (1951), reliability tests are frequently conducted utilizing the pilot test research approach, with Cronbach's Alpha (CA) serving as the underlying assumption. Before sending the questionnaire to the intended audience, the detailed below displays the strength of the alpha coefficient.

Cronbach's Alpha and Internal Consistency's Rules

Alpha Coefficient Range	Strength of Association
a > 0.9	Excellent
0.8 < a < 0.9	Good
0.7 < a < 0.8	Acceptable
0.6 < a < 0.7	Questionable
0.5 < a < 0.6	Poor
a < 0.5	Unacceptable

A pilot study including 51 individuals yielded Cronbach's Alpha values for the independent variables' Attitude toward the green residential building, Environmental Concern, Perceived risk, Perceived value, and Purchase intention. The findings indicated that four main characteristics influence residential green purchasing intentions in Thailand as shown in table 1.

Table 1: The Value of Reliability Analysis of Each Item and Variable in this Study (n=51)

Item No.	Measurement Items	Cronbach's Alpha	Strength of Association
Attitude toward green residential building		**0.817**	**Good**
ATGRB1	Green residential buildings are valuable because these buildings are developed and constructed using environmentally friendly processes	0.722	Acceptable
ATGRB2	I feel that green residential building's environmentally friendly more than traditional building	0.737	Acceptable
ATGRB3	I prefer green residential more than the traditional building	0.785	Acceptable
Environmental Concern		**0.814**	**Good**
EC1	I understand the word Environmental concern in details	0.811	Good
EC2	I have serious concerns about the pollution that my residential makes to the nature	0.640	Questionable
EC3	I think every individual has the responsibility to play his/her role to protect the environment	0.775	Acceptable
Perceived risk		**0.805**	**Good**

*Corresponding Author: **Naphat Huang.**

PR1	If I bought a green residential building, I'd be worried that I wouldn't get my money's worth out of it	0.718	Acceptable
PR2	Green residential structures are not available in a variety of styles to suit my needs	0.705	Acceptable
PR3	I worry that maintaining green homes could be more expensive than maintaining standard homes	0.775	Acceptable
Perceived value		**0.745**	**Acceptable**
PV1	Because it is environmentally beneficial, I believe I will buy a green residential building	0.641	Questionable
PV2	I receive excellent value from Green Residential	0.621	Questionable
PV3	Because green residential buildings are more concerned with the environment than other types of residential buildings, I believe I will buy it	0.714	Acceptable
Purchase Intention		**0.793**	**Acceptable**
PI1	I intend to purchase green residential in the future	0.693	Questionable
PI2	I prefer green residential more than conventional residential	0.764	Acceptable
PI3	I can spend more for environmentally friendly residential compared with conventional residential	0.743	Acceptable
PI4	For myself, I plan to purchase a green residential instead of a general residential	0.762	Acceptable

4. DATA ANALYSIS AND DISCUSSION OF RESULTS

4.1 Reliability Testing

The researchers made the decision to go back and double-check the questionnaire for any discrepancies or mistakes in the variables for all 384 respondents. As indicated in Table 2, the reliability of 384 respondents to a questionnaire was evaluated using Cronbach's Alpha test.

Table 2: The value of Reliability Analysis of Each Item and Variable in this Study

Measurement Items	Cronbach's Alpha
Attitude toward green residential building (ATGRB)	0.705
Environmental concern (EC)	0.728
Perceived Risk (PR)	0.792
Perceived Value (PV)	0.753
Green Residential Purchase Intention (PI)	0.720

The researchers use the Jamovi tool to assess the reliability scale, and Table 2 shows how they use Cronbach's Alpha to determine how closely related a collection of items is to one another. The results showed that there are four key factors that affect Thailand's residential green purchase intentions. Because the value is greater than 0.7, which denotes that all factors are dependable, the outcome shows that all factors are valid and reliable. The three items on perceived risk have the highest reliability (0.792), followed by the three items on perceived value (0.753), the four items on environmental concern (0.728), the four items on green residential purchase intention (0.720), and the three items on attitude toward green residential building (0.705).

4.2 Descriptive Analysis of Demographic Data

The study team used Jamovi's descriptive analysis feature to assess the demographic information of respondents who lived in Thailand. Data on gender, age, education, current monthly income, nationality, and employment status were acquired by the researcher. The descriptive analysis is used by the researcher to describe the characteristics of the responder.

Table 3 in a sample size of 384 respondents, the frequency distribution and percentage are shown as follows. ***Gender*** - From all of the 384 respondents, men made up 66% of the total, while women made up 34% of the respondents. There were 131 female responses and 253 male respondents overall. ***Age*** - The majority of respondents in this study are between the ages of 18 - 29 (131 respondents, or 34%), followed by 175 respondents, or 46% who are between the ages of 30 - 39, And 48 respondents, or 12%, who are between the ages of 40 - 49, 26 respondents, or 7%, who are between the ages of 50 - 59, and 4 respondents, or 1%, who are over 60. ***Education level*** - A total of 267 respondents, or 69% of those who participated in the poll, had earned a bachelor's degree. Following closely behind with 26% are 101 respondents with master's degrees, 10 respondents with High school and below, and 6 respondents with a doctorate level or higher. ***The current income per month***- Among the 384 respondents, 126 have a monthly income of between 15,001 and 30,000 baht, followed by 104 with a monthly income of between 30,001

*Corresponding Author: **Naphat Huang.**

and 50,000 baht, which accounts for 27%, 87 with a monthly income of between 50,001 and 100,000 baht, which accounts for 23%, 28 with a monthly income of over 100,000 baht, which accounts for 7%, and 22 with a monthly income of below 9,000 baht, which accounts for. ***Nationality*** - Most of the respondents from the result are Thai nationality with 382 respondents 99% and Chinese with 2 respondents 1%. ***Employment Status*** - The majority of the respondent in this survey are full-time employment with 217 respondents, which accounted for 57%, followed by Self-Employed (Business Owners) with 63 respondents, which accounted for 16%, 44 respondents are Freelance with a percentage of 11%, after that who are Study and work with 29 respondents with a percentage of 8%, following by studying only 19 respondents, which accounted for 5%, and lastly who are part-time employ with 12 respondents by 3%.

Table 3: The analysis of demographic factors using the frequency distribution and percentage

Demographic Factors	Frequency	Percent
Gender		
Male	253	66
Female	131	34
Total	**384**	**100**
Age		
18 - 29	131	34
30 - 39	175	46
40 - 49	48	12
50 - 59	26	7
Over 60	4	1
Total	**384**	**100**
Education level		
High school and below	10	3
Bachelor's Degree	267	69
Master's Degree	101	26
Ph.D. or higher	6	2
Total	**384**	**100**
The current income per month		
Lower 9,000 baht	22	6
9,000-15,000 baht	17	4
15,001-30,000 baht	126	33
30,001-50,000 baht	104	27
50,001-100,000 baht	87	23
Higher 100,000 baht	28	**7**
Total	**384**	**100**
Nationality		
Thai	382	99
Chinese	2	1
Total	**384**	**100**
Employment Status		
Full-Time	217	57
Part-Time	12	3
Self-Employed (Business owners)	63	16
Freelance	44	11
Studying only	19	5
Study and work	29	8
Total	**384**	**100**

4.3 Mean and Standard Deviation for Descriptive Analysis

4.3.1 Mean and standard deviation of Attitude Towards Green Residential Building

Table 4 show that the highest mean of Attitude Towards Green Residential Building was "Green residential buildings are valuable because these buildings are developed and constructed using environmentally friendly processes" which equals 3.72. As opposed to that, the lowest mean was "I prefer green residential more than the traditional building" which equals 3.53. In addition, the highest standard deviation was "I prefer green residential more than the traditional building" which is equals to 1.034. On the other hand, the lowest was "Green residential buildings are valuable because these buildings are developed and constructed using environmentally friendly processes" which equals 0.868.

Table 4: The result of Mean and standard deviation of Attitude Towards Green Residential Building

*Corresponding Author: **Naphat Huang.**

	$\bar{x}$	S.D.	Interpretation
ATGRB1: Green residential buildings are valuable because these buildings are developed and constructed using environmentally friendly processes	3.72	0.868	High
ATGRB2: I feel that green residential building's environmentally friendly more than traditional building	3.54	1.026	High
ATGRB3: I prefer green residential more than the traditional building	3.53	1.034	High

4.3.2 Mean and standard deviation of Environmental concern

Table 5 show that the highest mean of Environmental concern was "I think every individual has the responsibility to play his/her role to protect the environment" which equals 3.59. As opposed to that, the lowest mean was "I have serious concerns about the pollution that my residential make to nature" and "I understand the word of Environmental concern in detail" which equals 3.57. In addition, the highest standard deviation was "I think every individual has the responsibility to play his/her role to protect the environment" which is equal to 1.111. On the other hand, the lowest was "I understand the word of Environmental concern in detail" which equals 0.994.

Table 5: The result of Mean and standard deviation of Environmental concern

	$\bar{x}$	S.D.	Interpretation
EC1: I understand the word Environmental concern in detail	3.57	0.994	High
EC2: I have serious concerns about the pollution that my residential makes to the nature	3.57	1.101	High
EC3: I think every individual has the responsibility to play his/her role to protect the environment	3.59	1.111	High

4.3.3 Mean and standard deviation of Perceived risk

Table 6 show that the highest mean of Perceived risk was "I worry that maintaining green homes could be more expensive than maintaining standard homes" which equals 4.05. As opposed to that, the lowest mean was "If I bought a green residential building, I'd be worried that I wouldn't get my money's worth out of it" which equals 3.93. In addition, the highest standard deviation was "If I bought a green residential building, I'd be worried that I wouldn't get my money's worth out of it" which is equals to 0.937. On the other hand, the lowest was "Green residential structures are not available in a variety of styles to suit my needs" which equals 0.856.

Table 6: The result of Mean and standard deviation of Perceived risk

	$\bar{x}$	S.D.	Interpretation
PR1: If I bought a green residential building, I'd be worried that I wouldn't get my money's worth out of it	3.93	0.937	High
PR2: Green residential structures are not available in a variety of styles to suit my needs	4.02	0.856	High
PR3: I worry that maintaining green homes could be more expensive than maintaining standard homes	4.05	0.914	High

4.3.4 Mean and standard deviation of Perceived Value

Table 7 show that the highest mean of Perceived value was "Because green residential buildings are more concerned with the environment than other types of residential buildings, I believe I will buy it" which equals 3.97. As opposed to that, the lowest mean was "I receive excellent value from Green Residential" which equals 3.78. In addition, the highest standard deviation was "Because it is environmentally beneficial, I believe I will buy a green residential building" which is equals to 0.938. On the other hand, the lowest was "I receive excellent value from Green Residential" which equals 0.882.

Table 7: The result of Mean and standard deviation of Perceived Value

	$\bar{x}$	S.D.	Interpretation
PV1: Because it is environmentally beneficial, I believe I will buy a green residential building	3.91	0.938	High
PV2: I receive excellent value from Green Residential	3.78	0.882	High
PV3: Because green residential buildings are more concerned with the	3.97	0.888	High

*Corresponding Author: **Naphat Huang.**

environment than other types of residential buildings, I believe I will buy it			

4.3.5 Mean and standard deviation of Purchase Intention

Table 8 show that the highest mean of Purchase Intention was "I prefer green residential more than conventional residential" which equals 3.60. As opposed to that, the lowest mean was "For myself, I plan to purchase a green residential instead of a general residential" which equals 3.42. In addition, the highest standard deviation was "I can spend more for environmentally friendly residential compared with conventional residential" which is equals to 0.985. On the other hand, the lowest was "I intend to purchase green residential in the future" which equals 0.934.

Table 8: The result of Mean and standard deviation of Purchase Intention

	$\bar{x}$	S.D.	Interpretation
PI1: I intend to purchase green residential in the future	3.57	0.934	High
PI2: I prefer green residential more than conventional residential	3.60	0.978	High
PI3: I can spend more for environmentally friendly residential compared with conventional residential	3.58	0.985	High
PI4: For myself, I plan to purchase a green residential instead of a general residential	3.42	0.974	High

4.4 Hypothesis Testing Results

The number of various elements that might have an influence on purchase intention was assessed by the researcher using multiple linear regression as a statistical analysis approach. When using multiple linear regression, multicollinearity should be evaluated to determine which variables need to be eliminated. Additionally, when the link between the independent variables is moderate, the variance inflation factor (VIF) value can reach as high as "10," which is acceptable and categorized as moderate multicollinearity, according to Hair et al. Furthermore, the variable may be explained using the R-square (R^2) value, It shows the dependent variable's percentage variance as a function of the independent variable.

4.4.1 Results of Multiple Linear Regression of H_1, H_2, H_3, H_4

Statistical Hypothesis

H1o: Attitude towards green residential buildings has no significant influence on purchase intention.

H1a: Attitude towards green residential buildings has a significant influence on purchase intention.

H2o: Environmental Concern has no significant influence on purchase intention toward

H2a: Environmental Concern has a significant influence on purchase intention.

H3o: Perceived Risk has no significant influence on purchase intention toward

H3a: Perceived Risk has a significant influence on purchase intention toward

H4o: Perceived Value has no significant influence on purchase intention toward

H4a: Perceived Value has a significant influence on purchase intention toward

Table 9 demonstrates the use of multiple linear regression to determine whether environmental concern (H2), perceived value (H4), and attitude toward green residential buildings (H1) substantially predicted purchasing intention. According to the findings in table 4.8, none of the three hypotheses—environmental concern (H2), perceived value (H4), and attitude toward green residential building a measurable threshold higher than 0.05 Thus, the null hypotheses are rejected. But since the perceived risk (H3) was more than 0.05, the H3a is not accepted. Additionally, R-square at the 95% confidence level was 0.410, showing that the independent factors (Attitude toward green residential buildings, Environmental Concern, Perceived Risk, and Perceived Value) may roughly account for the dependent variable (Purchase Intention). Furthermore, one can use p 0.05 to reflect 41% of the variations in purchasing intention. Examining the individual contributions made by each predictor, the findings revealed that Perceived Value (B = 0.094, p 0.05), Environmental Concern (B = 0.266), and Attitude toward green residential building (B = 0.363, p 0.05) were positively significant to purchase intention. One of these, Perceived Risk, is not linked to Purchase Intention (B = -0.019, p > 0.05). All of the hypotheses stated that there was no multicollinearity because the VIF was less than 5 and that none of the independent variables used to assess influences on purchase intention overlapped. The results of structural model are shown in figure 2.

Table 9: Multiple Linear Regression Analysis Summary for Hypotheses 1, 2, 3 and 4

Hypothesis	B	SE B	β	t	Sig.	VIF
H1: Attitude towards green residential building → Green Residential Purchase Intention	0.363	0.043	0.395	8.328	0.000*	1.45
H2: Environmental Concern → Green	0.266	0.039	0.321	6.773	0.000*	1.45

*Corresponding Author: **Naphat Huang.**

Residential Purchase Intention						
H3: Perceived Risk → Green Residential Purchase Intention	-0.019	0.038	-0.021	-0.520	0.603	1.06
H4: Perceived Value → Green Residential Purchase Intention	0.094	0.038	0.098	2.419	0.000*	1.06

Note. R^2 = 0.410, Adjusted R^2 = 0.404, *p < 0.05 Dependent Variable = Green Residential Purchase Intention

Figure 2: The result of structural model
Source. Constructed by author.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the study

The study's executive summary focuses on its goals and open-ended research questions, which aim to precisely investigate the correlations between the variables that influence green residential purchase intentions in Thailand. The following four research questions served as the study's direction:

- Does Attitude towards green residential building has a significant influence on green residential purchase intention from a Thai perspective?

- Does Environmental Concern have a significant influence on green residential purchase intention from a Thai perspective?

- Does Perceived Risk have a significant influence on green residential purchase intention from a Thai perspective?

- Does Perceived value have a significant influence on green residential purchase intention from a Thai perspective?

The majority of the 384 respondents in this survey were male (253, 66%), between the ages of 30 and 39 (175, 46%), with a bachelor's degree as their highest level of education, earning between 25,001 and 30,000 Baht per month (126, 33%), being Thai (382, 99%), and having full-time employment (217, 57%).

The mean and standard deviation of the variables of Thai respondents' intentions to buy green homes were taken from the survey instruments. Perceived risk had the highest mean among the variables affecting the likelihood of making a green residential purchase ($\bar{x}$ = 4.00, SD = 0.092), followed by perceived value ($\bar{x}$ = 3.89, SD = 0.903), attitude towards green residential building ($\bar{x}$ = 3.59, SD = 0.976), and environmental concern ($\bar{x}$ = 3.58, SD = 1.069). Purchase intention had the lowest mean ($\bar{x}$ = 3.54, SD = 0.968). In order to understand the causal link, the researcher tested hypotheses using multiple linear regression.

Multiple linear regression (MLR) is being used to evaluate the level of influence of purchase intention on attitude toward the green residential building, environmental concern, perceived risk, and perceived value. Hypotheses testing revealed that attitude toward the green residential building, environmental concern, and perceived value independent variables were statistically significantly less than 0.05. Otherwise, perceived risk is one independent variable that has p > 0.05. Table 10 summarizes the hypotheses testing results are shown below.

Table 10: Summary of the hypotheses testing results

Statement of Hypothesis	p-value	result
H1: Attitude toward green residential buildings has no significant influence on purchase intention.	0.000*	Rejected
H2: Environmental Concern has no significant influence on purchase intention toward	0.000*	Rejected
H3: Perceived Risk has no significant influence on purchase intention toward	0.603	Accepted
H4: Perceived Value has no significant influence on purchase intention toward	0.000*	Rejected

p-value *<.05

The results of hypothesis testing using MLR reveal the strengths of variables that influence green residential purchase intention. The result reveals that the first rank significant factor that influences purchase intention is Attitude toward green residential buildings (β = .395), the second rank is Environmental Concern (β = .321), and the third rank is Perceived Value (β = .098) and the last one is Perceived Risk (β = -0.021). The ranking is summarized in Table 11 below.

Table 11: Strengths of factor influence of variable on Purchase intention

Dependent variable	Rank	Independent variable	Standardized Coefficient
Green Residential Purchase Intention (PI)	1st	Attitude towards green residential building (ATGRB)	0.395
	2nd	Environmental Concern (EC)	0.321
	3rd	Perceived Risk (PR)	-0.021
	4th	Perceived Value (PV)	0.098

5.2 Discussion and Conclusion

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5.2.1 Attitude towards green residential building, Environmental Concern, Perceived Risk, Perceived Value, and Green residential purchase intention

The results of this study demonstrated a highly significant and positive relationship between attitudes toward green residential buildings and purchasing intention. It was determined that views toward green residential structures and purchase intentions had a significant value of 0.000, or less than 0.05. This shows that one's opinion toward green residential buildings has a big impact on one's decision to buy. According to the findings of the prior study, most Bangladeshi consumers are unaware of green housing, but if frequent promotional efforts are done, they would gradually express positive attitudes toward this group of green products (Maichum et al, 2016).

Based on a descriptive analysis of attitudes toward green residential buildings generated from three items in the questionnaire that the researcher gathered, the statistical data indicates that the mean of attitudes toward green residential buildings is 3.59. Among the questions, the lowest mean was "I prefer green residential more than the traditional building" which equals 3.53 This is less favorable than the median attitude toward green residential building. However, the question has the biggest standard deviation is "I prefer green residential more than the traditional building" which is equal to 1.034. Mean that companies should concern about building green residential than traditional buildings in the future indicated by this result.

For the relationship between environmental concern and purchase intention, environmental concern had a highly significant and positive relationship with purchase intention. Environmental concern and purchase intention both have significant values of 0.000, which is less than 0.05. This shows that the Thai perspective's environmental concerns have a big impact on purchase intentions. Consequently, in to inform consumers about purchasing green residential in Thailand, marketers should place a strong emphasis on displaying the effects on the environment.

In terms of the relationship between the quality of Perceived Risk and purchase intention, Perceived Risk had no significant relationship with purchase intention. The significant value of Perceived Risk and purchase intention was 0.603, it is more than 0.05. This demonstrates that Perceived Risk does not significantly affect Thai consumers' desire to make a purchase. This result is very surprising because the previous researches revealed that have a significant influence on purchase intention but from the Thai perspective, it has no significant impact on purchase intention which means who visited in Thai may not concern about risk from buying green residential (Tan and Goh, 2018; Zhang & Nuangjamnong, 2022).

H4 is supported by research showing that perceived value has a major impact on buyers' intentions to buy green residential developments. In order to increase the buying intent of green residential structures, it is beneficial to venture into perceived value. By generating and developing strategies for broadening people's perceptions of the value of the environment, housing developers can help prospective clients establish long-term relationships in the environmental era. In a more complex marketing environment, training seasoned real estate agents can be advantageous as a suitable communication channel between the general public and housing developers to increase the perceived value of going green, which in turn increases the desire to buy green residential complexes.

5.3 Recommendations

The results of this study show connections between variables that significantly affect consumers' propensity to buy. Additionally, perceptions of the value, environmental concerns, and attitudes toward green residential buildings are all elements that have a substantial impact on purchase intention. On the other side, perceived risk has little to no effect on the intention to buy.

Therefore, the property business company should concern more about the Attitude toward green residential buildings and environmental concerns cause people in Thai are more likely to care about the environment than the part from the result of highest mean of Attitude toward green residential buildings. In fact, a company that builds green residential will benefit in competition over a competitor. The result from this research also helps the government to develop a policy of building that should build with a method that is friendly to the environment this will increase the green building in the city and make less pollution to the nature of the city also.

Additionally, the real estate industry should raise perceived value, which will raise customer purchase intent. First, it was discovered that residents' intentions to buy green homes were significantly positively influenced by their perception of overall value. This finding is consistent with the widely accepted theory that consumers' perceptions of value are a key factor in their decision to buy new goods or services. In order to increase residents' acceptance and purchase of green residential, it is crucial to ensure that they have a more favorable overall assessment of green housing or a higher value perception. Because the purchase costs of green residential are relatively high, residents will undoubtedly go through a process of weighing and considering before making a final decision. So, the company should focus more on creating value for the customer. For example, the company will build green residential that meets the expectations of customers and at a reasonable price that customers will think is not expensive.

5.4 Further Studies

The current study also contains a number of shortcomings. The investigation was first carried out from a Thai perspective. Therefore, caution is advised when extrapolating the findings of this study to other nations given the economic and cultural diversity among them. It is crucial to gather information from many countries and analyze the differences. Second, the likelihood of homogeneous samples was increased by the research's use of online survey platforms to collect data. Online surveys and person-to-person sample techniques may both be used in combination in future studies.

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Last but not least, rather than actual conduct, the dependent variable in this research model is green residential purchase intention. Consequently, the future study may use the model to account for actual buying behavior.

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