APPROACHES TO DEVELOP THE REAL ESTATE INDUSTRY FOR SENIOR CITIZENS TO ACHIEVE A SUSTAINABLE SUCCESS

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ARTICLE INFO	ABSTRACT
	Purpose: The aim of this study is to examine the variable factor of the approaches to develop the real estate industry for senior citizens to achieve a sustainable success and develop a structural equation model. **Theoretical framework:** The PESTEL analysis (K. Pair, 2018), is an assessment tool used to analyse external environmental factors that impact businesses and are beyond control. These include the political, economic, social, technological, environmental, and legal factors. Porter's Five Forces (Porter, 2022) is an analytical framework used to assess the competitive forces and rivalry at play in an industry, as well as identifying the important factors in operating a business. **Design/methodology/approach:** The mixed research methodology was employed by starting with qualitative research based on in-depth interviews with nine experts to create tools for quantitative research and conducting a group discussion with 11 experts to find a consensus on the model of this research. **Findings:** Develop from structural equation modelling indicated a good fit with the empirical data, exhibiting a chi-square probability of 0.106, a relative chi-square (normed chi-square) value of 1.114, a goodness of fit index of 0.956, and a root mean square error of approximation of 0.015. **Research, Practical & Social implications:** Approaches to develop a sustainable real estate industry for senior citizens are explored in this research. A quantitative study is performed through surveys, using questionnaires which target 500 executives in the real estate industry for the elderly. Data analysis is performed using descriptive, inferential, and multivariate statistical methods. **Originality/value:** Results indicated that the four most significant factors to achieve sustainable success in real estate industry development for senior citizens, in order of descending priority, are: 1) opportunity development 2) project development 3) network development and 4) marketing communications development. Doi: https://doi.org/10.26668/businessreview/2023.v8i6.2494

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ABORDAGENS PARA DESENVOLVER O SETOR IMOBILIÁRIO PARA IDOSOS A FIM DE ALCANÇAR UM SUCESSO SUSTENTÁVEL

RESUMO

Objetivo: O objetivo deste estudo é examinar o fator variável das abordagens para desenvolver o setor imobiliário para que os idosos alcancem um sucesso sustentável e desenvolver um modelo de equação estrutural.

Estrutura teórica: A análise PESTEL (K. Pair, 2018) é uma ferramenta de avaliação usada para analisar fatores ambientais externos que afetam as empresas e estão fora de controle. Isso inclui os fatores políticos, econômicos, sociais, tecnológicos, ambientais e legais. As Cinco Forças de Porter (Porter, 2022) são uma estrutura analítica usada para avaliar as forças competitivas e a rivalidade em jogo em um setor, além de identificar os fatores importantes na operação de uma empresa.

Projeto/metodologia/abordagem: A metodologia de pesquisa mista foi empregada, começando com a pesquisa qualitativa baseada em entrevistas aprofundadas com nove especialistas para criar ferramentas para a pesquisa quantitativa e realizando uma discussão em grupo com 11 especialistas para chegar a um consenso sobre o modelo desta pesquisa.

Resultados: O desenvolvimento da modelagem de equações estruturais indicou um bom ajuste com os dados empíricos, exibindo uma probabilidade de qui-quadrado de 0,106, um valor de qui-quadrado relativo (qui-quadrado normalizado) de 1,114, um índice de adequação de 0,956 e um erro quadrático médio de aproximação de 0,015.

Implicações sociais, práticas e de pesquisa: As abordagens para desenvolver um setor imobiliário sustentável para idosos são exploradas nesta pesquisa. Um estudo quantitativo é realizado por meio de pesquisas, usando questionários direcionados a 500 executivos do setor imobiliário para idosos. A análise dos dados é feita por meio de métodos estatísticos descritivos, inferenciais e multivariados.

Originalidade/valor: Os resultados indicaram que os quatro fatores mais significativos para obter sucesso sustentável no desenvolvimento do setor imobiliário para idosos, em ordem decrescente de prioridade, são: 1) desenvolvimento de oportunidades, 2) desenvolvimento de projetos, 3) desenvolvimento de redes e 4) desenvolvimento de comunicações de marketing.

Palavras-chave: Desenvolvimento de Oportunidades, Desenvolvimento de Projetos, Desenvolvimento da Rede de Negócios, Desenvolvimento de Comunicações de Marketing, Modelo de Equação Estrutural.

ENFOQUES PARA DESARROLLAR EL SECTOR DE LA VIVIENDA PARA PERSONAS MAYORES CON EL FIN DE LOGRAR UN ÉXITO SOSTENIBLE

RESUMEN

Objetivo: El objetivo de este estudio es examinar el factor variable de enfoques para desarrollar el sector inmobiliario para personas mayores para lograr un éxito sostenible y desarrollar un modelo de ecuaciones estructurales.

Marco teórico: El análisis PESTEL (K. Pair, 2018) es una herramienta de evaluación utilizada para analizar los factores ambientales externos que afectan a las empresas y están fuera de control. Esto incluye factores políticos, económicos, sociales, tecnológicos, ambientales y legales. Las cinco fuerzas de Porter (Porter, 2022) es un marco analítico utilizado para evaluar las fuerzas competitivas y la rivalidad en juego en una industria, y para identificar los factores importantes en el funcionamiento de una empresa.

Diseño/metodología/enfoque: Se empleó una metodología de investigación mixta, comenzando con una investigación cualitativa basada en entrevistas en profundidad con nueve expertos para crear herramientas para la investigación cuantitativa y llevando a cabo un debate en grupo con 11 expertos para llegar a un consenso sobre el modelo para esta investigación.

Resultados: El desarrollo del modelo de ecuaciones estructurales indicó un buen ajuste con los datos empíricos, mostrando una probabilidad chi-cuadrado de 0,106, un valor chi-cuadrado relativo (chi-cuadrado normalizado) de 1,114, un índice de bondad de ajuste de 0,956 y un error cuadrático medio de aproximación de 0,015.

Repercusiones sociales, prácticas y para la investigación: En esta investigación se exploran enfoques para desarrollar un sector de la vivienda sostenible para personas mayores. Se realiza un estudio cuantitativo mediante encuestas con cuestionarios dirigidas a 500 ejecutivos del sector inmobiliario para personas mayores. El análisis de los datos se realiza mediante métodos estadísticos descriptivos, inferenciales y multivariantes.

Originalidad/valor: Los resultados indicaron que los cuatro factores más significativos para lograr un éxito sostenible en el desarrollo inmobiliario para mayores, en orden descendente de prioridad, son 1) desarrollo de oportunidades, 2) desarrollo de proyectos, 3) desarrollo de redes y 4) desarrollo de comunicaciones de marketing.

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INTRODUCTION

According to reports from the United Nations on global population ageing, 1 in 9 of the world's population is over the age of 60, with prospects of this increasing to 1 in 5 by 2050. Reports indicate that between 2001 and 2100, commonly characterised as a period of "Ageing in the Twenty-First Century," individuals over the age of 60 will comprise more than 10% of the global population, whilst those above the age of 65 will make up over 7% of the global population. This presents an unprecedented demographic shift, as the elderly population will surpass the youth population, resulting in a significant surge in elderly population worldwide. The World Health Organisation (WHO) forecasts a doubling of the global elderly population aged 65 years and above, from a current estimate of approximately 8 billion people, constituting to 22% of the global population by 2050 (United Nations, 2022). In Asia, there are 586 million people aged 60 and above, accounting for 58% of the global population. Some countries have qualified as "ageing society," with the top 5 countries being: 1) Japan, 2) Singapore, 3) Thailand, 4) China, and 5) Vietnam, respectively. Thailand ranks third in terms of its elderly population, accounting for 19% of the population in Asia, following Japan and Singapore. Similarly, within the ASEAN region, Thailand holds the second position, with its elderly population representing 15.8% of the total ASEAN population, just behind Singapore. Thailand, therefore, stands out as a prominent example of an Asian nation transitioning into an ageing society, displaying substantial potential for enterprises aligned with the demands of the elderly population. It is anticipated that by 2030, Thailand will fully transition into an ageing society

Due to population ageing, countries across the world are accelerating their efforts to fully adapt to ageing society, as the ageing demographic phenomenon has far-reaching implications on the macroeconomics of a nation, including the impact on a nation's gross domestic product, per capita income, savings and investment rates, government budget allocation for employment, and workforce productivity. Population ageing also affects the microeconomics of a nation, particularly on sectors such as finance, healthcare, housing, and the preparedness to adapt to the changes in an ageing society. Therefore, it is of utmost urgency and importance for every country to systematically plan and initiate proactive measures to address the impacts of population ageing, as considerable amount of time is required to implement measures and policies to yield tangible results.

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According to a survey on ageing society, conducted by the Institute for Population and Social Research at Mahidol University (2020), it is evident that the current population aged between 48 and 57 years will soon shift into the elderly population. Based on the survey, 30% of this population segment exhibit an average monthly income ranging from 60,000 to 100,000 Thai Baht, with up to 25% of their earnings dedicated to savings and investments. This highlights an increase in business prospects and opportunities created by the emergence of the elderly society, as they become the primary consumer group. Therefore, it is essential to comprehend the perspectives and behaviours of the elderly population. To facilitate entrepreneurs in developing businesses aligned to and suitable for the elderly society, the following business models can be considered: 1) home and residential services for the elderly, 2) elderly care and nursing homes, 3) recreational businesses such as tourism and sports, 4) food and beverage businesses, 5) aesthetic and personal care businesses for age prevention, 6) support services, 7) membership businesses for the elderly, 8) furniture and equipment design businesses, 9) delivery businesses, and 10) insurances including health, life, endowment, and annuity. Based on business analyses conducted by Siam Commercial Bank (2021), the registered capital of businesses in the products and services sector, catered to the elderly population, has decreased, which contradicts the continuous growth of the ageing population. The registered capital of businesses in products and services was valued at 88.75 million Thai Baht in 2017, 103.94 million Thai Baht in 2018, 377.11 million Thai Baht in 2019, and 258.74 million Thai Baht in 2020. A significant decrease in the registered capital is observed between 2019 and 2020, which presents an inadequate investment response to the rise in the ageing society.

According to the registered capital in industries targeting the elderly population in Thailand exhibits a declining trend. This is accompanied by the amount of working capital, in the market for products and services, which does not align with the increase in elderly population in Thailand. This study aims to study the approaches for the development of industrial sectors tailored to the elderly population, with a focus on the real estate industry as the sector is vital for both the livelihood and economic growth of the nation simultaneously. The study aims to explore the "approaches to develop the real estate industry for senior citizens to achieve sustainable success" to prepare for future challenges attributed to ageing society.

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RESEARCH OBJECTIVES

1. To study the structure and operational characteristics of the real estate sector tailored to senior citizens to achieve sustainable success.

2. To examine the components of development in the real estate industry for senior citizens to achieve sustainable success.

3. To develop a structural equation modelling framework for development approaches in the real estate industry catering to elderly population, whilst accounting for sustainable success.

HYPOTHESES

H1: The opportunity development components directly influence the project development components.

H2: The opportunity development components directly affect the business network development components.

H3: There opportunity development components directly influence the marketing communications development components.

H4: The project development components directly influence the marketing communications development components.

H5: The marketing communication development components directly influence the business network development components.

H6: There are differences in the significance level of each development component to achieve sustainable success in the real estate industry catered to elderly population, depending on the size of businesses.

THEORY AND LITERATURE REVIEW

Opportunity Development

The Act on the Elderly of Thailand defines the elderly as individuals aged 60 years and older. The criteria classifying an individual as an elderly have changed over time. In Thailand, the elderly population is divided into the following categories: 1) elderly: ages 60 to 69, 2) old: ages 70 to 79, and 3) very old: ages 80 and older (Thailand Department of Older Persons, 2017).

The PESTEL analysis (K. Pair, 2018), is an assessment tool used to analyse external environmental factors that impact businesses and are beyond control. These include the political, economic, social, technological, environmental, and legal factors. Performing a business

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analysis using the PESTEL framework helps to identify both the positive and negative factors that affect businesses, hence aiding in strategic planning, identifying opportunities, determining the right timing to start a business or launch new products, and adapting business strategies to current conditions.

Project Development

Porter's Five Forces (Porter, 2022) is an analytical framework used to assess the competitive forces and rivalry at play in an industry, as well as identifying the important factors in operating a business. The framework assists in formulating business strategies, and consists of five forces: 1) competitive rivalry, 2) threat of new entry, 3) buyer power, 4) supplier power, and 5) threat of substitution. The analysis of these five forces will aid businesses in making decisions, developing strategies, and assessing market entry feasibility, where an attractive industry would exhibit a low score in all five forces.

Resource-Based View (RBV), proposed by Barney (2001), is a theory which focuses on internal organisational resources and capabilities as crucial factors to achieve organisational efficiency and sustainable competitive advantage. Resources are categorised into two types: tangible assets such as buildings and factories, and intangible assets such as beliefs, customer goodwill, and experience. Therefore, in a rapidly changing knowledge-based economy, the ability to effectively use resources can lead to a sustainable competitive advantage in the market.

Business Network Development

SWOT/TOWS analysis (Albert, 2013) is an analytical framework used to examine the internal and external environment of an organisation, to assess business situations. The framework accounts for four factors, including: 1) strengths, which analyses the organisation's strengths in terms of products, services, and teams, 2) weaknesses, which identifies areas where competitors outperform the organisation, 3) opportunities, which include market opportunities, customer understanding, competitor analysis, and development opportunities, and 4) threats or risks, which are external limitations or threats arising from the environment, including economic, social, and technological factors which are also accounted for in the opportunities analysis.

Consumer behaviour (Al-Refiay and et al., 2022) refers to the actions and decision-making process of individuals who purchase goods and services for personal consumption, and the actions of consumers related to the purchase and use of various products to maximise

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satisfaction within limited budgets. Analysing consumer behaviour to identify the 7Os (occupants, objects, objectives, organisations, operations, occasions, and outlets), involves asking the following questions: 1) who is the target market, 2) what do consumers purchase, 3) why do consumers make purchases, 4) who is involved in the purchase decision-making process, 5) when do consumers make purchases, 6) where do consumers make purchases, and 7) how do consumers make purchases.

Marketing Communications Development

Factors influencing consumer behaviour (Techakana, 2020), include primary and secondary cultures, social classes, reference groups, family, economic conditions, environmental factors, physical conditions, psychological conditions, as well as values and lifestyles. Fundamental cultures, or the primary culture, refers to the way of life and values created by individual societies, continuously passed down and accepted by one generation to another. The way of life and values serve as determinants and control factors of human behaviour in a particular society. Behaviour based on customs, traditions, and values arises from the knowledge, beliefs, lifestyle patterns, moral values, the use of goods, language usage, and symbolic meanings of certain things, all of which are variables that control consumer behaviour within a society.

Strategic business partnerships (Schwab, 2017) are defined as long-term collaborations between businesses as strategic alliances. The partnership is characterised by two organisations that have the expertise to promote and support each other equivalently, based on their knowledge and capabilities; both organisations hold equal responsibilities and roles in operations. Establishing strategic business partnerships is an approach to avoid supply chain bottlenecks during periods of high production capacity, instability, and unpredictability. Generally, organisations either seek new partnerships, or maintain existing partnerships in the long term. Strategic partnerships often indicate an intention to conduct trades and businesses together in the long-term.

Integrated marketing communications theory (Schultz et al., 2008) refers to strategic business planning, development, and integration of communication without having visible boundaries on consumer perception, including consumers and stakeholders. This facilitates in building consumer relationships and fostering behavioural responses, particularly in terms of sales and customer loyalty, which are measurable performance factors.

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Marketing communication strategies include: 1) marketing objectives, where planners are required to consider the what marketing communication is intended to accomplish, 2) marketing plan, where planners need to consider how marketing communication will be planned, whilst accounting for target groups, marketing objectives, brand positioning, and strategic use of marketing communication elements, 3) competitive analysis, to identify approaches to gain a competitive advantage through superior marketing communication strategies which include brand positioning, motivational points for consumers, and 4) consumer analysis, which refers to the understanding of the target consumer group, including consumer demographics, psychology, personality, purchasing behaviour, lifestyle patterns, values, preferences, and consumer needs or motives that prompt the customer to want to buy a product or service that is communicated through marketing communication.

METHODS

This study is conducted using a mixed-method research approach, consisting of three components: qualitative research using in-depth interview techniques, quantitative research using surveying methods, and qualitative research using focus group discussion techniques to validate the research model.

Research Participants

The first qualitative research component of the study involved in-depth interviews with 9 experts in the field, selected through targeted sampling. In the second component, the quantitative research study applied survey methods with real estate business operators who cater to the elderly population in Thailand. The subjects were selected from organisations that exhibit profitable operations for 5 consecutive years, with a total of 5,269 participants. The sample size is determined using structural equation modelling, which resulted in a sample size of 500 (Thanin, 2020). The sample population is randomly selected using a multi-stage sampling process, which involved categorising businesses into two types: large-scale businesses, and small-to-medium sized businesses. The samples were selected through probability sampling. The last qualitative research component implemented focus group discussions, involving qualified individuals who are executives in relevant industries. The sample population is selected through targeted sampling and consisted of 11 participants.

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Research Tools

The first component of qualitative research, using in-depth interviews, utilised structured interview questionnaires as prepared during this study. The quantitative component of the research used survey methods, which utilised questionnaires and analysed of the index of item-objective congruence (IOC) between the research objectives and the questions in the questionnaire. The questionnaires were tested on a sample of 30 participants, and the collected data were analysed using a standard deviation value between 0.50 and 0.94, and item total correlation value between 0.30 and 2.40, given the reliability value of the questionnaire at 0.96. Further, the third qualitative research component, using focus group discussions, utilised tools to record the discussions for further analysis.

Data Analysis

The data obtained from the first qualitative research component, involving in-depth interviews, were analysed through content analysis, followed by a summarisation of findings according to the research questions. Data obtained through quantitative research were then analysed using descriptive, inferential, and multivariate statistics through SPSS and AMOS software. Further, data collected through qualitative research involving focus group discussions were examined through content analysis, followed by a summarisation of the findings as opinions and suggestions.

RESULTS

The research findings, regarding the approaches for the development of the real estate industry for senior citizens to achieve sustainable success, are summarised as follows:

Qualitative Research Using In-depth Interviews

Based on expert interviews, four significant components that contribute to the sustainable success of real estate industry development for senior citizens include: opportunity development, project development, business network development, and marketing communications development. The analytical results of the significance level of each contributing factor are provided in Table 1.

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Table 1. Overall mean and standard deviation values of the significance level of each contributing factor to the sustainable success of real estate industry development for the elderly population.

Contributing Factors to the Sustainable Success of Real Estate Industry Development for Senior Citizens	$\overline{\text{X}}$	S.D.	Significance Level
Overall Significance Level	4.14	0.46	High
1. Opportunity Development	4.23	0.55	High
2. Project Development	4.07	0.56	High
3. Business Network Development	4.16	0.63	High
4. Marketing Communications Development	4.12	0.63	High

Source: Prepared by the authors (2023)

As observed in Table 1, the overall significance level for all the development components, affecting the sustainable success of real estate industry development for senior citizens, is significantly high ($\overline{\text{X}} = 4.14$). Further, each component exhibited a significantly high level of importance, with the following mean values in descending order: opportunity development ($\overline{\text{X}} = 4.23$), business network development ($\overline{\text{X}} = 4.16$), marketing communications development ($\overline{\text{X}} = 4.12$), and project development ($\overline{\text{X}} = 4.07$).

By individually examining the underlying factors which contribute to the high level of significance of each development component, it is determined that the significance level of the opportunity development component is attributed to external environmental factors that impact a project's success, exhibiting a $\overline{\text{X}}$ value of 4.30. The significance level of the business network development factor, on the other hand, is dependent on seeking cooperation from local police stations located within the project area, ensuring police patrols for security, and installing red emergency call boxes within the project vicinity, contributing to a $\overline{\text{X}}$ value of 4.23. Additionally, the significance level of the marketing communications development component is influenced by the implementation of a project entitled, "Friend Get Friend," where residents recommend their friends to reside within the same residential project, providing privileges to both the referrers and the referees (Referral Marketing), resulting in a $\overline{\text{X}}$ value of 4.22. Lastly, the project development component involved integrating comprehensive connectivity of information technology with facilities providing convenience within the residential project area, which contributed to a $\overline{\text{X}}$ value of 4.17.

Analysis of the Optimised Structural Equation Model for the Development of Real Estate Industry for Senior Citizens to Achieve Sustainable Success

Figure 1. Structural equation model for the development of real estate industry for senior citizens to achieve sustainable success, in standardised estimate mode, after model optimisation.
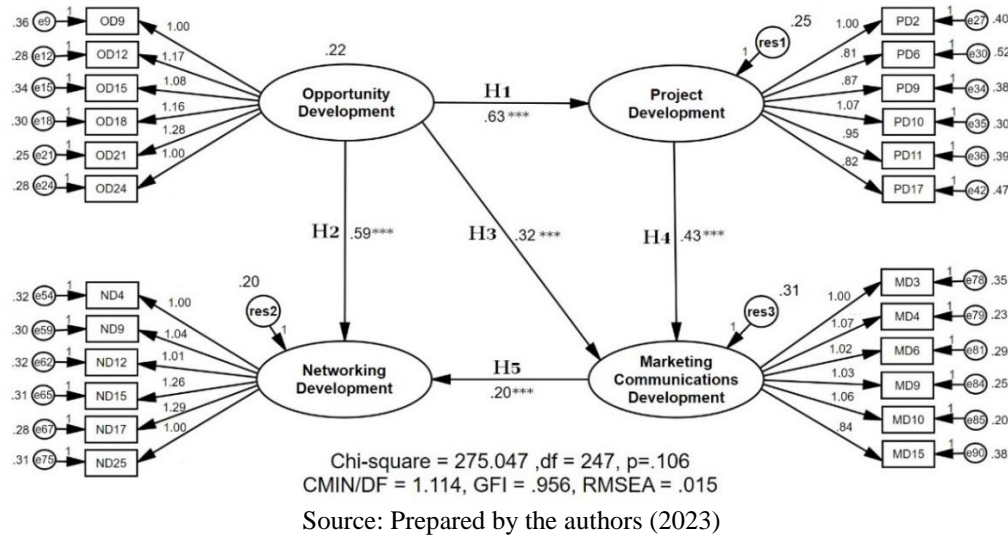

Source: Prepared by the authors (2023)

Table 2. Statistical results obtained from the analysis of the structural equation model following model optimisation.

Variable	Estimate		R²	Variance	C.R.	P
	Standardised	Unstandardised				
Opportunity Development				0.22		
Project Development	0.51	0.63	0.26	0.25	8.194	***
Networking Development	0.48	0.59	0.38	0.20	8.023	***
Marketing Communications Development	0.23	0.32	0.28	0.31	3.942	***
Project Development			0.26	0.25		
Marketing Communications Development	0.38	0.43	0.28	0.31	6.159	***
Marketing Communications Development			0.28	0.31		
Networking Development	0.23	0.20	0.38	0.20	4.675	***
Opportunity Development				0.22		
OD09	0.62	1.00	0.39	0.36		
OD12	0.72	1.17	0.52	0.28	12.826	***
OD15	0.66	1.08	0.43	0.34	11.957	***
OD18	0.70	1.16	0.50	0.30	12.607	***
OD21	0.77	1.28	0.60	0.25	13.425	***
OD24	0.66	1.00	0.44	0.28	12.065	***
Project Development			0.26	0.25		
PD02	0.68	1.00	0.46	0.40		
PD06	0.55	0.81	0.30	0.52	10.617	***
PD09	0.63	0.87	0.40	0.38	12.058	***
PD10	0.75	1.07	0.56	0.30	13.811	***
PD11	0.66	0.95	0.44	0.39	12.492	***
PD17	0.57	0.82	0.33	0.47	11.030	***
Networking Development			0.38	0.20		
ND04	0.71	1.00	0.51	0.32		
ND09	0.74	1.04	0.54	0.30	15.384	***
ND12	0.72	1.01	0.51	0.32	15.000	***

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ND15	0.79	1.26	0.63	0.31	16.502	***
ND17	0.82	1.29	0.67	0.28	16.983	***
ND25	0.72	1.00	0.51	0.31	15.003	***
Marketing Communications Development			0.28	0.31		
MD03	0.74	1.00	0.55	0.35		
MD04	0.83	1.07	0.69	0.23	18.611	***
MD06	0.78	1.02	0.61	0.29	17.479	***
MD09	0.80	1.03	0.65	0.25	18.045	***
MD10	0.84	1.06	0.71	0.20	18.891	***
MD15	0.67	0.84	0.45	0.38	14.789	***

***Statistical significance of 0.001*
Source: Prepared by the authors (2023)

According to the results obtained from optimised structural equation modelling, as shown in Figure 1, and Table 2, the approaches to the develop the real estate industry towards sustainable success consists of 4 latent variables. These variables are categorised into 1 external latent variable, which is the opportunity development component, and 3 internal latent variables, which are the project development, business network development, and the marketing communications development components.

The opportunity development component presents a significant direct influence on the project development component, with a standardised estimate of 0.51, which is statistically significant (p-value = 0.001), R-squared value of 0.26, and variance of 0.25. Further, the opportunity development component directly influences the business network development component, exhibiting a standardised estimate of 0.48, with a statistical significance of 0.001, R-squared value of 0.38, and variance of 0.20. The direct influence opportunity development has on marketing communication development component is presented with a standardised estimate of 0.23, which is statistically significant at a p-value of 0.001, R-squared value of 0.28, and variance of 0.31. The project development factor, on the other hand, shows significant direct influence on the marketing communications development component, with a standardised estimate of 0.38, with a statistical significance of 0.001, R-squared value of 0.28, and variance of 031. Whilst, the marketing communications development component exhibit a significant direct influence on the business network development component, characterised by a standardised estimate of 0.23 (p-value = 0.001), R-squared value of 0.38, and variance of 0.20.

The opportunity development factor consists of 6 variables, listed in descending order of standardised regression weight as follows:

1. Development of a business model for the elderly population, by creating a virtual community to collect various data in the form of Big Data (OD21). This variable

exhibits a standardised regression weight of 0.77, statistical significance level of 0.001, R-squared value coefficient of 0.60, and variance of 0.25.

2. Review of the potential and feasibility of incorporating new technologies and innovations in the real estate sector to enhance the quality of life for the elderly (OD12). This variable is characterised by a standardised regression weight of 0.72, statistical significance level of 0.001, R-squared value of 0.52, and variance of 0.28.

3. Study and development of management strategies to outperform competitors and create a differentiation in products and services that provide a better quality of life for the elderly (OD18). This presents a standardised regression weight of 0.70, a statistical significance level of 0.001, R-squared value of 0.50, and variance of 0.30.

4. Consideration of financial readiness factors, funding sources, and appropriate capital-raising methods (OD24), characterised by a standardised regression weight of 0.66 (C.R. = 12.065), statistical significance level of 0.001, R-squared value of 0.44, and variance of 0.28.

5. Investigation of the trends presented by problems relating to infectious diseases, chronic diseases, and accidents in daily life that senior citizens often encounter (OD15). This variable exhibits a standardised regression weight of 0.66 (C.R. = 11.957), statistical significance level of 0.001, R-squared value of 0.43, and variance of 0.34.

6. Study of the residential selection behaviour, demands, and important factors used in decision-making processes when selecting residences for senior citizens (OD09). This variable has a standardised regression weight of 0.62, R-squared value of 0.39, and variance of 0.36.

The project development component exhibits 6 variables, ranked in descending order of standardised regression weight as follows:

1. Design of residential condominiums that align with the lifestyle and physical limitations of the elderly population. For example, bedrooms being located on the ground floor, or residential units in low-rise buildings (PD10). This variable has a standardised regression weight of 0.75, statistical significance level of 0.001, R-squared value of 0.56, and variance of 0.30.

2. Generation of a clean and comfortable common space that is suitable for recreational activities and relaxation (PD02). The variable presents a standardised regression weight of 0.68 at the statistical significance level of 0.001, R-squared value of 0.46, and variance of 0.40.

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3. Establishment of a medical centre within the residential project vicinity, equipped with knowledgeable and skilled staff, along with essential medical equipment for emergency responses (PD11). This variable exhibits a standardised regression weight of 0.66, a statistical significance level of 0.001, R-squared value of 0.44, and variance of 0.39.

4. Implementation of a comprehensive and efficient basic telecommunications network within the residential project vicinity (PD09), represented by a standardised regression weight of 0.63, statistical significance level of 0.001, R-squared value of 0.40, and variance of 0.38.

5. Design of a well-ventilated house structure, using natural methods to ensure a comfortable living environment (PD17). This variable has a standardised regression weight of 0.57, statistical significance level of 0.001, R-squared value of 0.33, and variance of 0.47.

6. Design of wide and evenly levelled pathways to prevent falls and facilitate movement for the elderly, accounting for the use of wheelchairs and other walking aids (PD06). This presents a standardised regression weight of 0.55, statistical significance level of 0.001, R-squared level of 0.30, and variance of 0.52.

The business network development components, likewise, exhibits six variables, arranged in descending order of importance as follows:

1. Establishment of government relations, including relationships with public sector organisations such as the Department of Older Persons, and local public health offices, to build confidence and readiness for collaboration in improving the quality of life for senior citizens (ND17). This variable is characterised by a standardised regression weight of 0.82, statistical significance of 0.001, R-squared value of 0.67, and variance of 0.28.

2. Development of clear and transparent benefits for business partners, ensuring fairness for both stakeholders (ND15). The variable is designated with a standardised regression weight of 0.79 at the statistical significance level of 0.001, R-squared value of 0.63, and variance of 0.31.

3. Collaboration with partner groups of similar businesses, to drive business growth and address concerns relating to labour, cost, material prices, and areas where government support or problem-solving are required (ND09). This variable is defined with a

standardised regression weight of 0.74, statistical significance level of 0.001, R-squared value of 0.54, and variance of 0.30.

4. Evaluation of the direct benefits and impacts on primary stakeholders who benefit, or are directly affected by residential business operations targeting the elderly population, to identify clear systematic problem-solving approaches (ND25). The variable is presented by a statistical value of 0.72 (C.R. = 15.003), statistical significance level of 0.001, R-squared value of 0.51, and variance of 0.31.

5. Building good relationships with suppliers to establish trust in price setting and timely delivery of goods (ND12), designated with a standardised regression weight of 0.72 (C.R. = 15.000), statistical significance level of 0.001, R-squared value of 0.51, and variance of 0.32.

6. Involvement of the organisation as a member of relevant agencies or associations, to remain up to date on the changing conditions of the elderly population (ND04). This variable is denoted with a standardised regression weight of 0.71, R-squared value of 0.51, and variance of 0.32.

The marketing communication development component consists of 6 observed variables, ranked in descending order of importance as follows:

1. Introduction of virtual tours for residential projects, to allow potential residents to explore the residential project in detail and experience the virtual environment of units and houses prior to physically visiting the residential project area (MD10). This variable comprises a standardised regression weight of 0.84, statistical significance level of 0.001, R-squared value of 0.71, and variance of 0.20.

2. Advertisement and promotion of residential projects through online channels to facilitate easy access to project details for the target audience (MD04). This comprises a standardised regression weight of 0.83, statistical significance level of 0.001, R-squared value of 0.69, and variance of 0.23.

3. Creation of a social media account, including Instagram, to showcase the satisfaction level of the elderly residents enjoying a good quality of life within the residential project (MD09). This variable presents a standardised regression weight of 0.80, statistical significance level of 0.001, R-squared value of 0.65, and variance of 0.25.

4. Utilisation of diverse marketing communication formats and channels to increase accessibility to target audiences and deliver marketing content that aligns with the unique housing requirements of the elderly population (MD06). This variable consists

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of a standardised regression weight of 0.78 at a statistical significance level of 0.001, R-squared value of 0.61, and variance of 0.29.

5. Development of a structured communication framework to build brand awareness and establish a well-perceived value of the project, that aligns with the information-seeking behaviour of the elderly population (MD03). The variable holds a standardised regression weight of 0.74, R-squared value of 0.55, and variance of 0.35.

6. Employment of advertising means and public relations through televised and radio interviews with project executives, whilst presenting information related to the project's mission and business philosophy to achieve a good quality of life for the elderly population (MD03). This variable presents a standardised regression weight of 0.67, statistical significance level of 0.001, R-squared value of 0.45, and variance of 0.38.

Analysis of the Goodness-of-Fit of the Structural Equation Model Prior to and After Model Optimisation

Table 3. Statistical measures applied to evaluate the goodness-of-fit of the structural equation model, comparing pre- and post-model optimisation results.

Statistical Measures	Statistical Criteria	Before Model Optimisation	After Model Optimisation
CMIN–ρ)Chi-square probability level(	> 0.05	0.000	0.106
CMIN/DF)Normed chi-square(	< 2.00	2.203	1.114
GFI)Goodness-of-fit index(	> 0.90	0.660	0.956
RMSEA)Root mean square error of approximation(	< 0.08	0.049	0.015

Source: Prepared by the authors (2023)

As observed in Figure 1, and Table 3, the statistical results obtained from the goodness-of-fit study indicated that the root mean square error of approximation (RMSEA) exhibit a value of 0.049, which passes the criterion for good fit. However, the chi-squared probability level is 0.000, which indicates that the model does not fit well with the observed data. On the other hand, the normed chi-square value (CMIN/DF) is determined as 2.203, with a calculated value of the goodness-of-fit index as 0.660, both of which do not meet the criteria for good fit with the observed data.

Therefore, model optimisations were made by accounting for modification indices, as proposed by Arbuckle (2016), based on analytical data obtained from statistical software and theoretical principles, to eliminate insignificant variables. The model is re-analysed after each

variable elimination, until an optimised model is generated to meet all four statistical criteria, hence achieving a structural equation model that is complete and fits well with the observed data.

After model optimisations, the chi-square probability level is determined to be 0.106, which is greater than the criterion of 0.05, indicating that the model is not statistically significant. Further, the CMIN/DF value is calculated as 1.114, which is less than the criterion value of 2, whereas the GFI value is at 0.956, which is greater than the criterion value of 0.90. The RMSEA value, on the other hand, is determined as 0.015, value less than 0.08. Thus, all four values obtained pass the statistical evaluation criteria, indicating that the model is a good fit with observed data.

Hypothesis Testing Results

1.   Hypothesis testing on the causal effects between confounding variables in H1, H1: Results indicated that the opportunity development component directly influences the project development component, with a standardised regression weight of 0.51, at a statistical significance level of 0.001, which aligns with the research hypothesis.

2.   Hypothesis testing on the causation between confounding variables in H2, H2: The opportunity development factor directly influences the business network development component, presenting a statistical significance level of 0.001, with a standardised weight of 0.48, which is in line with the research hypothesis.

3. Hypothesis testing on the causal relationship between confounding variables inH3, the opportunity development component exhibits a direct influence on the marketing communications development factor, with a statistical significance level of 0.001, and a standardised regression weight of 0.23, hence aligning with the research hypothesis.

4. Hypothesis testing on the causal relationship between confounding variables in H4, H4: The project development component presents a direct influence on the marketing communications development component, with a statistical significance level of 0.001, and a standardised regression weight of 0.38, which is in alignment with the research hypothesis.

5. Hypothesis testing on the causation between confounding variables in H5, H5: The marketing communications development component has a direct influence on the business network development component, with a statistical significance level of

0.001, and a standardised regression weight of 0.23, which coincides with the research hypothesis.

6. Overall, the real estate industry for senior citizens towards sustainable success, can be categorised according to the size of businesses, as follows:

H6: The significance level of each component in the framework, for the development of the real estate industry for senior citizens towards sustainable success, varies with the size of businesses.

The results of the hypothesis testing indicate that the components of the framework for the development of the real estate industry for senior citizens, to achieve sustainable success, differ significantly according to the size of businesses, with a statistical significance level of 0.05, which aligns with the research hypothesis.

DISCUSSION

Based on the results obtained from this study, the following 3 points for discussion are addressed:

1. Based on the analytical results obtained from the structural equation model of the framework, for the development of real estate industry for senior citizens towards sustainable success, the standardised estimate model revealed that the opportunity development component exhibited the most significant influence overall, relative to other components. The opportunity development component presents a direct influence on the business network development component, with a standardised regression weight value of 0.57. This indicates that the opportunity development component in the housing industry for senior citizens requires collection of relevant data related to the elderly, including behavioural patterns, related concerns and problems, infectious diseases, chronic diseases, and accidents that may occur in daily life. These factors are essential for decision-making, when selecting housing options, in line with the SWOT analysis proposed by Albert (2014). Organisations should analyse the strengths and weaknesses, identify opportunities, and analyse problems and challenges as a fundamental basis for the development of business models and strategic management plans, to provide high-quality services for the elderly population. This is consistent with the study conducted by Kale and Singh (2009), which emphasises the collaboration between organisations to exchange knowledge, utilise business strengths, and reduce investment risks. Further, the framework is also in line with the study conducted by Pongsarun (2017); Al Muala

and et al., which proposes that supply chain management and strategic management should be signified to effectively manage internal and external organisational activities. Furthermore, this also aligns with the findings by Sutthida, Kanjana, and Pananwat] (2020), which emphasises the establishment of new housing for the elderly, implemented by government agencies, foundations, and private sector organisations, to accommodate to the economically diverse elderly population. This should include special psychological care programs for elderly individuals living alone, to enable them to live independently, and care for themselves for an extended period of time. Further, the analytical results are consistent with studies conducted Rojanasak and Chanida] (2017), which suggest that healthcare business models for senior citizens should offer a physically conducive environment, physical and mental well-being, affordability, professional nursing care, prompt problem-solving, and standardised services to create confidence and trust in services.

2. According to the analytical results obtained from structural equation modelling, it is determined that the opportunity development component directly influences the project development component, with a standardised regression weight of 0.51. The analysis suggests that Thailand has been experiencing a changing population structure towards an ageing society, whilst facing challenges in the market for products and services tailored to the elderly population, ranking at the bottom amongst other Asian countries (Siam Commercial Bank, 2021). This finding is consistent with studies conducted by Noppol (2019), which revealed that the market for products and services, tailored to the elderly population, is growing but is still insufficient to keep up with the increasing number of elderly individuals. This coincides with K. Pair's PESTEL theory (2008), which states that business opportunities in the real estate industry for senior citizens require an analysis of market trends, a comprehensive analysis of future business prospects, and a SWOT analysis (Albert, 2014). Using the PESTEL analysis will enable the identification of the positive and negative impacts of different factors on businesses. Similarly, according to Thotsapon and Trairat (2022), in order to study the social, economic, and living behaviours of the elderly population in higher-priced housing projects, as well as to analyse their housing needs, activities, and spaces within the projects, it is necessary to develop a business model and strategic management plan for elderly residential projects. These should include the following attributes: a design of residential layouts and buildings that align with the lifestyle and physical limitations of

the elderly population, such as placing bedrooms on the ground floor of the housing or low-rise buildings, establishment of a well-ventilated architecture using natural methods to provide a comfortable living environment, providing wide pathways with evenly levelled surfaces to prevent elderly individuals from falling and to facilitate the use of wheelchairs or other walking aids, presence of a clean and convenient common area suitable for recreational activities and relaxation, and establishment of a medical centre within the residential vicinity equipped with knowledgeable and skilled personnel as well as necessary medical equipment. This coincides with [Thotsapon and Trairat's] findings (2022), which suggests that the following design and improvement approaches should be considered for real estate projects tailored to the elderly population, to accommodate to the living conditions of the elderly individuals, based on the concept of design-for-all or universal design, allowing elderly individuals to move to lower floors consisting of a living area with doors and large windows that enables access to the outside. This will allow elderly individuals to enjoy the outdoor environment, even when residing inside the house. Further, an addition and improvement of garden spaces within the residential area, or creating public gardens, can encourage an increase in outdoor activities for the elderly.

3. From the research findings, it is observed that the opportunity development component exhibited the highest average value of $\overline{X} = 4.23$. This indicates that organisations should prioritise the establishment of a community for the elderly to gather relevant data on the ageing population. This includes behavioral patterns, lifestyle characteristics, relevant problems and concerns, infectious and chronic diseases, and accidents that may occur in daily life. These factors are crucial in decision-making processes that are relevant to residential choices and can serve as a database for the development of business models tailored to the elderly population. Further, strategic project management should be planned and executed in a superior manner to other competitors, by creating product and service differentiations and seeking suitable sources of funding to secure opportunities in presenting sustainable residential solutions for the elderly population. This aligns with Barney and Arikan's Resource-Based View (2001), which accounts for significant concerns related to the resource attributes owned by organisations as the basis for determining operational outcomes, hence leading to sustainable business competition. The framework also accounts for the costs, prices, and the capability of the business to create differentiations for products and services, to excel

beyond its competitors, which is in line with K. Pair's PESTEL theory (2008). PESTEL is implemented as an analytical tool to examine market trends and the overall future prospects of a business, by utilising data from external factors affecting business goals, and by accounting for uncontrollable factors that affect the business. Additionally, Albert's SWOT analysis (2014), is implemented to identify external factors that impact businesses, and to specify each factor's positive (opportunity) or negative (challenges) effects on the business. Organisations should conduct a detailed analysis to compare the outcomes which may positively or negatively impact the business.

CONCLUSION AND RECOMMENDATIONS FOR FUTURE WORK

The following recommendations are derived based on the analysis conducted for this study, for the development of real estate industries for senior citizens to achieve sustainable success: To achieve defined business objectives, it is crucial to study social structures, population proportions, rapidly changing cultures, including the lifestyles of the elderly, business environments, and real estate industry structures, along with the external factors impacting the industry. This knowledge facilitates the development of business opportunities. Emphasizing the creation of attractive, comfortable, and suitable residential areas with well-designed common areas, housing layouts, and green spaces is essential. Implementing resource management strategies and prioritizing sustainability in residential projects for the elderly population are also vital. Establishing partnerships with hospitals, clinical institutions, nursing colleges, rehabilitation centers, government agencies, financial institutions, suppliers of nutritional supplements, construction material suppliers, and media outlets enhances the quality of residential spaces for the elderly, fostering sustainable success. Developing effective marketing communication content, strategies, and channels specifically tailored to capture the attention and hearts of elderly customers is necessary. Furthermore, prioritizing community participation, social responsibility, and fostering positive relationships with neighboring communities ensures high-quality living environments for elderly individuals. Continuous engagement in research and development is crucial to utilize findings as guidance for the future development of real estate industries that can effectively accommodate the growing elderly population.

The following can be undertaken as future work:

1. Investigation of housing issues faced by elderly population groups in urban areas, and further study of development strategies to provide quality living conditions for the disabled and dependent elderly individuals in Thailand.

2. Preparation for a "Super Aged Society" where the elderly becomes a group with increased purchasing power, and a study of marketing communication channels that cater to the housing needs of the elderly population in a borderless world.

3. In-depth interviews and research on the behaviour, needs, attitudes, and satisfaction relating to housing needs for the elderly population, along with an investigation of the decision-making processes in the purchase of residential properties amongst Thai elderly, and elderly from different countries.

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