# Integrating Feng Shui principles into AI-driven solutions for Vietnam's Real Estate Industry

by
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## Abstract

This study discusses the conceptual integration of Feng Shui principles into an AI-based application for the real estate sector in Vietnam. Feng Shui, a deeply embedded cultural and spiritual practice, significantly influences property selection and design in Vietnam. A 2018 survey by the Vietnamese Royal Institute of Feng Shui indicated that approximately 98% of buyers consider Feng Shui in real estate purchases, yet only a small fraction receives satisfactory guidance. This presents an opportunity for leveraging AI technologies like machine learning and data analytics into traditional Feng Shui practice to modernize and streamline real estate recommendations for real estate sector in Vietnam. The study aims to assess how an AI-based Feng Shui application could enhance buyers' preferences by aligning with cultural values, improving ease of interaction, increasing satisfaction, and offering tailored recommendations. Utilizing the theoretical framework of socio-technical and cultural capital integration, this qualitative study employs interviews and experimental surveys with real estate sellers and buyers. Thematic analysis will be conducted to identify patterns in buyer perceptions and evaluate the application's impact. By integrating traditional Feng Shui with AI-driven solutions, this study provides insights into technological innovation, market differentiation, and improved decision-making in real estate. Findings might contribute to enhancing buyer trust, optimizing sales strategies, and fostering sustainable growth in Vietnam's real estate sector.

**Keywords:** Feng Shui, real estate, AI-driven solutions, cultural values, buyer's preferences.

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**Introduction**

Feng Shui, which literally means wind and water, is an ancient Eastern doctrine involving the arrangement of buildings, objects, and space in an environment to achieve living harmony and balance. In real estate, it is believed that a property or land with good Feng Shui would promote good health, wealth, prosperity, and bring luck to its owners (Cho, 2020b). Feng Shui has roots in early Chinese Taoist philosophy and remains popularly adopted today, influencing spaces across China, Asia, and even in Western cultures along with the current globalization trends of socio-cultural integration. In the West, Wu (Wu, 2019) emphasizes that Feng Shui practice has been used widely for years by architects, interior designers, and landscape architects as a design guideline for pursuing harmony in living environment. Overall, Feng Shui is highlighted as one of the main determinants of making decisions for real estate purchases, as stated by Gibler and Nelson (Gibler & Nelson, 1998).

Vietnam is no exception in the use of Feng Shui in real estate. In Vietnamese context, people's habits, lifestyles, and real estate purchases are highly influenced by Chinese culture. Taking a step back in history, the periods of Chinese conquests and Nguyen dynasty reveal shifts on cultural influences. Despite efforts of the French colonialists disrupting the Vietnam's cultural links with China, Vietnamese mindsets continued to reflect the foundational Chinese philosophical and religious doctrines of Confucianism (appeared in structured layouts with central axes and symmetry), Taoism (Feng Shui), and Buddhism (sense of continuity between life and the afterlife) (Vladimirovna & Chu, 2019). Real estate, a part of living space and environment, is considered spiritual goods market in Vietnam (Nghiem-Phu, 2022), which is influenced by these mindsets.

Feng Shui, a traditional Chinese practice, has been so deeply embedded in Vietnamese culture for centuries that there is high percentage of Vietnamese people that adhere to Feng Shui principles when making decisions about property design, construction, and purchase. A survey conducted by the Vietnamese Royal Institute of Feng Shui show that 98% or 2,516 of 2,568 real estate buyers are influenced by Feng Shui in their purchasing decisions. This data suggests that Feng Shui plays a significant value in the real estate market. (Truong Thinh, 2020).

Emerging AI technologies, such as machine learning, data analytics, and predictive modelling, have the potential to transform traditional practices by providing more precise, efficient, and scalable solutions. Integrating AI with Feng Shui might potentially modernize the practice, making it more accessible and appealing to contemporary buyers, while preserving its cultural significance.

The real estate market in Vietnam is characterized by rapid urban development and a growing middle class with increasing disposable income. This economic growth has spurred demand for residential, commercial, and industrial properties. However, the market is also highly competitive, with numerous local and international players vying for market share. In this competitive landscape, offering technologically unique and culturally resonant services, such as AI-based Feng Shui, might possibly provide an advantage for enhancing buyers' preferences.

**Statement of the problem**

The survey by the Feng Shui Institute as mentioned above highlights a clear demand for reliable Feng Shui guidance in real estate. In another survey result, only 30% of these buyers were consulted in this field, while few receiving satisfactory advice (1%) (T.R.I., 2024). Combining the traditional practice of visiting Feng Shui masters with multiple online channels searches is complicated and time consuming for buyers. This gap suggests several critical insights and opportunities for the research on AI-based Feng Shui solutions in real estate to gain high personal impact of Feng Shui for shifting in buyers' preferences and satisfaction.

**Purpose and Significance of the Study**

This high level of concern with Feng Shui underscores the high viability of developing an AI based Feng Shui application, particularly in the Vietnam where cultural and spiritual practices play a substantial role in consumer behaviour. It is for this reason, that this study explores the potential for integrating AI-based Feng Shui into the practices of real estate enterprises in Vietnam, to enhance buyers' preferences.

The significance of the study involves cultural relevance and appeal, technological innovation, market differentiation, improvement of buyers' decision-making, and business impact. First, as Feng Shui holds significant cultural importance in Vietnam, by incorporating AI-based Feng Shui, real estate enterprises could appeal to the cultural beliefs and preferences of Vietnamese buyers, thereby increasing buyer satisfaction and trust. Second, leveraging AI to modernize Feng Shui practices represents a fusion of tradition and technology. Such innovation could streamline and enhance the accuracy of Feng Shui assessments, making them more accessible and reliable for both real estate enterprises and buyers. Third, real estate companies that adopt AI-based Feng Shui by offering unique, culturally resonant services, to attract a niche market segment that values traditional Feng Shui principles in property selection and design would be more competitive. AI-based Feng Shui tools can also provide data-driven insights, predictive analytics, and personalized property recommendations, enabling more informed decision-making in property purchasing. This may lead to better alignment of properties with market demand and buyer preferences as well as greater loyalty and word-of-mouth referrals. Attracting more buyers who value Feng Shui in real estate offerings could potentially increase sales and profitability. The business impact extends to the broader real estate market, contributing to its growth and dynamism.

**Scope of the study**

The approach will be limited to basic and conceptual ideas of the application and its impact on the real estate industry. The scope of study involves three key areas: technological integration (development of the conceptual idea for an advanced application that integrates AI with traditional Feng Shui principles); socio-cultural integration (real estate buyers' analysis on perception and acceptance, including buyers' preference factors, cultural resonance of AI-based Feng Shui); and business impact (assess how AI-based Feng Shui contributes to the competitive advantage and business performance).

**Research question**

The study will focus on exploring the main research question: Considering the interaction of sociotechnical systems and cultural capital, how does the adaptation of an AI-based Feng Shui application in real estate enterprises influence buyers' preferences in Vietnam?

**Assumptions**

The assumptions for this study include: (1) the integration of AI-based with traditional Feng Shui principles will lead to more accurate and efficient recommendations of real estate property; and (2) the AI-based application with Feng Shui approach might provide a unique perspective that addresses buyers' emotional and psychological needs, leading to higher engagement, preference and loyalty.

The Feng Shui principles are defined at six components: 1) The Yin/Yang Principles, 2) The Five Elements, 3) The Eight Trigrams (Ba Gua Areas), 4) The Directions (East/West System), 5) The Solar System (Xuan Kong System), and 6) The Environment (Sang, 2013).

*AI-based application*. Using machine learning method, the AI-based application in this context "is a type of artificial intelligence and can simplistically be defined as: system learning from the past to predict the future" (Conway & Architecture, 2018)

**Potential impact**

This exploratory study of the AI-based application in real estate using Feng Shui principles underscores the potential of AI-based Feng Shui to transform real estate practices in Vietnam. By merging cultural traditions with cutting-edge technology, real estate enterprises could gain buyers' preference and satisfaction, foster sales and profitability for enterprises, and contribute to the sustainable growth of the real estate market.

## Literature Review

Feng Shui principles encompass a broad range of living environment that significantly influence land and property decisions among large populations in the world (MY Mak, 1998). When the living standard becomes higher in this modern life, people tend to expect a living place that is not only a "house" for their basic needs, but also a "qualified environment" for bringing good health, comfort, relaxing and enjoyableness. Good Feng Shui is believed to relate to these expectations (Cho, 2020a). For this reason, the integration of Feng Shui principles in modern technology such as AI-based application among real estate industry is necessary to help reach end-users' satisfactions when purchasing their land or property.

**Feng Shui and real estate**

Previous researchers have well mentioned the concept of Feng Shui since early times. Feng Shui aims to enhance a more comfortable living experience for people by examining their home orientation within an environment and the arrangement of objects (Cho, 2020b). In addition, in the western world, Feng Shui is often translated as

Geomancy (S. Lee, 1986). The key evidence that makes the above concept of Feng Shui well persuadable with a large population of users is the consistence of "six scientific theories and principles that have endured more than two thousand years of tests and experiments" (Sang, 2013). These principles are (1) The Yin/Yang Principles, (2) The Five Elements, (3) The Eight Trigrams, (4) The Directions, (5) The Solar System, and (6) The Environment.

Feng Shui has significant impact on real estate area in terms of pricing and interior design. The pricing impact of Feng Shui practice involves the buyers' willingness to pay higher price for a good Feng Shui living environment (Lin & Chen, 2012). Furthermore, a study of Ahmadnia et al (Ahmadnia et al., 2012) showed that the proper architectural or interior design of the property is essential to the feeling of comfort and safety in the home or workplace.

**AI technologies in real estate**

Recently, there have been researchers discovering useful findings in AI-based approach in real estate. Conway & Architecture (Conway & Architecture, 2018) attempted to study how AI is applied, and the actionable opportunities for the AI-based application in real estate. Lorenz (Felix Lorenz, 2021) also studied rental pricing of residential market using AI-based methods in their interpretability in real estate. The most recent paper of Baur et al (Baur et al., 2023) had brief concept on Ai-based models for valuating automatically based on property descriptions. These show that adapting of AI has positive impacts on the real estate industry including identifying investment opportunities and valuation.

**AI-based application using FS in real estate**

The AI-based application in real estate based on Feng Shui principles has not been investigated. As proxy literature review, there are several papers not direct but relevant to the topic. For instance, a patent by Wang et al. (Wang et al., 2014) presents a Fengshui evaluation method and system for automatic identification of key house features (gate orientation, bedroom direction, etc.) for residential house types, allowing rapid and scientific calculations based on a house image. Another related study by Leung and Chan (Leung & Chan, 2024) involves adapting ChatGPT to convert I Ching in modern management. The findings show that ChatGPT enhances accessibility, engagement, and interest in learning the I Ching, bridging ancient wisdom with modern management practices. Both patent and study above show positive insights for the potential to apply similar traditional practice like Feng Shui into modern technology like AI, as being explored in this research.

**Sociotechnical Systems Theory and Cultural Capital Theory**

The combination of Sociotechnical Systems Theory (STS) and Cultural Capital Theory provide a framework for the effective integration of technology within a cultural context. It posits that the successful implementation of technology, such as AI, requires a harmonious balance between the technical (application) and social (buyers, culture) components while also recognizing the value of cultural assets (Feng Shui). By considering both technological and cultural factors, enterprises could achieve a more comprehensive and socially relevant application of new technologies. The research is

grounded in these two theories that are well-described by theory owners Trist (Trist, 1981) & Bourdieu (Bourdieu, 1986) in their papers.

### Buyer preferences

For the purposes of this study, the literature review for the theme "Buyers' preferences" involves three aspects that relate to the theoretical framework mentioned above, which are: cultural values, property technology (Prop-Tech), and social relevance:

### Buyer preference and alignment with cultural values

Nguyen & Vu emphasized the essence of Feng Shui in the context of Vietnamese culture and real estate, that Feng Shui plays a significant role in shaping not just the physical aspects of a home, but also the spiritual and cultural dimensions of dwelling (Nguyen & Vu, 2023). This founds the importance to examine how AI-based Feng Shui application might resonate with Vietnamese buyers, potentially influencing their preferences and decisions in real estate.

### Buyer preference and digital technology use in Vietnam

Despite the growth of digital technologies, adoption in Vietnam remains slow among users (Le, 2022). In the Vietnamese real estate industry, transactions still heavily rely on paperwork, physical documents, and in-person or phone meetings, unlike in most developed countries where these processes are handled digitally. There is limited information on the use of Proptech in Vietnam to aid in real estate acquisition and portfolio management (Le, 2022). To resolve this, Cao & Nguyen (Cao & Nguyen, 2021) presented a method for building a real estate chatbot automatically to support customers in Vietnamese. The chatbot is trained with data set collected on Facebook groups and from the famous real estate website in Vietnam.

### Buyer preferences based on more tailored recommendations from AI-based application

There is no specific paper found in Vietnamese context for this point. Typically, websites gather user ratings for recommendations. However, with Ai-based tool approach, the recommendations incorporate historical data and the surrounding environment of a real estate location, making it easier for users to determine which place would be more suitable for them (Barua et al., 2019).

The above literature review show that previous researchers have studied different aspects of Feng Shui, its impact on the real estate industry in terms of price valuation and property design. However, the AI-based application in real estate based on Feng Shui principles has not been investigated. This new application is emerging for being studied to provide a tool that is more convenient, quickly recommendable, and user friendly that will be able to add value to the business area, industry of real estate and the transactions for real estate investors. The application, if feasible, will potentially help not only real estate investors to identify the proper land or property quickly and efficiently, but also for sales force and brokers to recommend suitable products for their customers, hence, to increase sales influence.

## Research Design and Methodology

The idea of developing an AI-based application in real estate using Feng Shui principles is new to the real estate area. Moreover, due to the challenges in pursuing big dataset that needs deeper investigation on technical aspects, this study shall be limited at the behaviour research only in exploring consumer insights to understand how preferable the application will potentially be. Another development research will be needed after this research, to develop and set-up the complete application for commercialization purposes. To obtain such a purpose, a design of qualitative methods will be used for conducting this research. A qualitative method will enable collection of information from participants through interviews and experimental surveys for exploring their insights on feasibility and potential impacts of the AI-based application using Feng Shui principles to the real estate sector.

## Theoretical framework

Theory of sociotechnical-cultural integration is employed in the study to ensure that the research is grounded in strong theoretical framework while also exploring relevant supporting perspectives to provide a comprehensive analysis. The theory underscores the importance of aligning the technical aspects of an AI application with the social and cultural environment in which it will operate. In the context of real estate in Vietnam, where Feng Shui plays a critical cultural role, this alignment is crucial for ensuring that the AI application is both effective and culturally appropriate. The integration of AI with Feng Shui, a form of cultural capital, enhances its acceptance and appeal, contributing to the competitive advantage of real estate enterprises.

The AI-based Feng Shui application is designed and implemented with a careful balance of technical capabilities and cultural sensitivity. By modernizing Feng Shui practices through AI, the application not only leverages advanced technology but also preserves and enhances its cultural significance in real estate transactions. Such integration helps real estate enterprises in Vietnam appeal to buyers who value cultural practices, thereby increasing their market position and competitive advantage. In addition, the sociotechnical and cultural dimensions work together to create a solution that is technologically advanced, socially relevant, and culturally respectful. Overall, this approach would provide a solid foundation for analysing how AI-based Feng Shui could enhance buyers' preferences in the real estate sector in Vietnam while keeping the research focused and manageable.

## Research Question and Hypotheses

The design of qualitative methods will be used to answer the research question: Considering the interaction of sociotechnical systems and cultural capital, how does the adaptation of an AI-based Feng Shui application in real estate enterprises influence buyers' preferences in Vietnam?

To answer the above question, there are four possible hypotheses for the research questions, which are grounded by the above theoretical framework of sociotechnical-cultural Integration to ensure the test of hypotheses will be logical and reliable:

H1: If the application of AI-based Feng Shui in Vietnam could better align with cultural value, its adaption would enhance buyers' preferences.
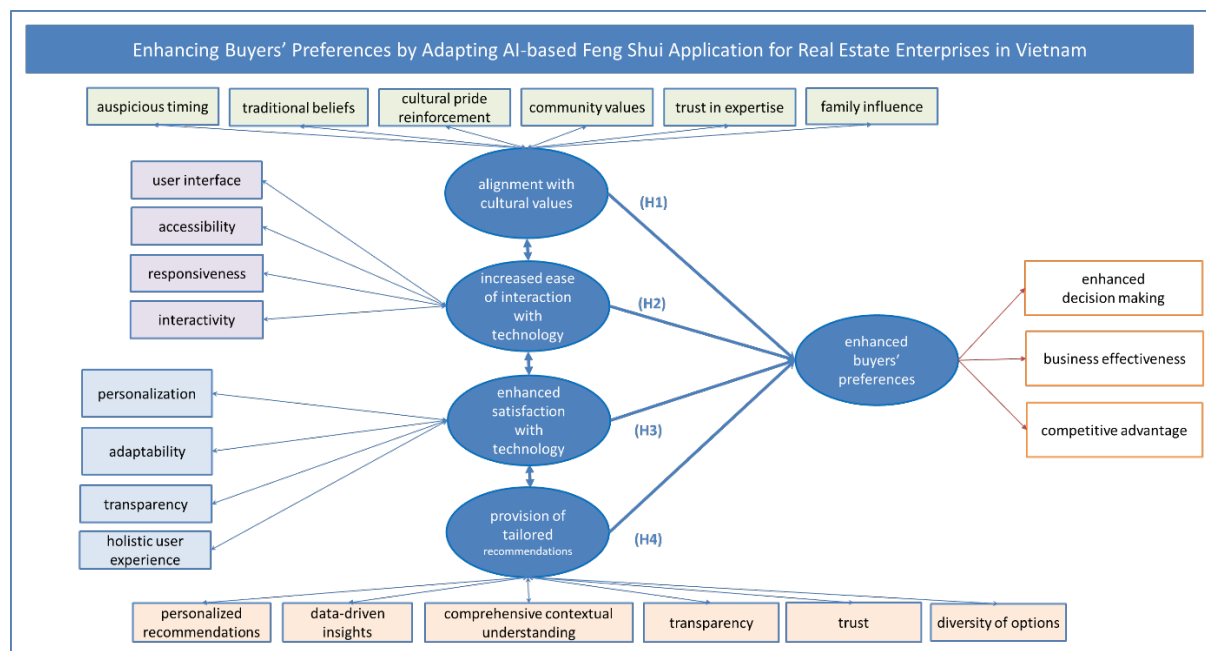
H2: If the application of AI-based Feng Shui in Vietnam could increase the ease of interaction with the technology, its adaption would enhance buyers' preferences.

H3: If the application of AI-based Feng Shui in Vietnam could enhance the satisfaction with the technology, its adaption would enhance buyers' preferences.

H4: If the application of AI-based Feng Shui in Vietnam could provide more tailored recommendations, its adaption would enhance buyers' preferences.

Based on above hypotheses, a concept model for the research is described in Figure 1 below. The sub-variables stated in the concept model are ideas that the researcher predicts to get from responses, that actual data might be different. The researcher expects to perceive the valuable findings by collecting as many new ideas as possible from respondents for this behaviour research.

**Figure 1**
*Conceptual model*



Note. Formulated by the authors

### Operational definitions

*The application of AI-based Feng Shui* means the AI-based application in real estate using Feng Shui principles. For the purposes of this study, the application is limited to an initial and conceptual approach of the application only.

*Buyers' preferences* relate to the grounded theoretical framework only, which are "the alignment of the application with cultural value", "the ease of interaction and satisfaction with the technology that the application increases", and "the more tailored recommendations that the application provides".

*Traditional beliefs* involve in Feng Shui principles (how well the AI-based application integrates key Feng Shui rules like land and property orientation, layout, and balance of elements), local customs (incorporation of original Feng Shui variations or practices prevalent in Vietnam), and symbolism (use of Feng Shui symbols, colors, and motifs).

*Auspicious timing* highlights culturally significant dates and times for land or property decisions based on the lunar calendar.

*Cultural pride* reinforces pride in maintaining and adapting traditional values in modern living.

*Community values* relate to collective values like harmony, family wellbeing, and prosperity.

*Trust in expertise* includes emphasizing the role of traditional practitioners by offering optional consultations with certified Feng Shui experts to bridge trust gaps).

*Family influence* addresses the importance of family input in decisions of land or property purchase, which is a key cultural factor in Vietnam.

*Transparency* means to explain how AI derives its recommendations based on traditional principles.

*User interface* means the AI-based application able to provide intuitive navigation with simplified menus and clear instructions for ease of use, visual aids i.e. the use of interactive visuals like 3D property models or real-time Feng Shui overlays to enhance comprehension, and cultural relevance in design with aesthetic elements like culturally appropriate colors and symbols to create a familiar environment.

*Personalization and adaptability:* The definition in this context means the inclusion of customizable settings which allow users to tailor the interface based on preferences (language, themes, or level of detail), dynamic recommendations (adjusting recommendations in real-time based on user input or feedback), and role-based access (features for different user types such as buyers or sellers) to ensure relevance.

*Accessibility* involves cross-platform availability that is compatible with mobile devices, tablets, and desktops, and offline functionality that allows access to core features without requiring constant internet connectivity.

*Responsiveness and interactivity:* This variable emphasizes quick response time (fast-loading pages and real-time calculations to avoid delays), inclusion of interactive features like drag-and-drop room layouts, interactive maps, and Feng Shui calculators.

*Holistic user experience* includes helpdesk and chatbot support for users to instant access to assistance for technical or content-related queries, sharing tools of land or property layouts or Feng Shui recommendations with family members or agents, user feedback loops with mechanisms for users to report issues or suggest improvements, and AI adaptive learning of user preferences over time to improve recommendations.

*Personalized recommendations* involve tailoring suggestions based on individual buyer needs, lifestyle, and preferences of users, customizing Feng Shui recommendations based on the unique attributes of a property i.e. layout, location, orientation, and adapting recommendations in real-time as users refine their criteria or provide additional

input.

*Data-driven insights* is a method of behavior data analysis and predictive model by leveraging user interaction data to predict preferences and improve the relevance of suggestions, using AI to anticipate buyer needs and recommend properties aligned with their long-term goals, and incorporating local cultural nuances into recommendations to ensure alignment with traditional values.

*Comprehensive contextual understanding* involves providing recommendations that align with user lifestyle goals like health, wealth, and family harmony. The understanding also includes environmental factors of external influences (neighborhood features, climate, and local Feng Shui considerations) and long-term suitability (assessing properties for future adaptability based on potential changes or family growth).

*Transparency and trust:* In this context, the application emphasizes recommendation rationale (explaining why specific recommendations were made to build user confidence in the AI's suggestions) and trust reinforcement (highlighting data sources, algorithms, and validations that back the tailored suggestions).

*Diversity of options:* The application provides multiple property options with explanations of how they align with user preferences and offers insights into how small adjustments i.e. renovations or rearrangements could improve a property's Feng Shui.

*Population sampling strategy:*

The targeted population sampling for this research will be working adults with relevant experience in selling and buying real estate in Vietnam. For recruitment, the use of true-random and convenient sampling shall be applied, focusing on recruiting ten participants who could access mobile applications and computers for experiments and online interviews. The recruitment sources are salespeople or brokers working at real-estate agencies and buyers with successful purchasing transactions at real estate trade floors or agents.

Recruited participants' demographics and responses are committed solely for the purposes of the research. No incentive or compensation will be given to ensure the unbiased data is collected.

**Data collection procedure**

While qualitative methods approach in this research is suitable for collecting insights and feedback into "social, emotional and experimental phenomena" (Hs & Minhat, 2015), the study aims to have two phases with data collected from the ten participants.

Phase 1: Online interviews to collect insights on the new AI-based Feng Shui application. Other purposes of Phase 1's interviews are for the researcher to describe the identify the variables that relate to research hypotheses. To conduct online interviews, semi-structured questions will be used. There will be a set of 20 to 25 interview questions for each participant. Among these, approximately 50% are structured questions built

initially before the interview that relate directly to clarifying the research question and hypotheses. The remaining questions are unstructured and based on participant's responses to explore new ideas. The maximum duration of each interview is 120 minutes and will be audio-recorded.

Phase 2: comparative experiments. The participants will be provided the currently available application in Vietnam: "Xhero" launched on September 22, 2024, (Le, 2024). After that, a comparative study between the two applications of "AI-based Feng Shui" and "Xhero" will be applied for the same participants from Phase 1 to share feedback through an online survey. The survey questionnaire of 20 questions will be applied online using Qualtrics tool where questions are built based on the variables collected from Phase 1's insights to ensure structured and unique outcomes. The purpose of Phase 2 is to validate the variables and hypotheses on buyer's preferences on the new AI-based Feng Shui application and discover the research findings and results in a robust evaluation.

According to Georgescu and Anastaiu (Georgescu & Anastaiu, 2022), interviews are a fundamental tool in this qualitative research grounded by socio-technical and cultural capital, providing an in-depth exploration of participants' perspectives, experiences, and social contexts (Froschauer & Lueger, 2020). Interviews enable researchers to gather nuanced data, capturing the complexities of human behaviours, social dynamics, and cultural influences (Mehrad et al., 2024). Furthermore, interviews allow for the investigation of social meanings and emic (insider) perspectives, fostering a deeper understanding of how individuals navigate and interpret their cultural and technological environments (Lee, 2024). Additionally, interviews contribute to a rigorous and iterative research process that minimizes bias and enhances objectivity (Dursun, 2023). Overall, whether in culturally sensitive research or studies of socio-technological systems, interviews remain a powerful tool for uncovering the intricacies of human behaviours and the interplay between culture, technology, and society (Georgescu & Anastasiu, 2022; Froschauer & Lueger, 2024).

Experiments play a crucial role when being integrated with interviews into research. According to Steils (Steils, 2021), qualitative experiments enhance hypothesis validation in socio-technical and cultural contexts by uncovering processes and behaviors that participants might not articulate. This exploratory approach allows for nuanced comparisons of different case studies, revealing deeper insights into user interactions that enhance the robustness of evaluations. Additionally, according to Yu and Wang (Yu & Wang, 2022), taking the dissemination of a similar traditional practice of Bai Yuchan's thoughts as an example, experiments that integrate cultural terminology into AI models could enhance the relevance and accuracy of the applications, making them more effective in their cultural contexts. Furthermore, Naber (Naber, 2015) emphasizes that the use of qualitative experiments is well suited for examining the process of improving strategies for searching and finding solutions for problems, allowing for a comprehensive analysis of social processes, particularly in innovation research. Finally, understanding user experiences through experiments could inform the design of AI applications that resonate with cultural values, ensuring they meet user expectations and enhance cultural practices (Yuan et al., 2024).

**Data processing and analysis strategy**

Thematic analysis (TA) will be used to analyse the collected data. This structured approach ensures rigorous analysis of interviews and experimental findings in the theorical framework of socio-technical and cultural capital. Its flexibility and adaptability make TA a preferred choice across various disciplines as it uncovers patterns and themes within data, providing insights that enhance rich understanding of participants' experiences and perspectives (Sandhiya & Bhuvaneswari, 2024). Additionally, TA is considered a systematic approach that facilitates rich data interpretation of participants' beliefs and experiences (Saunders, 2023), especially by the adaption of six-phase process proposed by Braun and Clarke (Braun & Clarke, 2012) to coding and theme generation, which is essential for extracting meaningful insights from qualitative data (Wæraas, 2022).

Transcripts from interviews and surveys are the primary data sources. Transcript-base is an appropriate strategy for qualitative research in term of collecting comprehensive insights and open feedback for proper outcomes. The thematic analysis will also identify patterns and themes related to the integration of Feng Shui principles and AI technologies. The steps of analysis are: 1) preparation and organization of data, transcribing interviews, field notes, and survey responses; 2) review and data interpretation; 3) developing a data coding system using inductive coding; 4) data coding; and 5) identification of recurrent themes. Inductive analysis shall be applied as well to group relevant codes for creating themes for data analysis and comparison.

*Tools and visual representations*

Zoom for interviews. Interviews of participants will be conducted through Zoom meeting tool with automated transcription and audio recording.

Qualtrics CoreXM for surveys in comparative experiments shall be used as a tool for data collection and analysis of this qualitative research. According to Content Square (ContentSquare, 2024), Qualtrics is one of the powerful tools designed to collect and analyse insights for better decision-making and removing uncertainty from product development. The platform streamlines processes by enabling researcher to gather qualitative data and act on insights through integrations. Qualtrics is selected as it provides robust analytics capabilities, which provide real-time insights and help optimize surveys for effective data collection.

Matrix structure: Data collected will be displayed in Matrix format with classifications of participants in rows, and themes in vertical columns. The Matrix structure is helpful for the researcher to present data through rows and columns analysing two or more dimensions of the topic of interest. Matrix format is chosen because it enables the researcher to collect and arrange data for easy viewing and organizing data by case or chronology (May et al., 2023), to perform detailed analysis of data at the proposition level, and to conduct cross-case analysis (Zhang et al., 2014).

The process is based on the participants' responses. The researcher starts with creating codes and grouping similar codes into themes relevantly. Afterwards, the coded data is

inserted manually to develop the matrix on the respondent basis. Then, cells in the matrix are used to create a summary of source material. It is done by reference to the information presented in the relationships of rows and columns. Additionally, the researcher walked through the interview and survey transcripts and went through the rows individually to add information to each cell. The last step of the data presenting through matrix structure was summarizing the material. In the created matrix, empty cells were left for the themes that do not relate to the participants' responses.

*External and internal validity*

If applicable, this new idea of AI-based application will be an internal advancement of the new integration with the traditional Feng Shui in the real estate sector. The application will provide a new AI-based tool for salespeople who have higher confidence while approaching buyers of Feng Shui concern. for more reliable and persuadable offers. Externally, the application shall be an advanced tool that will potentially increase buyers' preferences and fast decision-making. It also assists real estate enterprises to explore higher sales transactions efficiently.

*Ethical dilemmas and challenges*

Ethical dilemmas and challenges faced in the study might include informed consent, conflict of benefits, cultural sensitivity, and undermining of rich cultural significance. The study requires that participants fully understand the study's purpose, procedures, and potential risks and benefits, and obtaining their informed consent to participate. In addition, with Feng Shui stakeholders, there might be a misunderstanding on the potential disruption of traditional approach that affects to Feng Shui stakeholders' profession. Due to cultural sensitivity, the researcher needs to be mindful of cultural beliefs and practices related to Feng Shui and respecting participants' cultural backgrounds when discussing and interpreting findings. Despite positive views on Feng Shui adaptation into AI-based application, several practitioners mentioned about certain challenges. For instance, Zhang (Zhang, 2018) concerned that "Feng Shui, as a locally meaningful heritage, should be cherished and utilized for contemporary heritage conservation. Over-simplification or automation could undermine its rich cultural significance." Development of AI-based application needs to be broader and deeply investigated to ensure that it covers these aspects of concerns.

Ethical dilemmas and challenges should be addressed proactively, adhering to ethical guidelines and seeking appropriate institutional approvals, to ensure the study's integrity and the well-being of the participants involved.

**Implications for future research**

This study provides a theoretical basis of integrating AI-based application using Feng Shui principles in real estate for future research. Based on the study outcomes, future researchers will be able to develop algorithms and models suitable for the users' demands and preferences. This study is behaviour research employing the theory of sociotechnical-cultural integration to ensure that the research is grounded in strong theoretical framework while also exploring relevant supporting perspectives to provide a comprehensive analysis. With qualitative approach, the research question and hypotheses are designed based on this theoretical framework as well, together with

operation definitions as limitation scoping the context of the study. Moreover, population sampling strategy, data collection procedure, data processing and analysis strategy were also mentioned in this chapter, capturing a comprehensive proposal for the study. Given the novelty of the topic and the current external and internal validity, and limitations in technical and dataset availability, the study focuses solely on behavioral research, setting the groundwork for future development and commercialization of the application.

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