

APPLICABILITY OF ARCHITECTURAL DESIGN FEATURES OF MALAY
TRADITIONAL HOUSES FOR CONTEMPORARY
MALAYSIAN HOUSES

ELHAM HOSSEINI

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To

My mother and father,

My lovely brother and sisters,

For their endless love, support and encouragement

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ABSTRACT

The applicability of architectural design features of Malay traditional houses is an essential part of the architectural phenomenon that influences creativity in the design of contemporary Malaysian houses. The current buildings are formless and without spirit due to inattentiveness and inattention towards traditional design features that resulted merely from the use of stylistic ornaments. The aim of this research is to identify the architectural design features of Malay traditional houses in order to elicit the latent features for applicability in contemporary Malaysian houses. The objectives are to identify applicability of architectural design features of Malay traditional houses for implementation in contemporary Malaysian house designs, and to obtain the experts' viewpoints on the Malay traditional houses in order to validate the Architectural design features' implementation in contemporary Malaysian houses through the strategy of a qualitative descriptive research design. The data were collected using multiple techniques, including the analysis of archived documents of 29 houses from The Centre for the Study of Built Environment in the Malay World (KALAM). Semi-structured interviews were conducted with six experts, followed by direct observation. The data from the interviews were analyzed by categorizing the themes, while visual analytical technique was used for the archival data in search of salient evidence within the information. The findings showed architectural design features are found in categories under three major themes - physical, spatial and design features. The research concluded that features such as roof, openings, materials, craft details, space arrangements, interior features, surface finishes, and exposed structure are significant in applicability to contemporary Malaysian houses. The research contributed a theoretical explanation to bridge the values of the past to the present in a form of a design framework for contemporary Malaysian houses.

ABSTRAK

Kebolegunaan ciri rekabentuk seni bina rumah Melayu tradisional merupakan salah satu pendekatan yang penting bagi fenomena senibina yang mempengaruhi kreativiti rekabentuk kontemporari rumah-rumah di Malaysia. Kebanyakan bangunan kontemporari tidak mempunyai rupabentuk dan semangat yang bermakna, disebabkan ketidakprihatinan dan kurang tumpuan kepada ciri-ciri rekabentuk tradisional yang terhasil dari penggunaannya semata-mata sebagai hiasan. Tujuan kajian ini adalah untuk mengenalpasti ciri-ciri reka bentuk seni bina rumah Melayu tradisional bagi memperoleh ciri-cirinya yang terpendam yang dapat digunakan didalam rekabentuk rumah-rumah kontemporari Malaysia. Objektif kajian ini adalah untuk mengenal pasti kesesuaian ciri reka bentuk seni bina rumah tradisional Melayu yang boleh digunakan pada reka bentuk rumah Malaysia masakini, dan mendapatkan pandangan pakar berkaitan rumah Melayu tradisional bagi mengesahkan bahawa ciri-ciri reka bentuk seni bina tersebut boleh digunapakai didalam rekabentuk rumah Malaysia masakini, melalui strategi reka bentuk kajian kualitatif deskriptif. Data dikumpul menggunakan pelbagai teknik, termasuk analisis dokumen arkib 29 buah rumah yang terdapat di Pusat Kajian Alam Bina di Dunia Melayu (KALAM). Temu bual separa berstruktur telah dijalankan bersama enam pakar, diikuti dengan pemerhatian secara langsung. Data temu bual dianalisis dengan mengkategorikan tema, manakala teknik analisis visual telah digunakan bagi data arkib untuk mencari bukti penting yang terkandung didalam maklumat yang diperolehi. Dapatan kajian menunjukkan ciri-ciri reka bentuk seni bina terdapat di dalam kategori-kategori di bawah tiga tema utama - fizikal, ruang dan ciri reka bentuk. Kajian ini menyimpulkan bahawa ciri-ciri seperti bumbung, bukaan, bahan-bahan, butiran kraf, susunatur ruang, ciri-ciri dalaman, kemasan permukaan dan struktur yang terdedah adalah penting bagi kebolegunaan didalam rumah-rumah kontemporari di Malaysia. Kajian ini menyumbangkan suatu penjelasan teoretikal yang mengaitkan nilai masa lalu kepada masakini melalui suatu rangka kerja rekabentuk rumah kontemporari Malaysia.

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LIST OF ABBREVIATIONS

ADF	-	Architectural Design Features
CMA	-	Contemporary Malaysian Architecture
CMH	-	Contemporary Malaysian House
KALAM	-	Centre for the Study of Built Environment in the Malay World
MTH	-	Malay Traditional House

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CHAPTER 1

INTRODUCTION TO THE RESEARCH

1.1 Introduction

The overall frame of this research is concerned with the tangibility of the Architectural Design Features (ADF) that is found in the architecture of the Malay Traditional House (MTH) and its application in the design of the Contemporary Malaysian Houses (CMH). The research is essentially exploratory in nature, investigating the ADF of the MTH for its applicability to the architecture of CMHs. Therefore, what follows, is a discussion of the revealed concepts and its contribution to the formation of a design framework for the CMH. The research not only bring spotlight to the individual ADF that is found in the MTH, but also reflects the collective design decision of Malay and local social groups sharing a common ideology, which embedded the ADF and the values in the MTH.

1.2 Background of Study: Value of the Traditional

In general, organization of the traditional built environment is founded on dwellers' perception of their physical, biological, social and their intimate and unceasing interfacing to form their own settlements. According to Langhein (2005) traditional built environment was based on inherent expressions of design values, creating an enduring place, adapted to its environmental conditions. The features of traditional built forms are in harmony with their lifestyle and culture, which is generated through a sympathetic way of design within the cultural environment.

According to Oliver (2007) the dwelling is the most accessible and complete synthesis of traditional architecture that explains its form and performance in a lucid manner. The variation of forms in traditional houses is defined as a complex phenomenon that is affected from different attitudes and ideas of dwellers in response to varied physical environments (Rapoport, 1991). In this regard, the establishment of traditional houses has the most fundamental aspect in architecture throughout history. Traditional ADF is an important component that regulates certain norms and beliefs to express cultural symbolic meanings of each region. The integration of culture and tradition is embedded in the ADF of traditional architecture. Thus traditional ADF receives considerable attention, in how it expresses the local belief in different parts of the world (Oliver, 2007). ADF such as fenestration walls, doors, windows, roof, natural materials, raised floor, spatial relation, etc. depicts the attitude of perfection and authenticity. Maintaining the originality of ADF that physically, structurally and spatially tied the strength and stability of architectural components (Holm, 2006).

MTH is one of the richest treasure of Malaysia's cultural heritage and its standing is based on cultural and local conditions of society's demands (Yuan, 2010). Studies have demonstrated that MTH is a source of identification of society's belief and spirituality (Mohd Rasdi & Hussain, 2005) laid on the platform of cultural legacy (Ismail & Ahmad, 2002). In this regard, ADF of the MTHs are a fine source of perfect and authentic expressions of architectural character in the Malay Peninsula. The values of ADF strongly illustrate the ideology of the people, and their resources in such a flexible manner (Birkeland, 2002). In practical terms, the ADF of MTHs demonstrates the practicality, skills and creativity for the region (Yuan, 2010). Skilful creation of ADF in MTH unfolds efficiency of its functional structure in a creative manner. The adaptability of building forms complements the structural system to make coherent compositional components. ADF represents the values of design that meet the context of time, culture and environment.

The characteristics and stability of MTHs are the most natural guides to create a soulful contemporary architecture (Tahir, et al., 2010). Appropriate ADF are able to correspond needs and environment to retain their relevance. Given the

essential cultural stability, contemporary Malaysian architecture (CMA) captures the meaningful design that meets the spirit of time and place. In contemporary times, it preserves its authenticity to meet modern demands. Application of ADF of MTH values is observed as a novel effort that bridges to the modern nation's ideology of contemporary architecture (Mohd Rasdi & Hussain, 2005).

1.3 Problem Statement

Peoples' lifestyle and new technologies are modernizing the architectural forms. Although modern technology necessitates creativity in modern life (Shahedi, 2011), dependency for the new-found technology has excluded CMA from the traditional (Mohd Rasdi & Hussain, 2005). Thereby, CMA is one of the controversial subjects of the 20th century. Issues of CMA were raised by many scholars in the globalization period of Malaysian architecture due to inattentiveness toward the wisdom of traditional architecture (Che Amat & Abd. Rashid, 2009). Such issues need to consider not only environmental factors, but history, tradition and context of time and culture (Tahir, et al., 2010).

The lack environmental design response caused climatically uncomfortable housing and excessive energy consumption in contemporary architecture in the tropical region. The trend moves to greater dependency on air conditioning and less consideration of natural ventilation and natural day lighting in contemporary designs (Hui, 2011). MTHs that withstand climate tests over generations provide outstanding climatic features. Adaptations of traditional houses with environmental conditions as an endurable place for dwellers would be considerable in the determination of contemporary ADF (Dincyurek & Turker, 2007, pp. 84-92). In other words, while environmental conditions of any particular region have direct influences on the various typologies of ADF, the high performance criteria of traditional ADF are a contributor to the quality of contemporary architectural design (Sennott, 2004). There are substantial design features that exist as critical factors in the context of the MTH. In a study relating to the climatic solution of vernacular architecture into contemporary solar passive in Malaysia, Hui (2011) found that there is positive

relation between the traditional and vernacular houses with the context of their built environment. These relationships should be ideal for CMA, to make usable applicable techniques from the past to present in the proper manner (Habraken, 2000).

The significant of history by recognition of traditional ADF as the most important factor, enhancing the sustainability of contemporary architecture (Habraken, 2000), (Şerefhanoglu Sözen & Gedik, 2007). Lack of attention at the ADF of MTH in the pursuit of CMH provides interruption with the past and decreased meaning in the development of CMH architecture. Similarly, inattentiveness to the philosophical idea about the design features of the MTH, as an honest social process of its own time would ends to a problem of how actually CMH would perceive by humans. These issues also are found in philosophical ideas. The features of architectural tradition should not be rejected where it can apply in the development of the architectural components of CMH.

The losses of the regional aspect particular regional architectural impose its culture on another society. For example the global architectural style has replaced regional architectures in many nations, including the East Asia because of its dominance and economic power, resulted a typical dominant architecture almost everywhere (Brown, 2009). The originality of the built environment and the cultural aspect as a key concept that manifested in the regional character is wiped out the cultural aspect of architecture. As a result, the global architectural invention causes different ways of expressing architectural elements. Issues in contemporary architecture elaborate and support the performance of ADF, sustainability of contemporary design. According to Habraken (2000), the importance of the fabric and characteristic of each region is a pragmatic solution to enhance the sustainability of contemporary architectural design and ought to recognize by practitioners as a general principle of traditional structure to be referred to contemporary architecture.

There is a negative perception towards western ideology due to the process of rapid modernization (Mursib, 2008) and the lack of traditional values in CMA. Indeed, the Malay ethical roots have been neglected which cause lack of traditional

design values of CMA (Mohd Rasdi & Hussain, 2005). One should be aware of the fact that the Malaysian architecture is disregarding its authenticity and undergoing a considerable transformation (Mursib, 2008). So, the preservation of originality through the constitution of contemporary regional architecture is a critical factor in the continuity of MTHs (Syed Ariffin, 2001). Without any link, the continuity of traditional ADF and values in contemporary architectural design is not achievable (Almaas & Malmquist, 2006).

The knowledge of traditional architecture originates from ancient wisdom yield soulful dwelling forms (Mark Gelernter, 2005). Unfortunately, due to inattentiveness towards traditional values, contemporary architecture is criticized as formless and inhumane. Some resorting to mere stylistic ornaments (Langhein, 2005). So, it creates ambiguous about the senses of belonging and place in relation to the historical background of MTH.

Lack of study on the ADF from a different aspect and disregarding theoretical approaches to the Issues of CMA is identified as the main reasons, rising issues in CMA (Hui, 2011). These issues necessitate study on the applicability of ADF as the reference for contemporary architecture. The influential quality of ADF of traditional architecture stands against the globalization of CMA. Performance of ADF is highly vital development of CMA, produce a workable solution toward issues and practice in CMA. The lack of signature of ADF of the MTH expressing inconsistency in a variety aspect of physical, spatial and design values in CMH. However, improvement of the quality of life in relation to ADF is one of the crucial matters for practitioners (Eben Saleh, 2004).

Chen, et al (2006, pp. 138,139) asserted the form of traditional houses is being admired and adopted in contemporary design through the exploration and utilization of their ADF, which propound the best solution for the issues in the architectural context . Accordingly, the principles of MTH as a valuable phenomenon still remain to some extent as factors for consideration to some architects who are struggling to preserve CMA from mirroring global architecture. The CMA should express their architecture differences from other nations. A theoretical issue can

discuss and subsequently suggest possible theoretical approach for the solutions of problems

1.4 Research Gap

The author has made considerable effort to develop a deep understanding in her chosen field of study based on her curiosity and personal enthusiasm to recognize the status of a body of knowledge in MTH. The review of other works, issues in CMH as stated in the body of literature and the research problem are combined as an augmentation for identifying the gap in the research area.

Although the approach to research inquiries is achieved via literature review identifying the research gap in the literature and finding original and innovative topics, as well as distinguishing gaps in the review of literature is never an easy feat for the novice. As a result, careful attention was given to the overall review of literature in order to extract appropriate examples for the justification and identification of the research topics, questions and gap. Through the literature the author unfolds important key statements that assisted in the development and appreciation of central ideas. In addition, an approach was taken based on the content of literature from a standpoint that was informed by presenting issues that was integration between the MTH and the CMH, in relation to the ADF in the aspects of both theory and practice.

In general, the body of literature supports in the identification of the gap as “the applicability of the MTH design features to CMH”. Firstly this research intends to utilize the evidence and fill the knowledge gap in the literature. Secondly, the research intends to address the theoretical issues as stated in literature in a logical pattern, based on a theoretical approach, to bridge the gap between MTH and CMH. A firm connection between the applicability of the ADF in contemporary architecture is necessary to augment the importance of region, tradition and history, to enhance this connection between past and future.

1.5 Research Aim and Objectives

The aim of this research is to identify the architectural design features of MTH as a central core of exploration in order to elicit the latent features for applicability in CMH.

Given the aim of the research, the research objectives are as follows:

Objective₁: To identify applicability of architectural design features (ADF) of Malay traditional houses (MTH) for implementation in contemporary Malaysian house (CMH) designs.

Objective₂: To obtain the experts' viewpoints on the Malay traditional houses (MTH), in order to validate the architectural design features' (ADF) implementation in contemporary Malaysian houses (CMH).

1.6 Research Questions

The Research Questions in the light of the research objectives are as follows:

RQ₁. What are the common architectural design features (ADF) of Malay traditional houses (MTH) and how can they be applicable to the architecture of contemporary Malaysian houses (CMH)?

RQ₂. Why are the architectural design features (ADF) of Malay traditional houses (MTH) applicable to contemporary Malaysian house (CMH), and how do they contribute to the contemporary Malaysian houses (CMH)?

RQ₃. What are the experts' opinions about the applicability of architectural design features (ADF) of Malay traditional houses (MTH) and how these features could contribute to the development of contemporary Malaysian houses (CMH)?

1.7 Scope and Limitation of Study

The scope of the study is on the application of ADF of the traditional architecture in CMH. This is because the residential unit is the most basic social component of the structure of society that concerns the home, family, tradition, rituals, and customs of the Malaysian. The research setting takes place within the most authentic detached MTH that were constructed between the year 1747 and the year 1920 and that had made a significant contribution to the art and architecture of the MTH. The emphasis is on the investigation of concepts relating to traditional design features, through techniques that include document analysis and interviews of experts. It should be borne in mind that this research should not be perceived as a definitive treatise on the origins and significance of traditional Malay ADF.

1.8 Definitions of Terms

This thesis is presented with the use of some main terminologies that need to be defined in order to further clarify the aim and scope of this study. These terms and concepts are as follow;

Architectural Design Features (ADF): A feature is a collection of high-level information defining a set of characteristics or concepts with a semantic meaning to a particular view in the life-cycle of a building (Leeuwen & Wagter, 1977).

Contemporary Malaysian Architecture (CMA): Architecture from the mid 20th century onwards, that developed through social and cultural background of Malaysian society (Ryung Ju & Saari, 2011).

Contemporary Malaysian House (CMH): Constructed in the form of typical detached houses in one or two stories.

Malay Traditional House (MTH): Houses constructed by local ethnic dwellers of the Malay Peninsula, traditional dwellings that originated before foreign or modern influences.

Design Values: “The term Design individually has a strongly rooted connection between the meanings of plan, intention and activities which take place within architecture to transform ideas and beliefs into a plan. In addition, when the term value is used it is not uncommon to expect to discuss subject matters like ethics and morality” (Holm, 2006), but in this thesis it means the underlying ideas and thinking behind MTH.

1.9 Research Process and Design

The schematic structure of the research activities includes a sequential process that takes place within the sequence of tasks in order to achieve the research inquiries as illustrated in Figure 1.1. The characteristic of the research process guides the author to explore the process and understand the context, setting and meaning of scholarly gathered evidence throughout several steps as follows;

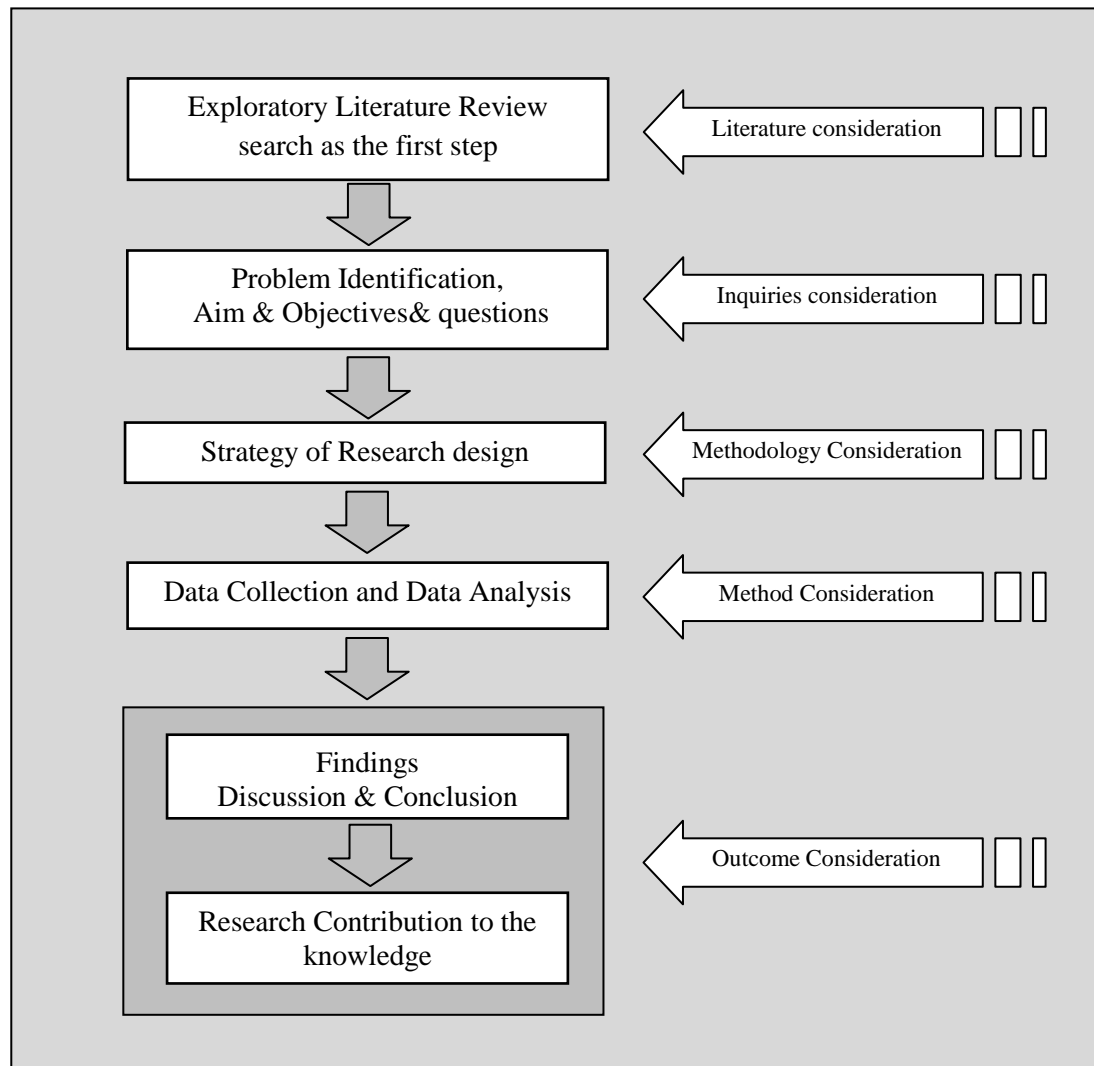


Figure 1.1 Steps in research process

The first step is “all research endeavours is the literature review” (Wang & Groat, 2002, p. 13). The review of literature as an exploratory task provides the information for the research inquiries and the research problem identification, following which the research aims, objectives and research questions are formulated. The task of methodology consideration is presented as the body of knowledge that identifies the sequence of design process relating to the research inquiry (Limpanitgul, 2009). Consideration of the exploratory nature of the purpose, objectives and questions that focus on the central phenomenon, participants, location of study and sample of work, together lead the research towards the “qualitative descriptive strategic design” activities. Since the research emphasizes on multiple methods consideration for gathering empirical materials and studying the setting, it attempts to make sense of the phenomenon in terms of meanings that emerged from

evidence (Wang & Groat, 2002, p. 179). As a result, the author utilises a variety of techniques in the exploration process of events and activities in the accumulation of evidence in the method consideration (Stake, 2010). The research outcome process is more concerned with the assessment of the research findings rather than being guided by a preference to answer research questions and objectives (Silverman, 2007). In addition, the author hopes that this thesis will stimulate further research in the untouched and unknown areas of the MTH design. Confirmation of the research findings is achieved by deliberating on selected CMHs as conducted in the outcome consideration of the research activities.

1.10 Thesis Structure

The thesis is organized into six chapters; each chapter follows different segments in a sequential manner. Chapter 1 poses the general aspect of the research. It explored the issues of MTHs by introducing the research background, followed by research problem, aim and objectives, research questions, scope and limitation, definitions of terms, research process and design and thesis structure.

Chapter 2 presents the literature review including two parts. Part 1 in the first place, deals with the continuity of tradition in contemporary architecture by discussing general perspectives about traditional architecture in relation to contemporary architecture. It then gives a comprehensive picture about the importance of traditional houses, with a focus on MTH as a continuation of design values, its significant design features, and the issues in the context of CMA. Following that, Part 2 focuses on theoretical perspectives, provides a lens for interrelating of concepts in traditional ADF, explore theories and concepts of critical regionalism, vernacularism, and modern regionalism in relation to the research questions. It positions the study in the context of the inquiries. Finally it presents the conceptual framework in the following chapter to guide the research process.

Chapter 3 is devoted to research methodology, and introduces the preliminary methodological consideration and research specific aim. Then the author describes

the theoretical, conceptual and operational framework to justify the research design, research work plan, the rationale for formulating research inquiries and procedures that were employed throughout the study, introducing sampling criteria and techniques to accomplish the research process. The chapter also highlights the different methods and procedures including the collection of data that were obtained from multiple sources, data instrument, data analysis, and validity assessment confirmatory and conformity procedures present as a process of examination and resolving data into its constituent components, to reveal its characteristic elements and structure.

Chapter 4 extends the study of the research to the analysis of findings that were gathered from various techniques including analysis of archival documentary findings which obtain from special, physical, a design characteristic. Following, qualitative experts' interview presented in three sections as special, physical features and design values. Lastly, research validation including validation of findings and confirmation of research findings establish the accuracy that leads to the success of applicability in development of CMH.

Chapter 5 focuses on research discussions. In the discussion, the interpretation of the findings in light of the research questions was presented to support the findings through corroboration, confirmation and consistency with literature review and theoretical perspectives.

Chapter 6 concludes the research by answering the key research questions based on the results and findings. It recommends a theoretical model as a visual commentary framework. It also develops and recommends a guideline for further consideration in the area of architectural design practice. Furthermore, it implicates the findings with future investigations on the essence of MTHs in relation to CMH.

1.11 Summary

In chapter one the most important parts of the research is presented as a system of inquiries. Considerable attention perceived through the application of traditional ADF show the originality and authenticity of the Malay belief, noticeably in the various different states. Design features of the MTH are explored through various sources of evidence, examining of qualitative data from the experts' interviews and the KALAM systematic archival document search. The research scope is narrowed down to domestic buildings such as residences and homes that are the most basic components of the social structure of the society. The following chapters cover relevant literature and the theoretical foundation, and put forth a comprehensive picture of the research inquiry and its efficacy. The methods and methodology of research are presented via preliminary consideration of the related conceptual framework and focus on the research design and processes. Outcomes and findings of this research are given in the sixth chapter, following discussions and conclusions given in the light of the research objectives. Lastly, the implication on theory and recommendations are provided for future research and further course of actions.

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