

**CHARACTERISTICS OF HOUSE FACADE AND  
ITS IMPACT TO RESIDENTS' VISUAL PRIVACY  
IN ERBIL, IRAQ**

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ITS IMPACT TO RESIDENTS' VISUAL PRIVACY  
IN ERBIL, IRAQ**

by

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## DEDICATION

*To the ones who I love more than myself, my beloved ..my wife and my children Mustafa and Safa, I respectfully dedicate this work. You have made me stronger, better and more fulfilled than I could have ever imagined. Thanks for making my life wonderful.*

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الحمد لله رب العالمين والصلاة والسلام على أشرف الأنبياء والمرسلين سيدنا محمد وعلى آله وصحبه  
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# **KARAKTER FASAD RUMAH DAN IMPAKNYA KEPADA PRIVASI VISUAL PENGHUNI DI ERBIL, IRAQ**

## **ABSTRAK**

Kajian ini mengkaji impak fasad rumah kepada privasi visual penghuni di Kota Erbil, Iraq. Ia bertujuan untuk mengkaji korelasi antara faktor-faktor karakter fasad rumah dan privasi visual penghuni. Kajian ini akan mencadangkan model konseptual yang menyediakan garis panduan tertentu kepada arkitek untuk diaplikasikan dalam mereka bentuk fasad rumah moden. Kajian ini juga bertujuan untuk menentukan faktor yang paling berpengaruh dalam mencapai privasi visual penghuni. Kajian ini mengaplikasikan kaedah kajian kuantitatif dan kualitatif untuk menjawab objektif penyelidikan. Berdasarkan pendekatan kaedah kajian campuran, kaji selidik kualitatif dan kuantitatif telah dijalankan. Keputusan kajian kualitatif diperolehi melalui kaedah pemerhatian langsung dan dokumentasi karakteristik visual. Analisis kualitatif bertujuan untuk mengenalpasti perbezaan stilistik fasad rumah. Empat zon dalam empat tempoh masa yang berbeza dipilih untuk analisis. Setiap zon mempunyai sepuluh buah rumah, yang dipilih secara rawak. Hasil kajian kuantitatif diperolehi melalui kaji selidik responden. Responden ini terdiri daripada kakitangan pengajar akademik Jabatan Seni Bina di tiga buah universiti dan arkitek daripada firma arkitek di Kota Erbil, Iraq. Analisis kajian ini merangkumi hasil statistik deskriptif, analisis faktor, korelasi, dan analisis regresi berganda. Keputusannya menyokong andaian penyelidikan ini bahawa karakter fasad rumah mempunyai impak langsung terhadap pencapaian privasi visual. Kajian ini mendapati bahawa 'tingkap', 'pintu' dan 'elemen-elemen halaman luar' adalah faktor-faktor yang paling berpengaruh dalam interpretasi pencapaian privasi visual

penghuni. Dapatan kajian ini menunjukkan bahawa karakter fasad rumah mempunyai impak langsung kepada pencapaian privasi visual penghuni. Sehubungan itu, kajian ini mencadangkan garis panduan penting untuk arkitek mempertimbangkan pencapaian privasi visual dalam reka bentuk seni bina moden.

# **CHARACTERISTICS OF HOUSE FACADE AND ITS IMPACT TO RESIDENTS' VISUAL PRIVACY IN ERBIL, IRAQ**

## **ABSTRACT**

This study investigates the impact of house facade characteristics on the residents' visual privacy in Erbil City, Iraq. The aim is to examine the correlation between house facade characteristics' factors and residents' visual privacy. The study will propose a conceptual model, which provides certain guidelines for architects to apply in designing modern houses' facades. This study also aims to determine the most influential factor in achieving residents' visual privacy. The study applies quantitative and qualitative research methods to answer the research objectives. Based on the mixed-method approach, a qualitative and a quantitative survey were carried out. The research qualitative results were obtained by direct observation and visual characteristics' documentation methods. The qualitative analysis aimed at identifying stylistic differences of the house facade. Four zones during four periods of time were selected for the analysis. Each zone consists of ten houses, which were randomly selected. The quantitative results were obtained by respondents survey. The respondents were from the Department of Architecture academic teaching staffs at three universities and architects from architecture firms in Erbil City, Iraq. The analysis of the study has descriptive statistical results, factor analysis, correlation, and multiple regression analysis. The results has supported the research assumption that house facade characteristics have a direct impact on achieving visual privacy. The study finds that 'windows', 'doors' and 'outside courtyard elements' were the most influential factors in the interpretation of achieving residents' visual privacy. The findings of the study show that house facade characteristics have a direct impact



on the achievement of residents' visual privacy. Accordingly, the study proposes significant guidelines for architects to consider in achieving visual privacy in the modern architectural design.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

This chapter is an introductory chapter that intends to clarify the background of the study and discuss several related studies to identify its problem statement. Based on these discussions, the study determines the specific research problem. Accordingly, the research question, research objectives, and research assumptions will be formulated. Finally, the chapter presents the scope of the study, research framework, and the structure of the thesis organization.

### 1.2 Research background

Façades are the exterior skin of a building (King et al., 2004). The aesthetic evolution of the city and the effective aspects of architectural transformation are shown by the physical of façades (Elshahed, 2007). Besides that, the facade acts as a arbitrator between the house and the city, the private and the public (Jurgenhake, 2006). At the same time, façade has many functional levels. Façades can create physical comfort condition within the house as a physical filter while standardize communication between the internal and external spaces as a social filter (Jurgenhank, 2006; Al-Sanjary, 2008). There are a few studies have underlined about privacy. According to Mortada (2011), privacy means the surrounding physical environments that play an essential role in influencing people's life. Therefore, the inhabitants' life is strongly influent by their surrounding cultural, personal, and social identity factors (Dovey, 1985; Proshansky, Fabian, and Kaminoff, 1983). Thus, Hill (1969) and Jourard (1966) stated that the role of physical setting to gain privacy is

complex and crucial. In contrast, studies of Al-Sheliby (2015), El-Agouri (2004), and Ghasemi (2015) highlight that modern era had increase the openness towards the house exterior facades and it always in contrast to traditional culture with enclosedness concept.

Generally, as accepted in other societies, the privacy in architecture is determined through the social and cultural life of the people. The interface between various cultural and religious values, as well as the physical considerations creates a significant influence towards the distinctive architecture styles. That is why; the significance of the privacy issue always refers to its affiliation with the society's cultural behavior, beliefs, attitudes, and values. Thus, the idea of privacy issues will be explained based on social and psychological terms (Vassilaki et al, 2015; Etemadi et al, 2016).

According to Abu-Gazzeh (1996) and Al-Kodmany (2000), the massive changes create ignorance to the local peoples' requirements and unaware of socio-cultural variables in house facades design. This alleged failure of contemporary houses in these societies leads to discontinue their traditions and replicate modern western architecture without utilizing Islamic culture (Radi, 2004). Concurrently, western principles of architecture were used without modification in order to satisfy the rush and intense demand for hasty development and transformation. This trend leads to dissimilarity in defining architectural privacy in different countries.

There is massive change in development of Erbil city in this study after liberation of Iraq in year 2003. The oil income from Kurdistan region has allowed Erbil city to initiate its rebuilding and enhance rapid development programs much faster than other cities in Iraq. Hence, Erbil city represents both the traditional

architecture and modern contemporary styles. There are several studies that show political, economic, and cultural transformations give impact on visual features of the buildings' façades in Erbil city (Aljanabi, 1987; Al-Jabri, 2004). In accordance, this research will explore the influence of physical characteristics of house façade on the visual privacy in Erbil City. The focus is limited to the process of achieving the privacy of house façade in different periods of the city's evolution.

### **1.3 Previous Related Research Studies**

Numerous related studies have illustrated, described and summarized on their approaches and methodologies to understand the unique attitudes regarding the features of facades and its role in achieving the privacy.

According to Fallah, Khalili and Rasdi (2015), privacy plays vital role in shaping traditional house to respond family cultural and religious needs. The spatial organization of modern architecture will be developed physically and culturally in terms of privacy from traditional architecture that consist of six different layers in privacy's level including public, men social, women social, semi-private, private, and personal private. Thus, this study wind up that privacy had deep impacts on spatial configuration of traditional house and also a attitude prevailing all aspects of life. So, privacy means to fulfill the residents' higher level of requirements based on their cultural values.

The study of Al-Thahab, Mushatat and Abdelmonem (2014), explore how privacy plays its role as one of the factors in physical properties to construct and fortify the ability of space in achieving a more sustainable and safe residential environment. This enables to demonstrate the relationship between socio-cultural

aspects of social sphere in houses and local communities (Mahalla). Therefore, the neglected traditional values due to the opening of social spaces to the outside provide unlimited accesses to indoor social environment. This will enhance the visual penetration into the residents' privacy. This study wrap up that the house is an efficient system in response to the varying needs of the social group to maintain the privacy as a crucial aspect of the social activities within the home.

On the other hand, the study of Bemanian and Saremi (2015) reveals the effective patterns of privacy in traditional extroverted houses always emphasis the, important of religion and cultural values. They stated that the parameters that affect visual privacy and offering privacy patterns in extroverted houses are entrance, corridor, enclosed courtyard, opening, exterior facade and hierarchy of access. All these features enable to cut down the damaging effects due to the lack of privacy in the modern houses.

Besides, another study by Al-Kodmany (2000) clarifies women's needs for residential visual privacy in traditional and modern neighborhood. He declares cultural, religions, psychological and personal factors plays crucial role in determining visual privacy. This study emphasise woman feels that their visual privacy from outside their home is crucially essential. Hence, women do increase the level of privacy in their house by changing the original state of their house with specific architectural elements in modern neighborhood to block outsiders' visual access. Similarly, there is association between achieved visual privacy and use of space due to the individual needs for privacy based on values of culture and religion.

The study of Al-Homoud (2009) attempts to explore the privacy control as an effect of personal space articulated by quality and quantity of confidential space in

single-family homes. He seek the affiliation between human behavior and physical settings to understand the norms related with a particular setting including physical environment, psychological and social contents. The results proved that lack in control over the personal space will create lack of privacy that lead to irregular social interactions. Additionally, the study states that some physical components including the shape of the space and the small area will affect the feel for privacy control.

Moreover, the study of Abbasoglu and Dagli (2003) focuses on factors that influence women's visual privacy including the house design, religion and socio-economic classes, and also architectural elements. Hence, this study includes the impact of some factors that contribute to attain level of visual privacy like site plans and architectural management of exterior facade on creating suitable buildings for visual privacy through religions principles and culture. Likewise, the study results show that young designers or beginners were more successful in creating visual privacy in their house facade designs. The authors do mention that the presence of some spaces, such as courtyards, front yards, and green area serves residents to feel more comfortable.

In addition, Rahim (2015) conducted a research to examine the influence of culture and religion on the conception of visual privacy of Malay housing designs. He found that, visual privacy of residents in terrace houses often affected by privacy regulation and housing designs. He concludes that the transformation of visual privacy in Muslim houses resemble the need to balance between privacy and other needs such as geography, climate and the local culture of the people. Whereas, some behavioral norms in traditional Malay culture and Islam also emphasis visual privacy such as not looking into another house and always wear appropriate clothing at

outside the house. Meanwhile, the physical elements also provide visual privacy to the families including the internal and external wall, partition, and curtains inside a house. In view of that, Rahim (2015) states that architectural and behavioral variables must joint to manage and supply a comfortable level of visual privacy in the built environment to persuade psychological needs.

Likewise, Hussein and Barlet (2010) explore the socio-environmental criteria and distinctiveness of private outdoor spaces between internal and private external spaces including balconies, verandahs and yard. These spaces believed to provide an improving role in the living quality of modern housing design. This study shows there are disconnecting private inside and outside spaces whereas in the traditional courtyard houses there was continuity between the inside and the outside. So, this study wrap up that the private outdoor space is a major contributor to enhance housing sustainability through the distinctive qualities of courtyard concept and avoiding them will lead to their under-performance in modern houses.

Besides, the study of Ramezani and Hamidi (2010) focused on the resident's needs for privacy in traditional houses and how to improve social interaction simultaneously to regenerate the sense of privacy and social contact in the existing neighborhoods. They found there is a decline in sense of privacy and social interaction among residents in newly designed cities, thus the existence of transitional space in traditional houses was the key cause for concurrent generation of privacy and social interaction. As well, by respecting the culture of society members will ensure privacy and social interaction in socially sustainable environment.

Next, study of Bekleyen & Dalkiliç (2011) examined the effect of privacy measure on the characteristics of indigenous courtyard houses in Diyarbakir including the isolation of provided entrance in a house. This study clarifies that protection and achievement of privacy is attained by courtyard design because the cultural and social values are shared by the residents of the city despite of religion. Hence, privacy measures had an essential role in the space organization of the houses.

On the other hand, a study by Bahammam (2006) explores the progression of the conventional houses with regard to behavioral and cultural aspect, especially the importance of privacy and how its imperatives have established appearance in building design. The study shows, the interaction of cultural and religious values, together with physical considerations, has had an important role in determining the distinctive style of its own architecture. Behavioral factors and privacy have strong influence in shaping the design for Muslim private residences to guarantee need for privacy and maintenance of family life which is the main generator of architectural form.. This study also includes the courtyard in the center of the house as a central point to accommodate the various activities of the family members in complete freedom and privacy.

Next, the study of Othman, Aird and Buys (2016) examined the pressure of the tripartite Islamic philosophy including privacy, modesty, and hospitality through traditional Islamic teachings on the homes of Muslims living in non-Muslim regions such as Australia. This study proves that cultural factors determined the Muslims living in different countries where the factors help to shape the architectural designs and use of space within Muslim dwellings. Consequently, this study analyze how far



the Western culture influences the Muslim immigrants' in the use of interior and exterior spaces. The study also verifies how they hold traditional Islamic teachings through the diverse adaptations they make to their existing houses within their host countries.

Furthermore, another study by Mustafa, Hassan and Baper (2010) examined the key parameters that influence privacy in interior domestic spaces and to what extent these influence the distribution of spaces. They also investigate the relationship between house layout characteristics and the privacy of residents. They analyse the spatial morphology of traditional and modern house layouts through syntax theory and use analytical comparative approach to detect the level of privacy in their configurations. They found the traditional house layouts offer better design solutions than modern house layouts in terms of privacy because they carry a higher value of authentic virtual unevenness with a higher tendency toward unevenness.

Visual exposure will influence the quality of the human environment and have high permeability that can influence a inhabitants fulfillment. Similarly, the development of an integrated model analyzing visual exposure and visual openness in the urban environment was analyzed by Pinsly & Gewirtzman (2011) in their study. They measure and evaluate both the visual exposure and visual openness with a generalized model that can support the sustainable urban environment. They measure visual exposure by measuring the distances between the openings of every facade within four different viewable distances categories. The researchers suggested that the house designers must obtain knowledge on how to simultaneously preserve low levels of visual exposure and remain high levels of visual openness in order to increase the attractiveness of the area for viewing outside by the inhabitants.

Zahrani and Tabaeian (2016) also conduct a study in the traditional architectural houses to examine the role of cultural and religious values on attaining privacy. They use comparative case study based on qualitative approach in this study to analyze the privacy lying in Iranian architectural houses. The results show the houses have different layers to attain privacy and keep people's independence in consistent with Islamic sources where the house facades provides the mental and psychological peace of the family member entirely. Their research provide some similarities and difference between the Malaysian sample and Iranian sample including the existence of extrovert privacy pattern in Malaysian houses are in contrast with Iranian houses that have introvert privacy patterns and different spatial categorizations.

Meanwhile, Musa, Misnat and Talib (2014) analyze the principle applied in designing Malay house's entrance based on the aspect of Hijab (veiling) from the Islamic perspective. Their study revealed the regulations in the Kutai house entrance are influenced by the Islamic description of Hijab and protect the womenfolk's Hijab and privacy. Moreover, the Kutai are very challenging to provide a veiling or privacy within the open planning layout due to the optimization of function and activities within the minimum size and open planning layout. Thus, in order to defend the purity of the house and the privacy of the ladies, the Kutai house design has combined the social and physical aspects.

#### **1.4 Summary of the Previous Studies**

On the whole, many studies discussed earlier have focused on the privacy and space configurations associations between house layout spaces in different societies and periods from the socio-cultural viewpoint (Table 1.1). However, none of these

studies have discussed or investigated in aspects related to the spatial and visual privacy of house facades in Erbil city. As a result, this highly verify the significance of this study.

Table 1.1 Summary of the previous studies

Authors	Aspects of the study	Conclude and Finding
1- Fallah, Khalili & Rasdi (2015)	Privacy	Privacy had deep impacts of shaping on spatial organization of traditional houses based on cultural and religious values.
2- Al-Thahab, Mushatat & Abdelmonem (2014)	Privacy	Privacy an important factor in strengthening and accommodating communal social interactions thus ability of space in achieving a more sustainable and secured environment.
3- Bemanian & Saremi (2015)	Visual privacy	Important of religion and cultural values on effective patterns of privacy, the parameters of privacy are entrance, corridor, enclosed courtyard, hierarchy of access .
4- Alkodmany (2000)	Visual privacy	It finding to increase the level of privacy through changing of architectural elements in addition inwardly oriented versus outwardly oriented and site plans.
5- Al-Homoud (2009)	Privacy control	The privacy control as an effect of personal space articulated. the lack in control over the personal space will create lack of privacy that leads to irregular social interactions. Space shape and small area will affect the feel for privacy control.
6- Abbasoglu & Dagli (2003)	Visual privacy	Impact of some factors on level of visual privacy like site plans and architectural exterior facade on creating visual privacy through religions principles and culture. Presence of front yard and green area serves residents to feel more comfortable.
7- Rahim (2015)	Visual privacy	Physical elements provide visual privacy to the families including the internal and external wall, partition, and curtains inside a house. It finding that architectural and behavioral variables must joint to supply a comfortable level of visual privacy.

Authors	Aspects of the study	Conclude and Finding
8- Hussein, Barlet & Semidor (2010)	Private outdoor space	Distinctiveness of private outdoor spaces between internal and private external spaces including balconies and yard. It shows disconnecting private inside and outside spaces whereas in the traditional courtyard houses there was continuity between the inside and the outside. The study conclude that the private outdoor space is a major contributor to enhance house sustainability through courtyard concept.
9- Ramezani and Hamidi (2010)	Privacy	The existence of transitional space in traditional houses was the key cause for generation of privacy and social interaction. The respecting the culture of society will ensure privacy and social interaction
10- Bekleyen & Dalkiliç (2011)	Courtyard house & privacy	The effect of privacy measures on the characteristics of indigenous courtyard houses which including the isolation of entrance. The study clarifies that protection and achievement of privacy are attained by courtyard design because the cultural and social values are shared by the residents.
11- Bahammam (2006)	Visual privacy	Behavioral factors and privacy have strong influence in shaping the design for private residences to guarantee need for privacy and maintenance of family life which is the main generator of architectural form.
12- Othman, Aird & Buys (2016)	Privacy & homes design	Cultural factors determined the Muslims living in different countries where the factors help to shape the architectural designs and use of space within dwellings. The Western culture influences the Muslim immigrants' in the use of interior and exterior spaces, in Australia.
13- Mustafa, Hassan & Baper (2010)	Privacy	Influence privacy in interior domestic spaces and to what extent these influence the distribution of spaces. They found the traditional house layouts offer better design solutions than modern house layouts in terms of privacy.
14- Pinsly & Gewirtzman (2011)	Visual privacy	They explain visual exposure by measuring the distances between the openings of every facade. The house designers must obtain on low levels of visual exposure and remain high levels of visual openness.
15- Zahrani & Tabaeian (2016)	Privacy	The role of cultural and religious values on attain the privacy. The houses have different layers to attain privacy through Islamic sources where the house facades provide the mental and psychological peace of the family member.

Authors	Aspects of the study	Conclude and Finding
16- Musa, Misnat & Talib (2014)	House's entrance & privacy	The regulations in the house entrance are influenced by the Islamic description of Hijab and protect the womenfolk's Hijab and privacy.

### 1.5 Problem Statement:

All the previous studies mentioned earlier confirm that facade characteristics are determined by the human relationship and his needs. The studies proves the existence of a close relationship between the morphological structures of house facades with the social systems of building's tenants. Besides that, these studies demonstrate the makeover of house typology, and relate them with social, environmental, and economic changes in recent years.

Hence, the sustainable architecture of house facade focuses on promoting the performance of the building facades, the social dimension of spaces behind the facade building and adjoining areas that plays a vital role in continuity and capability of these spaces. In contrast, change in the patterns of facades or to diversion between private and public space, or changing of elements of facades morphology and other factors may lose their efficiency in building a house facade because the physical characteristics of facades may be vary in different periods, regions, cultures and societies. Besides, the physical features of facade give impacts on the qualities of human relationships and societal culture as there is a strong relationship between the facade and human needs that may lead to a morphological variety in residential facades (Al-Sanjary, 2008).

Meanwhile, the changes in morphological characteristics of house facades over time also play a significant role in attaining the degree of visual privacy

efficiently. Iraq has faced a lot of challenges in development area. Therefore, the numerous variations in these characteristics leads to lack and weakness in the effectiveness of achieving the privacy and performance degree of these facades.

At the same time, new methods in constructing and buildings were used to advent the new cultures and modernism. In Islamic perspective, the closeness of different levels of society causes the shrinkage of houses areas and omission of courtyard due to increased land prices. In addition, according to Al-Thahab et al (2014), the changeover from tradition to modernity has influence the inherent architectural values and patterns, where many of the implicit qualities have been gradually forgotten. This can cause conflicts in people's lives such as loss of the multi functionality due to the small spaces in the traditional architecture, as well as the loss of privacy in the new small houses (Shabani et al, 2010; Al-Sanjary, 2008).

Hence, the problem of research revolves and the question about how to achieve visual privacy across an investigation of traditional and contemporary house facades remains unanswered. Another question about how the impact of the physical characteristics on the visual privacy of these facades can be achieved and examined for achieving a built environment that is more responsive to the needs and requirements of its users also remains unanswered. In terms of privacy, this creates a way to set up general rules and principles in a form of design guidelines concerning the house facades in Erbil city.

## **1.6 Research Hypothesis**

The research hypothesis is to test the argument that: characteristics of house facade are impact on the residents' visual privacy over time with reference to the period from 1900s to 2016 in Erbil city, Iraq.

## **1.7 Research Questions**

- 1- What is the influence of house facade changes to achieve visual privacy?
- 2- What are the main issues of visual privacy for house facades?
- 3- Do house facade characteristics positively correlate with the achieving of residents privacy?
- 4- What are the impact factors in supporting the achieving of visual privacy?

## **1.8 Research Objectives**

Table 1.2 shows the relationship of the research objectives with problem statement, research questions and research methods. The objectives are as follows:

- 1- To evaluate changes of the characteristics of house facade in determining the privacy (visual & spatial) in Iraq.
- 2- To investigate the perception of respondents toward the achieving of privacy and house facade characteristics.
- 3- To investigate the strength and the direction of relationships between the house facade characteristics and the achieving the visual privacy?
- 4- To find a set of parameters for future home design to achieve privacy.

Table 1.2 The Relationship between research problem & research questions & research objectives and research methods

Research Problem	Research Questions	Research Objectives	Research Method
The changes in characteristics of house facades over time is play a significant role in attaining the degree of visual privacy efficiently. Iraq has faced a lot of challenges in development area. Therefore, the numerous variations in these characteristics leads to lack and weakness in the effectiveness of achieving the privacy and performance degree of these facades.	What is the influence of house facade changes to achieve visual privacy	-To evaluate changes of the characteristics of house facade in determining the privacy (visual & spatial) in Iraq	Qualitative method Case study (Observation)
	What are the main issues of visual privacy for house facades	- To investigate the perception of respondents toward the achieving of privacy and house facade characteristics	Quantitative method (Questionnaire)
	Do house facade characteristics positively correlate with the achieving of residents privacy	- To investigate the strength and the direction of relationships between the house facade characteristics and the achieving the visual privacy	Quantitative method (Questionnaire through Correlation and Regression)
	What are the impact factors in supporting the achieving of visual privacy	- To find a set of parameters for future home design to achieve privacy	Qualitative & Quantitative

## 1.9 Research Framework

The research framework of this study can be summarized and organized below in four parts namely (1) literature review, (2) house façade characteristics, (3) research methodology, and (4) analysis based on the guidelines regarding the house facades in Erbil city (Figure 1.1).

Part one: Literature review



The literature review explains the theoretical part of this study on how to attain privacy in architecture was investigated. From the literature review, in order to achieve the visual privacy, the study formulates for privacy a comprehensive framework including the most effective features on the achieving of visual privacy. Hence, this part intended to summarize a theoretical framework for the concept of privacy and illustrate the main characteristics of architectural privacy. Previous research and studies related with the current research context will be reviewed to shed light on the advantages and disadvantages of these studies in order to fill the knowledge gap. Next, the definitions of privacy will be reviewed and compared through the privacy layers, levels of privacy, and privacy in Islamic architecture. At the same time, the second part aim to formulate house façade checklist factors that affects the characteristics of house façades and visual privacy. All these factors are derived from previous related studies and rearranged in a new format to formulate a model of visual analysis. Thus, this section explores and evaluates the pervious proposed architectural types in measuring and analyzing building visual elements. Finally, the study formulates a complete framework including the most effective parameters and assigning each parameter by a range of relevant values through composing the theoretical propositions in the current models with the guidelines from literature review.

Part two: the classification of different changes periods in Erbil

in this part an overview of house facades evolution in Erbil city over the period 1900s to 2016s will be clarified in terms of their characteristics designs.

### Part Three: Research work (Research methodology)

The third section states the research work or well known as research methodology. The data for this study will be collected through a mixed method techniques that joint the qualitative and quantitative surveys.

In this study, the qualitative case study survey including the observational study characteristics of building elements in Erbil City including the site visits, observation, checking, comparing and documenting of four different periods namely traditional period before 1930, colonial period (1930-1980), modern period (1980-2003) and post modern period (2003-2016). Thus, the purpose of observational study explores, explain, and provide visual analysis of the physical elements of local traditional houses. Meanwhile, the quantitative part will be analyzed with a questionnaire survey which is distribute evenly among the respondents to get comparable data to explain the impact of characteristics in house façade on the visual privacy in Erbil City in Iraq.

### Part four: Analysis

Lastly, for analysis method the data will be analyzed in two aspects. The visual building elements will be analyzed using qualitative method using comparative tables while the second analysis will rely on quantitative analysis including descriptive, factor analysis, correlation analysis and multi regression analysis. Then the data will be statistically analyzed with SPSS program. Lastly, the contribution of the analysis will illustrate final conclusions and recommendations.

### **1.10 Scope of the Research**

This research intends to assess the evolution of the house facades characteristics and its affecting factors on the visual privacy, in Erbil city, Iraq. This city is chosen to be the case study of the research due to the fact that it offers distinctive cases due to its unique built environment, which represents a mix of traditional architecture and modern contemporary styles that reflects the current situation of local architecture. Therefore, this study attempts the characteristics of house facades as a common parameter for various aspects of design to improve visual privacy. As a result, the research study will put forward recommendations regarding the house facade design in general and Erbil city in particular at the end of this study.

### **1.11 Research Limitation**

This research is limited to the study of house facades characteristics and the visual privacy in the field of architecture in general, covering the facade of the residential buildings in particular. Due to the diversity and multiplicity of the aspects in defining the privacy, this study was limited visual privacy of the house facade. As noted, visual privacy for the residents inside the house is achieved by the characteristics of the house facades.

As a result, this research solely focuses on the impact of house facades characteristics to achieve the visual privacy, particularly in the city of Erbil, between the period from 1900 to 2016. Therefore, raising such issues to design the houses facades holds a great importance in the field of architectural designs. Hence, the research seeks to reveal the strengths and weaknesses of house facades adopted and approved in the period mentioned above in order to achieve individual needs from

the visual privacy. Besides, the study emphasis the benefit of traditional design solutions to prolong the life of these facades for the longest possible period of time.

## **1.12 Organization of the Thesis**

This research study is structured to six chapters as follows:

### **Chapter One: Introduction**

Chapter one is a general preliminary chapter presenting general information about the study background and discusses past studies that related to this study. It includes the research questions, the research objectives, the scope of the study, research framework, and the organization of the study.

### **Chapter Two: A Theoretical Study of Privacy and Facade Parameters**

The literature reviews further highlights the concept of privacy and further indicate the idea of visual privacy in architecture especially in Erbil city. This chapter also demonstrates the operational definition for privacy and clarifies its layers and levels. The chapter intends to formulate house façade checklist factors by presenting a general review of house façades and argue factors that affecting the design of house façades. In addition, it observes and evaluates the planned architectural models in measuring and analyzing building visual elements. To sum up, this study develops most effective parameters for visual analysis through a comprehensive framework.

### **Chapter Three: The Classification of Different Changes Periods in Erbil**

This chapter further shows the characteristic features' involved in transformations during the Erbil city evolution between different periods and discusses the traditional elements implemented to achieve the privacy.

### **Chapter Four: Research Methodology**

Chapter four provide information on sampling methods, data collection strategies and methods of analyses that was used in the chapter. As usual, this chapter will present the research methodology and illustrates the pattern of methodology that will be used in each part of this study.

### **Chapter Five: Analysis and Discussion of the Data**

This chapter includes data analysis and discussion to interpret the overall resulting data gained through the application of data analysis with SPSS programme. All the results obtained will be displayed and tabulated through arithmetic tables including data on each type of indicators and benchmarks that had been adopted to examine the impact of characteristics of house facades on the achieving the visual privacy in Erbil city according to the time frame. The results provide distinguished outlines vis-à-vis house facade design in general and Erbil city in particular. This enable the author to obtain credible conclusions and recommendations to serve research objectives embodied through research findings that lead to the conclusions and recommendations.

## **Chapter Six: Results and Conclusions**

Chapter 6 discusses the foremost conclusions and recommendations drawn from the research findings in previous chapter to assess the research hypothesis and research objectives. Then, research contributions and recommendations will be established based on the study findings. The last section of this study comprises proposals for further research studies.

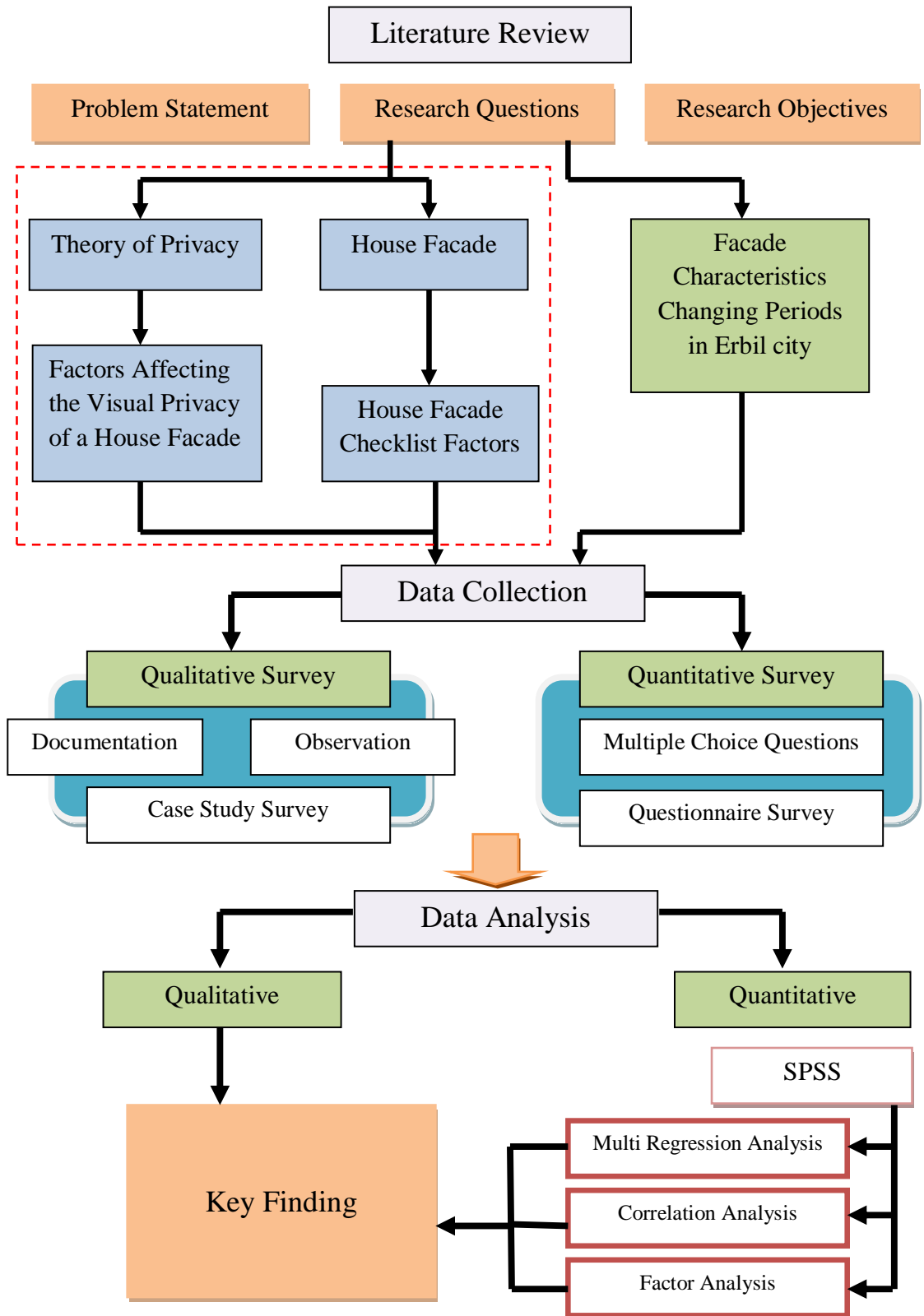


Figure 1.1 Research framework

## **CHAPTER TWO**

### **A THEORETICAL STUDY OF PRIVACY AND FACADE PARAMETERS**

#### **2.1 Introduction**

The chapter reviews current knowledge on privacy in architecture. It expresses the debates around the issues of privacy in the theoretical perspective to introduce an operational definition for the concept and clarify its main features. It discusses the key related issues to explore how these properties are related and how they affect the issue of privacy in general and visual privacy in particular. The second part of this chapter aim to invent house façade checklist factors via the main objectives and intend to set up an apt model for visual survey and analysis. There are reviews on house façades and factors affecting the design of house façades and discusses the key parameters and major indicators for the study by combining the theoretical propositions in the current models with design guidelines for building façades. Moreover, the study formulates a comprehensive framework by determining the most efficient parameters and conveying each parameter a range of significant values.

#### **2.2 Definitions of Privacy**

According to Heathcote (2012) and Rybczynski (1987), a house or known as *sakan* in Arabic is an unparalleled foundation for human settlement. Meanwhile, Shirazi (2011) and Malkawi & Al-Qudah (2003) states that a house is a complex multi-layered condition that integrates symbolic expressions and messages that combining conflicting ideas which can simply be known as “dual icons.” For example, Lawrence (1987) and Ünlü (1999) states that internal and external, private



and public, sacred and profane are a few example of dual icons that used to explain roles and activities of people in places. The differences in social systems reveal morphological diversity in house facades. The family contains the socio-economical structure of society; although it is a small element, but it create the future of society and culture. A family attains their desired privacy through building a house based on their facade features (Sungur and Çagdas, 2003). Meanwhile, Georgiou (2006) states that a facade and its elements should be able to personalized the needs of the occupants by allowing increase or decrease privacy which can differ in various contexts and acquires a variety of interpretations. For instance, the term privacy differ in law, philosophy, sociology, environmental psychology, anthropology, biology, zoology, architecture and also in the field of computer science (Georgiou, 2006).

Furthermore, Georgiou (2006) also define privacy as a crucial mechanism for controlling congestion in the animal kingdom and also for developing and maintaining the healthy relation of the individual within society. Privacy in built environment begins with the civilization as a mode of personality while the safeguard from the environmental was the essential needs of human societies to provide both security and privacy.

On the other hand, Warren and Brandeis (1890) argued that privacy is merely a person's freedom and rights to be let on your own. Privacy is most comprehensive elements of rights and it is valued by civilised individuals (Gallagher, 2015). As well, Rapoport (2005,1969) argued that privacy is the power and ability of controlling social and cultural relations between diverse social groups. It also in charge for achieving the desired and needed interaction between individuals