

*“Towards a New Valuation Model
for Heritage Building Assets.”*

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Abstract

This thesis explores the current valuation methods used by Surveyors to value historic buildings. This research began after a 'gap' was identified within current valuation methods, the 'missing part' being the inadequate incorporation of the life-cycle costs of the buildings. The cost implications associated with historic buildings in terms of keeping a building in 'good' repair is a significant consideration when considering ownership. More often than not historic buildings fall into disrepair due to the high cost of renewing major components. Often lacking too is an on-going programme of works and the provision of a sinking fund to meet the costs of renewals. The aim of this research are; review the valuation methods used by valuers in the UK to value historic buildings and whether an historic buildings life-cycle cost is included, review the valuation methods used by valuers in other countries to value historic buildings and whether they include building life-cycle costs, discover if there is 'interest and need' for a new capital valuation technique for historic buildings to reflect their life-cycle costs and if so develop a technique. An important part of this study was to investigate how other countries approached these issues and the valuation methods they adopt, together with the financial support available for historic building preservation. This thesis suggests a new capital valuation technique which uses the existing 'five' valuation methods and includes the buildings life-cycle costs. Potentially a new technique would be an ideal addition to the steps within the 'toolkits' used for historic buildings where, at the time of writing, a valuation of the building was excluded. From the results of an international survey of valuers there was evidence of strong demand for a new valuation technique which included an historic buildings' life-cycle costs. The new valuation technique proposed is based on a new valuation model that produces a life-cycle investment capital valuation. The model uses data of the life-span of the key building components and assessing their condition. The new valuation technique then underwent practical testing with a sample of valuers.

Declaration

Doctor of Philosophy

This thesis is partial fulfilment of the requirements for the above award. Whilst registered as a candidate for the above thesis is submitted degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award. The word count for this thesis is approximately 54,000 words.

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List of abbreviations

BCIS - The Building Cost Information Service

BRE - Building Research Establishment

FHPTIs - Federal Historic Preservation Tax Incentives.

ICOMOS - International Council on Monuments and Sites

IRS - Internal Revenue Service

KW - Kruskal-Wallis

MORI - Market and Opinion Research International

NPS - National Parks Service

RICS - Royal Institution of Chartered Surveyors

SHPOs - State Historic Preservation Offices

UNESCO - United Nations Educational Scientific Cultural Organisation

CHAPTER 1

INTRODUCTION

1.0 Introduction

The term 'heritage' has many meanings and confusing to a 'lay' person. However a good starting point is the Oxford English Dictionary which defines 'heritage' as 'property that is or may be inherited; an inheritance', 'valued things such as historic buildings that have been passed down from previous generations', and 'relating to things of historic or cultural value that are worth of preservation' Oxford English Dictionary (2007) The importance parts here are inheritance and conservation and relate to 'property', 'things' and 'buildings'. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) officially designated 2002 as the year of cultural heritage and compiled a list of the types of cultural heritage. The purpose of the list was to divide and categorise the types of objects, places and practices which might be attributed to heritage value and diversity of the different types of heritage (see appendix 1). The types of heritage are objects and places ('physical' or 'material') and practices (known as 'intangible' heritage) but categories can cross both types of heritage e.g. ritual practices might involve objects (physical) and prayers (intangible). These categories are neither clear cut or distinct and the list refers to 'cultural' heritage only. In respect of natural heritage it is often associated with landscapes and ecological systems and comprised of plants, animals, natural landscapes and landforms, oceans and water bodies. Natural heritage is valued for its aesthetic qualities, its contribution to ecological, biological and geological processes and its provision of natural habitats for the conservation of biodiversity. In the same way that we perceive both tangible and intangible aspects of cultural heritage, there is also tangible aspects of natural heritage (the plants, animals and landforms) alongside the intangible (its aesthetic qualities and its contribution to biodiversity). Another perspective of heritage is the idea that things tend to be classified as 'heritage' only in the light of the risk of losing them.

The element of potential or real threat to heritage is commonly destruction, loss or decay and this links heritage historically and politically with the conservation movement. Even if a building or object is under no immediate threat of destruction, its listing on a heritage register is an action which assumes a potential threat at some time in the future, from which it is being protected by legislation or listing. In addition, the term heritage is often used to describe a set of values, or principles, which relate to the past and raises a number of meanings about traditional values which can be seen as desirable when buying or selling properties of this type. Values which are implicit are those used in making decisions about what is to be conserved and what is not and an important factor in cultural heritage management. The findings of a previous study, by the researcher posed a number of questions around whether the issues of long-term maintenance planning and financial planning of historic buildings could be addressed by the development of a new valuation model (Forbes, 2005). This research represents a continuation of that research agenda which is still alive today as long as the questions of long term implications of heritage properties remain inadequately addressed by the valuation profession. There has been increasing prominence in the appreciation of cultural and heritage assets in more recent human history. These heritage and cultural goods come in a variety of forms, such monuments, buildings and historic ensembles, works of art, crafts, literary works, among others (Bedate, 2003). It is therefore little wonder that it is sometimes difficult to define cultural heritage – the sheer volume of assets that fall under this umbrella is enormous. However, some definitions of the concept are needed if we are to achieve the goals of employing analytical tools and making informed decisions about heritage assets. According to Harvey (1997) ‘cultural heritage’ is the entire set of goods, real property, tangible and intangible assets, privately owned property, property pertaining to public and semi-public institutions, church property and national assets which have great historic, artistic, scientific and cultural value and which, therefore, are worthy of preservation by nations and peoples, serving as permanent features of people’s identity down through the generations. Assessing the value of each of these assets poses challenges yet it is an undertaking that is of immense necessity if decision-makers are to behave intelligibly in the utilisation and management of heritage assets. Economic analysis suggests that, with the exception of works of art, which have a very specific market, many historic and cultural assets have no clear exchange value upon which they can be priced (Herrero, 2001).

It may not be a quantum leap to suggest here that this void implies that valuers need to look to other forms of value (apart from exchange value) in their attempts to assess the value of cultural and heritage goods. Despite the varied nature of cultural and heritage goods as outlined above, the focus of this research is on real property heritage assets and the methods used to value them. The aim of this first Chapter is to establish the case for research in the area of valuation of heritage property assets. To achieve this, this Chapter begins by providing general background information with emphasis on the existing practices and shortcomings of the valuation processes with regard to heritage real estate properties. This should provide the framework through which to consolidate the rationale for the research in section 1.2. The remaining part of the chapter outlines the research aims and objectives, the expected contribution of the research, outline research methodology, before finally providing a guided tour in the form of the structure of the final dissertation.

1.1 Background of the research

The valuation of land and buildings or real estate has advanced a long way in terms of the development of valuation techniques. According to Forbes, Goodhead and Moobela (2014, p.1) the roadmap to the existing practices and techniques in the surveying profession has however been hampered by a multiplicity of challenges. For example, the lack of transaction information which defines real estate markets makes value estimation all the more critical RICS (2012). These challenges are perhaps more pronounced in the valuation of heritage properties than in other real estate assets. The valuation of heritage properties requires careful consideration of a multiplicity of factors that take into account the importance of these properties, such as long term maintenance needs and the various restrictions on alterations. The costs of restoration and maintenance are not only long-term in nature, but can also be ‘very high’ and these costs will obviously affect the value of the properties. Moreover, it is quite common for heritage real estate to be used commercially, thereby raising the need for cash flow based approaches to value assessment over and above the intrinsic ‘heritage value’. In view of these complexities, this research focuses on the valuation of heritage properties, with particular reference to their long-term life-cycle maintenance costs and their implications for the valuation of these properties.

This is achieved by scanning through the existing techniques in the valuation of heritage properties so as to highlight their shortcomings and suggest areas for improvement. There are inherent disadvantages to owning a historic building likely to be listed by the local planning authority. According to Historic England (2017, p.8) old houses are often damaged by lack of care. Regular maintenance is both cost-effective and an important part of looking after a building of this type. Often, prompt action can prevent decay and avoid the need for major repairs. Listed buildings compared to modern counterparts are generally considered more difficult and expensive to repair and maintain. According to English Heritage (2013 p.6) once listed buildings fall out of use, and especially if they are in poor condition, they are all too frequently considered to be an expensive problem. An unused historic building in poor condition whether listed or unlisted found within a conservation area is considered to be a 'Building at Risk'. According to Buildingsatrisk.org (2016) a Building at Risk falls into one or more of the following scenarios; a building vacant with no identified new use, suffering from neglect and/or poor maintenance, suffering from structural problems, fire damaged, unsecured and open to the elements or threatened with demolition.

1.2 Rationale for the research

English Heritage (2013 p. 9) brought to the forefront the long term value of heritage property by suggesting there is a strong economic case for regenerating historic buildings. The benefits relate not only to the individual building, but also the wider area and community. The inclusion of heritage assets in regeneration schemes provides a focus and catalyst for sustainable change. The impact of successful schemes is felt beyond the boundaries of the heritage asset itself and can boost the economy of the whole town or city. After an initial literature review into the area of valuation methods for heritage buildings it became apparent that very little research has been done in this field. Nevertheless, the literature review did reveal closely related literature from a variety of sources that supported the need for a specific valuation method for heritage property taking into account other important issues like their long term maintenance costs.

According to RICS (2009, p.24) persuading owners of the need to think and act in the long-term interests of the building should be made in this light. Budgets should ideally be planned over the medium to long term to give increased certainty in regard to the costs of occupation and greater likelihood that the building will be appropriately maintained; and to demonstrate how a sinking fund investment could be a more attractive, as well as a more cost effective, means to budget for maintenance. Furthermore RICS (2014 p.10) wrote where a building is redundant, derelict or where major changes are proposed, issues relating to condition may well directly impact on the value” and go on to say where a valuer does not have the benefit of a building survey or report on condition there may nonetheless be a requirement to make a basic assessment of the state of repair. According to Colliers International (2011) locating a business to an historic building within an historic area can be a 'good' investment and their report strongly suggests commercial investments in listed buildings can yield higher returns compared to those in unlisted commercial properties over periods of time. Further research indicates that retail areas within 'well-maintained' listed buildings attract more independent and premium brands and are consequently likely to command higher rental values Amion-Locum (2010). The equivalent yield on listed offices in London's West End equalled the market average (6.6%) at the end of 2004, suggesting investors expect future rental growth will equal unlisted offices. One interpretation of this pricing, is investors believe that the disadvantages of an older specification and obsolescence are equalised by high- status localities Investment Property Databank (2006 p.6). A key gap identified in literature is that with regard to investment valuations, the same percentage all-risks yield is likely to be applied to all buildings of similar characteristics irrespective of the age. This can lead to inaccuracies as a result of insufficient accounting for the long-term implications of factors such as maintenance costs on heritage properties. Given the common belief is that listed and historic buildings have higher maintenance costs (Douglas, 2006. p.49), this poses the question as to whether the maintenance costs are adequately reflected in the commonly used all risks-yield of 6%. A closer look at the valuation techniques and approaches currently used in the valuation of heritage properties equally reveals a compelling case for a new way of doing things.

Economic analysis of cultural and heritage goods suggests that many historic and cultural assets have no market value upon which they may be exchanged (Bedate, 2003). The direct implication of a lack of exchange value is that these heritage assets also lack price. Indeed, the value of the assets is not necessarily economic value but may be social and cultural value in nature. There is also the issue of challenges emanating from the costs associated with maintenance of heritage buildings. The cost of restoration and maintenance for historic/ heritage buildings is substantial. This is because of the need for consultant specialist surveyors and architects, skilled labour and specialist materials (Benhamou, 1996). Restoration and maintenance needs to be planned for well in advance and years beforehand. Often the inability to pay for restoration and maintenance to preserve a historic building over its life time results in it becoming unoccupied or even derelict. The traditional methods of valuing heritage buildings do not take into account the life-time maintenance costs and stakeholders would benefit from a new valuation method that includes their life-time maintenance cost issues. There is equally no specific guidance from the Royal Institution of Chartered Surveyors (RICS) with regard to the valuation of historic buildings that incorporates neither their life-time maintenance costs nor a valuation method to adopt (RICS, 2014). The mainstream valuation methods are suitable for modern properties with a 25 year life cycle but these may not be adequate for heritage properties with life cycles in excess of 100 years. The need for a defined approach to valuing heritage assets was covered in 1999 when the Accounting Standards Board (ASB) issued Financial Reporting Standards (FRS) 15 Tangible Fixed Assets (TFA) for uniformity in measurement, valuation, depreciation and disclosure of TFAs. Later in 2006 the ASB described 'heritage assets' as assets with historic, artistic, scientific, technological, geophysical and environmental qualities. However, accountants prepare accounts on an annual basis at a given time in the past or the present and include maintenance costs within that accounting period. The current practices do not take into account the high life cycle maintenance associated with heritage buildings and they often rely on a valuation prepared by a chartered surveyor. More often than not heritage or historic buildings pose different challenges compared to more modern or contemporary counterparts and dependent on the skill and experience of the valuer.

Richmond (1978) describes a Valuer's role as to assess the capital or rental value of a particular property at a certain time, in the knowledge of the purpose of the valuation, the circumstances and intentions of the client or employer on whose behalf it is being prepared, as this may affect the calculation of worth. Based on this definition, it would be appropriate if the unique characteristics and circumstances surrounding heritage properties are given the attention they deserve.

1.3 Further evidence from literature

There have been several studies on the impacts of heritage listing on property values. Hough and Kratz (1983) found that new office buildings with architectural awards in Chicago attracted a premium value and older heritage buildings did not, possibly because of a partial loss of property rights. Moorhouse and Smith (1994) found that house prices in Boston were significantly affected by architectural styles but that rows of houses with similar styles of any kind tended to sell at a discount. In Sydney, Penfold (1994) found that house prices in conservation areas rose at a similar rate to house prices in other areas. A survey undertaken in 2002 on the performance of listed offices from 1993 by Investment Property Databank for English Heritage and the RICS Foundation showed a positive performance trend, confirming that this type of commercial building is a 'good' investment. New and creative uses of historic buildings can give a return on an investment and is a positive form of 'green' development. This sample of literature has been gathered from influential organisations and academics; collectively they bring to the forefront and raise awareness of the complexities surrounding historic buildings and why their preservation is important. However, these respected authorities hold back from providing alternative and practical solutions to valuing historic buildings which potentially could include their life-cycle costs. However, past work in this area has provided 'gaps' in knowledge that this research aims to address.

1.4 Knowledge gaps observed

The main gaps found in previous literature is the lack of alternative methods of valuing heritage buildings, instead of using one of the commonly used 'five' methods which is arguably a 'one fits all' in the literature gives rise to developing a new method of valuation specifically for heritage property. A further gap from past work fails to address long term life-cycle costs of heritage assets. Given the cost of maintaining a heritage building is generally perceived as being significantly higher in terms of a contemporary counterpart and their life-time is longer, ideally a new valuation method should include this aspect. The traditional five methods of valuation have been internationally widely adopted and the process for each is 'transparent' in terms of understanding the process for each. Other than the development of advanced alternative methods of valuation like 'fuzzy logic' and 'the travel cost approach' there have not to date been any new methods or techniques to complement the existing five methods in terms of valuing heritage buildings. Neither the traditional or advance methods of valuation currently include life-cycle costs. With regard to the valuation of heritage or historic building valuations, there have been many studies but none appear to have linked both the issue of value and life-cycle costs. According to a study by RICS (2009, p.25) there are compelling reasons why the valuation of heritage assets should continue to be a live issue for consideration and debate. These reasons relate to the perceived benefits that a more comprehensive approach to regular valuation would yield, including greater transparency and the ability to inform strategic asset management but to date no new methods have been developed. For historic buildings in the short term, regular inspection is essential for a systematic and preventative maintenance programme, with the frequency of inspections tailored to the significance and vulnerability of the building elements and materials Maintain Our Heritage (2004, p. 11). Evidence exists in many very old buildings where original components continue to provide satisfactory performance, and are far outliving estimated values. Brereton (1995, p.7) compares maintenance and longevity of materials, insisting that the best means of ensuring longer survival and authenticity of the traditional materials is through regular maintenance.

However, the ability to assess the longevity of traditional building materials is considered difficult due to a shortage of accurate information sources. When attempting to derive an estimate of component and material life expectancy, it is likely to be incorrect, as the data bears little resemblance to the actual values of building component life expectancy Ashworth (1996). However this should not exclude it being used for producing estimates of life-cycle costs.

1.5 The research aim and objectives

The research aim is:

Establish if surveying professionals agree there is a valuation 'gap' in terms of methods for valuing historic properties and if so, is there sufficient interest for a new valuation technique. If so, bridge the current 'gap' by developing a new practical investment valuation technique which for the first time includes life-cycle costs.

The research objectives are:

1. Conduct a literature review with regards the valuation of historic properties and life-cycle costs.
2. Plan a research methodology and strategy. Investigate the current valuation methods practiced in the UK and their application to heritage property. Discover how other countries value historic buildings and whether they include life-cycle costs.
3. Collect new data from practicing surveyors and develop a new investment valuation technique to complement the existing traditional methods and techniques.

Objectives in chapters

Table. 1.0

| Objective No. | Chapter No. |
|---|--------------------------|
| 1. Conduct a literature review with regards the valuation of historic properties and life-cycle costs. | Chapter 2 |
| 2. Plan a research methodology and strategy. Investigate the current valuation methods practiced in the UK and their application to heritage property. Discover how other countries value historic buildings and whether they include life-cycle costs. | Chapter 3 and Chapter 4, |
| 3. Collect new data from practicing surveyors and develop a new valuation technique to complement the existing methods. | Chapter 5 and Chapter 6 |

1.6 Expected contribution to research

Section 1.4 covers prominent reports where a skill gap exists in relation to valuing historic buildings in a new way and one which includes their life-cycle costs. In recent decades, heritage or historic buildings have lent themselves to commercial alternative uses e.g. shop and offices etc. However when it comes to valuing them the traditional and more so the modern methods of valuation have not included life-cycle costs. The life-cycle costs associated with historic buildings are often overlooked and can lead to the owners being over-burdened meeting those costs. It is believed the owners of historic assets would benefit from a new type of valuation technique which takes into account the buildings condition.

The information collected from this research indicated there is significant interest in the valuation of historic buildings and their life-cycle costs. This reinforces the need to advance research in this field and develop a new valuation technique to assist Surveyors and their clients. Based on the results on the surveys undertaken, a clear picture has emerged and suggests there are definite deficiencies in the way valuations are approached for these types of buildings. Given the fact historic buildings are of national importance to many countries and their survival is needed to reflect each countries cultural heritage, their survival is dependent on them being kept in good repair and/or being re-used for alternative uses. The contribution of this research is to move towards filling the knowledge gap, by the development of a new valuation technique to compliment and include the traditional methods of valuation and can be used by Surveyors to show the effect the buildings condition on the end value. The new technique will complement the existing traditional methods and provide a meaningful life-cycle valuation reflecting the buildings condition at the date the valuation is conducted.

1.7 Outline research methodology

The research methodology includes the following; the aims and objectives, the research hypotheses, the research methodology and methods, the philosophical foundations of the research, the chosen research approach, research design, analytical framework and the limitations of the research. The research hypothesis is supported by the results of the studies questionnaire. The research methodology and methods are explained and includes; what informs the choice of the methodology and methods and goes on to define and distinguish between the two and why they are important. It contains the overall methodological approach set for investigating the aims and objectives, it describes the specific methods of data collection that are used and an explanation of how results are analysed. Included too is a background and a rationale for methodologies that may be unfamiliar to the studies reader. It also provides justification for subject selection and sampling procedures and highlights and describes potential limitations.

This thesis required both primary and secondary and quantitative and qualitative data. To gather primary, quantitative and qualitative data, the decision was taken to distribute a questionnaire and then use a sampling technique to analyse the results of the data. Some documentary analysis has also been conducted and forms part of the secondary data collection.

1.8 Structure of the thesis

This thesis consists of seven chapters as follows;

1. Introduction,
2. Historic Property and Valuation Challenges
3. Valuation Theory and Methodologies
4. Research Methodology and Strategy
5. Data Presentation and Analysis
6. *"Towards a New Valuation Model for Heritage Assets."*
7. Conclusions, Recommendations and Contribution to Knowledge.

1.9 Structure of the chapters

Chapter 1 Introduction

This chapter includes; introduction, background of the research, the rationale for the research, further evidence from the literature review, the knowledge gaps observed, the research aims and objectives, expected contribution to the research and outline research methodology.

Chapter 2 Historic Property and Valuation Challenges

This chapter includes; introduction, nature and place of heritage properties in national economies, heritage and listed buildings in the United Kingdom, heritage property in the United States of America, heritage properties in China, unpacking the concept of value and summary.

Chapter 3 Valuation Theory and Methodologies

This chapter includes; introduction, the concept of value, conventional valuation methods, specialist property and their valuations, statutory valuations and heritage property, valuation of unpriced resources, practical difficulties of valuing heritage properties and summary.

Chapter 4 Research Methodology and Strategy,

This chapter includes; introduction, advanced research plan, research aims and objectives, research hypothesis, research methodology and methods, philosophical foundations of the research, the chosen research approach, research design, analytical framework, research limitations and reflection and summary.

Chapter 5 Data Presentation and Analysis

This chapter includes; introduction, the survey data, the data and its analysis, methods used in the valuation of heritage properties, adaptation of the methods of valuation to account for life-cycle costs, the extent to which current valuation approaches are capable of taking into account the life-cycle costs of heritage properties, the need for a new valuation model for heritage property, discussion and analysis, summary, analysis and conclusion.

Chapter 6 *"Towards a New Valuation Model for Heritage Assets."*

This chapter includes; summary of results, redefining the case for a new valuation model for heritage properties, model development, testing and validation of the model, discussion and analysis and conclusions.

Chapter 7 Conclusions, Recommendations and Contribution to Knowledge

This chapter includes; introduction, research limitations and reflection, summary, conclusions, recommendations and contribution to knowledge.

CHAPTER 2

HISTORIC PROPERTY AND VALUATION CHALLENGES

2. Introduction

The focus of this chapter is the valuation of heritage properties with particular reference to their long-term life-cycle costs. Life-cycle costs can have an impact on value and often over-looked in term of producing a valuation. The issue of life-cycle costing is both a historical and contemporary issue. The valuation of land and buildings or real estate has come a long way in terms of advancements in the development of valuation techniques since the formation of the RICS in the Victorian era. The development of the existing practices and techniques in the profession has however been hampered by a multiplicity of challenges, such as the lack of transaction information which characterises real estate markets and makes value estimation a challenging task. These challenges are perhaps more pronounced in the valuation of heritage properties than in other real estate assets where careful consideration of a multiplicity of factors is more pronounced. For example, the costs of restoration and maintenance are not only long-term in nature, but can also be very high and these costs will obviously affect the value of these types of buildings. For many years and now more so recently, it is common for historic buildings and historic real estate to be re-used for commercial use, thereby raising the need for a cash-flow based type of value assessment and in addition recognition of the intrinsic 'heritage value'. In recent times, historic buildings have been re-used for a range of alternative uses, typical examples include; castles and stately homes converted for commercial use e.g. leisure i.e. hotels, cinema etc. retail units, office space or a combination of both commercial and residential units also known as mixed use. Such changes often mean these buildings must retain their original external features and more often than not a condition of obtaining planning permission from the relevant authorities. The reason for this, is they must retain their character and fit-in with the surrounding area.

Having researched the area of valuation methods for heritage buildings, it has become clearly apparent there has been limited research in this field. In particular, there does not appear to be any valuation method or technique capable of adequately taking into account the life cycle costs (200 years and greater). To have an insight, it is necessary to discover how the UK and other countries value and manage their historic buildings.

2.1 Nature and place of heritage properties in national economies

According to Feather (2006) the driving force behind definitions of Cultural Heritage is: "it is a human creation intended to inform". Cultural Heritage can be distinguished in: The Built Environment (Buildings, Townscapes, Archaeological remains), Natural Environment (Rural landscapes, Coasts and shorelines, Agricultural heritage) Artefacts (Books & Documents, Objects, Pictures). Cultural Heritage is often expressed as either Intangible or Tangible Cultural Heritage ICOMOS (2002). According to UNESCO (2018), "Cultural heritage is the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generation, Tangible heritage includes buildings and historic places, monuments, artifacts, etc., which are considered worthy of preservation for the future. These include objects significant to the archaeology, architecture, science or technology of a specific culture, Intangible cultural heritage is made up of oral traditions, performing arts, social practices, rituals and festive events, knowledge and practices concerning nature and the universe, and traditional craftsmanship knowledge and techniques." According to Howard (2003) it is individuals who define heritage and the value they deem appropriate to heritage instead of value being present and ready for them to discover in an appropriate way. To support the opinion view the value of heritage is culturally determined, imposed upon heritage resources by scholars, rather than accepting 'the intrinsic values once thought to reside almost within the stonework of historic buildings' (Papayannis and Howard, 2007, p.299). This raises questions as to what the value of heritage may be, particularly considering the fact that different scholars, disciplines and perspectives impose quite different sets of values on the same piece of heritage and that the very concept of 'authenticity' has been shown to be anything but immutable or intrinsic.

Different disciplines use different authenticities. If accepted, these are important distinctions that should inform any framework of heritage as the nature of heritage and the difficulty of reaching a consensus as to its definition and management may be rooted within the question of what values shape it and whose values are important. With regard to the value and the impact of heritage, Historic England (2014) make the following statements; People in England visit heritage sites and believe that they are important to local communities. The historic environment is valued for its contribution to our knowledge and sense of identity and it helps to make places feel 'special'. Participating in heritage can contribute to people's personal development, and there is evidence of a positive relationship between heritage participation, wellbeing and health. The historic environment is seen as making a positive contribution to community life by boosting social capital, increasing mutual understanding and cohesion and encouraging a stronger place. Heritage makes a contribution to UK GDP, particularly as a driver of overseas tourism and attractive as a place to work, study or undertake business and cultural and historical sites are important asset making a country attractive. Economists have developed methods to monetise the overall value of particular heritage sites. People typically gain more value from a site than it costs them to visit, and the total value generated by a site can be greater than the cost of its upkeep. The historic environment has an important role to play in shaping distinctive, vibrant and prosperous places. However Historic England (2014) say further research on the role of heritage in everyday life and the relationship between heritage and identity will help to realise the potential. Cultural Economic Value is widely accepted to be what an individual considers to have value – i.e. what improves his/her well-being and varies from person to person. Value can be affected by a person's material, spiritual or moral attitudes and may differ between experts from different disciplines such as ecology, economics, psychology and philosophy. Value can be divided into two categories intrinsic and Instrumental (Freeman, 2014). The intrinsic value is the inherent in heritage, the benefit derived from heritage products for their existence value and for their own preservation; historical, aesthetic, social or scientific. The instrumental value is the benefit of a heritage product in terms of visitors and volunteers and wider social, economic, environmental and educational benefits at a community level.

In addition, is the institutional value, this is the way in which institutions organise themselves to earn public trust and the fairness and equality of organisational processes. According to Merlo and Croitoru (2005, p.17) total economic value (TEV) is one example of a concept used to identify and quantify the full value of a natural or cultural resource. TEV enables the classification of different types of value and measure them in terms of monetary value (World Bank, 2005). According to Sharp and Kerr (2005, p.4) TVE is "the sum of all benefits obtained from a resource". The principle behind this approach is the fact individuals can experience heritage by direct consumption, by indirect means or as an external benefit (Throsby, 2006). World Bank (2005, p.9) divides TEV into two types of values "use value" and "non-use value", use value includes; direct use value, indirect use value and option value. Non-use value includes; existence value and bequest value. However, for cultural heritage Throsby, (2007) describes "use value" as direct use value only and defines non-use value as existence value, bequest value and option value. Throsby, 2007 goes on to say cultural heritage can either be valued by an individual or society and is described as collective value. According to Timothy & Boyd (2003, p.13) cultural heritage can have a political significance and this is when private owners and governments collaborate together where there is a shared interest. Also, according to Timothy & Boyd (2003, p.13) a cultural asset has a scientific importance when it replicates shows the connection between indigenous people and European settlers or different lifestyles of difference areas. According to Throsby (2007), the use value of a cultural heritage site is; the enhanced benefit to individuals and companies by "the direct consumption of heritage services", i.e. the enjoyment of living or working in a heritage building. According to O'Brien (2010), values are reflected in market prices and processes and seen within the rental values. Direct use values are usually greater because heritage properties are commonly approached by individuals who appreciate their services and prepared to pay the agreed price in one or another form (Throsby, 2007). According to Throsby (2007), non-use or passive use values is; the satisfaction and individual obtains from "attributes of cultural heritage that are classifiable as non-rival and non-excludable" and therefore cannot be reflected in the market processes. Heritage properties are real estate assets under the term of cultural heritage.

The wider meaning of the term 'heritage' is generally associated with the word 'inheritance' and is something transferred from one generation to another (Nuryanti, 1996). A comprehensive definition of cultural heritage is given by Sanz, Herrero and Bedate, (2003), quoting Harvey (1997), who defines the concept as the entire set of goods, real property, and many other assets, tangible and intangible, which have great historic, artistic, scientific and cultural value and are worthy of preservation. The meaning of the term heritage with regard to real estate assets is used in relation to the preservation of monuments and historic buildings (Nuryanti, 1996). These cultural and heritage goods provide certain benefits and externalities to the areas within which they are located. They do not only create economic benefits but may also be used as catalysts for transforming certain areas, thereby making them part of local and regional economic development strategies (Dziembowska & Funak, 2000). It has also been argued that due to a number of factors, such as the increased cultural and heritage awareness, increased amount of free time in contemporary economies and improvements in transportation and communication, there has been a corresponding increase in the consumption of cultural goods (Dziembowska & Funak, 2000). However, Dziembowska and Funak (2000) further contend that the real reason for the strong increase in demand for cultural products over the recent past can be attributed to what they term as leisure culture, which describes the patterns of participation in a large variety of leisure activities. Because of its role as a carrier of historical values from the past, heritage is also viewed as part of the cultural tradition of a society (Nuryanti, 1996). Another way of calculating the benefits of cultural and heritage assets is by reference to the concept of 'heritage tourism'. As an economic activity, heritage tourism is said to be predicated on the use of inherited environmental and socio-cultural assets in order to attract visitors (Fayall & Garrod, 1998). This recognition of heritage buildings usually occurs because of their special significance or architectural qualities deemed worthy of preservation (Herbert, 1989). However, there is also usually a personal touch to the value to heritage assets. For example, in their study, Poria, Butler and Airey (2003) argued that the perception of a place as part of personal heritage is associated with the visitation patterns and that those who view a place as bound up with their own heritage are likely to behave significantly differently from others.

Gaddy and Hart (2003) suggest that property value depends on four main factors: physical forces; economic forces; political and government forces; and social factors. An understanding of this is important in the valuation of land and building as an asset and the common agenda of sustainable development are driving these forces. Also environmental forces impact on properties value due to potential climate change giving rise to adverse weather conditions. The implications of the above individualistic as well as pluralistic benefits of cultural and heritage goods give rise to the need to ensure that appropriate protocols and methods for valuing such assets are devised. Although arguably much effort has been made in this regard over the years, there remains a number of challenges in the theory and practice of valuation of heritage goods. These challenges are perhaps more pronounced in the valuation of heritage real estate assets than in the alternative heritage goods. English Heritage the trading name of the Historic Buildings and Monuments Commission for England and an executive non-departmental public body of the British Government sponsored by the Department for Culture, Media and Sport. English Heritage began in 1983 under the terms of the National Heritage Act and responsible for repairing and maintaining 420 sites and monuments making-up the National Heritage Collection.

English Heritage is governed by a Trustee Board who sets the direction of the organisation and is also the Government's statutory advisor with regard to the historic environment. English Heritage's role is to advise on planning and planning guidance and promotes investment with regards 'heritage at risk' by making grant available. The organisation's remit as a statutory advisor and consultee on the historic environment and its heritage assets includes; archaeology, land (and also under water), historic buildings, sites and designated landscapes (englishheritage.org.uk, 2007). According to an on-line BBC news article in 2013, the Government contributed £22m towards the National Heritage Collection (bbc.co.uk, 2013). The Secretary of State for Culture, Media and Sport and the Welsh Assembly Government recognises the importance of having a heritage protection system in place and a system that is simple to use and understand. The aim is to improve the heritage protection system by increasing the profile of the historic environment, promoting a more joined-up approach and increase capacity at local level.

Proposals in their 'white paper' in 2008 highlighted the importance of a system based on the following principals. 1) developing a unified approach to the historic environment; 2) maximising opportunities for inclusion and involvement; 3) supporting sustainable communities by putting the historic environment at the heart of an effective planning system; 4) build on the current legislative framework and create a single system for national designation and consents and encourage greater unification at local level. The paper promises; 1) underpinning new legislation with policy guidance; 2) English Heritage to introduce a new programme of training, support and capacity-building for English local authorities and local heritage organisations; 3) improve access to information about historic environment by introducing a statutory duty for local authorities to maintain or have access to Environment records. In 2008, the government in Hong Kong started the "Revitalising Historic Buildings Through Partnership Scheme" (RICS 2016 p.5). The aim is to conserve the built heritage by reusing them and giving "a new lease of life for the enjoyment of the public." However, this scheme is restricted to government buildings and properties purchased with public funding. This approach is broadly in line with the UKs English Heritage's "constructive conservation". This initiative aims to "recognise and reinforce the historic significance of places while accommodating the changes necessary to make sure people can continue to use and enjoy them." Following UNESCO's recommendation on the Historic Urban Landscape published in 2010, the active protection of urban heritage and it's sustainable management is a "condition sine qua non (an essential condition; a thing that is absolutely necessary) of sustainable urban development."

2.2 Heritage and listed buildings in the United Kingdom

Listing buildings and structures have special architectural, historical or cultural interest and started in 1947 under the Town and Planning Act. The criterion for deciding whether a building should be listed is based on its architectural interest, such as design, decoration, craftsmanship, building types and techniques etc and historic interest, which shows the nation's social, economic, cultural or military history. Close historical association, for example with important buildings or events. Group value, such as model villages, squares, terraces etc.

To date there are approximately five hundred thousand listed buildings in the United Kingdom and registered on a number of lists in England, Wales and Scotland gathered together by the relevant Government department which act on recommendations from English Heritage or The Society for the Protection of Ancient Buildings (SPAB). Buildings with a listing are either Grade I, Grade II* and Grade II. Grade I buildings are considered to be those that are of exceptional interest. Grade II* buildings are considered to be particularly important buildings of more than special interest. Grade II buildings are considered to be of special interest, warranting preservation (historicengland.org.uk, 2015). Most buildings constructed before the 1700's with original construction are listed. The majority of properties constructed from 1700 1840 with original construction will be listed as Grade I or Grade II*. Buildings constructed from the 1840s are generally of mixed consideration i.e. the type of building or the building's history. From 1940 onwards fewer buildings have been listed and the ones listed are buildings with a classic design or portray a particular style or property era. Usually listed buildings cannot be extended, demolished or changed unless permission is gained from the Local Authority (LA). LAs usually have a specialist in this area but may also get advice from other bodies like (SPAB), however building works are allowed to maintain the building. With regard to the functionality of Heritage Buildings, a variety of historic buildings have been converted and reused, and conversion is often necessary to sustaining heritage sites and making them available for new uses in a modern environment. Rehabilitation for reuse is usually necessary to protect architectural heritage. Common re-uses of heritage buildings include; offices, retail and leisure space and examples include; Oxford Castle, a former prison converted into a hotel with retail units within other adjacent buildings (oxfordcastlequarter.com) and Portsmouth Historic Dockyard, here a variety of former Ministry of Defence buildings dating back to 18th Century. Here buildings have been converted and reused for educational, leisure a retail space. According to www.pnbpropertytrust.org since 1985 20 major projects have been undertaken at a cost of £90m. In the United Kingdom, it is a criminal offence if work is carried out on a listed building or structure without prior permission being obtained. Listed structures include; war memorials, mile posts and mile stones, monuments, bridges and (sculptures spab.org.uk, 2015).

It has been reported that various polls have indicated strong public support for the protection of buildings of architectural significance. Examples are two polls by Mori, a poll in 2003 for Heritage Counts revealed 92 per cent of people thought it was important to keep historic features when regenerating towns and cities. Another for the Commission for Architecture and the Built Environment showed 60 per cent described living in a listed building as desirable (telegraph.co.uk). In relation to listed building, valuers in the United Kingdom believe rebuilding costs are significantly higher compared to unlisted buildings (www.bch.uk.com, 2016). It is estimated a modern brick built residential property is likely to cost in the region of £1,500/m² to rebuild compared to a listed building the cost is three times as much. This amount is increased further if the property has additional specialist internal features, the cost could then exceed £10,000/m². Typically, a modern house of brick and block construction costs approximately £1,500/m² to rebuild compared to a small listed cottage built of stone in a conservation area with limited access costing £3,000/m² to rebuild. The additional costs associated with listed buildings are; professional fees i.e. architects, surveyors, engineers and planning consultants, time delays for sourcing specialist labour and materials and potential archaeological research delays, approvals required e.g. conservation approval from the Local Authority and other bodies if deemed necessary by the Local Authority, associated buildings i.e. outhouses, stables etc. included within the listing). According to Harrington (2006) for an insurance valuation historic properties over 320 sqm need a 'specialist' valuer as historic properties are open to greater variation in specification. Harrington goes on to suggest RICS and BCIS websites have a list of specialists and an online database to aid specialist valuers. Under sections 14 and 15 of the Town and Country Planning Act 1971 local authorities can issue repair notices for listed buildings that they believe are not being adequately maintained. After two months, if the repairs have not been carried out, the local authority can seek to enforce a compulsory purchase order (i.e. force legally the owner to sell them the building and land to them).

2.3 Heritage property in the United States of America

In the United States there are three categories of what are termed historic properties. First, historic properties can be associated with events or persons important in the past development of the United States, the land itself and the nation. Second, historic properties can demonstrate styles of architecture, building construction, or engineering. Third, historic properties can express a particular culture or place and includes archaeological sites and historic landscapes. These categories of historic properties are also generally accepted by Chinese scholars but American and Chinese historic properties are divided into different architectural styles and periods. Historic Properties: Preservation and the Valuation Process gives a detailed explanation of the main historical building styles in the United States, including colonial era Spanish, English, Dutch, and French architectural styles; Colonial Georgian, American Pre-Federalist, Palladianism, and the Federalist styles of the eighteenth century; Greek revival, Shaker, Industrial Era, Victorian, Gothic revival, Romanesque revival, Renaissance revival, Italianate, Second Empire, Queen Anne, Shingle, Academic Eclecticism, and Chicago School styles of the nineteenth century; and Progressivism, Prairie, Craftsman, Art Modern, Modernism, Ranch, and Post-Modernism styles of the twentieth century. Historic properties, particularly in the historic built environment can apply for federal funding programs. Programmes support projects in the arts, humanities, and museum development (www.achp.gov/funding-cultural). For preservation projects the grants available are; Challenge Grants, these grants help institutions and organizations secure long-term support for, and improvements in, their humanities programs and resources (Xu, 2013). Funds can be used to create endowments for maintenance of facilities. In special circumstances, challenge grants can help with limited direct costs, including construction and renovation of facilities and conservation of collections. Preservation Assistance Grants, these grants fund the preservation and conservation of collections. They cannot be used for capital improvements of buildings or structures. Preservation and Access: Grants for Stabilizing Humanities Collections, these grants help museums, libraries, archives, and historical organizations preserve their humanities collections through support for improved housing and storage, environmental conditions, security, lighting, and fire protection.

Renovation costs for re-housing and installing climate control, security, lighting, and fire protection systems are eligible. Collaborative Research Grants (Humanities), these grants support original research in the humanities. Eligible projects include archaeology projects that interpret and communicate the results of archaeological fieldwork. Projects can include survey, excavation, materials analysis, laboratory work, and field reports. America's Historical and Cultural Organizations: Planning Grants and Implementation Grants, Interpretation of historic places or areas is among the activities funded by these grants. The grants cannot be used for rehabilitation costs. We the People: Challenge Grants in United States History, Institutions, and Culture, these grants are designed to help institutions and organizations secure long-term improvements in and support for humanities activities focused on exploring significant themes and events in American history. Grants can be used to support construction and renovation, acquisition of materials and equipment, and direct expenditures through long-term depleting or bridging funds. Grants also can be used to establish endowments that generate expendable earnings for program activities. We the People: Interpreting America's Historic Places Grants, Interpreting America's Historic Places projects may interpret a single historic site or house, a series of sites, an entire neighbourhood, a town or community, or a larger geographical region. Grants for Arts Projects: Design, according to National Endowment for the Arts guidelines, historic preservation organizations that focus on architecture, landscape architecture, or designed objects should apply for funding under this program. Two categories of grants are applicable: Access to Artistic Excellence (Stewardship), and Challenge America Fast-Track Review Grants. Under the former, a broad range of historic preservation activities are eligible for funding. Under the latter, architectural studies, design competitions, design workshops, or feasibility plans for the renovation, restoration, or adaptive reuse of facilities or spaces for cultural activities are eligible. Funding is not available for actual renovation or construction costs. Museum Assessment Program Grants, Museums, including historic house museums, can receive grants to perform institutional, collections management, public dimension, and governance assessments. Conservation Project Support Grants, these grants help museums identify conservation needs and priorities and perform activities to ensure the safekeeping of their collections and the buildings (including historic buildings) that house them.

Conservation Assessment Program Grants, these funds surveys of museums' collections, environmental conditions, and sites. Museums with buildings over 50 years old receive additional funds for an architectural assessor to identify priorities for care of the building(s).

2.3.1 The Federal preservation programme

The Federal Historic Preservation Tax Incentives program encourages the restoration of historic buildings to the public centre. The aim is to promote economic activity as an alternative to government management and ownership. Federal Historic Preservation Tax Incentives (FHPTIs) are available for buildings that are National Historic Landmarks listed on the National Register and contributes to National Register Historic Districts and certain state or local historic districts. Properties must be income-producing and restored to standards set by the Secretary of the Interior. Jointly managed by the National Park Service (NPS) and the Internal Revenue Service (IRS) in partnership with State Historic Preservation Offices (SHPOs), the Historic Preservation Tax Incentives program rewards private investment in restoring historic buildings. Prior to the program, the U.S. tax code favoured the demolition of older buildings over saving and using them. Starting in 1976, the Federal tax code became aligned with national historic preservation policy to encourage voluntary, private sector investment in preserving historic buildings. Since that time, the tax incentives have leveraged over \$33 billion of private sector investment to preserve and rehabilitate over 32,000 historic properties, including the creation of nearly 185,000 housing units, of which over 75,000 are low and moderate-income units (National Parks Service, 2006).

2.3.2 The Base Re-alignment and Closure Act 2005

The introduction of the Base Realignment and Closure (BRAC) 2005 gives developers the opportunity to convert historic military properties into new uses, using the Federal Historic Preservation Tax Incentives program.

The current tax incentives for preservation, established by the Tax Reform Act of 1986 (PL 99-514; Internal Revenue Code Section 47 [formerly Section 48(g)]) includes: 20% tax credit for the certified rehabilitation of certified historic structures and a 10% tax credit for the rehabilitation of non-historic, non-residential buildings built before 1936. For both credits, the rehabilitation must be substantial and must involve a depreciable building. The substantial rehabilitation test means that the cost of rehabilitation must exceed the pre-rehabilitation cost of the building. This test must be met within two years or within five years for a project completed in multiple phases. A depreciable building is one that after rehabilitation must be used for an income-producing purpose for at least five years. Owner-occupied residential properties do not qualify for the federal rehabilitation tax credit. The tax credit system differs from an income tax deduction. An income tax deduction lowers the amount of income subject to taxation. A tax credit, however, lowers the amount of tax owed. A dollar of tax credit reduces the amount of income tax owed by a dollar. The 20% rehabilitation tax credit applies to any project that the Secretary of the Interior designates a certified rehabilitation of a certified historic structure. A 'certified' historic structure is defined as a building that is listed in the National Register of Historic Places, either individually or as a contributing building in a National Register historic district, or as a contributing building within a local historic district that has been certified by the Department of the Interior (National Park Service). Buildings in historic districts must be certified or approved by NPS as contributing to the district as part of the Historic Preservation Certification Application. The MNPS must approve, or certify all rehabilitation projects seeking the 20% tax credit. A certified rehabilitation is a rehabilitation of a certified historic structure that is approved by the NPS as being consistent with the historic character of the property and, where applicable, the historic district in which it is located. The 20% credit is available for properties restored for commercial, industrial, agricultural, or rental residential purposes, but it is not available for properties used exclusively as the owner's private residence. As an alternative, the 10% credit applies only to non-historic buildings rehabilitated for non-residential uses. Rental housing would thus not qualify. Hotels, however, do qualify, as they are considered to be in commercial use, not residential.

Both the 20% and 10% credits apply only to buildings – not to ships, bridges, or other structures. In addition, the restoration must be substantial; that is exceeding either \$5,000 or the adjusted basis of the property, whichever is greater. The building must be depreciable. While the 10% rehabilitation tax credit applies only to non-historic, non-residential buildings built before 1936, the 20% rehabilitation tax credit applies only to certified historic structures, and may include buildings built after 1936. The two credits are mutually exclusive; that is, only one applies to a given project and the two cannot be combined to be used on the same project. Which credit applies depends on the building – not on the owner’s preference. Buildings listed in the National Register of Historic Places are not eligible for the 10% credit and buildings located in National Register-listed historic districts are presumed to be historic and are therefore not eligible for the 10% credit unless the owners request that the buildings be certified as non-contributing to the historic district.

2.3.3 Federal historic preservation tax incentives

The Federal Historic Preservation Tax Incentives program encourages the restoration of historic buildings to the public centre. The aim is to promote economic activity as an alternative to government management and ownership. Federal Historic Preservation Tax Incentives are available for buildings that are National Historic Landmarks listed on the National Register and contributes to National Register Historic Districts and certain state or local historic districts. Properties must be income-producing and restored to standards set by the Secretary of the Interior. Jointly managed by the National Park Service (NPS) and the Internal Revenue Service (IRS) in partnership with State Historic Preservation Offices (SHPOs), the Historic Preservation Tax Incentives program rewards private investment in restoring historic buildings. Prior to the program, the U.S. tax code favoured the demolition of older buildings over saving and using them. Starting in 1976, the Federal tax code became aligned with national historic preservation policy to encourage voluntary, private sector investment in preserving historic buildings. Since that time, the tax incentives have leveraged over \$33 billion of private sector investment to preserve and rehabilitate over 32,000 historic properties, including the creation of nearly 185,000 housing units, of which over 75,000 are low and moderate-income units (National Parks Service, 2006).

2.3.4 The application process for tax credit

The Historic Preservation Certification application is a 2 or 3 part process and depends on whether the building is individually listed in the National Register of Historic Places. Each part requires approval or “certification” by the NPS. The application is submitted in duplicate to the State Historic Preservation Officer (SHPO), which keeps one copy and forwards the other to the NPS. Projects are reviewed by the SHPO and the NPS, only the NPS approves projects for the Federal tax credit. Applications to NPS and the IRS must be made before work commences. Part 1: Evaluation of Significance of the Property. Owners of buildings located in a historic district or buildings eligible for listing in the National Register of Historic Places must complete Part 1 of the application to determine if the building contributes to the significance of the historic district. The owner submits this application to the SHPO. The SHPO reviews the application and forwards it to the NPS with a recommendation for approving or rejecting. If the NPS determines that the building does contribute to the significance of the historic district, the National Park Service issues a decision that the building is a certified historic structure. The NPS bases its decision on the Secretary of the Interior’s Standards for Evaluating Significance within Registered Historic Districts. The Part 1 application form must have been submitted and approved by the NPS before the Part 3 application form, "Request for Certification of Completed Work," is submitted. Properties that are a single building and individually listed in the National Register are automatically certified as historic structures and does not need a Part 1 form. Part 2 (Description of Rehabilitation Work), here owners of a certified historic structure who are seeking the 20% tax credit for restoration work must complete a Part 2 application form, which is a description of the proposed work. Long-term lessees also apply if their remaining lease is 27.5 years for residential property and 39 years for non-residential. The owner submits the application to the SHPO. The SHPO provides technical assistance and literature on appropriate restoration works, gives advice to owners on their applications, makes site visits and forwards the application to the NPS with recommendations. The NPS reviews the description of the proposed restoration for conformance with the Secretary of the Interior’s Standards for Rehabilitation.

The project is reviewed including related demolition and new construction and certified or approved only if the overall rehabilitation project meets the Standards. Where the proposed work meets the Standards, the NPS issues a preliminary decision approving the work. Or the proposed work may be given a conditional approval that outlines specific modifications required to bring the project into conformance with the Standards. Both the NPS and the IRS encourage owners to apply before they start work.

Part 3: Request for Certification of Completed Work After the rehabilitation work is completed, the owner must submit a Part 3 application form requesting final approval of the completed work. The owner submits the “Part 3” to the SHPO. The SHPO forwards the application to the NPS, with a recommendation as to certification. The NPS evaluates the completed project and compares it with the work proposed in the Part 2 application form. If it meets the Standards, the NPS approves the project as a certified rehabilitation eligible for the 20% rehabilitation tax credit. Notification of certification decisions is made in writing by the NPS. A copy of each notification is provided to the IRS and to the SHPO. If it meets the Standards, the NPS approves the project as a certified rehabilitation eligible for the 20% rehabilitation tax credit. Notification of certification decisions is made in writing by the NPS. A copy of each notification is given to the IRS and to the SHPO.

2.3.5 State tax incentives for historic preservation

In addition some States offer additional tax incentives for historic preservation and include tax credits for restoration (including residential owner-occupied properties) tax deductions for easement donations, and property tax abatements or moratoriums (tax freeze). Placing an easement on a property reduces its resale value, but that can be offset partially by tax benefits. Most landowners donate their conservation easement to a non-profit land trust or government agency. The decision to place a conservation easement on a property is voluntary whether the easement is sold or donated. The restrictions of the easement, once set in place, are perpetual (and potentially reduce the resale value of the associated property). New construction and rehabilitated housing are eligible for 10 year tax abatement.

Property owners are exempt from paying taxes on the value of the improvements for 10 years and only pay tax on the value of the property before the rehabilitation or new construction. In some states if a historic building qualifies for the tax benefit, an eight-year moratorium is placed on the property tax assessment of certified improvements. Property tax assessments may not be increased due to certified rehabilitation of the building for the eight-year period. The SHPO provides information on current State programs. The requirements for State incentives differ from the requirements of the Federal Tax Incentive Program.

2.3.6 Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable time to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by the ACHP (“Protection of Historic Properties”, 36 CFR Part 800). DoD is required to comply with Section 106 and the ACHP regulations when disposing of Federal property through the BRAC process. As a result, coordination is required between this compliance process and the use of the Federal Tax Incentives by a non-Federal entity. So there is consistency and to avoid duplication the SHPO coordinate the two processes.

2.4 Heritage property in China

In China, public funding to support the preservation of rural built heritage is limited. There are only a few non-government organisations actively involved and have limited resources (Xu, 2013). Investment from private Chinese property developers has assisted but many developer led projects have been criticised for their overly commercial (approach bop.co.uk, 2015). Crowd funding has recently emerged as an alternative method of raising the finance needed to support the protection of built heritage. One example is the ‘saving the most beautiful village’ campaign was launched in December 2015, and urges potential donors to save the ‘most beautiful village’ in China.

Initiated by business owner Mr Wu Zhixuan, the campaign offers potential donors equity crowd funding and reward crowd funding. The aim is to attract investment into the protection and development of historic buildings and villages. Over the past 4 years, Wu Zhixuan has saved 6 historic buildings in Wuyuan County by renting the buildings from local inhabitants and restoring them for use as boutique hotels. However, as Wu expected, protection of heritage architecture cannot keep up with the speed at which these buildings are either demolished or collapse. Another similar crowd funding campaign was launched in August 2014 by the village committee of Renli village in southern Anhui province (with the support of a tourism company). Using Alibaba's Taobao Crowd Funding platform, Renli village aimed to raise the funds necessary to restore 18 of its historic buildings. A fundraising target of 50,000 CNY (£5,000) was set, however the final sum raised was 10 times that (£58,862). This is in the context of more widespread interest in the possibilities of crowd funding. China's state council has begun to emphasise reducing the costs to small business of accessing financing, and diversifying the methods of financing available beyond traditional banking. At a State Council Executive Meeting on 19 November of this year, Prime Minister Li Keqiang put forward the equity crowd funding system as a potential way to grow a microfinancing system in China. Subsequently, on 26th November the Securities Association of China organized a forum focused on the registration, monitoring and management of crowd funding platforms, the first time legislation relating to equity crowd funding has been openly debated in China.

2.5 Unpacking the concept of value

2.5.1 Types of value

Common values associated with historic buildings are: instrumental, intrinsic, institutional, Inherent, and utility.

Instrumental value

Instrumental value is the benefit of the heritage product in terms of visitors and volunteers and wider social, economic, environmental and educational benefits at a community level. According to Hewison and Holden (2006) instrumental value is the ancillary economic effects such as urban regeneration which may derive from the asset. According to Holden (2006) the ancillary effects of culture is where culture is used to achieve a social or economic purpose and according to Vestheim (1994) the instrumental aspect lies in emphasising culture as a means or instrument to attain goals in other than cultural areas.

Intrinsic value

According to Hewison and Holden (2006) intrinsic value is the individual intellectual, emotional and spiritual experience of the heritage. It is also the value inherent in heritage, the benefit derived from heritage products for their existence value and for their own sake; historical, aesthetic, social or scientific and the value of an asset through fundamental analysis without reference to its market value. According to Holden (2004), heritage property value cannot be expressed only with statistics because the heritage value is influenced by other factors like intrinsic value. Intrinsic value is the value of an asset through fundamental analysis without reference to its market value. Historic Buildings have their own intrinsic value and any nation that claims to cherish cultural achievement in any field has a duty to care for them (ihbc.org.uk, 2019). The value of historic buildings and places is recognised in UK legislation and signatories in international charters and conventions (UNESCO, Council of Europe, etc.).

Historic buildings and places have intrinsic value in their own right, they are evidence of human achievement in arts, design and construction and beneficial to a nations spiritual and cultural well- being. The conservation and refurbishment of historic buildings is an intrinsically sustainable form of development, avoiding the use and waste of scarce resources associated with demolition and redevelopment, and helping to achieve sustainable growth (ihbc.org.uk, 2019). Intrinsic value is extensive and varies according to the type of heritage property, for example intrinsic value that owned by the museum is different with the other heritage properties. Another issue is identifying the intrinsic value is the cultural experience. Cultural experience is often based on personal experience and varies by different people (Holden, 2004). In contrast, extrinsic value is the based on appearance or what it could be sold for, which may not be the real value. Final value is the value something has for its own sake. There are a variety of kinds of extrinsic final value, including part value, symbolic value, conditional value, etc.

Institutional value

Institutional value is how institutions organise themselves to gain public trust and the fairness and equality of organisational processes. According to Hewison and Holden (2006) institutional value is the value which is created in the public mind by the way in which the asset is presented and according to Clark (2006) institutional value is the process and techniques institutions use to create heritage value.

Inherent value

The International Charter for the Conservation and Restoration of Monuments and Sites (1964) commonly known as the Venice Charter establishes the inherent values of heritage, and the relationship between the value of heritage and its fabric through its emphasis on authenticity. In Article 7 of the charter it goes on to support this belief: **ARTICLE 7.** A monument is inseparable from the history to which it bears witness and from the setting in which it occurs.

The moving of all or part of a monument cannot be allowed except where the safeguarding of that monument demands it or where it is justified by national or international interest of paramount importance (ICOMOS, [1964] 1996). Ideas about the inherent value of heritage are repeated in Article 15 through the focus on the value of heritage which can be revealed so that its meaning can be ‘read’: every means must be taken to facilitate the understanding of the monument and to reveal it without ever distorting its meaning (ICOMOS, [1964] 1996).

Utility Value

Utility value is as a subjective assessment of the expected return on an investment at a given risk, also the utility value an investor assigns to a given investment depends largely on the investors risk tolerance. The majority of historic places and buildings are occupied and have economic and social value as living accommodation, commercial space or recreational space and help generate economic growth. Utility value is an important concern in decision making and it is necessary that places and buildings adapt for modern uses, needs and demands whilst retaining their cultural and heritage value. If the requirements of owners, occupiers and users of buildings are not being met, they may fall vacant and be at risk (ihbc.org.uk, 2019).

2.5.2 Heritage property and valuation challenges

Economic analysis of cultural and heritage goods suggests that many historic and cultural assets have no market value upon which they may be exchanged (Bedate, 2003). The direct implication of a lack of exchange value is that these heritage assets also lack price. The value of the assets is not necessarily economic value but may be social and cultural value in nature. The valuation of heritage properties requires careful consideration of a multiplicity of factors that can take into account the importance of these properties, such as long term maintenance needs and the various restrictions on alterations. The costs of restoration and maintenance are not only long-term in nature, but can also be high compared to modern buildings and these costs are likely to impact on values.

It is common for heritage real estate to be used commercially, thereby raising the need for a cash flow based type of value assessment over and above the intrinsic 'heritage value'. This poses difficulties in the valuation of heritage assets in general and heritage real estate assets in particular. This is further compounded by the lack of information for valuing assets. There is also the issue of costs associated with heritage buildings, as it is usually substantial due to the need for specialist surveyors and architects, skilled labour and special materials (Benhamou, 1996). Restoration and maintenance needs to be planned for well in advance and years beforehand. Often the inability to pay for restoration and maintenance to preserve a historic building over its life time results in it becoming unoccupied or even derelict. The traditional methods of valuing heritage buildings do not take into account the life-time maintenance costs and stakeholders would benefit from a new valuation method that includes their life-time maintenance cost issues. There is equally no specific guidance from the Royal Institution of Chartered Surveyors (RICS) with regard to the valuation of historic buildings that incorporates neither their life-time maintenance costs nor a valuation method to adopt (Royal Institution of Chartered Surveyors, 2014).

According to Crosby, Hutchison, Lusht, and Yu (2018) commercial and industrial property occupational leases in the UK have become more diverse since the end of the 1980s when over 90% of the leases held by the major institutional investors and property companies were for 20-25 years and had five yearly upwards only rent reviews and full repairing and insuring (FRI) liabilities by the tenant. Crosby, Hutchison, Lusht, and Yu (2018) goes on to say there is now a diversity of lease lengths, now 5, 10 or 15 years, tenant breaks are common but the 5-year upwards-only rent review to Market Rent has survived, supporting the use of incentives such as rent free periods and capital payments upon new lettings. Crosby, Hutchison, Lusht, and Yu (2018) opinion is; indexation and other rent revision types are sparsely utilised at present and higher value properties let to corporate tenants attract the longest leases and rents are normally paid in advance, quarterly or half yearly. With this in mind traditional valuation approaches are suited to modern properties with a 25 year life-cycle but these may not be suitable for heritage properties with life-cycles in excess of 100 years.

The need for a defined approach to valuing heritage assets was covered in 1999 when the Accounting Standards Board (ASB) issued Financial Reporting Standards (FRS) 15 Tangible Fixed Assets (TFA) for uniformity in measurement, valuation, depreciation and disclosure of TFAs. Later in 2006 the ASB described 'heritage assets' as assets with historic, artistic, scientific, technological, geophysical and environmental qualities. According to Hassan (2014) in the last 25 years financial reporting of heritage assets has become a highly problematic issue for the public sector entities holding those assets. Based on the New Public Management (NPM) practices, these entities are required to report to stakeholders on a model disclosing the economic values for all assets under their control. Whilst there exists an extensive prior literature focused on how heritage assets might be accounted for and whether the heritage assets are sufficiently different to merit different treatment, there is little that addresses the reporting of heritage assets from an alternative, financial and non-financial perspective. However, accountants prepare accounts on an annual basis at a given time in the past or the present and include maintenance costs within that accounting period. The current practices do not take into account the high life cycle maintenance associated with heritage buildings and they often rely on a valuation prepared by a chartered surveyor. Past studies have reflected the impact of heritage listing on values. Hough and Kratz (1983) reported new office buildings in Chicago attracted a higher value and older heritage buildings did not. Moorhouse and Smith (1994) wrote house prices in Boston were affected by architectural styles but houses with similar styles usually sold at a lower price. In Sydney, Penfold (1994) found that house prices in conservation areas rose at a similar rate to house prices in other areas. The view of Applied Economics (2000) is the main public benefits of a heritage building is the benefit to residents and businesses as well as tourists and visitors, but there is not a simple way of valuing public benefits and the main methods used are hedonic property valuations, travel cost studies and economic impact analysis. As Rypkema (1992) notes, preservationists frequently talk about the "value" of historic buildings: social, cultural, aesthetic, urban context, architectural and historical value and a sense of place. But one of the strongest arguments for preservation should be that historic buildings have many layers of "value" to the community, but this is difficult to calculate.

Navrud and Ready (2003) argue that non-market valuation techniques are useful when reviewing the issues involving trade-offs between 'use values' and 'non-use values' and can be applied to cultural heritage objects of local, national and international significance. Non-market valuations contribute to cultural heritage and environmental policy, but what are also needed are valuation studies which solve future building maintenance issues. In a recent study by Sayce (2009), it was suggested that their study on the valuation of heritage assets had asked more questions than it answered.

2.6 Summary

This chapter illustrates the challenges and complexities associated with the preservation of historic buildings. There is however a strong consensus heritage sites and historic buildings are important to communities and important to sustain and increase the tourism economy. Long-term sustainable preservation is likely to be best achieved by innovative conversion to sustainable re-use e.g. commercial and residential space or a mixture of both within an existing building. Successful projects of this type where there is the need and more importantly the demand, the likely outcome is a long-term positive contribution to a countries GDP. There are prime examples where modern commercial space can be gained without changing the character of the building externally. In the UK, historic buildings are preserved and converted by using either private (individual or institutional) finance. Other potential sources of funding are government grants or national lottery funding. Governments in China and the United States of America (USA) offer government funding for building preservation. In China, crowd funding is used as another source of funding and in the USA a tax credit system is available. Not surprisingly in the absence of a specific valuation method for historic buildings both historic and modern buildings are currently valued in the same way and this asks the question is this the correct approach? Whether this approach is right or wrong is debatable but it does pave the way for a new valuation technique to be developed and tested. Beforehand, however it is necessary to examine current valuation methodologies.

CHAPTER 3

VALUATION THEORY AND METHODOLOGIES

3. Introduction

According to Henneberry and Crosby (2015) the financialisation literature has been criticised for its limited empirical base and its failure adequately to link the everyday world with that of high finance and the way that valuations are performed affects their results and, therefore, the operation of the property market. Henneberry and Crosby (2015) goes on to say traditional approaches to valuation have been increasingly challenged by those derived from financial economics and this suggests that a more detailed and historically sensitive interpretation of financialisation is required. Sayce, Cooper, Smith and Venmore-Rowland (2006, p.13) says there are five important inputs and they are: the passing rent; the estimated market rental value (at the valuation date); the valuation yield(s); the purchaser's costs; and the length of the void period and costs before vacant accommodation becomes income producing. The aim of this chapter is to examine the current property valuation methodologies practiced here in the United Kingdom and overseas and with reference to historic buildings and discover if life-cycle costs are included within these valuation methods. Before this is done it is necessary to have an understanding of the term 'valuation' and 'market value' and what they represent. Historic buildings are often referred to as 'specialist property' or specialist category, therefore it is necessary to have an understanding of what sets them apart from other categories and who generally owns these types of buildings. An overview of valuation methods and practices is necessary and an examination of the three main approaches, the traditional five methods and modern techniques. An important part of this study is to investigate how other countries approach historic building valuations. Gathering this information will highlight if other countries already have processes, systems and practices in place and whether they can be replicated. If they do, can they be used by other countries and are there any 'lessons to be learnt'.

It was necessary to decide how many countries to research and which ones to choose and why. The researcher took the decision to review two countries, the United States of America and China. These countries were chosen because they have a large number of historic buildings and stable economies. They also have established governance, administration, legal and financial systems. This status means they are likely to have greater financial and technical resources compared to lesser developed countries which may have fewer historic buildings and literature to explore. The review of these countries include; there valuation methods and funding available for historic buildings e.g. private, government or charitable funding. The outcome of this chapter supports the need for a new alternative valuation technique for historic buildings adding to the body of knowledge and assisting the valuation profession.

3.1 The concept of value

3.1.1 What is value?

The term value or values is used in a variety of contexts with many meanings in everyday language. Value can mean standards, beliefs, principles, moral obligations and social norms, also desires, wants, needs or interests. Value can also mean the worth, importance or significance of a thing or object of interest. These different meanings are not only found in speech but also within the usage of "value" in social sciences and humanities.

3.1.2 Types of value

From Brown (1984) a distinction can be drawn between the two general senses in which the term "value" is used: (a) the evaluation of an object or phenomenon; and (b) the standards, or criteria, in terms of which such an evaluation is made. In a narrower classification, Lewis (1946) distinguishes "value" as: (a) utility, i.e. the usefulness for some purpose. (b) extrinsic or instrumental value, i.e. being valuable as a means to something else. (c) inherent value, i.e. producing valued experiences when observed.

(d) intrinsic value, i.e. being valuable in itself, or as an end. (e) contributory value, the value that something contributes to a greater whole of which it is a part. Hartman (1967) considers the relation between fact and value by introducing the notions of the extension of a concept, and its intension. The extension of a concept defines a class of objects by indicating features they have in common. The intension of a concept is the set of qualities prescribed for any object that make it a "good" or "fit" member of that class of objects. Hartman (1967) goes on to distinguish between the intensions of three different types of concepts (synthetic, analytic, and singular), and derives three types of value. (a) Systemic value is the extent to which the intension of a synthetic concept is fulfilled. A synthetic concept is a construct of the human mind instead of an empirical thing. Synthetic concepts have finite and denumerable properties because they come into being by definition. Systemic value is the match between a thing and the definition of its concept because this definition is equal to the intension of the concept. (b) Extrinsic value is the value that empirical objects have to the extent that they fulfil the intension of an analytic concept. Because the intension of an analytic concept derives from the abstraction of common attributes of a class of objects, it can contain an infinite but denumerable number of properties. Empirical objects (chairs, for example) do not need to possess all the attributes prescribed by the intension of their concept; they may possess them to a degree, and to that degree they have extrinsic value. (c) Intrinsic value is the value found in any uniquely individual object, fulfilling the intension of a singular concept. A singular concept is not based on common attributes of a class of objects; rather, it defines one, and only one unique object with infinite and non-denumerable properties. In this classification, the complexity of value increases from the systemic level (for example the class of human beings) to the extrinsic (an abstract person in society) to the intrinsic (a particular, unique individual).

3.1.3 Bases of value

A basis of value is a statement of the fundamental measurement assumptions of a valuation. Bases are defined in the International Valuation Standards (IVS) (RICS, 2017). The basis of value are defined as; market value, market rent, investment value (or worth), fair value. Market value is defined in IVS 104 paragraph 30.1 as: ‘the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.’ Market rent is defined in IVS 104 paragraph 40.1 as: ‘the estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and a willing lessee on appropriate lease terms in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.’ Investment value (worth) is defined in IVS 104 paragraph 60.1 as: ‘the value of an asset to a particular owner or prospective owner for individual investment or operational objectives.’ Fair value (the definition adopted by the International Accounting Standards Board (IASB) in IFRS 13) is: the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In addition, to the basis of valuation are assumptions and special assumptions. An assumption is made where it is reasonable for the valuer to accept that something is true without the need for specific investigation or verification and any such assumption must be reasonable and relevant having regard to the purpose for which the valuation is required. A special assumption is made by the valuer where an assumption either assumes facts that differ from those existing at the valuation date or that would not be made by a typical market participant in a transaction on that valuation date. Where special assumptions are necessary in order to provide the client with the valuation required, these must be expressly agreed and confirmed in writing to the client before the report is issued. Special assumptions may only be made if they can reasonably be regarded as realistic, relevant and valid for the particular circumstances of the valuation (RICS, 2017).

3.2 Conventional valuation methods

3.2.1 Investment method

The investment method is used for valuing properties which are normally held as income producing investments. The value of such an investment is the product of the net income and the inverse of the market yield. Investment is the payment of a capital sum in exchange for the benefits to be received in the future. Where a freehold property is let at its full rental value and there is therefore no known reversionary element to be valued and no recovery of capital to be provided for, an investment valuation is therefore net income multiplied by years purchase. This method can be used for the valuation of heritage buildings once a business has been set-up, established and producing an income. However incorporation of the life-cycle maintenance costs within the valuation is still problematic, although it can be argued that this can be implied within the choice of the all-risks yield percentage. The value of an investment can be considered to be a multiple of the current rent where the multiplier is the reciprocal of the investor's required income yield (All Risk Yield valuation technique) or the PV of the expected future cash-flow (DCF valuation technique) (Fraser, 1993). Techniques vary depending on the extent to which assumptions are made explicit. For example a valuer may include an explicit growth rate forecast rather than imply a long-term average from analysis of comparable evidence, or depreciation may be explicitly accounted for in the cash-flow. The problem with being more explicit is that there is greater potential for valuation variance Havard (2000). The ARY model does not explicitly reveal the total return that an investor expects; instead, future rental income is discounted (capitalised) at a rate that implies that the investor expects the income to grow in order to achieve a TRR. The DCF model involves selecting a suitable holding period, forecasting the cash flow over this period and selecting an appropriate target rate and exit yield. Another investment appraisal is the discounted cash flow technique, commonly known as DCF is a valuation method used to estimate the potential benefit of investing.

A DCF analysis uses future free cash flow projections and discounts them to arrive at a present value estimate, which is used to evaluate the potential for investment. DCF is often used because its calculation is flexible and allows multiple scenarios regarding growth expectations to be considered giving a projected valuation outcome for investors. This approach works well for assets with positive cash-flows and can be estimated with reliability for the future, and where a proxy for risk that can be used to obtain discount rates is available. It works best for investors who either have a long time projection, allowing the market time to correct its valuation mistakes and for price to revert to “true” value or capable of providing the catalyst needed to move price to value needed by an investor before making a decision to invest. As DCF attempts to estimate core value, it needs more inputs and information than other valuation approaches. The DCF technique is better at isolating factors affecting future income flow from those that affect the TRR required by the investor, thus allowing direct comparison with other investment opportunities. It can also deal with complexity and reveal assumptions explicitly. In cases where a property presents a non-standard pattern of income a DCF approach will usually be preferable. For example, investments with a ground lease and an occupational lease granted at different times, phased development projects or leaseholds where the head-lease has infrequent reviews and the sub-lease does not, the DCF approach provides more information and helps focus attention on fundamental characteristics that the investor will be interested, namely income growth, depreciation, the holding period, timing of income and expenditure and the TRR. Rent tends to be subject to depreciation and capital values to obsolescence and the effect of these can be handled explicitly by adjusting the rental growth rate and exit yield or implicitly by adjusting the TRR (Sayce, 2006). Choice of method is a matter of availability of evidence and complexity of the property being valued: use the ARY technique when investments have a standard pattern of income and rent reviews, use the DCF technique for complex interests, long reversions and short leaseholds. When valuing leasehold investments complex gearing effects are much more suited to detailed cash-flow analysis rather than simple yield capitalisation.

3.2.2 Comparison method

According to RICS (2011) a comparative valuation is based on the economic theory of substitution where a purchaser buyer would not pay more for an item than the cost of buying an alternative item. A comparable can be broadly defined as an item used during the valuation process as evidence in support of the valuation of a different item of the same general type. Comparable evidence comprises a set of comparables used in support of a valuation. The asset being valued relies on the established economic principle of substitution. This means a buyer of an item would not pay more than the cost of acquiring a satisfactory substitute. A price to pay for a particular item will therefore normally look to the price achieved for similar items in the market (the comparable evidence) and makes a bid with this information. When identifying, analysing and applying the comparable evidence, the valuer or potential purchaser will ensure that it is: comprehensive, there are a number of comparables similar or identical to the item being valued, recent transactions and representative of the market at the time of the valuation, an arm's length transaction in the open market i.e. not connected parties, checked where possible and consistent with local market practice. Comparable evidence forms the basis the valuation for most openly traded goods. However, problems occur when goods or assets that are less widely traded or they are rarely identical and this is often the case in real estate valuations. Therefore the experience and skill of the valuer have greater significance. The information paper from the RICS titled Comparable evidence in property valuation, 1st edition (2012) gives valuers the outline of the principles and use of market evidence within their valuation. It is common practice to use market evidence from local comparable transactions to value building or structure. Historic buildings are often difficult to value using this method due to the limited transactions in the market place. Often comparables will need to be sourced from outside of the local area and into different regions and even nationally.

3.2.3 Profits method

The profits method is used for a property whose value is derived from the trading potential of the business for which the building is purposely designed i.e. hotels and cinemas are typical examples. Comparison is used in assessing a fair maintainable level of trade (see Red Book GN 2, Valuation of individual trade related properties). Comparison is also used to derive values for the key inputs in a discounted cash flow (DCF) valuation including not only net rent and yield but also the growth rate, discount rate, costs and disposal price at the end of the investment period. Thirdly, cost approach, there are two methods that fall within the cost approach: the replacement cost (contractor's) method and the residual method. The replacement cost method is used to value properties that do not ordinarily exchange on the open market (for example, public buildings) and for which direct comparable evidence are not available. The valuations are based on two elements: the depreciated cost of the building element and the value of the land. Current build costs and often the land value will be established by comparison. The profits or accounts method is used when comparables are not available, for example hotels and restaurants RICS (2014). Historically, the profits method was used for the valuation of public utilities, e.g. cemeteries, railways, docks and harbours and gas works. In *Kingston Union AC v. Metropolitan Water Board* (1926) the House of Lords held that, unless special circumstances applied, public utility undertakings were required to be valued on the profits basis. A valuation is achieved by reference to the profits which a reasonable tenant could make from the occupation of the property. This involve examining the accounts to determine typical trading figures. From gross takings receipts deductions are made for operating and overhead costs, tenant's capital and interest but excluding rent or mortgage interest payments. The result of this calculation is the "divisible balance" and represents the amount available for tenant's share of the remuneration and landlord's rent. This method is dependent on an interpretation the accounts to produce a reliable estimate of the market value.

Guidance note (GN) 2, Valuation of individual trade related properties, in the current edition of RICS Valuation – Professional Standards (the ‘Red Book’) considers the criteria to be adopted by valuers when assessing market value or market rent for an individual trade related property. It covers a wide range of such properties such as; hotels, public houses, bars, restaurants, nightclubs, theatres or cinemas, and other types of leisure property.

3.2.4 Cost method

The contractor’s method is used for properties that do not come to the market and are mainly occupied by public bodies, for example libraries, fire and ambulance stations and need to be valued for non-domestic rates or as part of an asset valuation. For an asset valuation, this method is called the depreciated replacement cost (DRC). DRC involves estimating the cost of replacing the site and the building (the land and re-building value) then an allowance for depreciation. The land value must reflect the locality (the obvious alternative use which would be permitted by the planning authority), for example residential value if in a residential area and industrial value if in industrial area. However this method has the disadvantage of attempting to equate cost to value, as well as certain practical difficulties involved in making the various estimates and in particular the correct depreciation allowance. In some instances the first four methods of valuation (Comparison, Residual, Profits and Investment) are not suitable for a particular property. Buildings are sometimes designed to be occupied by public organisations, for example, councils, emergency services, Ministry of Defence, and healthcare sectors. Because of their uniqueness it is not appropriate or feasible to value them for commercial use. These properties rarely exchange in the market place and because of this there is little or no comparable evidence is available to compare with. For these types of property the Contractors method (also known as Summation) is used. This method does have limitations and is often referred to as the method of ‘last resort’. This is because the principle is based on a building or property’s value being the same as cost (which is often a flawed concept, as ‘cost’ is a fairly definite sum, whereas ‘value’ is not). This method works on the idea of the cost of the land plus the cost of the buildings on it equals the value of the property as a whole.

The users of these non-commercial buildings could hypothetically move to a different site and have a similar building constructed. As no aspect of competition exists, the value is likely to be similar whichever site is used (assuming it's a similar size). The value of the land should only be based on the intended use and not the best use. This is because land where say offices are permitted to be built would be worth more than land upon which only a fire-station could be built. Another issue is that the value of a new building would be worth more than the value of one that which already stood on the site. There must be some amount of depreciation for general wear-and-tear and obsolescence. The basic equation for the Contractor's Valuation is: Cost of Building plus Cost of Site = Total Cost of Similar Property less Amount for depreciation and obsolescence = Value of Existing Property In practice, the process of establishing the value would be: 1. Apply build costs (at a rate per Sq. Ft/m) at the time of valuation, and discount this by a percentage to allow for depreciation and obsolescence (this could be 25% for obsolescence and a further 15% for depreciation). 2. Add the revised total build costs to the land value, including costs of plot works and fees. 3. The result is the value of the property. The limitations of this method are; not only can build costs be difficult to establish with accuracy (due to the envisaged specialist nature of the building), but the level of discount to be applied to allow for obsolescence and depreciation must be specific.

3.2.5 Residual method

The residual method, used to assess the value of a development site, combines elements of the income and cost approaches. It requires calculation of the value of the completed development that will be reached by comparison with market transactions, while the assessment of development costs will also require comparison to be made with build costs, fees, finance costs and other elements in similar projects. The use of comparative evidence is also used in statutory valuations. These valuations are usually required for the purposes of taxation or compulsory purchase and undertaken in accordance with the specific requirements of the relevant statutes. This often means the approach to the valuation and the result will differ from a conventional market valuation.

Although the rules of valuation may be different the principles are the same. Valuers have to search and analyse evidence on the same basis but need to do so within the limitations imposed by the relevant statute. Where there are no (or limited) transactions to use for the comparative method, the residual method provides another valuation approach. The limited analysis of comparable sales can give a useful check of the accuracy of a residual valuation. The residual method requires the input of data and making assumptions. Changes in the inputs can result in large change in the land value. Some of these inputs can be estimated with reasonable objectivity, but others are more difficult. For example, the profit margin, or return required, varies dependent upon whether the client is a developer, a contractor, an owner occupier, an investor or a lender, as well as with the passage of time and the risks associated with the development (RICS, 2008). Client requirements may ask for advice taking into account the client's specific circumstances. For instance, in recommending how much to bid for the purchase of a site based on the construction costs that can be delivered by the client as a contractor. The residual method involves estimating the cost of a project and the new value created with an allowance for profit and contingency. The difference between value and cost represents the value of the unimproved property. However the estimation of costs and the timing of future payments can be complex. Other than a developer, this method can be used in a modified form to a prospective shop tenant, for example in costing the fitting-out a "shell unit" having regard to future value. The value to be adopted is the Market Value of the proposed development assessed on the special assumption that the development is complete as at the date of valuation in the market conditions prevailing at that date. This is referred to as the Gross Development Value (GDV). For some developments, particularly residential, the approach may be to adopt the total of the values of the individual properties. In other cases an additional special assumption may be that the completed development is let and income producing rather than available for sale or letting. As the GDV does not incorporate an allowance for purchaser's costs the net proceeds are more often aligned to the net development value, which reflects the transaction costs that would be incurred if the completed development was sold, again, on the date of valuation. The finance costs, notional or actual, are included in the residual value calculation and therefore there is no need to adjust the GDV to reflect these (RICS, 2008).

3.3 Specialist property and their valuations

According to French & Gabrielli (2004) specialist properties are ones where there is insufficient market data to value them by a form of comparison and specialist buildings are usually valued on the assumption the existing use of the building continues. The assets that fall into the category of a specialist type are generally valued on a profits or contractors basis. A valuation is a model to determine price and the value is the end result. It is the quantification of an understanding of the market; the legal impact; the physical constraints; the planning regime; the availability of finance; the demand for product and the general economy that influences the value of property. Valuation is the process of determining market value; an estimation of the price of exchange in the market place. Therefore the intent of any valuation is constant. It is the best estimate of the trading price of the property. The distinction between the valuation of non-specialised and specialised property stems from the nature of the model used. With non-specialised property there is sufficient trading activity to observe the level of prices without the need to interpret the underlying fundamentals and price is determined by comparison. However, given that price should reflect the thought process of a potential purchaser, it is not unreasonable that where there is no established trading market then cost of replacement or an analysis of the property as an asset to the business becomes the principal forms of pricing and this is the basis of the valuation models used for the valuation of specialised property. Historic buildings are generally referred to as 'specialist properties' and are commonly valued depending on their use e.g. retail, offices or leisure and therefore valued using one of the traditional five methods. Compared to modern buildings, historic buildings have a more detailed design and differ in terms of the building materials used in their construction and life-time maintenance costs, yet this is not reflected in terms of valuing them.

3.4 Statutory valuations and heritage property

3.4.1 Compulsory purchase valuations

'Compulsory purchase' is where the state or a body, which could be a local council or a utility company as examples, can acquire land compulsorily (by right) where it is needed in the public interest and compensation is paid to the owners of the land or rights taken (RICS, 2018). The body referred to as the 'acquiring authority' can obtain the legal powers to buy all or part of a private property. In basic terms, the owner will have to sell, even if they do not want to. When the 'acquiring authority' obtains the legal powers, they will issue a Compulsory Purchase Order (RICS, 2018). Compensation following a compulsory acquisition of land is based on the principle of equivalence. This means the owner should be no worse off in financial terms after the acquisition than they were before or better off. The effects of the compulsory purchase order on the value of a property are ignored when assessing compensation, it is necessary to value the land on the basis of its open market value without any increase or decrease attributable to the scheme of development which underlies the compulsory purchase order (Department for Communities and Local Government, 2010). Open market value is the normal basis for the assessment of compensation in a compulsory purchase case. However, there are some differences in the case of a listed building in disrepair. Under Section 50 of the Planning (Listed Buildings and Conservation Area) Act 1990 the local authority may include within the Compulsory Purchase Order application a direction for minimum compensation if it considers that the owner has deliberately allowed the building to fall into disrepair in order to justify its demolition and secure permission for redevelopment of the site. Case law gives examples where a specific valuation method was adopted for a claim. An example is *Michael v Salford City Council* [2016] UKUT 370 (LC), the Upper Tribunal (Lands Chamber) considered different methods for calculating the compensation due to a claimant and carried out a residual land value appraisal.

3.4.2 Rating valuations

The principal use of a privately run composite historic property is likely to be as a home. However, the rateable value of a composite hereditament is “an amount equal to the rent which, would be reasonably attributable to the non-domestic use of property” (paragraph 2(1A) of Schedule 6 to the Local Government Finance Act 1988). The non-domestic use in a privately run composite historic property will, most likely, be undertaken with a view to profit. Generally, in the absence of rental evidence, the rateable value can be found by reference to the receipts and expenditure in respect of that non-domestic use. Income associated with the non-domestic use of the hereditament is likely to include: admissions, retail and catering sales, and other corporate activities, providing they are not separately assessed (Valuation Office Agency, 2019). The rating assessments of historic houses have been the subject of Lands Tribunal and Court of Appeal decisions. Examples are *National Trust vs. Spratling (VO) (1997)* and *Hoare (VO) vs. National Trust (1997)*. The Lands Tribunal decision was that the National Trust a charity organisation was the only potential hypothetical tenant of the two properties. Having regard to the profits basis of assessment, the costs of repair and administration made the occupation of the hereditament unprofitable. The tribunal did however take into account the Trust's overall financial resources and its motive to preserve historic houses and concluded the trust would pay a positive rent for the benefit of occupying the hereditaments. Later the Court of Appeal over-turned the Lands tribunal decision and ruled the National Trust would not be prepared to pay a rent in addition to taking the responsibility for repairs of the hereditament. The profits method was still accepted but the Court of Appeal found that only a nominal value was appropriate under the profits method. In a more recent Upper Tribunal (Lands Chamber) case *Hughes VO vs. York Museums and Gallery Trust (2017)*, one of the six issues in question was whether the contractor's basis or the receipts and expenditure basis should be applied for valuing the hereditament. The Tribunal set out a detailed review of both approaches but concluded the method of valuation should not be approached as a question of principle but should be considered after reviewing the evidence in each case.

3.5 Valuation of unpriced resources

3.5.1 Contingent valuation methods

Contingent valuation is a survey-based economic technique for the valuation of non-market resources like environmental preservation or the impact of contamination. While these resources do give people utility, certain aspects of them do not have a market price as they are not directly sold, for example, people receive benefit from a view of a mountain, but it would be difficult to value using price-based models. Contingent valuation surveys are one technique which is used to measure these aspects. Contingent valuation is often referred to as a "stated preference" model, in contrast to a price-based revealed preference model. Both these models are utility-based. Typically the survey asks how much money people would be willing to pay (or willing to accept) to maintain the existence of (or be compensated for the loss of) an environmental feature like biodiversity. This technique is now widely accepted as a real estate appraisal technique and particularly in contaminated property or other situations where revealed preference models or transaction pricing) fail due to disequilibrium in the market (Mundy and McLean, 1998). McLean, Mundy, and Kilpatrick (1999) go on to demonstrate the acceptability of contingent valuation in real estate expert testimony and the current standards for use of contingent valuation in litigation is described by (Diamond, 2000). Due to the hypothetical nature of the survey and the impact of statistical constraints, the validity of this approach is the subject for extensive debate.

3.5.2 The travel cost method

The travel cost method (TCM) concept is calculated by incurring time and money costs, consumers reveal a willingness to pay for a particular location, even if there is no entry fee to pay. Visitors to a site are sampled using survey techniques to determine key information such as visit frequency, distance travelled, time taken, travel costs incurred and demographic characteristics. By aggregating the observed travel costs associated with a number of individuals accessing the asset a demand curve can be plotted, and an overall value obtained.

Smith (1986) argues TCM produces more reliable estimates than other valuation techniques such as, for example, the contingent valuation methodology and the reason is TCM uses observed instead of hypothetical data to generate results. There are two types of TCM these are visitation frequency model and choice model (Navrud & Ready, 2003). The visitation frequency model sees how often the individual or similar groups tend to visit the given site. While, the choice model looks at the given site, which site will be selected by the visitor. The advantages of TCM are 1) it's based on actual behaviour and 2) can be applied without great expenses.

3.5.3 Benefit transfer and the transfer function approaches

Benefits transfer (BT), or value transfer (VT) refers to applying quantitative estimates of ecosystem service values from existing studies to another context. Value estimates from one 'study site' can be applied with adjustments to a 'policy site' where time or resource constraints preclude the possibility of doing a primary valuation study at that site. VT literature values have been understood to be monetary estimates of benefits or costs (Johnston, Rolfe, Rosenberger and Brouwer, 2015). Often VT is used for screening in a benefit-cost analysis of project or policy alternatives. Value transfer is not a specific method but a range of the following approaches dependant on the information available:

- Unit value transfer: Value estimates are assumed to be correct 'on average' and transferred without any form of adjustment.
- Adjusted unit value transfer: Value estimates are transferred with simple adjustments typically for study and policy site differences in income and purchasing power.

- Value function transfer: Significant predictors at the study site of willingness-to-pay typically (from contingent valuation or choice experiment studies), are identified at the policy site. The average value of predictors at the ‘policy site’ are then ‘plugged into’ the ‘study site’ value-function to derive an adjusted WTP figure for the policy site.
- Meta-analytic function transfer: Similar to value function transfer, but the value function is generated from a meta-analysis of many valuation study sites instead of a single study site. The method assumes that there is a meta-value function i.e. similar preferences) that apply across all the study sites.

3.5.4 Production function approach

A production function gives the technological relation between quantities of physical inputs and quantities of output of goods. The theory of the production function shows the relation between physical outputs of a production process and physical inputs, i.e. factors of production. The practical application of production functions is obtained by valuing the physical outputs and inputs by their prices. The economic value of physical outputs minus the economic value of physical inputs is the income generated by the production process. By keeping the prices fixed between two periods under review there is an income change generated by a change of the production function. This is the principle how the production function is made a practical concept, i.e. measureable and understandable in practical situations. Two criticisms of the production function theory are: 1. The concept of capital and 2. The empirical relevance (Mishra, 2007). In the 1950s, '60s and '70s there were debates about the theoretical correctness of production functions. Although the criticism was directed primarily at aggregate production functions, microeconomic production functions were also focused upon. The debate began in the mid-1950s with criticism of the way the factor input capital was measured and how the notion of factor proportions had distracted economists. As a result of the criticism on their weak theoretical grounds, it has been claimed that empirical results firmly support the use of neoclassical well behaved aggregate production functions.

However it was demonstrated they have no empirical relevance, as long as the alleged good-fit comes from an accounting identity and not from underlying laws of production/distribution (Shaikh, 1974).

3.5.5 Hedonic pricing models

A hedonic pricing model breaks-down an asset into separate components, each of which individually provides value to a purchaser. The market value or overall worth of the asset is determined by aggregating the individual sum afforded to each characteristic. For house prices, hedonic models use data on market transactions to determine the implied value or implicit price of housing attributes.

Hedonic models are used to observe the price differential between two houses that vary only by one characteristic (e.g., distance to the nearest park). The approach helps understand the monetary trade-offs individuals make with respect to the changes in the characteristic. In the above example it would be the value of the increase in the distance to the nearest park is the difference in the prices of the two houses (Taylor, 2003). The hedonic pricing approach is argued to be more realistic than other implied value techniques as values are determined directly from market behaviour and evidence. Hedonic models show market behaviour and in particular, movements in prices and changes in the composition of dwellings. Price indexes have been developed based on hedonic models and are critical to understanding housing markets, and to inform decision-making about housing affordability or 'housing bubbles' (Bourassa, Hoesli and Sun, 2006). Several applications of the hedonic model in New Zealand found they address the valuation of environmental amenities (water views and parks), urban amenities (schools), housing and household features, policy (school zones), and market behaviour (Fernandez, 2019).

3.6 Practical difficulties of valuing heritage property

3.6.1 Long-term maintenance requirements

Economic analysis of cultural and heritage goods suggests that many historic and cultural assets have no market value upon which they may be exchanged Bedate, (2003). The direct implication of a lack of exchange value is that these heritage assets also lack price. The value of the assets is not necessarily economic value but may be social and cultural value in nature. The valuation of heritage properties requires careful consideration of a multiplicity of factors that can take into account the importance of these properties, such as long-term maintenance needs and the various restrictions on alterations. The costs of restoration and maintenance are not only long-term in nature, but can also be astronomical in costs and these costs will obviously affect the value of the properties. Moreover, it is quite common for heritage real estate to be used commercially, thereby raising the need for a cash flow based type of value assessment over and above the intrinsic 'heritage value'. This poses great difficulties in the valuation of heritage assets in general and heritage real estate assets in particular. This is further compounded by a general lack of information for valuing the assets (Forbes, Goodhead and Moobela, 2014).

3.6.2 Limitations of conventional methods

To appraise potential values in the case of heritage buildings the valuer has a number of techniques that can be used. In the private sector valuation techniques such as: comparative costs, cut off periods, yields, payback periods, rates of return and discounted cash flow might be used (Scarrett and Smith, 2007). Public sector valuation might include: political decision-making; cost benefit analysis, multiplier analysis and environmental impact analysis. Underpinning the use of these techniques will be a desire to evaluate, business risk and financial risk. The difficulty in appraising heritage property is they will have a longer life-cycle than a modern development, which may set a tension in future years.

Heritage property adds value but who should pay for the maintenance: the occupier, or the people in surrounding property or the state. The use of multiplier analysis at first sight might provide a vehicle for apportioning gain and in turn perhaps a vehicle for apportioning maintenance cost. Multiplier analysis (of which there are many sub types) is a very costly technique to employ and the reality is that often multipliers are borrowed from other studies and their use might be regarded as subjective (Goodhead, 2008).

3.6.3 Limitations of alternative methods

Heritage buildings present special challenges to valuers as few are sold in the open market to provide comparable evidence. Sayce (2009) suggests using the following methods: Contingent Valuation and Willingness to Pay, Cost Benefit Analysis and Hedonic Pricing Techniques, however they acknowledge these methods are costly and questions their usefulness too. According to Navrud & Ready (2003) limitations of Travel Cost Method are: 1. different time travel by visitors, 2. self-selection and 3. only capture the visit part, not include others non-use value that may influence the cultural heritage asset values. Clawson and Knetsch (1966) point out some of the practical problems which arise when using the travel cost method to make empirical estimates. For instance, the demand to visit a given site depends not only on the distance from the point of origin, but also on budget and time constraints. These in turn are related to an individual's employment conditions. Additionally, difficulties arise in assigning costs to multiple sites visited on the same trip.

3.6.4 Other valuation difficulties

Managing an historic building is often more challenging compared to modern property and directly influences valuing them. According to Howard (2003) the involvement of stakeholders, particularly locals is important and it is best to leave conservation techniques to people who are associated with the heritage assets being managed. Common difficulties associated with historic buildings include: funding, conservation and management issues.

Commonly there is a lack of awareness, conservation officers, collaboration, specialist valuers and importantly a specific valuation technique that includes life-cycle costs to assist in meeting the cost of building renewals. The main issue in managing heritage assets is funding. Generally a heritage asset is considered expensive and costly and normally funded by government, private institutions or individuals and ineffective management is likely to result in unexpected major expenses, breaches of statutory duties and critically a decrease of heritage values. According to Historic England (2018) when historic buildings are left vacant they become at risk of damage and decay and potentially a blight on their locality. It is recommended to keep a building occupied on a permanent or temporary basis. It is likely some historic buildings will find it difficult to find any use, especially in areas where the property market is weak and the opportunities for sale or re-use are limited. However, some buildings are centrepieces of future regeneration and safeguarding will allow them to fulfil their social, cultural and economic potential. The temporary use of vacant property for a socially-beneficial purpose is ‘meanwhile use’ and has become more widely practiced since the Meanwhile Project was established on the back of the Government’s report Looking after our Town Centres in 2009. ‘Meanwhile Space’ is the delivery arm of the Meanwhile Foundation, set up to enable community uses of vacant property and sites, it provides a range of tools, like special leases. With regard to investment decisions of historic buildings, it is important to take account of the costs, risks and legal responsibilities arising from leaving a building unmaintained and unsecured. Minimal investment in security and maintenance can help to maintain the building’s value and capability for re-use. Commonly associated costs include: security, inspections, maintenance, building services, insurance and taxes. Timely intervention to keep a building in a stable condition will help to avoid the need for potentially expensive repairs at a later stage (Historic England, 2018).

3.7 Summary

This chapter has explored the following: the concept of value, conventional valuation methods, specialist property and their valuations, statutory valuations and heritage property, valuation of unpriced resources and practical difficulties in valuing heritage buildings. With regard to the concept of value, Value can mean standards, beliefs, principles, moral obligations and social norms, also desires, wants, needs or interests. Value can also mean the worth, importance or significance of a thing or object of interest. The basis of value are defined as; market value, market rent, investment value (or worth), fair value. The conventional valuation methods are: investment, comparison, profits, cost and residual and commonly none of the methods include nor allow for the buildings life-cycle costs and arguably they should. The life-span of heritage buildings is significantly greater than a modern buildings life expectancy. Specialist properties which include historic buildings pose a particular challenge to valuers as there is little or no transactional data to compare one with another. Buildings of this type are commonly valued using the profits or cost method and without reference to their life-cycle costs. Statutory valuations of heritage property are often needed for compulsory purchase and rating valuations. Rating valuations assume reasonable condition even if this is not the case and this might seem unfair to the owner of a building in poor condition and ratepayer. With regard to the valuation of un-priced resources different methods are used and they include: contingent, travel cost, benefit transfer and the transfer function approaches, production function approach and hedonic pricing models and these too exclude life-cycle building costs. Practical difficulties of valuing heritage property are: long-term maintenance requirements, limitations of both conventional and alternative approaches. Common difficulties associated with historic buildings include: funding, conservation and management issues. A new valuation approach which includes and historic buildings life-cycle costs could potentially alleviate valuation issues for this type of property.

CHAPTER 4

RESEARCH METHODOLOGY AND STRATEGY

4. Introduction

Following the completion of Chapters 2 and 3 it was necessary to design a research methodology and strategy. This chapter is structured in ten further sections and include; 4.1 Advanced Research Plan, 4.2 Research aims and objectives, 4.3 How the objectives will be met, 4.4 Research hypotheses, 4.5 Research methodology and methods, 4.6 Philosophical foundations of the research, 4.7 The chosen research approach, 4.8 Research design, 4.9 Analytical framework and 4.10 Summary. The research plan contains the research questions, the research's purpose, a plan for disseminating the findings and an outline of the overall research strategy as well as the specific methods, techniques and instruments to be used. The research's aims and objectives state what is hoped to be achieved (the aim) and how it is to be achieved (the objective). The research hypothesis is; "the standard all-risk yield percentage does not apply to historic buildings" and this section explains the reasoning behind it. The "research methods" refers to the strategy used to gather the data needed and the "research methodology" refers to the body of practices that will govern the acquisition of knowledge. With regard to the philosophical foundations of the research, the object of the research is to add the current body of knowledge in terms of valuing historic buildings. For this study the following were considered; epistemological assumptions, research paradigms: positivism; phenomenology; ontology; the realist account, deductive vs. inductive reasoning, objectivity vs. subjectivity and qualitative vs. quantitative research. The chosen research approach is to conduct a review of how surveyors in the UK and abroad approach valuing these types of buildings and see if they include life time repair and renewal costs within their valuations. Have an understanding of if and how other countries preserve their historic buildings then compare them to the UK.

The tool-kits for historic buildings do not have a specific valuation technique, so there is a need and purpose to develop a new approach. The research design section explains the objectives of the study, the use of primary and secondary data, how the objectives will be accomplished and the methods used to achieve this, what the sources of data are gathered from i.e. questionnaires, interviews etc., the collection and use of the secondary data, the identification of the groups and people targeted with the questionnaire and the sampling techniques adopted. The analytical framework is how the data will be used to develop a new valuation model and the statistical tests needed to test the research questions and hypothesis. The research limitations and reflection section explains the limitations of the study i.e. time and financial but also what the study has achieved in terms of advancing valuation development for historic property and further proposed research put forward. Before starting this research, I had the pre-conception valuers did not currently use a specific valuation method for historic buildings and they used one of the five methods for both non-historic and historic. The purpose of this research is to add a new technique by developing a new approach.

4.1 Advanced research plan

The advanced plan for this research was to gather new data from a survey questionnaire of valuation surveyors and provide a basis to go-on and develop a new valuation technique for historic buildings. Having an advanced research plan is necessary to achieve the research aims i.e. the valuation methods used by valuers and whether they include life-cycle costs for historic buildings, if and how other countries approach this issue, and finally if there is the 'interest and need' for a new valuation technique. Initially, the intention was to send survey questionnaires to surveyors based in the United Kingdom only, as it was believed this would provide sufficient data. However with the threat of other similar competing studies in the United Kingdom being published before the completion of this research, the decision was taken to expand the distribution of questionnaires internationally. Expanding the research in this way meant greater perspectives could be gained and analysed. Within the surveying profession there are many disciplines. The surveyors chosen to be sent questionnaire were from the valuation discipline only.

Surveyors within this discipline conduct valuations of all types of buildings and have the necessary qualifications, skills and experience to provide valuation reports to their clients and usually in exchange for a fee. In the United Kingdom, membership of RICS is needed to practice as a Chartered Valuation Surveyor. That said, RICS is an international organisation with members throughout the world. In addition to RICS there are many other organisations throughout the world with members generally known as 'valuers'. For this research, valuers from a number of organisations were sent questionnaires. Targeting surveyors in this way gave the greatest chance of getting the necessary data to drive the research forward. Sending questionnaires to surveyors in other disciplines would not have provided the necessary data required. For this research to be successful it was important to gain surveyors views and practices in relation to the valuation of historic buildings and relate the data collected from them to enable the research's objectives to be met. The best way to collect the information/data needed was to develop a questionnaire. The advantage of using questionnaires is; a large number of people can be reached easily and economically. A standard questionnaire provides quantifiable answers for a given research area and the answers are relatively easy to analyse. However, I was conscious of the common believe questionnaires are sometimes not the best way to gather information. For example, if there is little previous information on a particular research project, a questionnaire may only provide limited insight. On one hand, the researcher may not have asked the correct questions which allow new insight in the research topic. On the other hand, questions often only allow a limited choice of responses. If the right response is not among the choice of answers, the researcher will obtain little or no valid information. In addition, questionnaires can give varying responses to questions and respondents sometimes misunderstand or misinterpret the questions asked. For this research to have a purposeful outcome, it was necessary for it to have an international dimension and perspective from practicing valuation surveyors worldwide. The decision was taken to adopt the international regions designated by the RICS as the regions cover the globe. This was considered a logical approach to distribute an international survey and gather the information needed from the international valuation community.

The regions comprise; Americas, Australasia, Europe, Middle East and North Africa, South Asia, Southeast Asia and China, Sub-Saharan Africa. Members of Surveying organisations including RICS are within these regions were identified and sent questionnaires. The regions were chosen because they encompass established organisations where practicing valuation surveyors are employed. These regions have a diverse spectrum of valuation surveyors within both wealthy and developing countries. Furthermore, with RICS offices within these regions, it would be possible to identify members within a particular region. As well as RICS members within these regions other surveying bodies were identified. This meant a greater sample of surveyors could be identified. The purpose of the distribution of the survey was to gather the views and practices of a number of surveys within different organisations, this would give a greater understanding of potential differences found within different surveying organisations. A sampling strategy evolved following a five step process. Step 1: Deciding on a sampling strategy, Step 2: Choosing a survey format, Step 3: Designing a questionnaire, Step 4: Invite participants to contribute their views and finally Step 5: Organise and interpret the data returned. The steps in detail are; Step 1: For this survey, both the 'target population' and 'sample frame' are practicing surveyors experienced in building valuations. This ensured relevant participants took part in the survey and resulting in reliable data being gained. Step 2: Initially the survey format was to distribute hard copy self-completion survey forms by e-mail. Later and to increase the response rate, questionnaires were completed by the researcher during telephone interviews with the participants. Step 3: To gather specific and relevant data from valuation surveyors, the questionnaire includes 'closed' questions (single choice lists and multipoint rating scales) and an 'open' question at the end allowing respondents to write additional comments in. The questionnaire was structured into 4 parts and consisting of 10 questions. The questionnaire was piloted before general distribution. The pilot provided feedback on whether the questions were interpreted correctly by the respondents as intended, the response categories were appropriate and provide enough data to later analyse and gauge the functionality and flow of the questionnaire. Following the pilot and analysing the feedback, some minor changes were made the questionnaire before it's distribution in full.

Step 4: Before inviting surveyors to take part in the survey, information about the survey was explained and included; the purpose of the study and what the data will be used for, that the survey was voluntary, importance of the evaluation, including the value to them as an individual and the wider community of interest, give enough information so the participants can make an informed decision whether to take part in the survey, inform them of the likely time the questionnaire will take to complete and the completion due date and finally provide contact details for enquiries. Seven days before the due date, reminders were sent by e-mail reminding them of the completion due date and after the due date participants were contacted by telephone to ask whether they would like to complete the questionnaire over the phone with the researcher recording their responses. Step 5: This step included; preparing the data for analysis, analysis of the quantitative data, analysis of the open-ended responses and finally analysing the quantitative data in greater detail. Firstly, the responses from the hard-copy questionnaires were checked for errors then entered onto an electronic spreadsheet. Secondly, in a report style format the key quantitative data is summarised (using charts for some questions). Thirdly, analysis of the open-ended questions to identify common views and beliefs. Finally, the responses gathered from the questionnaire were compared with the different groups of the respondents e.g. respondent groups from different countries, age groups, and valuing and surveying institutions etc. The testing was conducted using statistical analysis software. This exercise was intended to give a greater depth to the research and highlight different beliefs and practices of specific groups. This task ensures the research has sufficient depth and understanding of the groups taking part in the survey and inform readers. The methods of this research are all purposely linked around the subject of 'valuation' and 'life-cycle costs' in respect of heritage buildings. The research focused on; a review of the valuation methods widely practiced internationally and whether there is the interest and need to develop a new valuation technique specifically for historic buildings. This was achieved by conducting a literature review of historic properties and life-cycle costs, investigate valuation methods practiced in the UK and their application to heritage property, investigate how other countries perceive historic build valuations and life-cycle-costs and lastly from an international survey establish the valuation methods adopted and whether there is sufficient interest and need for a new valuation technique.

The purpose of the survey was to gather information and data to further reinforce the usefulness and need of a new valuation technique. The results of the survey proved a number of theories and the significant outcomes were; the valuation method used is dependent on the type of valuation being undertaken, historic buildings are treated the same as a modern building and finally there was strong interest in a new specific valuation method for historic buildings. The use of toolkits for historic or heritage buildings has become more apparent over recent decades. The likely reason for this is buildings of this type are growing in appreciation here in the UK and other countries. Here in the UK buildings of this type which have alternative commercial uses have increased in value similarly with contemporary buildings and this is driven by demand from occupiers and investors. Predominantly the toolkits in use have been developed by both government (local and central) and non-government organisations. Toolkits are used to undertake an assessment of a building or the locality. Examples of toolkits developed and currently used include; assessing buildings at risk, assessing energy efficiency and protecting heritage at a local level. Before this research began it was evident the toolkits used for heritage buildings did not at that time include a valuation of the building. An opportunity then appeared to develop a new valuation technique which could be an addition to existing toolkits where a valuation would be of significance. That said the new valuation technique developed could be used for other purposes in the private and public sectors e.g. loans and taxation of property.

4.2 Research aims and objectives

According to Thomas & Hodges (2010) it is important in any research project to define the core objectives or questions. The aims and objectives of this research is an important aspect of this thesis as it determines the scope, depth and direction of the research. The aim of this research is:

Establish if surveying professionals agree there is a valuation 'gap' in terms of methods for valuing historic properties and if so, is there sufficient interest for a new valuation technique. If so, bridge the current 'gap' by developing a new practical investment valuation technique which for the first time includes life-cycle costs.

The research objectives are;

1. Conduct a literature review with regards the valuation of historic properties and life-cycle costs.
2. Plan a research methodology and strategy. Investigate the current valuation methods practiced in the UK and their application to heritage property. Discover how other countries value historic buildings and whether they include life-cycle costs.
3. Collect new data from practicing surveyors and develop a new investment valuation technique to complement the existing traditional methods and techniques.

4.3 How the objectives will be met

The first objective will be met by conducting a literature review. The purpose of a literature review is to gain an understanding of the existing research and debates relevant to this area of research and to present that knowledge in the form of a written report. Also determine what exists in the scholarly literature to identify possible gaps in the scholarly literature for further research. In addition, inform the research topic and associated methodology and to compare/contrast against findings resulting from the current study. Conducting a literature review will help build knowledge in terms of the valuation of historic properties and life-cycle costs and provide secondary data. The second objective will be met by researching literature about the current valuation methods practiced in the UK and their application to heritage property and discover how valuers in the UK approach historic buildings. In addition, find out whether they included life-cycle costs within their valuations. Then investigate how other countries value historic buildings and whether they include life-cycle costs. This information came from the literature available from two countries and the information returned from questionnaires.

The third objective will be met by conducting a survey of valuers to establish how they value historic buildings and whether there is the 'interest and need' for a new valuation technique which included their life-cycle costs. Two hundred questionnaires were distributed via post and e-mail mainly to members of the Royal Institution of Chartered Surveyors (RICS) in the UK and world-wide. RICS (est.1868) was chosen as they have c. 125,000 members (qualified and trainees) in 150 countries (RICS.org, 2018) At the time of sending-out the questionnaires the RICS international regions were; UK, Europe, MENE (Middle East, Near East and Africa), Asia, South Asia, Oceania and Americas. In addition, questionnaires were forwarded to other surveying organisations that recognise and adopt the RICS professional standards. Finally develop a new valuation technique. The basis for developing a new technique was the outcome of the literature review and international survey of valuers. After developing the new valuation technique it underwent testing with a sample of practicing valuers in the UK and the results analysed. It is believed this new valuation technique has contributed to the body of knowledge and added a new technique to current valuation approaches. Here

4.4 Research hypotheses

Before developing a research hypotheses it is necessary to know what one is and what it aims to do. According to Creswell (1994) a hypothesis is a formal statement that presents the expected relationship between an independent and dependent variable. Creswell goes on to say "research questions and hypotheses become "signposts" for explaining the purpose of the study and guiding the research". It is generally accepted in the field of academic research too, a hypotheses is a statement of what is intended to be investigated and needs to be specified before the research is conducted and stated in reporting the results. This allows the identification of the research objectives, key abstract concepts involved and the relationship between the problem statement and the literature review. In formulating a hypothesis, it is important to narrow a question down to one that can be studied in a research project. Once a hypothesis has been set, the next stage is to test it by collecting data for its justification. The hypotheses for this study is; "the standard all-risk yield percentage does not apply to historic buildings."

This hypothesis evolved after completing a number of historic building valuations whilst in public practice. In practice using a 6% all-risk yield is regarded as a reasonable approach for buildings constructed post 1900. It is generally accepted by property professional and the investment market as a whole, the all-risk yield includes all the costs associated with maintaining and running the building efficiently going into the future. There is currently no distinction between modern and historic buildings and they are effectively treated the same. Reasons for the lack of distinction is likely to be (with reference to historic buildings) there is limited information of "arms-length" transactions in the market place and often is not or withheld reliable records of past major expenditure. The lack of research in this field has meant both modern and historic building being valued in nearly always valued in the same way. The hypothesis challenges the issue associated with historic building valuation and their life-cycle costs.

4.5 Research methodology and methods

Methodology is the strategy or plan of action behind the choice and use of particular methods (Crotty 1998, p.3). It is concerned with why, what, from where, when and how data is collected and analysed. Guba and Lincoln (1994 p.108) says methodology asks the question: how can the inquirer go about finding out whatever they believe can be known? Methods are the specific techniques and procedures used to collect and analysis of data (Crotty 1998, p.3). The data collected will be either qualitative or quantitative. All paradigms can use both qualitative or quantitative data. Research methods can be traced back, through methodology and epistemology to an ontological position. It is not possible to start any type of research without committing to ontological and epistemological positions. Researchers with differing ontological and epistemological positions can lead to different research approaches towards the same phenomenon (Grix, 2004 p. 64). This becomes clear as the scientific, interpretive and critical paradigms are investigated. Qualitative data provides a means of collecting and recording data with regard to in-depth knowledge of the respondent's experiences. The quantitative data focuses on numbers and frequencies from the questionnaire and moves on to further analysis.

4.6 Philosophical foundations of the research

The object of the research is to add the current body of knowledge in terms of valuing historic buildings. The aim has been to develop a new valuation technique to complement the current traditional five methods. The difference between the current methods and this new approach is this new valuation technique has a practical application which is easy to complete by surveyors resulting in meaningful valuation to inform their client. An important part of this thesis is to consider the philosophical assumptions. For this study the following were considered; epistemological assumptions, research paradigms: positivism; phenomenology; ontology; the realist account, deductive vs. inductive reasoning, objectivity vs. subjectivity and qualitative vs. quantitative research. At every stage of any research a number of types of assumptions are made (Burrell and Morgan 1979). These assumptions shape how to understand the research questions, methods used and how outcomes are interpreted (Crotty, 1998). A structured and consistent set of assumptions constitute a credible research philosophy and underpins methodological choice, research strategy and data collection and analysis. The result is, a project where all the elements of the research link together. According to Bryman (2001) there are three assumptions in research: epistemological, ontological, and methodological. The epistemological assumption refers to the ways to acquire the knowledge (Bryman, 2001). In terms of this research, knowledge has been acquired from first conducting a literature review and then collecting further information from a questionnaires sent to practicing surveyors. Ontological assumption refers to the nature of the world and human being in social contexts (Bryman, 2001). In terms of this thesis, the information acquired needed to go beyond what is already known in terms of valuing historic property and put forward a new valuation technique likely to result in an advancement within the valuation profession. Philosophic realism is defined by Phillips (1987, p. 205) as "the view that entities exist independently of being perceived, or independently of being perceived, or independently of our theories of them." In terms of realism, this research identified a real and present valuation issue and sought to explore and find a new solution to valuing historic buildings in a practical way with a scientific approach, i.e. a valuation process that includes their building components and their condition with a defined formular.

Methodological assumption refers to an analysis of the methods used to gain data (Kohen, Manion, Morrison (2001)). This study uses both quantitative and qualitative information sources, quantitative gathered via questionnaires completed and returned from practicing surveyors and qualitative found whilst conducting the literature review. With regard to positivism, the researcher was independent from the data collected to have an objective stance. In this study, the researcher is a practicing chartered surveyor and valuer, therefore it could be said the researcher is not completely independent. However, the researcher's aim was to as far as possible conduct the research putting aside any views or preconceptions. In addition, the researcher believes only a surveyor could identify with the issue being researched and put forward an alternative valuation technique. With regard to phenomenology, this is where the researcher attempts to look at a phenomena with fresh eyes, setting aside what is taken for granted (Crotty, 1998). The researcher's task was to investigate why both historic and modern buildings are valued the same way, when in terms of their construction costs they are usually significantly different. By distributing questionnaires and analysing the responses it will be possible to gain further insights. The researcher needed to consider whether deductive or inductive reasoning or both are applicable to this study. In broad terms the deductive approach is aimed at testing a theory and an inductive approach is the generation of new theory emerging from data, with the aim of developing a new theory on the data obtained. This research included both approaches by first testing whether surveyors have a specific valuation method for historic buildings and whether a new method is needed (deductive) and details of how this type of valuation is currently completed and creating a new theory (induction). As well, this research is based on grounded theory i.e. the researcher must remain 'open minded' without any preconceived ideas of what the outcome will be with aim of developing a new theory based on new data (Glaser and Strauss, 1967). The new theory is a new valuation technique to complement the existing five traditional valuation methods. There is a degree of both objectivity (fact) and subjectivity (opinion) within this thesis. In terms of the valuation process there are formulae to make valuation calculations, however parts of the formulae require the inputting of opinions e.g. percentage rates, and these are likely to be subjective. To explain this, two surveyors using different percentages will result in different final values.

In terms of giving an opinion of value, the key components are usually the availability of comparable market evidence and the experience of the valuer. An objective view of the way surveyors value historic buildings has been obtained from this research's questionnaire. The purpose of the questionnaire was to determine the method used for different valuation reasons and list them in an order of hierarchy. This was an important aspect in terms of going-on to develop a new valuation technique. Both qualitative and quantitative research was used in this study. Qualitative research was undertaken and included in the literature review and this included previous studies on the same issues. The purpose was to gain an insight and dive deeper into the underlying reasons, opinions and motivations in terms historic buildings valuations. Quantitative data was then collected from the research's questionnaire to quantify the problem by generating data that could be transformed into usable statistics. As quantitative research uses measurable data to formulate facts, it was able to highlight trends and patterns in respect of how surveyors approach and value historic buildings. The data was then analysed and used in the development of a new valuation technique. Like other goods and services value is underpinned by the economics of supply and demand, with the market generally attaching greater weight and worth to properties with certain physical features (e.g. location, age, condition, size). There are a number of other factors a valuer will have to take into account when assessing the value of historic buildings. In some cases, weighting the impact in monetary terms may be straightforward, but for other intangible factors the effect will be more difficult to quantify, particularly where it is reliant on subjective interpretation. The real estate valuation process requires expert examination of data and the application of sound judgment, in a reasoned manner following best practice. Accurate analysis of evidence and an understanding of the many factors influencing value are essential in order to arrive at a well-informed opinion. In this respect, the valuation process for historic properties is no different to any other category of property. It is recognised that historic properties may present more challenges for the valuer, because of their particular characteristics and lack of uniformity compared with more modern buildings. Valuers need to not only recognise these factors and issues that are specific to historic property, but also understand how these are then manifested in the valuation. The term 'historic property' covers all types of real estate, including land, structures and buildings, and is not restricted to properties afforded statutory designation.

The underlying purpose, any valuation will reflect the principal market influences common throughout the property sector: location, the demand and supply cycle, economic and political forces, social influences, the physical environment, etc. What separates historic property from the wider market are the additional factors, the impact of which should also be measured by the valuer. These include the effect of the historic nature and architectural interest on value, together with the particular constraints imposed by the statutory framework and less tangible elements i.e. the indirect cultural and social benefits arising from the property.

The starting point for the valuation of any property, historic or otherwise, is compliance with the RICS Valuation – Professional Standards 2012 (the ‘Red Book’). Before accepting an instruction to provide a valuation of historic assets, valuers must satisfy themselves that, in accordance with VS 1.6 – Knowledge and skills, they have the market knowledge, skills and understanding necessary to undertake the valuation competently. Where the valuation is to be provided to a lender in respect of a residential mortgage, paragraph 2.7 of UK appendix 10 – RICS residential mortgage valuation specification reinforces this requirement where the property is of architectural or historic interest, or is located in a conservation area. The International Valuation Standard 230 Real Property Interests (2011) provides specific advice in a supplementary annex, relating to historic property that has been publicly recognised or officially designated by a government body as having cultural or historic importance. Whilst the guidance within the annex relates specifically to valuation of those buildings and assets enjoying statutory protection, the principles are equally relevant to all historic property. Valuing historic properties or sites is not different to valuing any other type of property. The beginning of the process is starting with the first principles, adopting one or more of the valuation methods and adapting that selected and when required allowing for the issues that affect the individual property. In relation to historic buildings and before attempting a valuation, it is necessary to have an understanding of the historic and architectural characteristics as well as factual information relating to the structure to be valued. To give professional advice, a valuer needs to know the wider economics of conservation and make sure valuation process is entirely objective from unproven assumptions, perceptions or attitudinal prejudices.

The economic impact of the cost of repairs and restoration on value may be ignored by a purchaser in favour of the subjective influence exerted by the attractiveness and prestige of owning a period property. Any effect on value of restrictions in use, and the extent to which a building may be physically altered or adapted, may similarly be overlooked by the client as a secondary concern. This can be true of both residential and commercial property. The valuation of historic properties requires valuers to understand the philosophy underpinning the protection of the historic environment. While the weight of opinion might lean towards the view that listing and conservation area status add value in terms of prestige and heritage value, it is also the case that historic buildings are commonly perceived as obsolete, redundant, costly to maintain or restore, and give a poorer return on investment. Such different views are commonly based on subjective opinion and should be set aside in favour of factual evidence. It is also the case that in assessing all aspects of historic properties, a long-term view is taken when considering economic viability.

Many buildings that may have been considered either economically or physically redundant, or both, have been restored to viable and secure uses as part of regeneration programmes and can be regarded as catalysts for the improvement of an entire community. The term heritage or historical value is often referred to but does not have a firm definition. Whilst many elements within a valuation, such as the effect of location and local market conditions, can be assessed with clarity and certainty, the impact of the 'heritage' aspect is difficult to measure. Heritage value can be physical and/or associative, and is most simply defined as: the assessment of the effect on value specifically attributable to the historic character and particular circumstances of a property (RICS, 2013). The effect on value of a heritage element will be exclusive to an individual asset, but can also have an impact the market value of the surrounding properties. For example, the presence of historic buildings located within a conservation area may increase the value of properties located within or nearby its boundary. A 'heritage' aspect can often increase value, but this is not always true. Regeneration programmes, or the designation of a conservation area can enhance values of properties in the surrounding area, but the 'listing' of a building can have a negative effect too (because of the limited development or redevelopment potential).

Additional value deriving from the historic character and appearance of the property may be lost by factors like: the high cost of repairs and limited re-use potential. It is the case too there might be no 'heritage' value attached to a property simply because it is historic in nature. A valuer needs to consider subjective value, such as those coming from social and cultural influences like benefits to the wider community going beyond the owner or user of historic properties. These factors are not readily definable and any influence on value is not easily measurable. In theory, social and cultural benefits can be quantified as they are generally an indirect factor and will not be reflected in the market value of a building. With all properties a valuer needs to consider the effect of condition and repair on value. It is widely accepted older buildings need greater degree of repair and maintenance compared to modern buildings constructed with in line with building regulation requirements. Therefore the perception is the repair liability for historic properties is more onerous and likely to depress value. In the case where a building has had regular repair through regular maintenance and/or where a formal maintenance strategy has been established, any impact on value is likely to be negligible. There are a number of specific factors that a valuer needs to consider when undertaking the valuation of historic properties in need of repair. Legislation protecting historic buildings requires that building materials used for repair are appropriate to the building's character. This often rules out the option of utilising cheaper and more readily-available modern material to fulfil the repair. The materials many listed buildings are constructed from are no longer in normal manufacture and the cost of replacement materials may be considerably higher than for the modern mass-produced equivalent. Even where second-hand replacement bricks or tiles can be found, these are becoming more expensive as their scarcity increases. With older buildings of varying types of construction, it is frequently less easy to predict the full extent of the repairs required. Invariably, work begun with the intention of making a single, minor, repair will reveal further defects requiring more extensive work than could have been foreseen. The cost of labour required to undertake repair and restoration work may also be higher than would be the case for a modern equivalent building. In some cases, skilled labour is not available and has to be brought in. Specialist architects and consultants also add to the cost. Minimal intervention is one the core principles of repair of historic properties.

The philosophy of conservative repair, most frequently associated with William Morris' manifesto of 1877 Society for the protection of ancient buildings, promotes the approach whereby, in order to protect the historic fabric, only work that is essential to ensure the survival of a building's fabric should be undertaken. Valuers should therefore understand that the 'less is more' principle may serve to offset the impact of higher unit costs of materials and labour. To fully consider the issue of repair and potential consequential impact on value, it is important that the valuer firstly understands the property. An expert appreciation of an individual building's particular architectural qualities and construction is a fundamental precursor to making an accurate assessment of condition. An inaccurate assessment of condition could result in a significant over-estimation of costs, and consequently an unreliable final valuation. An RICS guidance note Historic building conservation, 1st edition (2009) gives guidance for practitioners on the philosophical and practical approach to the assessment of the physical fabric and condition of historic properties. The term 'valuation' is regarded as a social science and is widely accepted to be 'how much' something is worth. With regard to property, it is an estimation of the capital or rental value of land or buildings or both at a specific point in time.

Within the banking sector property valuations are an important part of risk management (Cosby, Hughes and Murdock, 2004). According to Carsberg (2002) "all property valuations are to one extent or another are uncertain." According to Cosby, 1998 past studies have focused on measuring the difference between valuations and subsequent sale prices. The best measurement of valuation accuracy is the difference between the valuation figure against the exchange price in the market place. Ogunba and Ajayi, (1998) defines valuation as the art and science of estimating the value for a specific purpose of a particular interest in property at a particular moment in time, taking into account all the features of a property and consider all the economic factors of the market, including the range of alternative investments. Skitmore, Irons and Armitage (2007) wrote; "of particular concern is the validity of results involving the valuation of hypothetical properties, as different interpretations of real comparables may be a significant cause of variation in real estate."

According to Alaf (2002) "inaccuracy occurs when parties do not achieve the same resulting valuation or where that resulting valuation does not match the market price" and goes on to say "at some point a valuation that is accurate will become unacceptable to the user." In respect of heritage property, the variation with regard valuer and client perception and the degree of accuracy in values is a particular issue. Subjectivism is the theory that perception (or consciousness) is reality, and that there is no underlying, true reality that exists independent of perception. It does not, however claim that "all is illusion" or that "there is no such thing as reality", merely that the nature of reality is dependent on the consciousness of the individual. In an extreme form, it may hold that the nature and existence of every object depends solely on someone's subjective awareness of it philosophybasics (2015). Barahona (2006) states; the appraisal or valuation of a property must be a less subjective and a greater technical process, analyzing the main factors considered in the appraisal process: lot or land (assessed through the Comparative Method), construction (applying the cost method, the Potential of Development method, Direct Income method and the Capitalization method) and the marketing factor.

4.7 The chosen research approach

The overall research strategy is; a critical review of heritage buildings in the UK and their life-cycle costs (up to 200 years). Then conduct a review of how surveyors in the UK and abroad approach valuing these types of buildings and see if they include life time repair and renewal costs within their valuations. Have an understanding of if and how other countries preserve their historic buildings then compare them to the UK. Find out how property professionals in a sample of other countries value historic buildings, and if they currently take into account life cycle costs in advance, and if so how is it calculated. Develop a new valuation model to compliment the traditional five methods and use within current toolkits for historic buildings. Qualitative data provides a means of collecting and recording data with regard to in-depth knowledge of the respondent's experiences. The quantitative data focuses on numbers and frequencies from the questionnaire and moves on to further analysis. A study of this type requires the collection of both qualitative and quantitative data known as mixed methods). Researchers have conducted mixed methods research for several decades.

Early articles on their use have referred to them as multi-method, integrated, hybrid, combination and mixed methodology research Creswell, Plano-Clarke (2007). They can generally be described as methods to expand the scope or breadth of research and offset the weaknesses of either approach alone Blake (1989); Greene, Caracelli, and Graham (1989), Rossman and Willson (1991). Mixed methods can provide pragmatic advantages when exploring complex research questions. The quantitative data provides and understanding of survey responses and statistical analysis can provide a detailed assessment of patterns and responses. Qualitative and quantitative data will be gathered from the literature review, questionnaires and interviews. It is likely both qualitative and quantitative information derived from these sources will identify patterns, trends and inconsistent approaches in valuation approaches. The justification for using the mixed methods approach is; this is a complex study that requires both qualitative and quantitative information. The information derived from the sources has identified patterns, trends and inconsistent methodologies in valuation approaches. Qualitative and quantitative data can be collected in parallel then analysed and finally merged.

4.8 Research design

This studies research design is in the form of a 10 step format; step one, literature search and understanding of the rationale. Step two, identifications of the key unknowns and research questions. Step three, the aims and objectives. Step four, identification of the hypothesis to be tested. Step five, identify key deliverables. Step six, identify key resources. Step seven, the timeframe for research. Step eight, workflow model. Step 9, risks and risk mitigation Ste 10, begin the research. In relation to this research, the literature review revealed there was no defined valuation method for heritage buildings and the important question of lifecycle costs within a valuation method has never before been highlighted. Because of this, the development of a new method became necessary. This theory was reinforced after speaking to valuers and stakeholders. This research requires both primary and secondary data. Primary data has been collected from questionnaires and secondary from a literature review. The advantage of primary data is, researchers are gathering information for the specific purpose of their study. The questions the researchers ask are tailored to elicit the data that will assist them with their study.

The researcher collects the data themselves using either surveys, interviews and in this research direct observation of valuers. Part of the research involves interviewing valuers by telephone and asking them questions relating to the valuation methods they use for historic buildings and about their experiences using the five methods of valuation. The valuers answers are considered primary data. From this the researcher gets answers to specific information about the valuation methods adopted and whether a new valuation method is needed. Secondary data will come from the literature review and include past papers and studies which have historically been commissioned by the Royal institution of Chartered Surveyors on the subject of valuation and valuation methods. The research data obtained for this study is from an international survey of valuation surveyors gathered over a twelve month period. Using the international regions a defined by the RICS at the beginning of this study, questionnaires were e-mailed to the regions offices and the questionnaires were then sent to surveyors specialising in the field of valuation. Further questionnaires were completed at seminars, conferences and telephone interviews. It is believed, this is the first time this type of international survey has been conducted. The research design for this research requires both primary and secondary data. The data will be collected from the literature review, questionnaires and interviews.

4.9 Analytical framework

The process of research involves empirical work and the generation of data to initiate, refuse or organise theories, which enable understanding or explanation of observations made. To achieve this two routes are adopted. The first is to consider a general picture of social life and to research a particular aspect of it to test the strength of theories. This deductive approach involves theories before empirical work. The other is to investigate a particular aspect of social life and derive theories from the resultant data. Such an inductive approach involves empirical work before theories. Induction has the advantage of direct referral to fact, which are distinct from the interpretation of researchers. It can be argued however, that implicit interests or theories have guided the decision of what data are collected.

On the other hand, deduction rejects the idea of producing research on the basis of initially rejecting theories and holds that if our ideas or hypothesis about the social life is correct, then they will be supported by the data generated or falsified otherwise. Both induction and deduction work in the research process Phillips and Pugh (2000). Fact will lead to ideas and form hypothesis, which are then tested by empirical evidence. However, in this research the main approach is deductive. A theoretical framework is developed and then its applicability is tested. Surveys are useful because they uncover answers, evoke discussion and the results can be used to base decisions from objective information. Data collection and the organisation of data are essential parts of the research process. Data collection and its analysis is likely to provide answers to research questions and hypotheses. Primary data used in this research will be gathered from an international survey in the form of a questionnaire. The purpose of using a questionnaire is to obtain as much data as possible on the approached adopted in relation to the valuation of historic buildings. Questions have been planned and structured to have the best chance of getting accurate data. The analysis of the data will reveal which of the 'five' commonly used valuation methods they adopt (if any) or whether they use a combination of the five methods. The result of the survey is likely to directly influence the development and structure of a potential new valuation approach for valuing historic buildings.

4.10 Summary

The purpose of this chapter has been to list and explain this research's aims and objectives and how they will be achieved. The advanced plan for this research was to gather new data from a survey questionnaire of valuation surveyors and provide a basis to go-on and develop a new valuation technique for historic buildings. The aims and objectives of this research is an important aspect of this thesis as it determines the scope, depth and direction of the research. The hypotheses for this study is "the standard all-risk yield percentage does not apply to historic buildings. For this study the following philosophical points are important; epistemological assumptions, research paradigms: positivism; phenomenology; ontology; the realist account, deductive vs. inductive reasoning, objectivity vs. subjectivity and qualitative vs. quantitative research.

The overall research strategy is; a critical review of heritage buildings in the UK and their life-cycle costs (up to 200 years). Then conduct a review of how surveyors in the UK and abroad approach valuing these types of buildings and see if they include life-time repair and renewal costs within their valuations. Have an understanding of if and how other countries preserve their historic buildings then compare them to the UK. The research design is in the form of a 10 step process. 1. Search literature 2. The identifications of key unknowns and research questions. 3. The aims and objectives. Step 4. Hypothesis identification. 5. Identify key deliverables. 6. Identify resources. 7. The timeframe for research. 8. Work-flow model. 9. Risks and risk mitigation. 10. Begin the research. The dissemination of this research will be conducted via articles within valuation and surveying professional journals e.g. RICS Property Journal and Journal of Property Investment and Finance. This approach allows the research to be communicated to the surveying and valuation profession audience, also the new valuation technique getting exposed and the greater likely-hood of acceptance and practical use by surveyors. It is believed this research has made a significant contribution to knowledge and advanced valuation theory.

CHAPTER 5

DATA PRESENTATION AND ANALYSIS

5.0 Introduction

The literature review revealed that although there have been numerous previous studies in the United Kingdom relating to historic properties, there is very little evidence of research on the issues of life-cycle costs and how these influence valuation practices. As part of the research, it was believed necessary to investigate, among other things, the existing practices amongst valuation surveyors across the globe in tackling this issue of life-cycle costs of heritage properties. This chapter therefore provides the results and analysis of the research, focusing mainly on primary research conducted to gain an insight into existing valuation practices in relation to historic buildings. This will pave way for the development of a valuation model that takes into account the long-term maintenance costs associated with heritage buildings in the next chapter. The structure and organisation of the chapter generally follows the sequence of the survey questions in the questionnaire. This is followed by a general discussion and analysis of the results in section 5.6 before closing the chapter with a summary in section 5.7

5.1 The survey data

Questionnaires were distributed to practicing valuation surveyors located in six international regions: Americas; Europe; Oceania; Asean and North Asia; Middle East and Africa; and South Asia, as defined by the Royal Institution of Chartered Surveyors (RICS) at the beginning of this study. The questionnaires were targeted at valuation surveyors only and represented by the six professional organisations as detailed in table 5.0

Table 5.0: Professional affiliations of questionnaire respondents

| Abbreviation | Name of organisation |
|--------------|--|
| HKIS | Hong Kong Institute of Surveyors |
| ISA | Institute of Surveyors Australia |
| NZIS | New Zealand Institute of Surveyors |
| RICS | Royal Institution of Chartered Surveyors |
| RISM | Royal Institute of Surveyors Malaysia |
| SISV | Singapore Institution of Surveyors and Valuers |

A number of strategies were used in identifying the questionnaire respondents based on the sampling technique identified in the research methodology chapter. These included:

- Sending out the questionnaires to key contacts within the concerned professional organisations with a request for them to distribute the questionnaires to their practicing valuation surveyors;
- Direct contacts with known practicing valuation surveyors using the e-mail version of the questionnaires;
- Distribution of the questionnaires at conferences, seminars and workshops attended by the researcher including; International Federation of Surveyors, Kuala Lumpur, Malaysia, 16–21 June 2014 at the Kuala Lumpur Convention Centre.
- Completion of the questionnaires from telephone interviews.

Over a twelve month period 200 questionnaires were distributed and 87 returned and represents a 43.5% response rate. The response rate was achieved after sending follow-up with e-mails and making phone calls to make sure as many forms as possible were completed. Without this being done the response rate would have been significantly lower. Robson (2011, p.260) suggests that the necessary sample size depends on various factors, including whether the results are to be generalised and the type of statistical tests to be conducted. Mertens (2003, p.141) further suggests that as a rule of thumb, a minimum of fifteen responses are necessary for comparisons between different groups or thirty responses for comparisons in a single group. On this basis, the sample size is assessed to be sufficient for the purpose of this research.

5.2 The data and its analysis

The data revolves around nine key questions that informed the questionnaire (appendix 1) and were aimed at gathering as much data as possible on the existing practices and approaches in the valuation of heritage properties. The key themes are summarised in table 5.1 below.

Table 5.1: Key issues covered in the questionnaire

| Item | Questions relating to. |
|------|--|
| a. | The professional organisations respondents belonged to. |
| b. | The international region respondents practiced in. |
| c. | Years of experience of the respondents in the valuation practice. |
| d. | The number of historic buildings respondents had valued in the preceding five years. |
| e. | The methods of valuation respondents adopted for valuing heritage buildings in different situations. |
| f. | The extent to which the respondents adapted any of the methods of valuation to take into account life cycle costs of heritage properties. |
| g. | The extent to which the respondents considered the current valuation approaches as capable of taking into account the life cycle costs of heritage properties. |
| h. | The extent to which the respondents considered that a new valuation model for historic buildings would be appropriate |
| i. | Any additional comments the respondents had with regard to valuing historic buildings. |

Apart from interpretation of the data using descriptive statistics, revolving around the respondents' profiles, the chapter makes use of the SPSS software package to conduct tests for statistical differences in the responses. Therefore, Kruskal-Wallis (KW) tests were carried out to test for following parameters:

- Whether there were any significant statistical differences in the methods of valuation adopted for the valuation of heritage properties based on respondents' professional affiliations;

- Whether there were any significant statistical differences in the methods of valuation adopted for the valuation of heritage properties based on respondents' regional affiliations;
- Whether there were any significant statistical differences in the methods of valuation adopted for the valuation of heritage properties based on respondents' years of experience as valuation surveyors; and
- Whether there were any significant statistical differences in the methods of valuation adopted for the valuation of heritage properties based on the number of heritage properties the respondents the respondents had valued in the past.

In addition to these tests, specific questions around the extent to which the respondents took into account the life-cycle maintenance costs in their valuation approaches were considered. The rationale for these tests and analyses was to gain an informed opinion on the diversity of approaches used by valuation surveyors across the board and to further consolidate the case for a new way of doing things in the valuation of heritage properties. This, together with the insights from the literature review, would essentially pave way for the development of a valuation model suitable for the valuation of heritage properties, focussing mainly on the life-cycle cost implications.

5.3.1 Respondents' professional affiliations

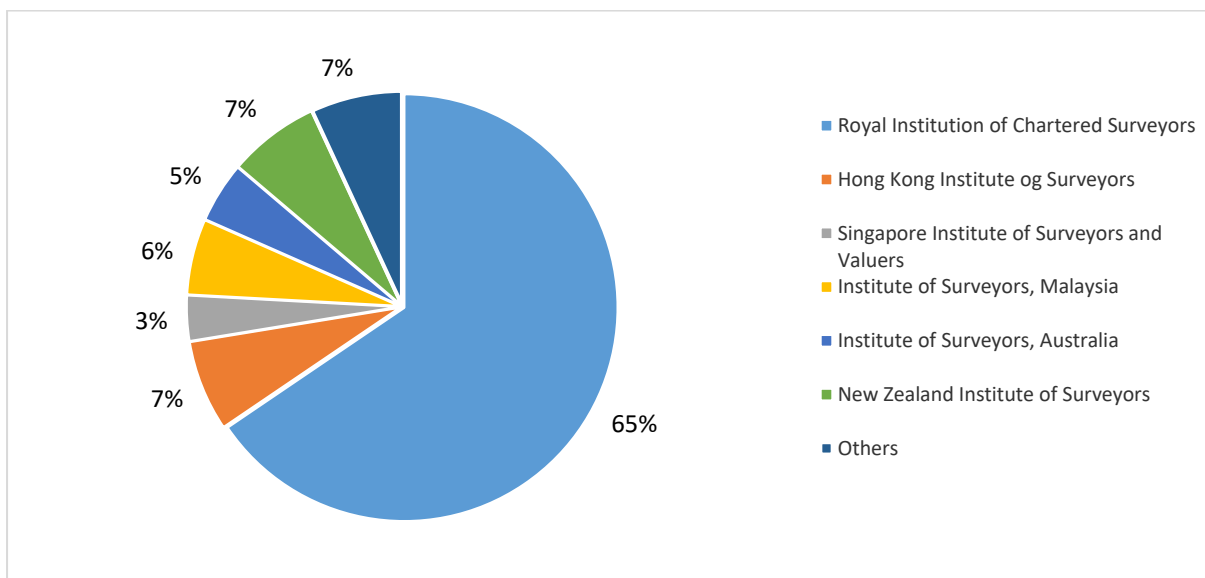
The respondents were asked which professional organisations they were affiliated to. This was aimed at identifying whether there are different approaches adopted by the various professional organisations in the valuation of heritage properties. The professional organisations targeted in the study are listed in table 5.2 below. The first six organisations were chosen because they have the largest numbers of members and give the best possible chance of obtaining mass data. Further data was obtained from smaller organisations in mainland Europe. Targeting valuers within these organisations has been critical to the success of the research and obtaining the best data. In most developed countries and as a general rule valuers need to have professional membership to a recognised professional organisation in order to practice.

As a condition of membership members must follow the organisations valuation and ethical standards. Standards throughout the majority of the organisations chosen for this study follows the standards or have a strong resemblance to those set down by the RICS. The results are as shown in Figure 5.3

Table 5.2: Names of the professional organisations

| Abbreviation | Name of professional organisation |
|--------------|--|
| RICS | Royal Institution of Chartered Surveyors |
| HKIS | Hong Kong Institute of Surveyors |
| SISV | Singapore Institution of Surveyors and Valuers |
| RISM | Royal Institute of Surveyors Malaysia |
| ISA | Institute of Surveyors Australia |
| NZIS | New Zealand Institute of Surveyors |
| O | Others |

Fig 5.3: Respondents' professional affiliations

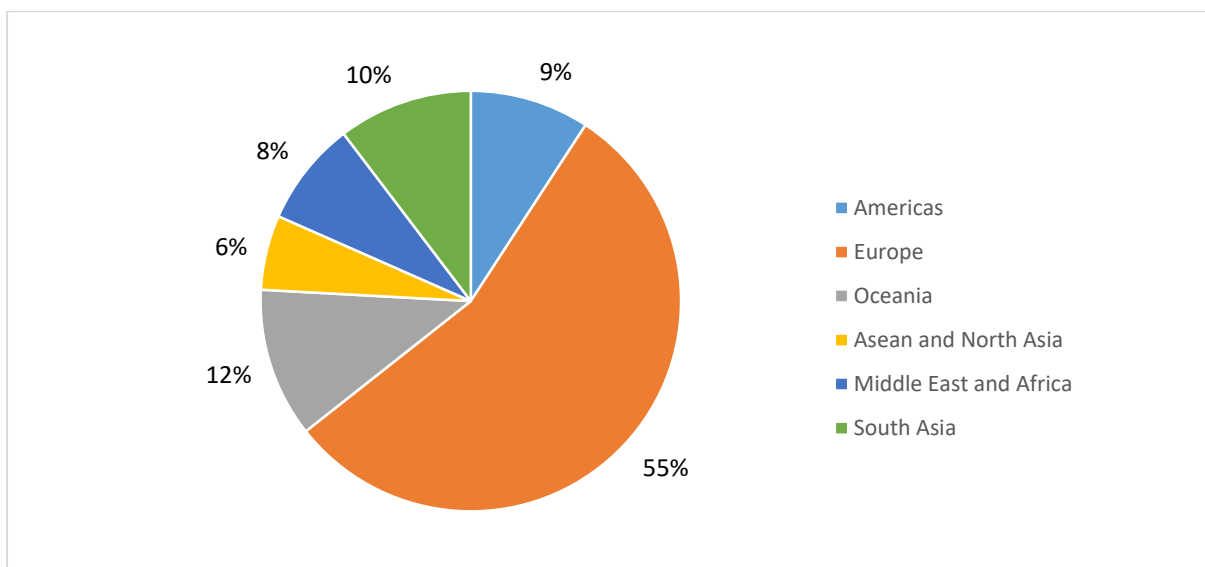


The data reveals that the majority (65%) of the respondents were members of the Royal Institution of Chartered Surveyors, while the rest were shared in almost equal proportions amongst the Hong Kong Institute of Surveyors (7%), the Royal Institute of Surveyors, Malaysia (6%), Australian Valuers Institute (5%), and Property Institute of New Zealand (7%), Institute of Valuers and Appraisers of Singapore (3%) the remainder (7%) of the respondents came from other professional organisations including; Institute of Philippine Real Estate Appraisers, National Association of Valuers of Serbia, Nigerian Institution of Estate Surveyors and Valuers, The Polish Federation of Valuers Associations, South African Institute of Valuers, Thai Valuers Association and the Association for Chartered Surveying, Property Evaluation and Transactions (Sweden).

5.3.2 Respondents' regions of practice

The respondents were asked which international region they practiced. At the time of conducting the survey the Royal Institution of Chartered Surveyors RICS international regions were adopted. It should be noted the regions have changed since the survey was completed. The reason this question was asked is to establish if there were differences in their valuation approaches depending on the region they worked. The results of this part of the survey are shown Figure 5.4 below.

Fig. 5.4: Respondents' regions of practice

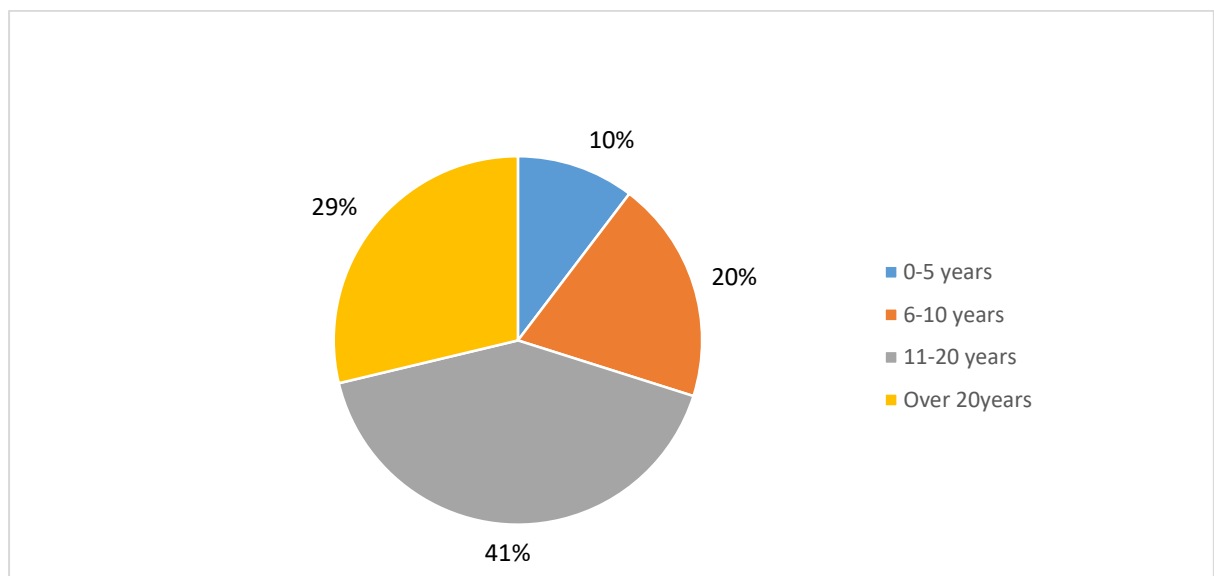


The data reveals 9% of the respondents were from the Americas, 55% from Europe, 12% from Oceania, 6% from Asean and North Asia, 8% from the Middle East and Africa and 10% from South Asia. The data from this question reveals more than half of the respondents practice in Europe. An important part of this research is to obtain data on an international scale to get a global perspective. The data reveals an adequate sample has been obtained from a range of valuing communities internationally. The fact valuers in Europe and other regions need to follow their professional bodies regulations and practices goes on to strengthen and provide robustness to the data retrieved and believed to support the validity of the research.

5.3.3 Respondent's years of experience

For this part of the survey the respondents were asked how many years in practice they had in property valuation. The reason this question was asked is to establish if there were differences in their valuation approaches depending on their level of experience. The results of this part of the survey are shown figure 5.5 below.

Fig. 5.5: Respondents' years of experience

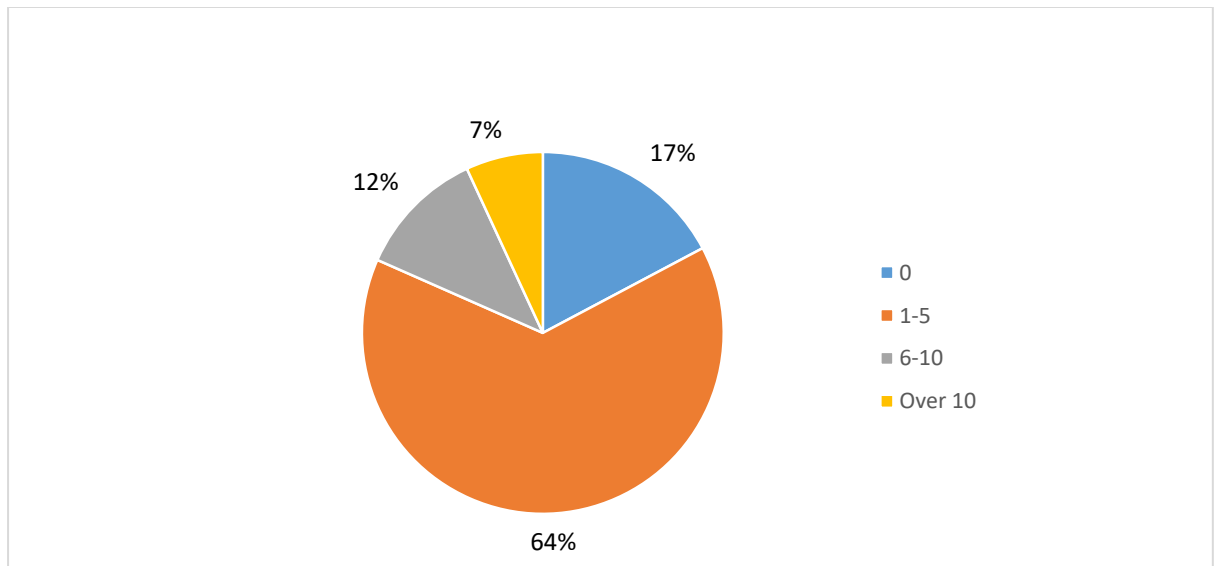


The results (see Fig 5.5) from this question and in terms of the respondents experience were; 10% had zero to 5 years, 20% had between 6 and 10 years, 41% had between 11 and 20 years and 29% had over 20 years. When the questionnaire was distributed it was not know the age and in some cases the gender of the respondents. The data reveals seventy percent of the respondents had in excess of eleven years of valuation experience. This level of experience might be interpreted as being a good indicator that the data from later questions in the survey are of good quality as the valuers have suitable skill, experience and knowledge. This adds to the relevance and validity of this research being conducted.

5.3.4 Number of heritage properties valued by respondents

For this part of the survey the respondents were asked the number of historic buildings they had valued in the last 5 years. The reason this question was asked is to establish how often the respondents value historic building. The results of this part of the survey are shown figure 5.6 below.

Fig. 5.6: Number of heritage properties valued by respondents



The result from this question were; 64% had valued 1-5 properties, 17% had valued zero, 12% had valued 6-10 and 7% had valued over 10 properties. The data from this question is important as it reveals the extent to which heritage buildings are valued within a period of five years. The data suggests heritage buildings are valued on a regular basis and the number of valuations conducted by the respondents range from one to ten within a five year period (at the time the survey was conducted). Given the fact heritage valuations generally only make up a small percentage of overall valuations conducted by valuers, the data from this question suggests valuations of this type are often needed and sometimes in high volumes i.e. over ten as illustrated above (7% over 10 heritage buildings valued). This data is important to the research because it represents the volume of valuations conducted by the respondents and highlights how often these types of valuations are conducted and an important indicator for this type of research.

5.4 Methods used in the valuation of heritage properties

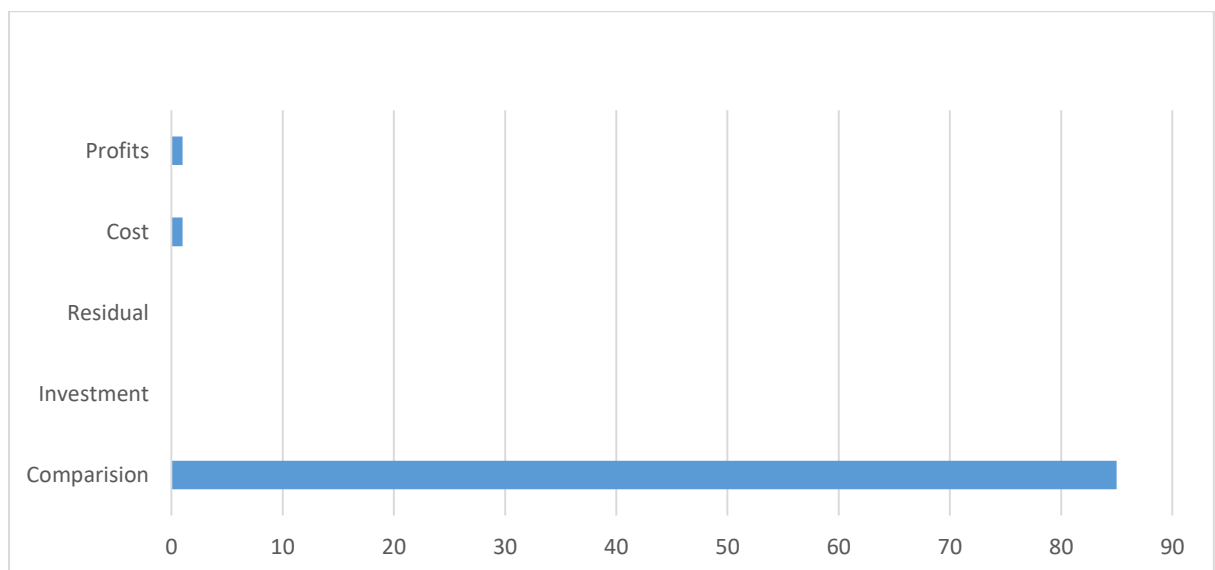
For this part of the survey the respondents were asked to state which of the five methods of valuation they adopted for the following five different valuation situations: market valuations; replacement valuations; insurance valuations; compensation valuations; and valuations for financial reporting. To avoid confusion the questions asked relate specifically to the valuation of heritage buildings and aside from more contemporary buildings. It is likely to assume a valuation of this type will only account for a small percentage of the overall valuations conducted by valuers throughout their careers, yet given the large values often attached to heritage real estate the income from valuing them can generate significant fee income. The reason buildings of this type rarely come to the market is; often they are occupied as private residences, hence the need for valuations. Typically these types of valuation are the most commonly practiced by valuers on a day-to-day basis. They are needed for a variety of reasons but mostly required for sale, purchase or lending purposes. When the questionnaires are returned the data will be tested. The rationale for testing is; by testing for any statistically significant differences amongst the different respondents i.e. the valuation methods they adopt will be compared to the respondent's profiles.

The testing will indicate any significant differences, i.e. whether the valuation method adopted is the same or different against all respondents profiles. Insights can then be gathered with regard to the existing valuation practices. An additional comment section on the questionnaire may highlight any special adaptations the respondents use specifically for heritage buildings and life cycle costs. This gives the opportunity to see if any current practices can be replicated and used as a standard universal new universal method. The information gathered is critical to the outcome of this research and after retrieving and analysing the data from the questionnaire it will be will be used and form the structure of the next chapter. The next chapter seeks to find a solution to the issue of valuing heritage buildings including life-cycle costs.

5.4.1 Market valuation of heritage properties

The respondents were asked to state the method of valuation they would normally adopt in the valuation of heritage properties for market valuation purposes. It is recognised that heritage properties can be highly specialised and varied properties and therefore there may not be a single valuation method that fits all situations. The results from this part of the survey are shown figure 5.7 below.

Fig. 5.7: Respondents' views on market valuation of heritage properties



The data reveals the majority (about 96%) of the respondents adopted the direct comparison method, with the remaining 5% using either the profits method (2%) or the cost method (2%). This does not come as a surprise because as the literature review suggests the strengths of the comparison method are; it's straightforward and easy-to-understand and reflects the actions of buyers and sellers and gives an indication of market value Andreasson (2007). However, weaknesses of the comparison method are 1) specialist properties are not suitable, for example government properties, churches etc. 2) there are complexities within making comparisons between the subject property and comparable properties i.e. location and individual features that require adjusting 3) transactions are usually historic and adjustments need to be made to arrive at an up-to-date market valuation 4) there might only be a few sales to compare with or none at all Andreasson (2007). Criticism of the sales comparison method is its subjectivity and the fact it depends largely on the valuers knowledge and experience and deciding on the comparable properties to be used, also the adjustments and range of adjustments to be adopted to determine the estimated value of the property to be valued Calhoun (2001). The KW tests (Table 5.8) suggest that there were no statistically significant differences in the respondents' responses in carrying out market valuations of heritage properties. This implies that regardless of their professional affiliations, regions of operation, experience, and the number of heritage properties valued, they were generally agreed on the methods used in valuing heritage properties. Generally, the results revealed a strong feeling that the comparison method is the best approach.

Table 5.8: Independents samples - Kruskal-Wallis tests: market valuations and the respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|--|------|----------------------------|
| 1 | The distribution of The method of valuation used by the respondents in valuing for market purposes is the same across categories of Professional affiliations of respondents | .286 | Retain the null hypothesis |
| 2 | The distribution of The method of valuation used by the respondents in valuing for market purposes is the same across categories of The number of years of experience of respondents | .207 | Retain the null hypothesis |
| 3 | The distribution of The method of valuation used by the respondents in valuing for market purposes is the same across categories of The number of historic buildings valued by respondents | .649 | Retain the null hypothesis |
| 4 | The distribution of The method of valuation used by the respondents in valuing for market purposes is the same across categories of Regional affiliations of respondents | .102 | Retain the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

Respondent 15 (RS15) suggested:

“Comparing like-with-like is the best method of valuing these types of properties.”

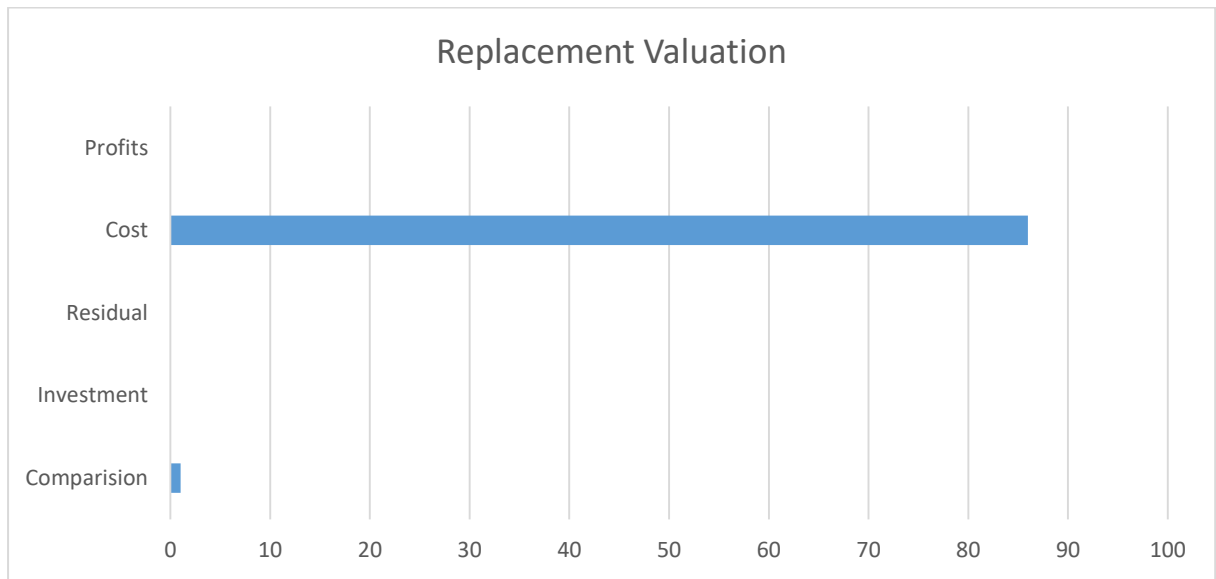
RS31 suggested:

“Searching for comparable sales is difficult for these types of property so often the search area has to be widened to find them.”

5.4.2 Replacement valuation of heritage properties

The respondents were asked to state the method of valuation they would normally adopt as a replacement valuation exercise. It is recognised that heritage properties can be highly specialised and varied properties and therefore there may not be a single valuation method that fits all situations. The results from this part of the survey are shown in figure 5.9

Fig. 5.9: Respondents' views on replacement valuation of heritage properties



The data (Fig 5.9) reveals that the majority (about 99%) of the respondents adopted the cost method, with the remaining (1%) settling for the comparison method. The result of the literature review were; the contractor's method is adopted for properties that do not come to the market and are mainly occupied by public bodies, for example libraries, fire and ambulance stations and need to be valued for non-domestic rates or as part of an asset valuation. For an asset valuation this method is called the depreciated replacement cost (DRC). DRC involves estimating the cost of replacing the site and the building (the land and re-building value) then an allowance for depreciation. The land value must reflect the locality (the obvious alternative use which would be permitted by the planning authority), for example residential value if in a residential area and industrial value if in industrial area. However this method has the disadvantage of attempting to equate cost to value, as well as certain practical difficulties involved in making the various estimates and in particular the correct depreciation allowance. The KW tests (Table 5.10) suggest there are statistical differences in the respondents' responses. The test result was Category 1 (professional affiliations) rejected the hypothesis with the remainder categories 2-4 (number of years of experience, number of historic building valued in the last five years and the regional affiliations) retained the hypothesis.

Table 5.10: Independents samples - Kruskal-Wallis tests: replacement valuation and the respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|--|------|----------------------------|
| 1 | The distribution of the method of valuation used by the respondents in valuing for replacement purposes is the same across categories of Professional affiliations of respondents | .000 | Reject the null hypothesis |
| 2 | The distribution of the method of valuation used by the respondents in valuing for replacement purposes is the same across categories of The number of years of experience of respondents | .249 | Retain the null hypothesis |
| 3 | The distribution of the method of valuation used by the respondents in valuing for replacement purposes is the same across categories of The number of historic buildings valued by respondents in the last five years | .907 | Retain the null hypothesis |
| 4 | The distribution of the method of valuation used by the respondents in valuing for replacement purposes is the same across categories of Regional affiliations of respondents | .123 | Retain the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

RS55 suggested:

"A cost valuation based valuation is relatively easy to do and appropriate for historic buildings and because they rarely come onto the market place."

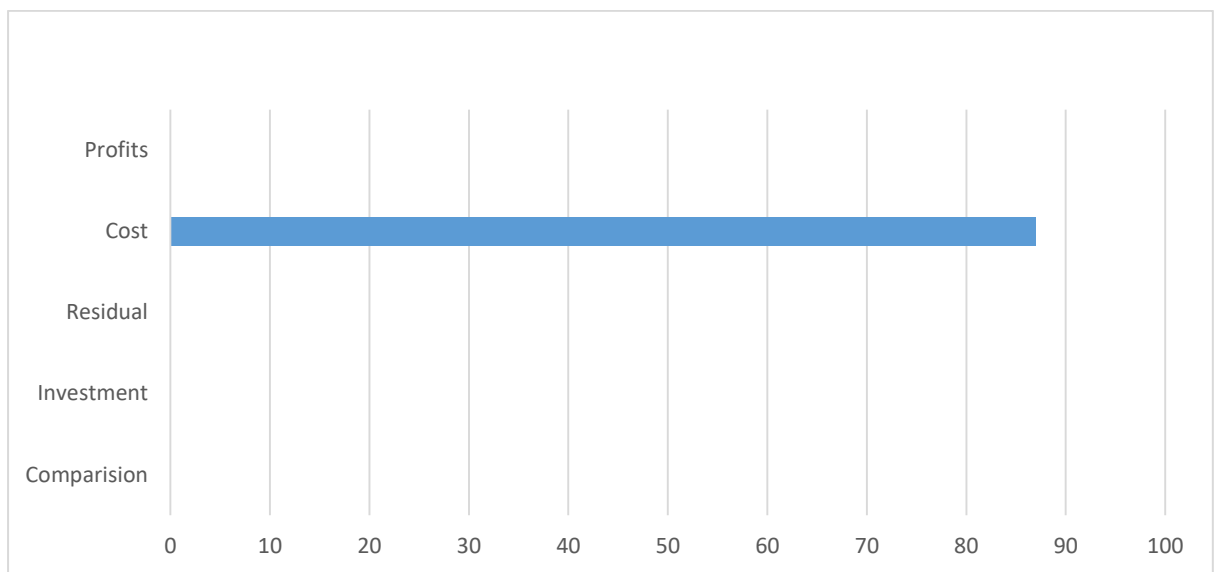
RS71 suggested:

"The cost of labour and materials fluctuates yearly; therefore for the year of valuation those costs need to be applied."

5.4.3 Insurance valuation of heritage properties

The respondents were asked to state the method of valuation they would normally adopt when conducting an Insurance valuation. It is recognised that heritage properties can be highly specialised and varied properties and therefore there may not be a single valuation method that fits all situations. The results from this part of the survey are shown figure 5.11 below.

Fig. 5.11: Respondents' views on insurance valuation of heritage properties



The data reveals that all (100%) of the respondents adopted the cost method for an insurance valuation. The result of the literature review indicated; the contractor's method is adopted for properties that do not come to the market and are mainly occupied by public bodies, for example libraries, fire and ambulance stations and need to be valued for non-domestic rates or as part of an asset valuation. For an asset valuation this method is called the depreciated replacement cost (DRC). DRC involves estimating the cost of replacing the site and the building (the land and re-building value) then an allowance for depreciation. The land value must reflect the locality (the obvious alternative use which would be permitted by the planning authority), for example residential value if in a residential area and industrial value if in industrial area.

However this method has the disadvantage of attempting to equate cost to value, as well as certain practical difficulties involved in making the various estimates and in particular the correct depreciation allowance. The KW tests (Table 5.12) suggest that there were no statistically significant differences in the respondents' responses in carrying out an insurance valuation for heritage properties. This implies that regardless of their professional affiliations, regions of operation, experience, and the number of heritage properties valued, they were generally agreed on the methods used in valuing heritage properties. Generally, the results revealed a strong feeling that the cost method is the best approach. The results revealed a strong outcome that the 'cost method' and is the most appropriate approach for this type of valuation.

Table 5.12: Independents samples - Kruskal-Wallis tests: insurance valuations and the respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|---|-------|----------------------------|
| 1 | The distribution of the method of valuation used by the respondents in valuing for insurance purposes is the same across categories of Professional affiliations of respondents | 1.000 | Retain the null hypothesis |
| 2 | The distribution of the method of valuation used by the respondents in valuing for insurance purposes is the same across categories of The number of years of experience of respondents | 1.000 | Retain the null hypothesis |
| 3 | The distribution of the method of valuation used by the respondents in valuing for insurance purposes is the same across categories of The number of historic buildings valued by respondents | 1.000 | Retain the null hypothesis |
| 4 | The distribution of the method of valuation used by the respondents in valuing for insurance purposes is the same across categories of Regional affiliations of respondents | 1.000 | Retain the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

Further data from the respondents were:

RS27 Commented:

"The cost method is usually the only option for unusual buildings."

RS39 Commented:

"Issues with the cost method are in its calculation."

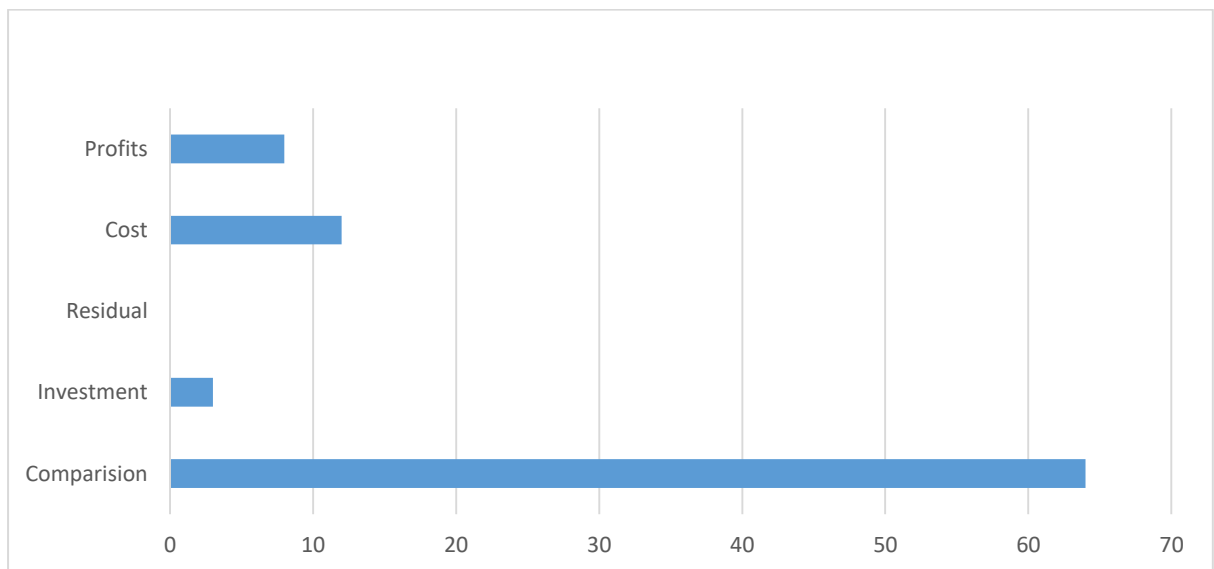
RS47 Commented:

"The cost of labour and materials fluctuates yearly, therefore the year of valuation costs need to be applied."

5.4.4 Compensation valuation of heritage properties

The respondents were asked to state the method of valuation they would normally adopt for a compensation valuation. It is recognised that heritage properties can be highly specialised and varied properties and therefore there may not be a single valuation method that fits all situations. The results from this part of the survey are shown figure 5.13

Fig. 5.13: Respondents' views on compensation valuation of heritage properties



The data (Fig 5.13) revealed 8 respondents used the profits method, 12 respondents used the cost method, 4 respondents used the investment method and 63 respondents used the comparison method. The data revealed a strong outcome that the 'comparison method' is the most used approach for this type of valuation. The literature review suggests the strengths of the comparison method are; it's straightforward and easy-to-understand and reflects the actions of buyers and sellers and gives an indication of market value. However, weaknesses of the comparison method are 1) specialist properties are not suitable, for example government properties, churches etc. 2) there are complexities within making comparisons between the subject property and comparable properties i.e. location and individual features that require adjusting 3) transactions are usually historic and adjustments need to be made to arrive at an up-to-date market valuation 4) there might only be a few sales to compare with or none at all. Criticism of the sales comparison method is it's subjectivity and the fact it depends largely on the valuers knowledge and experience and deciding on the comparable properties to be used, also the adjustments and range of adjustments to be adopted to determine the estimated value of the property to be valued.

Table 5.14: Independents samples - Kruskal-Wallis tests: compensation valuations and respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|--|------|----------------------------|
| 1 | The distribution of the method of valuation used by the respondents in valuing for compensation purposes is the same across categories of Professional affiliations of respondents | .190 | Retain the null hypothesis |
| 2 | The distribution of the method of valuation used by the respondents in valuing for compensation purposes is the same across categories of the number of years of experience of respondents | .326 | Retain the null hypothesis |
| 3 | The distribution of the method of valuation used by the respondents in valuing for compensation purposes is the same across categories of the number of historic buildings valued by respondents | .348 | Retain the null hypothesis |
| 4 | The distribution of the method of valuation used by the respondents in valuing for compensation purposes is the same across categories of Regional affiliations of respondents | .149 | Retain the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

The KW tests (Table 5.14) suggest there were no statistically significant differences in the respondents' responses in carrying out a compensation valuation for heritage properties. This implies that regardless of their professional affiliations, regions of operation, experience, and the number of heritage properties valued, they were generally agreed on the methods used in valuing heritage properties. Generally, the results revealed a strong feeling that the comparison method is the best approach.

RS12 Comments:

"Lenders have always preferred valuations based on sales of similar properties."
There is however also the difficulty of finding comparable evidence needed in order to make effective use of the comparison method, as emphasised by;

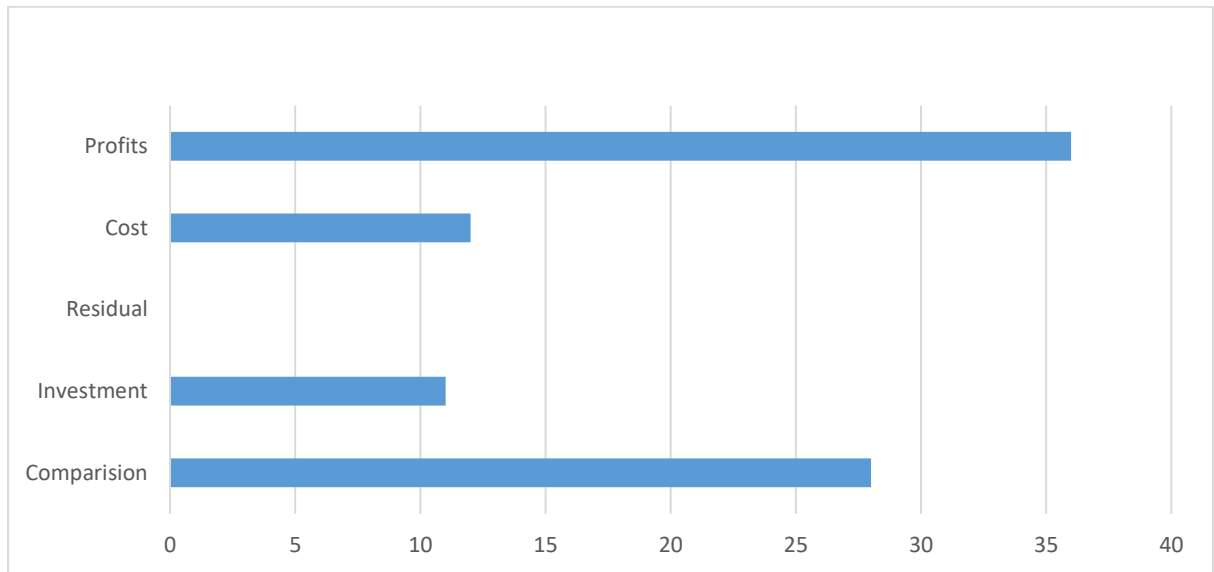
RS19 Comments:

"Searching for comparable sales is often difficult and the search area often needs expanding to find them."

5.4.5 Financial reporting valuation of heritage properties

The respondents were asked to state the method of valuation they would normally adopt for Financial Reporting. It is recognised that heritage properties can be highly specialised and varied properties and therefore there may not be a single valuation method that fits all situations. The results from this part of the survey are shown figure 5.15

Fig. 5.15: Respondents' views on financial reporting valuation of heritage properties



The data reveals 36 respondents used the profits method, 12 respondents used the cost method, 11 respondents used the investment method and 28 respondents used the comparison method. The result of the literature review confirmed: the profits (or accounts method) is used when comparables are not available, for example hotels and restaurants and their valuation is achieved by reference to the profits which a reasonable tenant could make from the occupation of the property. This would involve examining the accounts to determine typical figures. From gross takings receipts, necessary deductions are made, for example, operating and overhead costs, tenant's capital and interest but excluding rent or mortgage interest payments. The result of this calculation is the "divisible balance" and represents the amount available for tenant's share of the remuneration and landlord's rent. This method is dependent on the skill of the valuer in interpreting the accounts to produce a reliable estimate of the market value.

Table 5.16: Independents samples - Kruskal-Wallis tests: financial reporting valuation and the respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|---|------|----------------------------|
| 1 | The distribution of the method of valuation used by the respondents in valuing for financial reporting purposes is the same across categories of professional affiliations of respondents | .000 | Reject the null hypothesis |
| 2 | The distribution of the method of valuation used by the respondents in valuing for financial reporting purposes is the same across categories of The number of years of experience of respondents | .000 | Reject the null hypothesis |
| 3 | The distribution of the method of valuation used by the respondents in valuing for financial reporting purposes is the same across categories of the number of historic buildings valued by respondents | .025 | Reject the null hypothesis |
| 4 | The distribution of the method of valuation used by the respondents in valuing for financial reporting purposes is the same across categories of Regional affiliations of respondents | .000 | Reject the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

The KW tests (Table 5.16) suggest there were significant statistical differences in the respondents' responses when carrying out a financial reporting valuation for heritage properties. The results from all the four categories (professional affiliations, regions of operation, experience, and the number of heritage properties valued) rejected the null hypothesis.

RS11 Commented:

"The profits method gives a good indication of the value of the business."

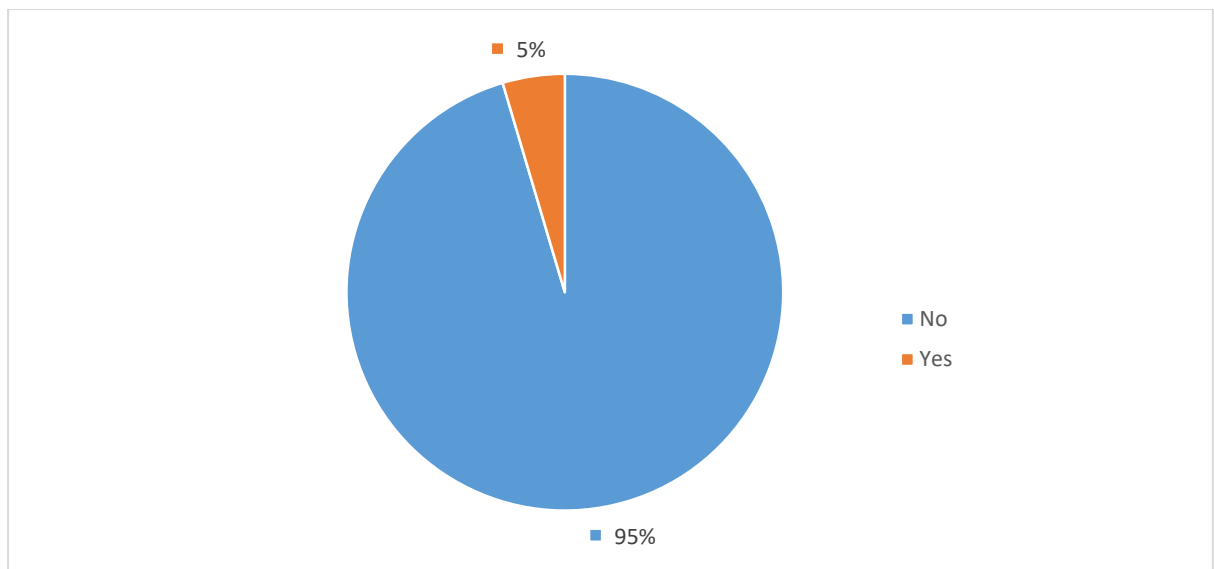
RS55 Commented:

"The ability to understand trading accounts is vital for this method to effective."

5.5 Adaptation of the methods of valuation to account for life-cycle costs

The respondents were asked whether they adapted any of the five valuation methods to include life cycle costs for historic buildings. This question was asked to establish if life-cycle costs are considered when conducting a valuation exercise. As the current five methods do not account for life cycle costs, this question seeks to discover if and how they adapt them. The results from this part of the survey are shown figure 5.17 below.

Fig. 5.17: Respondents' views on the adaptation of methods to account for life-cycle costs



The data reveals (see Fig. 5.17) the majority (95%) responded 'no' and the remainder (5%) responded 'yes'. The search for literature with regard to examples of adapting valuations for life-cycle costs proved unproductive. This might be because departing from the five commonly adopted methods of valuation practice might be seen as not following the correct valuation professional practices. There is no specific guidance from the Royal Institution of Chartered Surveyors (RICS) with regard to the valuation of historic buildings that incorporates neither their life-time maintenance costs nor a valuation method to adopt (RICS, 2014).

Table 5.18: Independents samples - Kruskal-Wallis tests: whether any of the five valuation methods are adapted to include a buildings' life cycle costs and respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|---|------|----------------------------|
| 1 | The distribution of whether respondents do adapt the methods to account for long-term life cycle costs is the same across all categories of professional affiliations of respondents | .770 | Retain the null hypothesis |
| 2 | The distribution of whether respondents do adapt the methods to account for long-term life cycle costs is the same across all categories of the number of years of experience | .016 | Reject the null hypothesis |
| 3 | The distribution of whether respondents do adapt the methods to account for long-term life cycle costs is the same across all categories of the number of historic buildings valued by the respondents in the last five years | .001 | Reject the null hypothesis |
| 4 | The distribution of whether respondents do adapt the methods to account for long-term life cycle costs is the same across all categories of the regional affiliations of the respondents | .131 | Retain the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

The KW tests (Table 5.18) suggest there were some statistical differences in the respondents' responses to whether any of the five valuation methods are adapted to include buildings' life cycle costs. The Professional Affiliations and Regional Affiliations (categories 1 and 4) retain the null hypothesis and Number of Years' Experience and Historic Buildings valued in the Last Five Years (categories 2 and 3) rejected the null hypothesis.

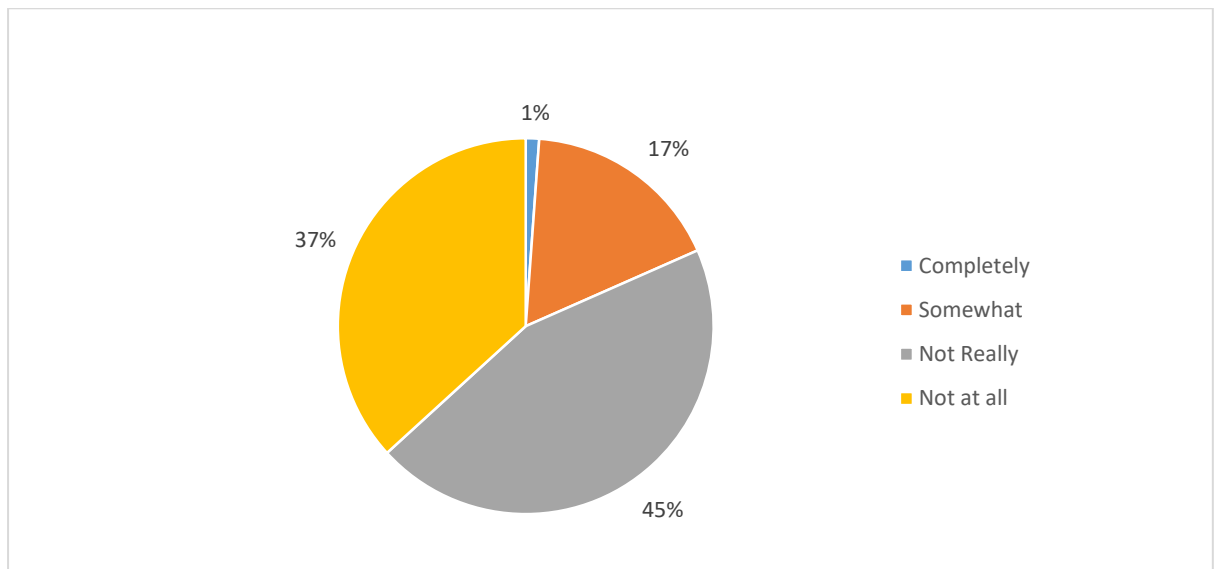
RS70 Commented:

"If the building needs immediate major repairs, the cost is estimated and reported to the client."

5.6 The extent to which current valuation approaches are capable of taking into account the life-cycle costs of heritage properties

The respondents were asked to comment on the extent to which current valuation approaches are capable of taking into account the life-cycle costs of heritage properties. This question was asked to discover whether there was scope to develop the existing valuation methods to include life-cycle costs. The respondents were asked to select one of four options; completely, somewhat, not really or not at all. The results from this part of the survey are shown figure 5.19 below.

Fig. 5.19: Respondents' views on the extent to which current valuation approaches are capable of taking into account the life cycle costs of heritage properties



The data collected from the responses revealed 1% reported completely, 17% reported somewhat, 45% reported 'not really' forty five percent and 37% reported not at all. The literature revealed that the current valuation methods do not take into account life-cycle costs. This is supported by the respondent's replies. The survey revealed eighty two percent of the respondents replied not really or not at all and in total, eighteen percent of the respondents reported completely and somewhat.

Table 5.20: Independents samples - Kruskal-Wallis tests: the extent to which current valuation approaches are capable of taking into account the life cycle costs of heritage properties and the respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|--|------|----------------------------|
| 1 | The distribution of the extent to which current valuation approaches are capable of taking into account the long term maintenance life-cycles is the same across all categories of professional affiliations of respondents | .043 | Reject the null hypothesis |
| 2 | The distribution of the extent to which current valuation approaches are capable of taking into account the long term maintenance life-cycles is the same across all categories of the respondents years of practice | .546 | Retain the null hypothesis |
| 3 | The distribution of the extent to which current valuation approaches are capable of taking into account the long term maintenance life-cycles is the same across all categories of historic buildings valued in the last five years by the respondents | .015 | Reject the null hypothesis |
| 4 | The distribution of the extent to which current valuation approaches are capable of taking into account the long term maintenance life-cycles is the same across all categories of the regional affiliations of the respondents | .004 | Reject the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

The KW tests (Table 5.20) suggest there were significant statistical differences in the respondents' responses to the extent to which current valuation approaches are capable of taking into account the life cycle costs of heritage properties. Respondent's years of practice (category 2) retain the null hypothesis. Professional affiliations, historic buildings valued in the last five years and regional affiliations of the respondents (categories 1 and 3-4) reject the null hypothesis.

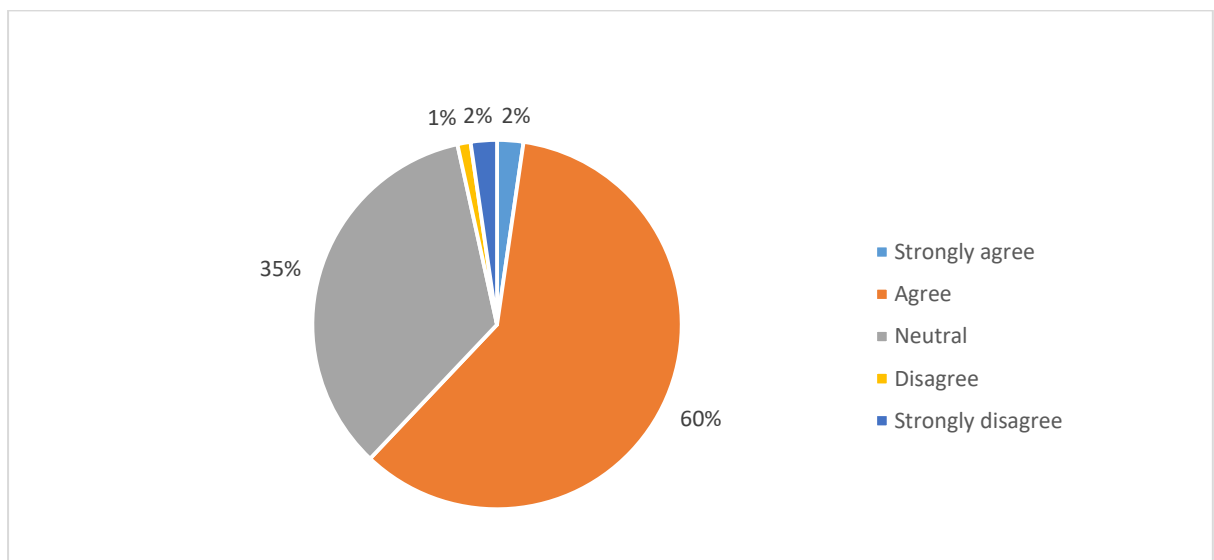
RS81 Commented:

"The comparison approach could be adapted for life-cycle costs, perhaps two different types for this method, one that does and one that does not."

5.7 The need for a new valuation model for heritage buildings

The respondents were asked whether there was a need for a new valuation model for heritage buildings. This question follows the findings of the literature review; there is no specific guidance from the Royal Institution of Chartered Surveyors (RICS) with regard to the valuation of historic buildings that incorporates neither their life-time maintenance costs nor a valuation method to adopt RICS (2014). Also non-market valuations contribute to cultural heritage and environmental policy, but what are also needed are valuation studies which solve future building maintenance issues. In a recent study by the RICS and Kingston University (2009), it was suggested that their study on the valuation of heritage assets had asked more questions than it answered them. It is arguable that heritage assets can be valued to market value using conventional methods or using a cost approach basis and puts forward for debate for possible alternative methodologies for stakeholders and further studies are needed in this area. The respondents were asked to respond to the question by choosing one of the following: strongly agree, agree, neutral, disagree or strongly disagree. The results from this part of the survey are shown figure 5.21

Fig. 5.21: Respondents' views on the need for a new valuation model for heritage buildings



The results were two percent strongly agreed, sixty percent agreed, thirty five percent neutral, one percent disagreed and two percent strongly disagreed. From the literature review, although life-cycle costs are not directly mentioned in RICS (2009) and RICS (2014), the results of the data obtained from the respondents moves the question forward of whether life-cycle costs should be included within valuations for heritage buildings. The combined percentage of the respondents that strongly agreed and agreed is sixty two percent a significant amount of the respondents in the survey. Interestingly, thirty five percent of the respondents reported a 'neutral' view point. Neutral respondents are usually undecided and they are likely to neither support or oppose new ideas and proposals. The reason for being a 'neutral' respondent might be the fact there is too little information available to make an informed decision and arrive at a conclusive view point. Other factors might include; the time they spent deciding their response. With further information i.e. potential long term benefits the respondents may have selected either agree or strongly agree.

Table 5.22 Independents samples - Kruskal-Wallis tests: the need for a new valuation model for heritage buildings and the respondents' profiles.

| | Null hypothesis | Sig. | Decision |
|---|--|------|----------------------------|
| 1 | The distribution of respondent's thoughts on the need for a new valuation model is the same across all categories of the respondent's professional affiliations | .428 | Retain the null hypothesis |
| 2 | The distribution of respondent's thoughts on the need for a new valuation model is the same across all categories of the respondent's number of years in practice | .888 | Retain the null hypothesis |
| 3 | The distribution of respondent's thoughts on the need for a new valuation model is the same across all categories of the number of historic buildings valued in the last five years by the respondents | .094 | Retain the null hypothesis |
| 4 | The distribution of respondent's thoughts on the need for a new valuation model is the same across all categories of regional affiliations of the respondents | .403 | Retain the null hypothesis |

Asymptotic significances are displayed. The significance level is .05.

The KW (Table 5.22) tests suggest that there were no statistically significant differences in the respondents' responses for the need of a new valuation model for heritage buildings. This implies that regardless of their professional affiliations, number of years in practice, the number of historic buildings valued in the last five years and the regional affiliations of the respondents, overall, the results revealed a strong feeling that there was a need for need for a new valuation model for heritage buildings.

RS70 Commented:

“Heritage buildings need the security of being able to meet costs that occur over their life time”.

5.8 Discussion and analysis

The aim of this chapter has been to fulfill the studies research objectives. The literature review was conducted because of the researcher's career long interest in the valuation of heritage buildings terms of the different valuation methods applied from both a practical and academic perspective. The literature review proved to be a challenging exercise because little has been written about the valuation of heritage buildings and their associated life-cycle costs. Although frustrating the lack of information did however support the case and need for further research into this type of valuation. Furthermore the review did not uncover any valuation methods that include life-cycle costs nor did it reveal whether life-cycle costs were considered when conducting a valuation for this type of property. However literature review did find significant differences in valuation approach and methods adopted for heritage buildings. Given the reviews outcomes, the need for further research was justified to move this type of valuation forward. The research objectives were set following the literature review with the purpose of 'filling in the gaps' exposed by the literature review and advancing the knowledge for this type of valuation exercise as well as including the life-cycle costs aspect. The objectives were designed to expose the valuation methods adopted by valuers on the international stage and find out which of the five methods are commonly adopted and whether any of the five common methods are adapted in any way to take into account life-cycle costs.

A questionnaire was used as a vehicle to satisfy the research objectives and to gather the data needed in a reliable and efficient way. The questionnaire was developed and structured with the aim of best answering the research objectives. The questionnaires were specifically sent to qualified and practicing valuers to obtain as much reliable data as possible and get further insights into this type of valuation. The information from questionnaires will now be discussed and analysed and will be the bases of the next chapter. With regard to market valuations, the data reveals the majority (about 96%) of the respondents adopted the direct comparison method. This does not come as a surprise because as the literature review suggests the strengths of the comparison method are; it's straightforward and easy-to-understand and reflects the actions of buyers and sellers and gives an indication of market value (Andreasson, 2007).

The KW tests suggest that there were no statistically significant differences in the respondents' responses in carrying out market valuations of heritage properties. This implies that regardless of their professional affiliations, regions of operation, experience, and the number of heritage properties valued, they were generally agreed on the methods used in valuing heritage properties. Generally, the results revealed a strong feeling that the comparison method is the best approach. Respondent 15 (RS15) suggested: "Comparing like-with-like is the best method of valuing these types of properties." There is however the difficulty of finding comparable evidence needed to make effective use of the comparison method. RS31 suggested: "Searching for comparable sales is difficult for these types of property so often the search area has to be widened to find them." With regard to a replacement valuation the data reveals that the majority (about 99%) of the respondents adopted the cost method. The result of the literature review were; the contractor's method is adopted for properties that do not come to the market and are mainly occupied by public bodies, for example libraries, fire and ambulance stations and need to be valued for non-domestic rates or as part of an asset valuation. For an asset valuation this method is called the depreciated replacement cost (DRC). DRC involves estimating the cost of replacing the site and the building (the land and re-building value) then an allowance for depreciation. The KW tests suggests there are statistical differences in the respondents' responses. RS55 suggested: "A cost valuation based valuation is relatively easy to do and appropriate for historic buildings and because they rarely come onto the market place."

RS71 suggested: "The cost of labour and materials fluctuates yearly; therefore for the year of valuation those costs need to be applied." With regard to an insurance valuation the data reveals that all (100%) of the respondents adopted the cost method. The result of the literature review indicated; the contractor's method is adopted for properties that do not come to the market and are mainly occupied by public bodies, for example libraries, fire and ambulance stations and need to be valued for non-domestic rates or as part of an asset valuation. For an asset valuation this method is called the depreciated replacement cost (DRC). DRC involves estimating the cost of replacing the site and the building (the land and re-building value) then an allowance for depreciation. The KW tests suggest that there were no statistically significant differences in the respondents' responses in carrying out an insurance valuation for heritage properties. This implies that regardless of their professional affiliations, regions of operation, experience, and the number of heritage properties valued, they were generally agreed on the methods used in valuing heritage properties. Generally, the results revealed a strong feeling that the cost method is the best approach. The results revealed a strong outcome that the 'cost method' and is the most appropriate approach for this type of valuation. Further data from the respondents were: RS27 Commented: "The cost method is usually the only option for unusual buildings." RS39 Commented: "issues with the cost method are in its calculation." RS47 Commented: "The cost of labour and materials fluctuates yearly, therefore the year of valuation costs need to be applied." With regard to a compensation valuation the data revealed 8 respondents used the profits method, 12 respondents used the cost method, 4 respondents used the investment method and 63 respondents used the comparison method. The data revealed a strong outcome that the 'comparison method' is the most used approach for this type of valuation. The literature review suggests the strengths of the comparison method are; it's straightforward and easy-to-understand and reflects the actions of buyers and sellers and gives an indication of market value. However, weaknesses of the comparison method are 1) specialist properties are not suitable, for example government properties, churches etc. 2) there are complexities within making comparisons between the subject property and comparable properties i.e. location and individual features that require adjusting 3) transactions are usually historic and adjustments need to be made to arrive at an up-to-date market valuation 4) there might only be a few sales to compare with or none at all.

Criticism of the sales comparison method is its subjectivity and the fact it depends largely on the valuers knowledge and experience and deciding on the comparable properties to be used, also the adjustments and range of adjustments to be adopted to determine the estimated value of the property to be valued. The KW tests suggest there were no statistically significant differences in the respondents' responses in carrying out a compensation valuation for heritage properties. This implies that regardless of their professional affiliations, regions of operation, experience, and the number of heritage properties valued, they were generally agreed on the methods used in valuing heritage properties. Generally, the results revealed a strong feeling that the comparison method is the best approach. RS12 Comments: "lenders have always preferred valuations based on sales of similar properties."

There is however also the difficulty of finding comparable evidence needed in order to make effective use of the comparison method, as emphasised by; RS19 Comments: "searching for comparable sales is often difficult and the search area often needs expanding to find them." With regard to a financial reporting valuation the data reveals the largest numbers were 36 respondents used the profits method and 28 respondents used the comparison method. The result of the literature review confirmed: the profits (or accounts method) is used when comparables are not available, for example hotels and restaurants and their valuation is achieved by reference to the profits which a reasonable tenant could make from the occupation of the property. This would involve examining the accounts to determine typical figures. From gross takings receipts, necessary deductions are made, for example, operating and overhead costs, tenant's capital and interest but excluding rent or mortgage interest payments. Additional data from the comments were from RS11: "The profits method gives a good indication of the value of the business." RS55: "The ability to understand trading accounts is vital for this method to effective." The respondents were asked whether they adapted any of the five valuation methods to include life cycle costs for historic buildings. The data reveals the majority (95%) responded 'no'. The KW tests suggest there were some statistical differences in the respondents' responses to whether any of the five valuation methods are adapted to include buildings' life-cycle costs.

RS70 Commented: "If the building needs immediate major repairs, the cost is estimated and reported to the client." The respondents were asked to comment on the extent to which current valuation approaches are capable of taking into account the life-cycle costs of heritage properties. The data collected from the responses revealed 45% reported 'not really' and 37% reported 'not at all'. The KW tests suggest there were significant statistical differences in the respondents' responses. RS81 Commented: "The comparison approach could be adapted for life-cycle costs, perhaps two different types for this method, one that does and one that does not." The respondents were asked whether there was a need for a new valuation model for heritage buildings and 68% of the respondents agreed. The KW tests suggest that there were no statistically significant differences in the respondent's responses. RS70 Commented: "Heritage buildings need the security of being able to meet costs that occur over their life time". Other comments retrieved from the questionnaire were; with regard to valuation methods, RS12 comments: "historic buildings currently have no special valuation method and are valued like modern buildings." With regard to value, RS27 comments: "there is evidence in the market place to suggest historic buildings command high values because of their nature and location but difficult to value using one method only." RS 55 comments: "from my experience these types of buildings have the widest difference between the asking price and the selling price." With regard to costs RS16 comments: "valuing with reference to life cycle costs is likely to reduce the value in the short term." RS51 comments: "The higher cost of repairs and maintenance can reduce the number of bidders compared to a modern building." RS63 comments: "the 'high' cost of converting a period building, often results in a redevelopment scheme being financially unviable." RS70 comments: "The perception is, usually older buildings have greater running costs but this is not always the case." With regard to repair RS61 comments: "Historic buildings are usually repaired as an emergency instead of proper future planning." RS11 comments: "In both private and public ownership buildings fall into disrepair because of high maintenance costs and they rely on charitable financial assistance to do major repairs." RS22 comments: "Putting a case forward for funding repairs is a long and drawn-out process and not guaranteed at the end of the application process." With regard to finance RS15 comments: "Private finance for historic buildings is the best way forward but this can only be secured with the likelihood of being financially self-supporting' after the investment."

With regard to demand in the market place one respondent commented: "There is strong demand for office and retail space. Buildings which are located in good locations are the most suitable for alternative uses."

5.9 Conclusions

The exercise of gaining new and reliable data from practicing surveyors is an important part of this study and in terms of moving this research forward. The data gathered has proved there is sufficient interest from the valuation profession for a new valuation technique. The high level of valuation experience of the respondents strengthens the reliability of the data collected. Surprisingly, the data revealed the respondents only valued one heritage building per year and one of the reasons for this might be properties of this type often stay within families for generations, so rarely come to the market place. Although this only represents a small percentage of the total valuations carried-out annually, it may represent a large percentage of their professional fee income as fees are usually based on a percentage of the buildings value and historic buildings often achieve significant sums of money. From the data gathered the overwhelming method for the valuation of heritage buildings is the 'comparison' method but this method is hampered by lack of transactions of comparable properties. Most importantly the majority (60%) of the respondents agreed there is the need for a new valuation model for heritage buildings. This data identifies supports the need to develop a new valuation technique which will complement the existing valuation methods and for surveyors to identify with and adopt.

CHAPTER 6

"TOWARDS A NEW VALUATION MODEL FOR HERITAGE ASSETS."

6.0 Introduction

The primary aim of this chapter is to advance the theoretical and practical valuation skills associated with heritage property as currently they do not adequately include life-cycle costs. This chapter has been designed and structured following the completion of a literature review and an international survey of valuers in relation to heritage buildings, the way they are valued and the issue of life-cycle costs. This will be of interest to private practice and public sector valuers, owners and stakeholders of heritage properties. More importantly, the outcome of this chapter will advance financial planning of life-cycle costs thus helping preserve the buildings' future centuries. The commonly used 'five' methods of valuation are widely accepted and practiced within the valuation profession internationally. These are linked to international standards for valuation laid down by the 'RICS Red Book'. Depending on the type of property to be valued, more than one method might need to be applied. A second method of valuation is sometimes used as a 'check' method to support the first method but the outcome should result in broadly the same value. The outcome of this chapter is not to add another valuation method to the existing 'five' but to contribute a new valuation technique exclusively for heritage buildings which includes their life-cycle costs. This was achieved by adding a valuation technique to the steps within the current toolkits for heritage property. The overall aim of this valuation technique is to achieve uniformity and clarity currently missing when assessing individual buildings and their surroundings by estimating their life-cycle costs that can go towards putting in place a financial structure and mechanism to meet their life cycle costs.

A new valuation technique has been developed and has undergone testing with valuers with the results analysed and evaluated. The new valuation technique is in the form of a new valuation model and a 'five' step process. The last step produces a capital valuation using an investment method which includes the estimated life-cycle cost. The life-cycle cost factor is the annual amount needed to be saved for meeting these costs. The outcome of the testing is it could potentially be used by members of surveying and valuation organisations internationally. From the survey's questionnaire there is evidence of strong demand and interest from valuers in relation to having a specific valuation method to use for heritage buildings and one that includes life-cycle costs. In most cases, life-cycle costs were not considered within the valuation process therefore the likely scenario is; the cost of repairs at the time of the valuation being undertaken are estimated and deducted from the end valuation figure. Depending on the repairs and their severity, the repairs might not be undertaken immediately unless a mortgage is required and the repairs are a condition of the mortgage being granted. The lack of previous research in relation to heritage buildings and their life-cycle costs only fuels the need to develop further knowledge and a new technique. Additional information has been gathered from the survey questionnaires and this has led to the development of a new valuation technique specifically for heritage buildings. The data gathered from the questionnaires is an essential part in the development and structuring of a new technique for this type of building. The purpose of the questionnaire was to obtain as much reliable data as possible from valuers internationally and achieve an insight into their valuation practices, the methods they adopt and importantly whether they adapted any of the traditional 'five' valuation methods to include life-cycle costs. Over a twelve month period, in excess of 200 questionnaires were distributed of which 87 were completed and returned. Although a limited number of surveys were distributed a strong response rate of 43% was achieved. The data collected from the questionnaires was analysed and the SPSS software program was used to highlight any statistical differences in respect of the respondent's profiles.

The study by Sayce (2009) in relation to the valuation of heritage buildings asked more questions than it answered and the outcome of this research aims to answer some of the points raised. It is the author's contention that this is the first time this type of research has been undertaken to tackle the issues of valuing historic buildings to include their life-cycle costs. This study draws together the commonly practiced 'five' methods of valuation adding-in the life-cycle costs that are usually inadequately accounted for within the valuation process. Heritage building valuations pose greater challenges for the valuer in comparison to modern buildings where one building can be compared with another with relative ease. The difference between heritage buildings and modern buildings in terms of life-cycle costs is that there is greater importance attached to heritage buildings because of their longevity i.e. longer life expectancy compared to modern buildings. The greater life-expectancy of some historic buildings might be a result of stronger building materials used in their construction, in contrast to modern buildings where materials usually have a lesser life expectancy.

Shortly after the beginning of this research, a mathematical model (MM) was considered to be a potential solution to addressing heritage valuations and their life-cycle costs. This approach has benefits and advantages as well as deficiencies and limitations. The benefits and advantages of mathematical models include:

- I. The ability to predict system behaviour,
- II. Have a clear idea of the inputs and outputs,
- III. The ability to analyse anomalous behaviour by comparing it to the model predicted behaviour.

According to Ugwa, 2012, potential issues in relation to mathematical models are:

- a. They may not address what intends to accomplish.
- b. Are sensitive to initial conditions or to the values of parameters.
- c. Creates a mathematical solution to a problem that does not lend itself to a mathematical solution.
- d. Too simple to mirror adequately.

- e. Too complex to aid understanding.
- f. The results are too technical to communicate.
- g. The results are not in a form that can be implemented.
- h. Resources are not adequate to implement a suggested solution.

Due to the complexities of heritage buildings and their individual life-cycle costs, the decision was taken not to pursue the development of a mathematical solution and consider an alternative approach. The decision was taken to advance recent and current 'toolkit' approaches for heritage buildings. Toolkits have previously been developed for heritage buildings and their surroundings. Two relatively recent examples are the Oxford Character Assessment Toolkit and the Prince's Regeneration Trust's Sustainability Toolkit (oxford.gov.uk, princes-regeneration.org). The Oxford Character Assessment Toolkit was funded jointly by the Oxford City Council, Oxford Preservation Trust and English Heritage (as a Capacity Building Project by English Heritage). The purpose of the toolkit was in response to the need to improve the 'robustness' of assessments of character that inform planning decisions. The toolkit assesses the character of areas i.e. conservation areas and housing estates, places and spaces including streets, parks and public squares and buildings including their settings. The toolkit provides a standard process for user's to assess the character of an area. The aim of the toolkit is to promote best practice standards that can also be adopted by other local authorities. Planning policy requires a new development complements and enhances the established character of an area (oxford.gov.uk). Therefore the toolkit was designed for developers, landscape and urban designers and architects, city and county council employees, city council planning and policy and development control, public amenity and interest groups and private individuals. Information is gathered by identifying, recording and scoring positive and negative features of an area and suggestions are required on how to limit negative impacts of the development and how to protect the positive features. The likely outcome of an assessment done by more than one user for one particular area results in varying assessment outcomes; this is because the users will have different experience, knowledge or emotional attachment to that area. There are two versions of the character assessments toolkit survey questionnaire, a long form and a shorter version.

The one that should be used depends on how detailed the assessment needs to be and how familiar the user is with assessing character. This example of a toolkit approach has been successful in terms of meeting the projects' objectives and it being adopted by other planning authorities. The Prince's Regeneration Trust's Sustainability Toolkit gives local authorities (LAs) a series of steps to consider when managing and disposing of heritage assets (princes-regeneration.org). The Trust cites a number of case studies where the toolkit has been adopted. The toolkit was developed primarily for LAs as they are major owners of heritage property and according to the Trust they have 8.7% of buildings designated 'at risk' through neglect and decay. Going into the future, LAs are likely to be disposing of heritage assets in greater numbers to reduce their outgoing costs and raise revenue from sales from surplus or redundant buildings. The toolkit includes guidance on Social Return on Investments (SROI) analysis to prove the value of the broader social benefits that disposing of heritage assets can result in. The toolkit is in the form of 14 steps grouped into 4 categories. The categories are as follows; safeguarding heritage assets, taking stock of what you own, best value for money and post disposal. The object is to give local authorities and public bodies guidance before disposing of heritage assets. The steps are as follows; managing your assets, maintenance and periodic surveys, building log book, involving the right people, take the long term view, regularly review your asset, cost comparisons, transparent decision making, methods for disposal, a single package, partnership working, the wider social benefits of sustainable disposals, funding opportunities for potential purchasers and recipients and building capacity. Of particular interest and in relation to this research is Step 2 Maintenance and Periodic Surveys. The Trust supports a shift from cure to prevention and promoted in four ways; 1. Undertaking periodic condition surveys to show a prioritised and costed programme of repairs and maintenance which includes; a visual inspection annually and a detailed inspection every five years. 2. Compiling and updating a buildings log book or conservation manual. 3. Making sure the right people carry out the work. 4. Consider letting buildings out on a short-term basis for commercial or residential use where under their agreements maintenance issues need to be reported to the LA. The Oxford Character Assessment toolkit and the Prince's Regeneration Trust's Sustainability Toolkit were developed because heritage buildings are considered to be important assets in need of sympathetic preservation.

However both toolkits stop short of tackling valuation and life-cycle maintenance issues associated with these types of buildings.

At the beginning of this research the expectation was to develop and put forward a new valuation method and add another to the existing traditional five methods. However, as a result of the literature review and primary data gathered, this was not going to be realistic and too ambitious. One of the outcomes of this research revealed heritage building valuations only represent a small percentage of all the valuations undertaken each year by valuers and another reason is a new valuation for heritage buildings could not be used for modern buildings. However, the toolkit approach does have some relevance to modern buildings because it can take an area view and consider the mix of old and new buildings. This did however represent the opportunity to further advance the toolkits with the addition of a new valuation technique specifically developed for heritage buildings. Heritage buildings are generally accepted as all being 'unique' given this it is reasonable to say will require a unique and meaningful valuation technique. For the first time a new technique will reflect the life-cycle cost issues not believed to have been attempted previously for this type of building. A model approach was chosen over a toolkit approach for the following reasons; 1. It gives greater consistency because the users understand how the approach is used. 2. By using data it helps eliminate bias and preconceptions leading to greater objectivity. 3. It makes the decision process easier. 4. It provides a justifiable solution. When inputting information into the model it calculates an immediate result and in this case a valuation.

The purpose of the survey was to gather new and important data from practicing surveyors and also raise awareness of historic building valuations and life-cycle costs. It is believed this is the first survey of this type and to design and develop a new valuation technique specifically for historic buildings which includes their life-cycle costs. The reasons for conducting the survey of valuers was to 1. Uncover unbiased answers to the questions asked, 2. Evoke discussion, 3. Base future decisions from objective answers forming the design and structure of the model and 4. Compare the results for similarities of views and opinions. By uncovering unbiased answers to the questions it was possible to learn about what motivated the survey's respondents, what was important to them and gather meaningful opinions and comments.

The survey questionnaire was designed to evoke discussion by allowing the respondents to contribute their practices by selecting an answer and broader perspective by adding additional comments. Basing decisions on unbiased and analysed objective answers this enabled decisions to be made on structuring and developing the new model. Comparing the results of the survey gave an indication of attitudes and behaviours of the respondents from their opinions and comments.

The response to the survey proved there was strong interest in the development of a new valuation technique and some of the survey's results directly influenced the model's development. Firstly, and importantly sixty percent of the survey's respondents agreed there was the need for a new valuation model for heritage buildings that includes their life-cycle costs and on this basis the task of developing a new model began. Secondly, 95% of the respondents did not currently adapt any of the traditional five valuation methods to take into account a building's life-cycle costs. Thirdly, 45% of the respondents did not believe the traditional valuation methods were capable of taking into account of life-cycle costs. Based on these results a new model needed to be developed and to respond to these beliefs. Finally the investment method was widely used by surveyors. The new model proved the investment method be adapted to produce a meaningful and reliable alternative valuation method by producing a capital valuation which includes the buildings physical condition. In the future, the new model to be successful it needs to be universally accepted and widely practiced by the valuation professions internationally.

6.1 Summary of the results

The outcome of the survey is an important part of this chapter as it establishes a platform upon which to engage in a detailed discussion around the building of the new model.

6.1.1 Summary

The result indicated 65% of the respondents were members of the Royal Institution of Chartered Surveyors. The data shows 9% of the respondents were from the Americas, 55% from Europe, 12% from Oceania, 6% from Asean and North Asia, 8% from the Middle East and Africa and 10% from South Asia. The data shows in terms of the respondents experience; 10% had zero to 5 years, 20% had between 6 and 10 years, 41% had between 11 and 20 years and 29% had over 20 years. The data shows over a five year period the number of heritage building valued were; 64% had valued 1-5 properties, 17% had valued zero, 12% had valued 6-10 and 7% had valued over 10. When conducting a 'market valuation' the data shows the majority (about 96%) of the respondents adopted the direct comparison method, with the remaining 5% using either the profits method (2%) or the cost method (2%). When conducting a 'replacement valuation' the data shows 99% of the respondents adopted the cost method and the remaining 1% opting for the comparison method. The data shows when conducting an insurance valuation all the respondents adopted the cost method. The data shows when conducting a compensation valuation 9% of the respondents used the profits method, 13% used the cost method, 4% used the investment method and 72% used the comparison method. The data shows when conducting a financial reporting valuation 36 respondents used the profits method, 12 respondents used the cost method, 11 respondents used the investment method and 28 respondents used the comparison method. The data shows in relation to life-cycle costs 95% of the respondents did not adapt any of the 'five methods' and 5% did. The data shows with regard to whether current valuation approaches are capable of taking into account the life-cycle costs, 1% reported completely, 17% reported somewhat, 45% reported 'not really' and 37% reported not at all. The data shows with regard to 'the need for a new valuation model for heritage buildings' 2% percent strongly agreed, 60% agreed, 35% neutral, 1% percent disagreed and 2% percent strongly disagreed. Overall the data has shown there is a strong interest in a new valuation method from members of the Royal Institution of Chartered Surveyors and is the largest surveying organisation in the world with the greatest number of members. Many of the respondents were highly experienced with the majority having in excess of eleven years in practice.

The need to value heritage buildings on a regular basis is proven by the data, which indicates the majority (64%) of the respondents have value 1-5 buildings of this type in the last five years. When conducting a 'market valuation' the majority of the respondents use the comparison approach. When conducting a 'replacement valuation' the majority of the respondents use the comparison approach. All the respondents used the 'cost method' when dealing with an insurance valuation. When preparing a compensation valuation the majority used the 'comparison method'. By far the most method used for financial reporting is the 'comparison method'. The greatest number of the respondents did not adapt any of the 'five methods'. The largest proportion of the respondents did not believe the current valuation methods are capable of taking into account 'life-cycle costs'. Most importantly and pertinent to this research, the majority (60%) believed there was a need for a new valuation model for heritage buildings.

6.1.2 Results implications

The responses to the questionnaires prove the common 'five methods' of valuation are widely accepted and practiced internationally. In practice, they are relatively easy to use and reliable and robust in terms of their accuracy. In terms of historic building valuations, the results of the survey supported the 'gap' found in the literature review that life-cycle costs are excluded from the current valuation methods. The outcome of the literature review and the data gathered from the questionnaires allows the 'envelope to be pushed' in terms of exploring a new valuation techniques for historic buildings which includes their life-cycle costs. The intention is not to 're-invent the wheel' in terms of the current valuation methods but to add another technique to aid the longevity to this type of property. In order for a new method or technique to be accepted and universally practiced, it will need to be included within the RICS Red Book to give guidance to valuers. As a result of its inclusion this may lead to other surveying organisations replicating the technique for their members to follow. The outcome of the survey and the development of a new valuation method could fundamentally change the way valuers view and approach historic building values in the future. One of the prominent results of this survey is that there is strong interest in this type property as well as the development of a new valuation technique.

6.2 Redefining the case for a new valuation model for heritage properties

Before moving on to develop a new valuation model it is important to discuss the reason for developing the model, the existing valuation methods, the RICS Red Book and the limitations of existing valuation approaches. Valuers have at their disposal 'five' valuation methods and use one or more of them to value buildings. A valuation is often needed for the following reasons; sale, purchase, local taxation and national taxation. Valuing an historic building can be more complex compared to more modern buildings. Although there is limited literature in relation to an historic building's life-cycle costs, there is enough information to provide the foundations for this research and fill the 'gap' from past studies like RICS, 2009 and advance the knowledge in this field. There is a growing trend in the UK and other countries to convert historic buildings for alternative commercial uses; they are often re-used as offices, retail space, hotels etc. Out of the 'five' valuation methods available it is usual to adopt either the comparison or receipts and expenditure method. For local taxation there is statutory duty to assume a building is in 'reasonable repair' even if this is not the case. This assumption is sometimes difficult to visualise, as in reality many historic buildings are more than not in less than reasonable repair yet they are valued the same as a building in 'average' or 'good repair'. This begs the question as to whether a building in poor repair should be valued the same way as one in fair or good repair? In practice, when conducting a valuation for sale or purchase the cost of repairs is usually estimated then deducted forming the final valuation figure. In 2017 the issue of repair was highlighted in the case of *Newbigin (Valuation Officer) (Respondent) v S J & J Monk (a firm) (Appellant)*. Although the subject property was not an historic building, the case related to whether the property should be rated having regard to its physical condition or whether paragraph 2(1)(b) of Schedule 6 to the Local Government Finance Act 1988, as amended by the Rating (Valuation) Act 1999, requires a valuation officer to assume the property was in reasonable repair in its previous state as "offices and premises" on that date. Para 2(1) of Schedule 6 provides that the rateable value of the property is an amount equal to the rent at which it is estimated it might be expected to be let from year to year, subject to the assumption in para 2(1) (b) that immediately before the tenancy begins, the property is in a state of reasonable repair, but excluding from that assumption any repairs which a reasonable landlord would consider uneconomic.

This case highlighted the importance of repair considerations and the likely effect it will have in terms of arriving at an end value. Given the importance of the 'repair' issue, it is surprising the traditional 'five' valuation methods have not advanced with an additional method to include the repair or condition aspect of a building. So in the absence of an additional method, there is an opportunity to develop a new valuation technique for valuers to estimate life-cycle costs.

6.2.1 Existing methods

Valuers have a choice of valuation methods and the one chosen depends on the purpose of the valuation, type of the property and the information available in the market place. The five methods of valuing are known as the comparison, contractors, profits, residual and investment. A further approach within the investment valuation method is the 'discounted cash flow' technique. The RICS has narrowed these methods into three approaches: sales, cost and investment and includes the five methods. The mechanisms within each can vary depending on experience and interpretation of the valuer. Usually the less information in the form of comparable sales the more likely the valuer will use a method that relates to the use of the property and either uses a 'cost' or 'investment' method. The investment method does however rely on comparable rental and yield evidence. When these methods are used, the property is often regarded as a 'specialist' property. Where there are sufficient comparable sales data including capital values, rents/yields, a valuation determination can be made without reference to the occupier. Comparable information is interpreted within the context of the current market conditions to estimate the value of the building at the valuation date.

6.2.2 The RICS Red Book

The RICS Professional Standards known as the 'Red Book' details the mandatory practices for their members with regard to undertaking valuations and is updated periodically with the latest edition coming into effect on 6 January 2014. It contains mandatory rules, best practice with related commentary for valuers to follow when undertaking valuations.

The starting point for all property valuations including those for historic properties is compliance with the RICS Valuation – Professional Standards. Before members accept instructions to provide a valuation for historic assets, valuers should satisfy themselves that in accordance with Practice Statement 2.3 member qualification; they must have the market knowledge, skills and understanding necessary to undertake the valuation competently (RICS, 2014).

6.2.3 The limitations of existing valuation approaches

All valuation approaches available have limitations and a brief explanation of the limitations for each approach includes:

- The comparison approach – it can be difficult to obtain reliable sales transactions and making changes for size differences and transaction dates will have an effect on end valuation.
- Income approach – selecting an appropriate capitalisation rate. Estimating the income and operating expenses and errors magnified on capitalisation. It is not of use to owner occupied or special purpose properties.
- The cost approach – estimating depreciation particularly with regard to older buildings is difficult. Construction costs constantly change due to labour costs availability and fluctuations in the cost of materials.

None of the current approaches have specifically been designed for historic buildings and all are considered to be appropriate for all types of buildings regardless of their age and construction.

Moreover recent modern valuation techniques like the travel cost method have not included the life-cycle cost of the building. To keep pace with the increasing volume of historic buildings being adapted for alternative commercial uses there is a strong need to develop a new valuation technique. This need is further supported by the outcome of this research where 60% of the respondents were in favour of a new valuation method for history buildings which included the life-cycle cost.

6.3 Model development

6.3.1 Model development considerations

Having completed the research part of this thesis, the focus now moves on to the development of a new valuation technique and model that surveyors can adopt to estimate the expected reasonable life-cycle maintenance costs and put an annual cost within a valuation creating a new valuation technique for historic buildings. A new model will need to be meaningful and robust, in terms of being meaningful, the key construction items of a typical historic building need to be itemised and their level of condition identified i.e. poor, fair or good condition. A tried and tested way of developing a model of this type is to use an electronic spreadsheet. The spreadsheet approach is likely to provide consistency of results when used by different valuers. By developing a model in this way, it will enable it to be replicated for all types of historic buildings. The model needs to be easy to follow making it user-friendly. Constructing and developing a model in this way means it is likely to be widely accepted and adopted.

6.3.1.1 The building survey and valuation time frame

It is important to consider the time it will take to survey a building and apply a new valuation technique. A surveyor's role is to assist residential and commercial property owners in purchasing, maintaining, improving, and managing buildings. Generally owners fall into the following categories; private individuals; central government and their business space providers; local authorities; health services; managing agents and commercial property investors. The time needed to conduct a building survey depends on the type, age and size of the building. In practice, Grade 2 listed buildings can take considerably longer as a modern alternative built structure. The surveying time too can be extended where defects are identified and the cause(s) need to be investigated. Building surveys have evolved over the years and the Royal Institution of Chartered Surveyor has generally 'standardised' their Home Buyer's Report. Although property owners are diverse, the principles of a building survey are uniform in terms of practices and procedures with the aim of minimising the associated 'risks' with a building survey.

6.3.1.2 Maintenance costs

Given the importance of the life-cycle costs for historic buildings, scheduled monuments and ruins, it is surprising these costs are not included within the traditional valuation methods. The need for a specific valuation method that includes life-cycle costs is most needed when dealing with heritage buildings, as these buildings are likely to have the greatest longevity and higher costs compared to contemporary counterparts.

6.3.1.3 Alternative use

Building Preservation Trusts (PBTs) have been at the forefront of re-using heritage buildings. PBTs often work in partnership with local authorities and government funded organisations. Collaboratively, they tackle buildings where there is usually no demand and they are able to access funding not usually available to individuals or private companies (historicengland.org). Often heritage buildings are listed and research from the Property Databank Annual Index (The Investment Performance Document) found that listed buildings used for commercial, office and industrial purposes have generated a higher level of total return than commercial, office and industrial buildings overall (historicengland.org.uk). Revitalising an existing building is typically less expensive than constructing a new one. It has been estimated by re-using an existing building savings of up to 12% can be achieved against constructing a new building (Rypkema, 1992). Traditionally, there has been strong interest from both private and public investment and the likely reason for this is that historic buildings are usually constructed with superior materials and located in desirable or commercial areas with good footfall. As a result of this there is evidence of strong resale values even during recessionary periods in the market place (Shipley & Reyburn, 2003).

6.3.1.4 Opportunism

Values of buildings can quickly be distorted by unforeseen opportunities such as funding and grants becoming available i.e. lottery grants and building(s) released e.g. former Government buildings.

Since the 1980s the Ministry of Defence (MOD) has released a large proportion of their estate many of which are historic buildings which are considered historically important and part of a number of similar buildings within an estate (bnppropertytrust.org). A recent example in the UK where a former MOD building has been re-used with an alternative use is Boathouse No 4 located at the Historic Dockyard in Portsmouth. Constructed in 1939, in 1930s military industrial architecture, it was built in response to the need for a rapid rearmament programme prior to World War 2 with its own dock and lock. Both the exterior and exterior have been restored maintaining the building's original character. The building is now mostly occupied by an international boatbuilding training college and another local college where now traditional boatbuilding skills are being taught historicdockyard.co.uk (2015).

6.3.2 Model design process

The theory behind the model is; the life-cycle cost of a building is often over-looked by prospective purchasers and owners and often results in buildings falling into disrepair. Property taxation in the United Kingdom assumes 'reasonable repair' even if it is not. Generally modern commercial and residential buildings in the United Kingdom are constructed with a limited life-span whereas most historic buildings built in the 1800s were constructed to have a longer life. Generally buildings are constructed to last at least the term of a mortgage and generally mortgages in the UK have a maximum term of 30-35 years. When a mortgage application is received a mortgage survey is undertaken for the lender. The purpose of the survey is to report on the condition of the building and provide a valuation. If urgent repairs are required, they must be undertaken by the mortgagor (the borrower) as a condition of being granted the mortgage. It is usual to estimate the costs of repairs using up-to-date costs of materials and labour rates.

The valuation provided for the lender will often be based on comparable sales of similar buildings with adjustments for location, size and date of transactions. The outcome of this this research is a new valuation technique could assist valuers and their clients to estimate the capital value having regard to the buildings life-cycle costs. A model has been constructed after researching previous literature in relation to valuation methods, the valuation of historic buildings as well as a survey of valuers.

Before developing a new valuation technique, it was necessary to conduct an international survey of Valuers, then analyse the results of the survey to discover whether there was sufficient interest from practicing valuers. Given this outcome, the development of a new valuation technique began focusing on the development of a spreadsheet-based model to input data and arrive at a capital value. The model had to be 'user friendly' in terms of its function and use. Designing the model in this way meant it is more likely to be accepted and adopted by valuers. A brief was drawn-up for the design of the new technique using a 'model' approach. Heading the brief were two main themes, 'ease of use' and 'technical ability'. With regard to 'ease of use' the model had to be 'user friendly' and could be used by valuation surveyors and building surveyors. With regard to the 'technical ability', there was the need to bring together one of the 'five' valuation methods and a weighted score of the buildings condition which results in a capital valuation.

Historic buildings are often very different to modern buildings and the most obvious difference is the general sense of character and aesthetics and due to superior materials used in their construction historic buildings generally have a greater life expectancy. The development of a new valuation model specifically for historic buildings needed to capture all the common building elements and building material components used in their construction. Often historic building elements have more than one building component material, for example, the ceilings might be either decorative timber, plaster mouldings or intricate cornices and this aspect needed to be taken into account when developing a new valuation model. The new model is designed to produce a capital value minus the long term maintenance costs. Before the model can be used the rental value of the building being valued needs to be assessed using one of the traditional valuation methods. Next, a visual inspection of the building is necessary using a check sheet noting the buildings elements and their condition. Next all the information needs to be entered into the model. The model contains a list of building elements e.g. foundations, staircases and roof etc. (see figure 6.1). Where the element exists the building materials components need to be selected, so for staircases either hardwood or softwood will need to be selected. Next, the condition of the building material component needs to be noted, either good (0.1) fair (.5) or poor (.9).

This is then multiplied by the maintenance cost factor a fixed number (0.1 to 0.100) which is the estimated life expectancy of the material, the lower the number the greater the life expectancy. By multiplying the condition and maintenance cost factor figures a weighted score is automatically produced for each building element. All the weighted scores are summed up and multiplied by the rental value producing a long-term maintenance cost figure, this is then deducted from the rental value producing a revised (lesser) net income rental value. Finally, the net income is multiplied by the Years Purchase in Perpetuity percentage (YP perp %) gained from the market and a revised valuation is produced. This new technique has been developed to include the traditional methods of valuation so is a new technique instead of a new method. It is intended to be an advancement of the current valuation methods available and not an addition to the current valuation methods. It is designed to highlight and reflect the life-cycle cost of historic buildings which are occupied commercially e.g. offices, leisure facilities etc. Within the 'cost method' and for an older building an allowance for age and obsolescence is used and often a reference to its condition. This new technique could provide a better estimate of the effect condition has on value. This new technique is a four step process designed specifically for valuers valuing historic buildings. An outline of the process is;

Step 1 Undertake a visual inspection of the building and complete a schedule of condition.

Step 2 Complete a valuation using the appropriate conventional method in accordance with Red Book guidance.

Step 3 Use the new model to produce a new capital valuation including the estimated life-cycle costs.

Step 4 Put this in the broader 'value issues' context of the site using an adaptation of the current 'toolkits' available.

Further detail of the steps are;

Step 1. Undertake a visual inspection of the building and complete a schedule of condition.

Complete a schedule of condition. A new inspection condition spreadsheet has been developed using a Microsoft Excel spreadsheet. It broadly follows the RICS Condition Report RICS practice note 1st edition. A visual inspection of the building is needed and the condition noted of the key elements. The key elements are those typically associated with an historic building. Each element needs to be assessed by the valuer and marked as either Good (entered as 0.1), Fair (entered as 0.5) or Poor (entered as 0.9); if the building element does not exist the default 0 (zero) is retained. This follows the same principle in the RICS condition report, 1 = No repair currently needed. 2 = Defects that need repairing or replacing but are not considered to be either serious or urgent. 3 = Defects that are serious and/or need to be repaired, replaced or investigated urgently. Once the condition of each element has been entered on to the spreadsheet it automatically creates a weighted score for each building element. The individual weighted score is achieved by multiplying the condition rating by the maintenance cost factor. The sum of all the weighted scores are shown at the bottom of the spreadsheet. The relativities (shown as the maintenance cost factor) for each of the elements is based on literature determining the life-cycle of the materials used e.g. for staircases, hardwood and softwood have different life-spans.

Step 2. Complete a valuation using the appropriate conventional method in accordance with Red Book guidance.

Consider which valuation method is appropriate following RICS Valuation – Global Standards 2017 VPS 5 Valuation approaches and methods to calculate the annual rental value. There are three internationally defined valuation approaches the market approach (sales comparison), the income approach and the cost approach.

The sales comparison approach used in many markets and relies on reliable and transparent evidence from the market place. An identical comparison is ideal but in reality adjustments need made to reflect differences like age, specification and location. The income approach is used when a buyer is purchasing the right to the enjoyment of future benefits and where future benefits are expressed in monetary terms. In investment markets buyers are looking for future income, value stability or future value growth or a combination of income and growth. Comparable evidence of market rents and capitalisation rates are needed to support the valuation. The cost approach is used to value buildings not normally bought and sold in the 'open' market. A Depreciated Replacement Cost valuation has three components. 1. The cost of the land, 2. The cost of constructing a replica, simple substitute building or a modern equivalent building. 3. An allowance for depreciation. The value of the land does not depreciate and is assessed using normal market value approaches. This would be direct sales comparisons of land bought and sold for similar purposes in the market. The gross replacement cost of the buildings is calculated using current cost figures and other related costs which are; site works, architect's fees, building permit costs and finance (interest) fees on bank borrowing to pay for the costs.

Step 3. Use the new model to produce a new capital valuation including the estimated life-cycle costs.

This step produces a new investment capital valuation including the estimated life-cycle costs and this is done by inputting data. To complete this step the following information is entered into the model; from the visual inspection of the property the condition description is inputted (good, fair or poor) of each of the building elements (see Figure 6.1). The individual weighted scores for each building element is automatically calculated and a sum of all the weighted scores is shown at the bottom of the model. The sum of all the weighted scores is then shown as 'the long term maintenance cost' (see Figure 6.2).

Next the annual rental value (calculated from step 2) is entered into the model. Lastly, the all- risk yield percentage needs to be applied. The percentage adopted is based from the market place within the locality for the market that the building is being used e.g. offices. When all the parts of the model have been inputted the capital value including the life-cycle cost is shown then rounded (see Figure 6.2).

Figure 6.1 Diagram of the new model

| LONG TERM MAINTENANCE COSTING | | | | |
|-------------------------------|-------------------------------|-----------|-------------------------|----------------|
| Building Element | Building materials components | Condition | Maintenance cost factor | Weighted score |
| Foundations | Solid | 0.5 | 0.1 | 0.05 |
| Staircases | Hardwood | 0.1 | 0.4 | 0.04 |
| | Softwood | 0.0 | 0.5 | 0.05 |
| Roofing | Handmade tiles | 0.5 | 0.4 | 0 |
| | Stone tiles | 0.9 | 0.8 | 0.4 |

Figure 6.2 Diagram of the valuation calculations

| VALUATION | |
|-----------------------------------|--------|
| Rental value | 14000 |
| Less: Long term maintenance costs | 6370 |
| Net income | 7630 |
| YP perp @ (%) | 6 17 |
| VALUE | 127167 |
| SAY | 127000 |

Step 4 Put this in the broader 'value issues' context of the site using an adaptation of the 'toolkits' available.

The potential application of a valuation technique of this type is an addition to existing 'toolkit' approaches for historic buildings and the areas they are found. Two examples of a 'toolkit' approach associated with historic builds are; the Oxford character assessment toolkit and The Prince's Trust Planning for Sustainability - A Local Authority Toolkit.

These toolkit approaches takes into account other adjacent properties and the area which is why it is relevant to the property being valued. Both these examples exclude 'value issues' and could benefit from including this new valuation technique to compliment them. As both these toolkit approaches are structured in steps, another step could include this valuation technique. It is not within this research's objectives to seek the inclusion of a new valuation technique within existing toolkits but the owners of the toolkits might adopt the technique voluntarily after this research has been published.

6.3.3 Benefits of the model

6.3.3.1 Practitioner approach

From a practitioners' perspective, if a new valuation technique is to be widely accepted, it has to be easy to use and provide a meaningful outcome. The model has been designed with this in mind and although it has been purposefully simplified, the outcome is meaningful and designed to be used by valuers with reasonable knowledge of the common building components found in historic buildings. With this in mind, the model includes, the key elements commonly found within historic buildings and the ability to capture their condition rating with one of three descriptions (poor, fair or good). Using one of the 'five' methods, the valuer will need to calculate a rental value of the building and apply YP rate (from the market place). The purpose of the new technique is not to replace instructing a building surveyor to do a building survey, but to give an indication of the potential effect the condition will have in terms of its value. However, where the valuer does not have the necessary knowledge, skill and experience to perform a condition report, a qualified surveyor in this area should be appointed to complete the exercise. This new technique is linked directly to the condition of the building which could benefit their client.

6.3.3.2 Value to client

From a client's perspective this new technique can easily be adopted by owners and perspective purchasers of historic property and could potentially be used for assessing taxation.

From an owners perspective, this new valuation technique can give them give them additional information when assessing future repairing liabilities by forecasting with accuracy the future life-cycle costs. In addition, for perspective purchasers, this technique can assist them in making an informed decision on the amount they are prepared to offer with the intension of purchasing. In terms of local taxation in the United Kingdom, currently buildings used for domestic purposes i.e. residential use, is based on a capital value, for non-domestic properties i.e. commercial purposes, is based on a rental value. Currently, valuations for both domestic and non-domestic assume the property is in 'good repair' even if this is not the case. This new valuation method could accurately be used to value buildings taking into account their true condition providing a tax assessment reflecting its condition. The design of this new valuation technique takes an average of between 2-3 hours to complete and which includes the time spent on the inspection, completion of the model and provide a written report to the client.

6.3.3.3 Value to the building

This new valuation technique has been specifically designed for historic buildings to provide a life-cycle valuation driven by its physical condition. This technique can be completed relatively quickly and shows the client the likely effect the condition has on the buildings value. It is feasible this valuation technique could be periodically used for the same building for different reasons. Examples might be for future sales transaction and revaluations for taxation purposes. Potentially this new technique could add value to a historic buildings' by giving perspective purchasers who would not ordinarily consider purchasing and occupying an historic property, a greater insight into long term life-cycle costs issues. This technique brings together for the first time the subject of valuation and life-cycle costs. Bringing these issues together and provides greater transparency to the client and potentially makes historic buildings more attractive to investors and occupiers, and in turn could increase the rental value which is likely to result in a higher capital value.

6.4 Testing and validation of the model

The testing of the model is necessary to see how it works in practice and obtain as much information as possible from the feedback to validate this thesis, and potentially the feedback could further improve the model. The model was tested with five volunteer valuers. They are of mixed genders and experienced valuers referred to as 'testers' 1, 2, 3, 4 and 5. The testers were aged 42-73 years and have between 5-50 years' experience. The participants were asked to use the new model to value three historic buildings (see appendix 4). They were given the following information, a list of the major building elements e.g. elevations materials etc. and their condition poor, fair or good. A notional rental value had been inputted for each building together with the years purchase percentage rate. This information was given in advance to enable the valuer to proceed immediately to the valuation part. Once the condition of each of the building elements listed had been inputted, a capital valuation is automatically achieved. In practice, the following would be necessary; an inspection noting the condition of the major building elements, a valuation to determine the rental value and the years purchase (YP) percentage rate determined from the market place.

6.4.2 Model testing results

Participant 1 (P1) has worked in both private and public sectors and combined has 50 years' experience. P1 is experienced in using all five valuation methods but mainly deals with valuations using 'the contractors' method. P1 completed all three example buildings. All three valuations were completed with the expected capital valuation result. Inputting the data for each valuation took P1 5-6 minutes. When asked for feedback P1 said; "The model was easy to use and includes all the building elements I would expect to see. This is a logical and worthwhile attempt in putting forward a new basis of valuing heritage buildings. For rating purposes, it is always assumed the building is in 'reasonable repair' when this simply is not the case and this assumption is to the detriment of the owner or occupier and they feel disadvantaged" Although at first glance the method appears simplistic, the outcome i.e. a reduced capital value makes sense to me."

Participant 2 (P2) has worked in both private and public sectors and combined has 5 years' experience as a valuer. P2 is experienced in using all five valuation methods and mainly deals with valuations using 'the comparison' method. P2 completed all three example buildings. All three valuations were completed with the expected capital valuation outcome. Inputting the data for each valuation took P2 3-4 minutes.

When asked for feedback P2 said; "Well done for having the courage to put forward a new valuation technique with a practical approach. I understand the theory behind the model; it is not over technical and could be undertaken with relatively basic knowledge of building major components. The process was straight forward produced a realistic valuation."

Participant 3 (P3) has worked in both private and public sectors and combined has 49 years' experience as a valuer. P3 is experienced in using all five valuation methods but mainly deals with valuations using 'the contractors' method. P3 completed all three example buildings. All three valuations were completed with the expected capital valuation result. Inputting the data for each valuation took P3 3-4 minutes. When asked for feedback P3 said "Overall I like the schedule you have created and in my opinion goes a long way in terms of valuing an historic building. But I have some feedback points I would like to mention: Is it too simplistic in terms of valuation adjustment? i.e. there are so many factors to consider. Can you include in the same Condition Input column 0, 01, 05, 0.9 & what they represent – to cross refer to a piece of paper can lead to errors. Have you taken into account all the relevant elements, materials, condition of a historic building? What about improvement costs to the building – is this issue built into the factor adjustments? What about positives such as historic features of the building & their condition? Probably already built into your rental level & YP Listed building issues? Again probably already reflected in your rental level. I mention this for further improvements if necessary at a later date."

Participant 4 (P4) has worked in both private and public sectors and combined has 25 years' experience as a valuer. P4 is experienced in using all five valuation methods but mainly deals with valuations using 'the contractors' method. P4 completed all three example buildings.

All three valuations were completed with the expected capital valuation result. Inputting the data for each valuation took P4 2-3 minutes. When asked for feedback P4 said; "Overall it's quick & simple to use. This valuation technique could really help owners and purchasers. The model puts into perspective the effect condition has on value."

Participant 5 (P5) has worked in both private and public sectors and combined has 27 years' experience as a valuer. P5 is experienced in using all five valuation methods but mainly deals with valuations using 'the contractors' method. P5 completed all three example buildings. All three valuations were completed with the expected capital valuation result. Inputting the data for each valuation took P5 3-4 minutes.

When asked for feedback P5 said; "The model appears to include all the important elements I would expect to find in this type of property. The condition ratings are likely to be easily identified whilst doing a visual inspection. A valuation using the proposed model could benefit occupiers by giving them an indication of the value of their building taking into account the building's condition."

6.4.3 Analysis

The result of this research suggest that there is the interest and need from valuers for an additional valuation process in respect of heritage buildings, so a new valuation technique needed to be designed and developed to include life-cycle costs. The difficulties in developing a mathematical model were overcome by developing a new valuation model using an electronic spreadsheet. The model is the key part of the new valuation technique proposed. Overall a new valuation technique needs to be meaningful, robust and user friendly to be widely accepted and practiced. The new valuation technique would initially be a useful addition for current 'toolkits' for heritage property. For the first time a new technique will reflect the life-cycle cost within a valuation. In order for a new method of technique to be accepted and universally practiced, it will need to be included within the RICS Red Book to give guidance to valuers. Overall a new valuation technique needs to be meaningful, robust and user friendly to be widely accepted and practiced.

6.5 Discussion and analysis

This limited research has identified a ‘gap’ or problem in terms of current valuation methods used for heritage buildings and how they are applied to heritage buildings with little or no reference to their condition. This research has gone further and put forward a potential solution by developing a new valuation technique to estimate life-cycle costs to show the likely effect the condition of a building will have on its value.

This advanced information can assist valuers in advising their clients and help protect buildings by planning in advance the likely cost of future expenditure. For a new technique to be widely adopted it needs to be endorsed and recommended by the surveying professions to its members.

6.6 Conclusions

This research has provided strong evidence that a new valuation technique is needed to include life-cycle costs. This research has gone further and developed a new valuation technique to assist valuers. This new technique would be a useful addition to current ‘toolkits’ for heritage buildings. In the future, this new technique could have other potential uses like providing a valuation for taxation. This new valuation technique is an additional valuation service valuers can offer to their clients. To be widely accepted, a new valuation technique needs to be approved and promoted by the surveying profession to its members.

CHAPTER 7

CONCLUSIONS, RECOMMENDATIONS AND CONTRIBUTION TO KNOWLEDGE

7.0 Introduction

Following the completion of this research, the purpose of this chapter is to draw conclusions from the study's findings and make a useful contribution to knowledge and reasoned recommendations to the surveying professions. This chapter brings together information from the literature review and new data collected from the international surveyors questionnaire. This research has raised an important issue in terms of valuing historic buildings and then gone further to develop a new alternative approach to valuing building of this type. This new valuation approach has undergone only limited testing but it is believed the testing conducted has provided a strong degree of validation for the practicality for a valuation application of this type. The intension of this research was not to propose a new valuation method for historic buildings as this would have been too ambitious. Part of the purpose of this study has been to develop a new investment valuation technique to which includes the buildings life-cycle costs using one of the existing traditional valuation methods. At the very least, this research has given greater insight into the complexities of valuing historic buildings and strongly suggests the current five traditional methods may not be the most appropriate. In the absence of this new proposed alternative approach, this issue is unlikely to get interest from the surveying profession and if the new technique is accepted or rejected, the way is paved for more studies and further development of the new technique proposed. The remainder of this chapter is structured as follows, 1. How the research objectives have been achieved. 2. Research limitations and reflection. 3. Potential implications of the study's findings. 4. Summary. 5. Conclusions. 6. Recommendations. 7. Contribution to Knowledge.

7.1 How the research objectives have been achieved

In summary, the research objectives are; 1. Conduct a literature review with regards the valuation of historic properties and life-cycle costs. 2. Plan a research methodology and strategy. Investigate the current valuation methods practiced in the UK and their application to heritage property. Discover how other countries value historic buildings and whether they include life-cycle costs. 3. Collect new data from practicing surveyors and develop a new investment valuation technique to complement the existing traditional methods and techniques.

The first objective has been achieved, chapter 2 illustrates the challenges and complexities associated with the preservation of historic buildings. The literature review revealed the absence of a specific valuation technique for historic buildings which includes life-cycle costs. In the absence of a specific valuation method for historic buildings both historic and modern buildings are currently valued in the same way and this asks the question is this the correct approach? Whether this approach is right or wrong is debatable but it does pave the way for a new valuation technique to be developed and tested.

The second object has been achieved, in chapters 3 & 4. Chapter 4, the research plan contains the research questions, the research's purpose, a plan for disseminating the findings and an outline of the overall research strategy as well as the specific methods, techniques and instruments to be used. The research's aims and objectives state what is hoped to be achieved (the aim) and how it is to be achieved (the objective). The research hypothesis is; "the standard all-risk yield percentage does not apply to historic buildings" and this section explains the reasoning behind it. The "research methods" refers to the strategy used to gather the data needed and the "research methodology" refers to the body of practices that will govern the acquisition of knowledge. Chapter 3 explores the following; the concept of value, conventional valuation methods, specialist property and their valuations, statutory valuations and heritage property, valuation of unpriced resources and practical difficulties in valuing heritage buildings. The life-span of heritage buildings is significantly greater than a modern buildings life expectancy.

Specialist properties which include historic buildings pose a particular challenge to valuers as there is little or no transactional data to compare one with another. Buildings of this type are commonly valued using the profits or cost method and without reference to their life-cycle costs. Practical difficulties of valuing heritage property are: long-term maintenance requirements, limitations of both conventional and alternative approaches. A new valuation approach which includes and historic buildings life-cycle costs could potentially alleviate valuation issues for this type of property.

The third objective has been achieved in chapters 5 and 6, in chapter 5 the purpose was to gather new and reliable data from practicing surveyors and is an important part of this study and in terms of moving this research forward. The data gathered has proved there is sufficient interest from the valuation profession for a new valuation technique. It is suggested the high level of valuation experience of the respondents strengthens the reliability of the data collected. Most importantly the majority (60%) of the respondents agreed there is the need for a new valuation model for heritage buildings. This data identifies and supports the need to develop a new valuation technique which will complement the existing valuation methods and for surveyors to identify, adopt and practice. Chapter 6 proposes a new investment valuation technique based on a building survey and a building material weighting application using an electronic spreadsheet. The new technique was subject to testing by Chartered Surveyors and although the testing was limited the responses from the testers were positive. It is suggested this new valuation technique has added to the body of knowledge and provided a potential practical alternative valuation approach.

7.2 Research limitations and reflection

7.2.1 Research limitations

Both methodological and researcher limitations apply to this study. With regard to methodological, firstly the participant survey size was only a small percentage of the overall number of valuers within the international surveying community. Due to time and resource constraints a limited number of questionnaires were distributed and the returned questionnaires were analysed. Two hundred questionnaires were sent and eighty seven returned. Ideally, a larger number of questionnaires could have been sent to obtain a greater sample and strengthen the research.

However, it is believed the sample obtained is adequate for this study and likely to reflect a general consensus from the surveying profession generally. Secondly, due to the absence of past studies in the same field, there was not any historical data to review and aid this research. Had there been sufficient and reliable previous data, it could have been added or compared to the new data to give a greater insight. With regard to researcher limitations, the researcher's past experience is limited to a bachelors and master's dissertations only. This research was completed with limited time and financial resources. The researcher was self-funded and conducted this study whilst practicing as a chartered surveyor. With regards to data, it is limited to only getting the views and opinions of practicing valuers and in hindsight it could have included interviewing major owners of historic buildings like The National Trust and Historic England to get their views and opinions.

7.2.2 Research reflection

This study has started a process of introducing a new investment valuation technique. It is believed this limited research completed by one individual with limited resources has been successful in terms of advancing the field of property valuation and leaves 'the gate open' for further research as a continuation. The success of this research is based on the following; firstly, highlighting the subject of valuing heritage buildings to the surveying community and in particular building valuers. Secondly, the investigation into current valuation methodologies has supported the theory they do not best suit the characteristics of a historic building. Thirdly, in a short space of time a 'workable' alternative method of valuation has been developed and tested. Other studies in the same field have historically been conducted in partnerships with academic institutions and professional surveying organisations with far greater resource available. Studies like these sometimes ask more questions than they set out to answer. The purpose of this research was to tackle the on-going issue of opinions and arguments on how historic property could or should be valued correctly and fairly for a given purpose. This research is limited too by the fact there is a degree of subject bias on behalf of the researcher. Meaning, had this study been undertaken by an independent researcher unconnected with the surveying profession, they may have structured the methodology differently and arrived at different conclusions.

Developing a new valuation approach did require an understanding of the current valuation methods and their practical applications by a surveyor. A researcher other than a practicing valuer may have found this research overly complex and it is strongly believed a new valuation technique would have been difficult to achieve. It is believed too this research provides the basis to go on and further refine the valuation technique developed. If I was doing this research again or as progression of this research by another researcher, to strengthen the model the building material life-span weightings could be researched in greater detail using new or alternative scientific evidence available from organisations like the Building Research Establishment (BRE). In addition, the distribution of a larger number of questionnaires may provide greater insight from surveyors and support and validate the evidence and data already obtained from this study.

7.3 Potential implications of the study's findings

Potentially, the findings of this research have implications internationally for the surveying professions, owners historic buildings and governments. In terms of the surveying professions, if a new valuation technique were to be adopted by the professional surveying bodies, new valuation guidance would need to be published for its members follow. Historically, new guidance is first published by larger institutions and later accepted by other institutions or organisations. However, the acceptance of a new valuation technique by larger institutions will be subject to rigorous evaluation and assurance before a new techniques introduction. In terms of property held in private and public ownership, the new valuation technique developed may result in a lower end investment valuation and this is because it predicts the future costs of repairs in the long-term i.e. 100 years plus. This is in contrast to current methods which take a shorter time-span view say 20-25 years the likely time of a conventional mortgage. A potential benefit of this new valuation technique would aid long-term decision-making for investors in historic buildings like non-government organisations (NGO's) and historic building trusts. In terms of the wider policy-makers i.e. professional surveying bodies, Governments and NGOs which hold or have an interest in historic buildings, any new valuation technique will need promoting as a viable alternative valuation approach.

In the United Kingdom the surveying profession is self-regulated by a single 'chartered' professional body and advises the UK government on property valuation matters. That said there are international valuation standards which surveying bodies internationally adopt, therefore, the acceptance of a new technique within the international standards is important and necessary if it is to be widely implemented.

7.4 Summary

This research confirmed both traditional and modern valuation methods do not include life-cycle costs for historic and non-historic buildings internationally. An international survey revealed strong interest and a need for a new valuation technique to include life-cycle costs for historic buildings. A new valuation technique using a new model was developed incorporating the traditional valuation methods. The model was then tested with a sample of practicing surveyors. The research went further and suggested the new technique should be included within professional surveying organisations practice guidance for their members to follow.

7.5 Conclusions

The conclusions from the research outcomes are discussed under the five themes reflecting on to the research objectives. The literature review revealed life-cycle costs are not currently included within the commonly used valuation methods and it is usual for the valuer to estimate the cost of any major repairs needed and deducted reducing the capital value. Throughout the review, the non-existence of a specific valuation method for historic buildings is commented on several times by various authors, but no attempt has been made to develop a new valuation method. After reviewing the approaches within the traditional and advanced valuation methods, none of the approaches attempt to forecast maintenance issues or include them within the valuation process reflecting the end valuation figure. Forecasting and estimating the cost of future life-cycle maintenance is not likely to be overly complex. Many historic building have records of major maintenance completed in the past and give an accurate timeline of when these works are likely to be needed.

A new valuation approach could assist the valuation of historic buildings supporting greater sustainable alternative uses by forecasting future repair liabilities. An investigation into the current valuation methods practiced in the UK found that for both modern and historic buildings the same valuation methods were used for both modern and historic buildings. In order to produce an accurate valuation, it is important the valuer selects the best valuation method that suits the property. However, it was found life-cycle costs are not included within the common five methods of valuation or modern approaches. As a result of this, it is believed a new valuation technique is needed to include life-cycle costs to complement existing valuation methods. By doing a conventional capital valuation and then a life-cycle capital valuation, the difference in terms of value could be used to start a reserve fund for future maintenance costs. However, there will be the need for regular revaluations and three yearly revaluations is proposed. Potentially this could eliminate the need for government or charitable funding which historic buildings are currently mostly reliant upon. An investigation into how the other countries value historic buildings and whether they include life-cycle costs revealed the United States of America (US) and China value historic buildings using the comparison approach, cost approach and income capitalisation approach. There does not appear to be any literature to confirm they included life-cycle costs within their valuations. The literature from both countries did reveal there was a common interest in preserving their historic buildings and their re-use was believed to be the way forward as well as culturally inspiring. It is believed private sector funding can significantly contribute towards heritage conservation and longer leases might assist heritage projects and realise commercial sustainability. In the US historic buildings in the historic built environment can apply for funding and financial assistance and some examples are; federal funding, tax credits and state tax incentives. This is with the aim of promoting the restoration of historic buildings as well as increasing economic activity. In China, there is limited public funding to support preservation schemes and only a few non-government organisations but also with limited resources. Private investment has assisted but many developer led projects have been criticised for their overly commercial approach but crowd funding has recently emerged as an alternative method of raising money. An international survey of valuers was conducted to establish whether there was firstly the interest from the profession and secondly the need for a new valuation technique to apply to historic buildings.

The survey revealed; sixty five percent of the respondents were members of the Royal Institution of Chartered Surveyors. This result has been interpreted there is sufficient interest from the surveying profession. The respondent's international locations suggests there is sufficient interest from valuers internationally. Given seventy percent of the respondents had a minimum of eleven years of experience in valuation, this is likely to result in reliable data gathering. Sixty four percent of the respondents had valued up to five historic buildings within the last five years, although a small number they a regularly valuing buildings of this type. When conducting a 'market valuation' the data showed ninety six percent of the respondents adopted the direct comparison method. When conducting a 'replacement valuation' the data showed ninety-nine percent adopted the cost method. When conducting an insurance valuation all the respondents adopted the cost method. When conducting a 'compensation valuation' seventy-two percent of the respondents used the comparison method. When conducting a financial reporting valuation approximately twelve percent used the investment method, fourteen percent used the cost method, thirty-two percent used the comparison method and forty-one percent used the profits method. Ninety-five percent of the respondents did not adapt the traditional 'five methods' to include life-cycle costs. The remaining five percent said they did but no indication was given as to how they achieve this. Whether current valuation approaches are capable of taking into account the life-cycle costs? The responses were; one percent said completely, seventeen percent said somewhat, forty- five percent said not really and thirty-seven percent said not at all. The majority (sixty percent) of the respondents agreed there is the need for a new valuation technique for heritage buildings to include life-cycle costs and based on this the development of a new valuation technique was undertaken. Based on the outcome of this research a new potential valuation technique has been developed and tested with a sample of valuers. This research highlighted a gap when valuing historic buildings, the void being their life-cycle costs are excluded from traditional and modern valuation methods. The next stage of this thesis was to fill the void and develop a new type of valuation specifically for historic buildings. Aiming to develop a new valuation method was thought to be over ambitious. Therefore the decision was taken to develop a new valuation technique to complement the existing five traditional valuation methods.

The brief for the new valuation technique was set, it needed to relate directly to the expected life expectancy of the major parts of the building being valued, it needed to be use-friendly and ideally completed within 2-3 hours (depending on the size of the building) including an inspection to assess the buildings condition. Initially, the benefits of this new technique is it could be incorporated into current 'toolkits' for heritage buildings where a valuation is omitted. Further applications could potentially be; determining the amount needed to put into a sinking fund to pay for future maintenance costs in conjunction with regular revaluations and for taxation where the physical condition is taken into account.

7.6 Recommendations

This research has shown there is the need for a new valuation technique to value heritage buildings which includes their life-cycle costs. This research has gone further to produce a new potential technique for valuers to adopt. This new valuation technique is ideally suited for the 'toolkits' used for heritage buildings as currently a valuation is missing from their steps. It could also be used for other valuation purposes i.e. taxation, where the condition of the building needs to be included within a capital valuation. This new valuation technique needs to be accepted by the surveying profession and recommended to their members as an alternative way to value heritage buildings. Therefore ideally this new valuation technique should be included within the RICS Red Book as part of the practice statements for their members to use. If this were to be done this would have a significant international impact on the valuation of heritage property because the RICS Red Book adopts global standards. In order for the new valuation technique to be adopted it needs to be introduced by the valuation profession. The Royal Institute of Chartered Surveyors has a large number of Surveyors globally and therefore this organisation would be best placed to introduce a new valuation technique for its members to use. It is likely that other overseas professional surveying organisations would follow suit if a new technique was adopted by the RICS. This new valuation model and valuation technique has been specifically designed and developed for Valuers within the surveying professions and existing assessment 'toolkits'. This new technique gives Valuers another 'tool' to inform their clients, by estimating the likely effect the condition of their client's building will have on its value.

Due to the unique nature of heritage assets surveyors can use this new technique to produce a capital value which includes the life-cycle cost of the building.

7.7 Contribution to knowledge

It is believed this research has made a significant contribution to knowledge by developing, testing and introducing a new approach for valuing historic buildings. This is the first technique to be specifically developed for historic buildings. This technique is unique as the buildings condition is directly reflected in the valuation figure. Both the traditional and modern valuation methods fail to currently do this. The valuation model was designed to be straight-forward to use and give a meaningful and purposeful valuation. The model requires a visual survey check sheet to be completed and then inputted into the model. This research will be introduced to the surveying profession via professional journals etc. to introduce and promote the new technique to gain acceptance and this new technique has the potential to be used worldwide if accepted by the surveying profession.

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<http://www.ihbc.org.uk/policy/docs/IHBCValuingHistoric.pdf>

APPENDIX 1

List of UNESCO Heritage Types

- cultural heritage sites (including archaeological sites, ruins, historic buildings)
- historic cities (urban landscapes and their constituent parts as well as ruined cities)
- cultural landscapes (including parks, gardens and other ‘modified’ landscapes such as pastoral lands and farms)
- natural sacred sites (places that people revere or hold important but that have no evidence of human modification, for example sacred mountains)
- underwater cultural heritage (for example shipwrecks)
- museums (including cultural museums, art galleries and house museums)
- movable cultural heritage (objects as diverse as paintings, tractors, stone tools and cameras – this category covers any form of object that is movable and that is outside of an archaeological context)
- handicrafts
- documentary and digital heritage (the archives and objects deposited in libraries, including digital archives)
- cinematographic heritage (movies and the ideas they convey)
- oral traditions (stories, histories and traditions that are not written but passed from generation to generation)
- languages
- festive events (festivals and carnivals and the traditions they embody)
- rites and beliefs (rituals, traditions and religious beliefs)
- music and song
- the performing arts (theatre, drama, dance and music)
- traditional medicine
- literature
- culinary traditions
- traditional sports and games.

APPENDIX 2

Building Components

Foundations

Usually an historic building has solid foundations, the minimum life expectancy is 60 years with a maximum of 120 years and typically reported to be 100 years BCIS (2006).

Roofing

Roofing materials commonly associated with historic buildings are; hand-made tiles, slate tiles, thatch work and lead work. For handmade tiles the minimum life expectancy is 30 years with a maximum of 80 years and typically reported to be 60 years. For slate tiles the minimum life expectancy is 15 years with a maximum of 30 years and typically reported to be 20 years. For thatch work the minimum life expectancy is 40 years with a maximum of 100 years and typically reported to be 70 years. For lead work the minimum life expectancy is 20 years with a maximum of 35 years and typically reported to be 27 years BCIS (2006).

Roof Structure (timber)

Roof structures commonly found in historic buildings are; flat, single pitch and multiple pitches. For a flat structure the minimum life expectancy is 30 years with a maximum of 60 years and typically reported to last 40 years For a single pitch structure the minimum life expectancy is 50 years with a maximum of 100 years and typically reported to be 75 years For a multiple pitch structure the minimum life expectancy is 45 years with a maximum of 95 years and typically reported to be 70 years BCIS (2006).

Ceilings

Ceilings usually found in historic buildings are either decorative timber, plaster mouldings or intricate cornices. Decorative timber ceilings have a minimum life expectancy of 85 years with a maximum of 120 years and typically reported to last 100 years. Plaster mouldings have a minimum life expectancy of 50 years with a maximum of 95 years and typically reported to be 70 years. Intricate cornices have a the minimum life expectancy of 60 years with a maximum of 100 years and typically reported to be 85 years BCIS (2006).

External Walls

The external wall materials used in historic buildings are usually, cob, knapped flint, local stone, wattle and daub, Flemish brickwork, English brickwork, stone mullions, lime based rendering or rough cast. Cob walls have a minimum life expectancy of 55 years with a maximum of 75 years and typically reported to last 65 years. Knapped flint walls have a minimum life expectancy of 50 years with a maximum of 70 years and typically reported to last 60 years. Local stone walls have a minimum life expectancy of 60 years with a maximum of 80 years and typically reported to last 70 years. Wattle and daub walls have a minimum life expectancy of 25 years with a maximum of 45 years and typically reported to last 35 years. Flemish brickwork walls have a minimum life expectancy of 50 years with a maximum of 70 years and typically reported to last 60 years. English brickwork walls have a minimum life expectancy of 55 years with a maximum of 75 years and typically reported to last 65 years. Stone window mullions commonly found as part of the wall structure have a minimum life expectancy of 60 years with a maximum of 85 years and typically reported to last 75 years. Walls with lime based rendering have a minimum life expectancy of 40 years with a maximum of 65 years and typically reported to last 55 years. Rough cast walls have a minimum life expectancy of 40 years with a maximum of 60 years and typically reported to last 50 years BCIS (2006).

Internal Wall Finishes

Internal wall finishes commonly found in historic buildings are; wall paper, traditional paint, hardwood and softwood panelling and marble. The life expectancy of each material is as follows; wall paper has a minimum life expectancy of 4 years with a maximum of 12 years and typically reported to last 8 years. Traditional paint has a minimum life expectancy of 5 years with a maximum of 10 years and typically reported to last 7 years. Hardwood panelling has a minimum life expectancy of 30 years with a maximum of 50 years and typically reported to last 40 years. Softwood panelling has a minimum life expectancy of 30 years with a maximum of 50 years and typically reported to last 35 years. Marble finishing has a minimum life expectancy of 55 years with a maximum of 80 years and typically reported to last 65 years BCIS (2006).

The types of windows commonly found in historic buildings are; hardwood frames with leaded lights, hardwood casement, traditional timber and sash and timber. The life expectancy of each material is as follows; Hardwood frames with leaded lights windows have a minimum life expectancy of 35 years with a maximum of 60 years and typically reported to last 45 years. Hardwood casement windows have a minimum life expectancy of 27 years with a maximum of 55 years and typically reported to last 40 years. Traditional timber windows have a minimum life expectancy of 25 years with a maximum of 60 years and typically reported to last 45 years. Sash and timber windows have a minimum life expectancy of 30 years with a maximum of 65 years and typically reported to last 50 years BCIS (2006).

Fireplaces

The types of materials used for fireplaces which are commonly found in historic buildings are; marble, stone, hardwood and carved softwood. The life expectancy of each material is as follows; Marble has a minimum life expectancy of 25 years with a maximum of 60 years and typically reported to last 40 years. Stone tiles have a minimum life expectancy of 20 years with a maximum of 55 years and typically reported to last 45 years. Hardwood has a minimum life expectancy of 25 years with a maximum of 65 years and typically reported to last 40 years. Carved softwood has a minimum life expectancy of 20 years with a maximum of 55 years and typically reported to last 35 years BCIS (2006).

Staircases

The two types of staircases commonly found in historic buildings are hardwood and softwood. The life expectancy of each material is as follows; hardwood has a minimum life expectancy of 30 years with a maximum of 80 years and typically reported to last 60 years. Softwood has a minimum life expectancy of 30 years with a maximum of 60 years and typically reported to last 50 years BCIS (2006).

Joinery

The types of materials used in joinery commonly found in historic buildings are hardwood and metal. The life expectancy of each material is as follows; hardwood joinery has a minimum life expectancy of 25 years with a maximum of 60 years and typically reported to last 40 years. Metal joinery has a minimum life expectancy of 40 years with a maximum of 70 years and typically reported to last 55 years BCIS (2006).

Internal Doors

The types of internal doors usually found in historic buildings are; hardwood, glass and hardwood and glass. The life expectancy for each type is as follows; hardwood has a minimum life expectancy of 30 years with a maximum of 60 years and typically reported to last 45 years. Glass has a minimum life expectancy of 25 years with a maximum of 50 years and typically reported to last 35 years. Hardwood and glass has a minimum life expectancy of 30 years with a maximum of 55 years and typically reported to last 45 years BCIS (2006).

External Doors

The types of external doors commonly found in historic buildings are; hardwood, glass and hardwood and glass. The life expectancy for each type is as follows; hardwood has a minimum life expectancy of 30 years with a maximum of 55 years and typically reported to last 40 years. Glass has a minimum life expectancy of 25 years with a maximum of 55 years and typically reported to last 35 years. Hardwood and glass has a minimum life expectancy of 30 years with a maximum of 50 years and typically reported to last 40 years BCIS (2006).

Floors

Commonly found in historic buildings are the following types of floor materials; flagstones, clay tiles, brick pavers, marble and hardwood. The life expectancy for each type is as follows; flagstones have a minimum life expectancy of 60 years with a maximum of 85 years and typically reported to last 70 years. Clay tiles have a minimum life expectancy of 25 years with a maximum of 55 years and typically reported to last 35 years. Brick pavers have a minimum life expectancy of 35 years with a maximum of 60 years and typically reported to last 45 years. Marble has a minimum life expectancy of 40 years with a maximum of 65 years and typically reported to last 50 years. Hardwood has a minimum life expectancy of 25 years with a maximum of 60 years and typically reported to last 35 years BCIS (2006).

APPENDIX 3

Survey Questionnaire

VALUATION OF HISTORIC BUILDINGS
SURVEY QUESTIONNAIRE – VALUATION SURVEYORS

PART 1: About the Survey

The aim of this survey is to investigate the main approaches and methods used by Valuation Surveyors in the valuation of heritage real estate i.e. listed buildings or scheduled monuments. In particular, the survey seeks to discover the approaches used in accounting for the long-term maintenance costs associated with real estate heritage buildings.

Confidentiality

Please be assured that the information you give will be kept strictly confidential and will be used for academic purposes only. Any publications resulting from the survey will make no reference to the specific sources of data.

PART 2: About the respondent

Name (optional):

Organisation:

Position Held:

Email:

Website:

For the purpose of this questionnaire Historic Buildings are defined as Listed Buildings or Scheduled Monuments.

1. Which of the following professional organisations are you a member of?

| | |
|---|--------------------------|
| Royal Institution of Chartered Surveyors (RICS) | <input type="checkbox"/> |
| International Federation of Surveyors (FIG) | <input type="checkbox"/> |
| Hong Kong Institute of Surveyors (HKIS) | <input type="checkbox"/> |
| Singapore Institute of Surveyors and Valuers (SISV) | <input type="checkbox"/> |
| Institute of Surveyors, Malaysia (ISM) | <input type="checkbox"/> |
| The Institution of Surveyors Australia (ISA) | <input type="checkbox"/> |
| New Zealand Institute of Surveyors (NZIS) | <input type="checkbox"/> |
| Other (please specify below): | <input type="checkbox"/> |
| | |

2. Which of the following international regions do you practice?

| | |
|-------------------------------|--------------------------|
| Americas | <input type="checkbox"/> |
| Europe | <input type="checkbox"/> |
| Oceania | <input type="checkbox"/> |
| Asean and North Asia | <input type="checkbox"/> |
| Middle East and Africa | <input type="checkbox"/> |
| South Asia | <input type="checkbox"/> |
| Other (please specify below): | <input type="checkbox"/> |
| | |

3. How many years of experience as a Valuation Surveyor do you have?

| | |
|---------|--------------------------|
| 0 - 5 | <input type="checkbox"/> |
| 6 - 10 | <input type="checkbox"/> |
| 11 - 20 | <input type="checkbox"/> |
| Over 20 | <input type="checkbox"/> |

PART 3: Valuation of heritage real estate properties

4. How many valuations of historic buildings have you been involved in the last five years?

| | |
|---------|--------------------------|
| 0 | <input type="checkbox"/> |
| 1 - 5 | <input type="checkbox"/> |
| 6 - 10 | <input type="checkbox"/> |
| Over 10 | <input type="checkbox"/> |

5. When valuing a historic building, which of the methods below might you consider using in the following situations?

| Situation | Comparison method | Investment method | Residual method | Cost method | Profits method | Other |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Market valuation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Replacement valuation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Insurance valuation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Compensation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Financial reporting | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If you selected Other, please specify: | | | | | | |

6. In your valuation of historic buildings, do you adapt any of the methods in Q5 in order to suit the long-term maintenance needs of such properties?

| | |
|-----------------|--------------------------|
| No | <input type="checkbox"/> |
| Yes | <input type="checkbox"/> |
| Please explain: | |

7. To what extent do you think current valuation approaches are capable of taking into account the long term (200 year) maintenance lifecycles?

| | |
|-----------------|--------------------------|
| Completely | <input type="checkbox"/> |
| Somewhat | <input type="checkbox"/> |
| Not really | <input type="checkbox"/> |
| Not at all | <input type="checkbox"/> |
| Please explain: | |

8. Do you think a separate valuation model that takes into account the long term maintenance lifecycle of historic buildings would be ideal?

| | |
|-------------------|--------------------------|
| Strongly agree | <input type="checkbox"/> |
| Agree | <input type="checkbox"/> |
| Neutral | <input type="checkbox"/> |
| Disagree | <input type="checkbox"/> |
| Strongly disagree | <input type="checkbox"/> |
| Please explain: | |

PART 4: Concluding remarks

9. Do you have any other comments that you wish to make regarding the valuation of heritage real estate properties?

| |
|--|
| |
|--|

10. Which of the following activities would you be interested in taking part in regarding this research project?

| | |
|--------------|--------------------------|
| Workshops | <input type="checkbox"/> |
| Focus Groups | <input type="checkbox"/> |
| Surveys | <input type="checkbox"/> |
| Interviews | <input type="checkbox"/> |
| None | <input type="checkbox"/> |

Thank you for taking the time to complete this questionnaire, please return to Simon Forbes as below.

If you have any questions about the survey, please contact Simon Forbes, School of Civil Engineering and Surveying, University of Portsmouth, PO1 3AH. e-mail: simon.forbes38@gmail.com

APPENDIX 4

Building 1



Building 2



Building 3



FORM UPR16

Research Ethics Review Checklist



Please include this completed form as an appendix to your thesis (see the Research Degrees Operational Handbook for more information)

| | | | |
|---|--|---|---|
| Postgraduate Research Student (PGRS) Information | | Student ID: | 187566 |
| PGRS Name: | Simon Forbes | | |
| Department: | SCES | First Supervisor: | Tim Goodhead |
| Start Date: (or progression date for Prof Doc students) | 2009 | | |
| Study Mode and Route: | Part-time <input checked="" type="checkbox"/> | MPhil <input type="checkbox"/> | MD <input type="checkbox"/> |
| | Full-time <input type="checkbox"/> | PhD <input checked="" type="checkbox"/> | Professional Doctorate <input type="checkbox"/> |
| Title of Thesis: | "Towards a New Valuation Model for Heritage Assets." | | |
| Thesis Word Count: (excluding ancillary data) | 54,000 Approximately | | |
| <p>If you are unsure about any of the following, please contact the local representative on your Faculty Ethics Committee for advice. Please note that it is your responsibility to follow the University's Ethics Policy and any relevant University, academic or professional guidelines in the conduct of your study</p> <p>Although the Ethics Committee may have given your study a favourable opinion, the final responsibility for the ethical conduct of this work lies with the researcher(s).</p> | | | |
| UKRIO Finished Research Checklist: | | | |
| (If you would like to know more about the checklist, please see your Faculty or Departmental Ethics Committee rep or see the online version of the full checklist at: http://www.ukrio.org/what-we-do/code-of-practice-for-research/) | | | |
| a) Have all of your research and findings been reported accurately, honestly and within a reasonable time frame? | YES | <input checked="" type="checkbox"/> | |
| | NO | <input type="checkbox"/> | |
| b) Have all contributions to knowledge been acknowledged? | YES | <input checked="" type="checkbox"/> | |
| | NO | <input type="checkbox"/> | |
| c) Have you complied with all agreements relating to intellectual property, publication and authorship? | YES | <input checked="" type="checkbox"/> | |
| | NO | <input type="checkbox"/> | |
| d) Has your research data been retained in a secure and accessible form and will it remain so for the required duration? | YES | <input checked="" type="checkbox"/> | |
| | NO | <input type="checkbox"/> | |
| e) Does your research comply with all legal, ethical, and contractual requirements? | YES | <input checked="" type="checkbox"/> | |
| | NO | <input type="checkbox"/> | |
| Candidate Statement: | | | |
| I have considered the ethical dimensions of the above named research project, and have successfully obtained the necessary ethical approval(s) | | | |
| Ethical review number(s) from Faculty Ethics Committee (or from NRES/SCREC): | N/A | | |
| If you have <i>not</i> submitted your work for ethical review, and/or you have answered 'No' to one or more of questions a) to e), please explain below why this is so: | | | |
| An ethics form was submitted prior to 2018 before this new form was introduced. | | | |
| Signed (PGRS): | Simon Forbes | Date: | 20 January 2021 |