A Holistic Model for Adaptive Reuse Strategies of Heritage Buildings

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ABSTRACT

Heritage buildings are important in transferring the culture for further generations. In time, heritage buildings may lose their original function for various reasons. When they can no longer function with their original function, adaptive reuse may be the only way to preserve its heritage significance.

Deciding how to use a heritage building is a difficult problem in decision-making process since there are many factors in the process. Finding the most appropriate function is crucial in order to preserve the cultural significance of the heritage building. Accordingly, the purpose of the research is to provide a comprehensive review of the factors affecting adaptive reuse decision-making and to develop a holistic model proposal for developing adaptive reuse strategies for heritage buildings.

As the method, existing sources in the literature have been surveyed to identify factors affecting adaptive reuse decision-making and initial model proposal has been developed in the light of identified factors. Then, selected adaptive reuse examples have been evaluated and the model has been revised according to the results of the analysis. At the end, the finalised model has been applied to a case study.

In assigning new uses for heritage buildings, the existing fabric should be analysed in depth. In decision-making process, surveys should be conducted in the district in order to understand the site and its context. It is not only enough to sustain the heritage building physically; the originality of the heritage must be preserved; however, in order to achieve it appropriate function and users should be assigned for

the heritage buildings. If the building is inappropriately functioned, the continuity of the heritage building cannot be sustained and it may become disused or abandoned. Analysis should be conducted in detail in adaptive reuse decision-making process in order to find the most appropriate function for the buildings, considering the factors of the adaptive reuse in different dimensions.

The research is expected to assist decision makers in adaptive reuse projects in the field of professional practice. The architects, designers, engineers, urban planners and restoration experts in the professional field can use the model, which is responsible for developing strategies for adaptive reuse projects. On the other hand, the model can be used as a guide for further researches for determining adaptive reuse strategies.

Keywords: Architectural conservation, adaptive reuse, heritage building, strategy, decision-making.

ÖZ

Tarihi binalar, kültürel mirasın gelecek nesillere aktarılması açısından büyük bir önem taşımaktadır. Bu binalar, zaman içerisinde farklı sebeplerle özgün işlevini kaybedebilir. Bina, inşa edildiği dönemdeki özgün işlevini kaybettiği zaman, özgünlüğünün korunması açısından, binanın yeniden işlevlendirilerek hayata kazandırılması gerekmektedir.

Binanın hangi işlevle gelecek nesillere aktarılacağı, karar aşamasında birçok etken olduğundan zor bir süreçtir. Binaya en uygun işlevin verilmesi, binanın kültürel öneminin korunması açısından önemli bir karardır. Bu bağlamda, çalışmanın amacı binanın yeniden kullanıma adaptasyon sürecini etkileyen tüm faktörlerin saptanması ve bu saptanan faktörler ışığında bütünsel bir yaklaşımla bir model önerisi geliştirilmesidir.

Binanın yeniden kullanıma adaptasyon sürecini etkileyen tüm faktörlerin saptanması için bu alandaki mevcut çalışmalar taranmış ve bu analiz ışığında birincil model önerisi geliştirilmiştir. Daha sonra, bu önerilen model ışığında seçilen örnekler değerlemdirilmiş ve elde edilen sonuçlara göre model tekrar gözden geçirilip yenilenmiştir.

Tarihi binaların yeniden işlevlendirilmesi sürecinde, öncelikle, mevcut yapı detaylı bir şekilde analiz edilmelidir. Karar aşamasında, bina ve binanın içerisinde bulunan bağlamın da anlaşılabilirliliği açısından gerekli inceleme ve tetkikler yapılmalıdır. Binanın fiziksel olarak sürdürülmesi dışında, aynı zamanda özgünlüğünün korunması da gerekmektedir. Bu da ancak, binanın karakterine uygun işlev ve kullanıcıların

önerilmesiyle elde edilebilmektedir. Binaya en uygun işlevin saptanması için detaylı analizler ve bölgenin ihtiyacının saptanması açısından gerekli incelemeler yapılmalıdır ve binanın yeniden kullanıma adaptasyon sürecini etkileyen tüm faktörlerin bütünsel bir yaklaşımla göz önünde bulundurulmalıdır.

Bu çalışma, tarihi binaların yeniden işlevlendirilme sürecindeki karar mekanizmalarına yol gösterme ve rehberlikte bulunma amacıyla geliştirilmiştir. Geliştirilen model, bu konuda çalışan tüm uzmanlar tarafından, yeniden kullanım stratejilerinin belirlenmesinde bir rehber olarak kullanılabilir. Aynı zamanda, model, yeniden kullanım stratejilerinin belirlenmesi konusundaki farklı çalışmaların geliştirilmesi açısından yön gösterme niteliğine sahiptir.

Anahtar kelimeler: Mimari koruma, yeniden kullanım, tarihi binalar, strateji, karar süreci.

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Chapter 1

INTRODUCTION

Today, in many developed countries, especially in Europe, the built environment is dominated by heritage buildings, which are known as different names such as: conservation, historic preservation, listed buildings, heritage, historic monuments, World Heritage sites and so forth. Conservation of these structures plays an important role in process of development and change in the existing built environment, which affects the releated community (Glendinning, 2013). Starting from the mid century onwards, an appreciation arise that heritage structures are valuable and should be preserved (Elsorady, 2014).

The refurbishment and upgrading of existing buildings, rather than constructing new ones, has increased considerably in recent years (Gorse and Highfield, 2009). Heritage buildings represent crucial resources in terms of aesthetic, culture and economy. The design and construction of new buildings have started to decrease at the end of the second millennium. On the other hand, intervention to existing fabric has become more important (Cramer and Breitling, 2007). 40 percent of construction in Central Europe is adaptation of historic buildings rather than demolishing them and construct the new ones (Schittich, 2003). The reuse and adaptation of buildings has become an increasing trend since increasing the life of a building through reuse, not only can lower material, transport and energy consumption and pollution and also provides sustainable environments (Bullen and Love, 2009).

Adaptive reuse strategies for heritage buildings provide sustainable development of built environment (Conejos, et all, 2012). On the other hand, conservation of architectural heritage ensures economic, cultural and social benefits to the communities. Today, the role of architectural conservation has changed from preservation to be a part of sustainability (Bullen and Love, 2011a). According to the Department of Environment and Heritage (DEH, 2004) heritage buildings ensure notice of the past and give character to communities.

Adaptive reuse decision-making includes a complex set of considerations, which includes location, heritage, architectural assests and market trends (Bullen and Love, 2011a). Adaptive reuse is a complex process and the participants in the decision makers should have a clear understanding of how to determine the most appropriate future use for the building (Kincaid, 2002). In the decision-making process of a heritage building, in general, there might be some conflicts between professionals and the public since different actors such as government representatives, architects, architectural historians, developers and owners often have different ideas regarding with the adaptive reuse of heritage (Yıldırım, 2012). The reuse of heritage buildings with a function that is compatible with their character provides a long-term sustainable preservation option. It also ensures the proper maintenance of the building and helps to protect the sense of place (Fuentes, 2010). Adaptive reuse of heritage buildings is a challenging process, since it needs a deeper understanding of heritage values, physical characteristics and adaptive reuse potentials of the building (Günçe and Mısırlısoy, 2014).

As Ames and Wagner (2009) indicates “Historic buildings cannot all become museums and one of the best ways to preserve a building is to ensure its continued

use by adaptation." All the factors that affect decision-making should be taken into consideration in order to find the most appropriate function for the buildings, considering the different dimensions of adaptive reuse.

Deciding how to use a heritage building is a difficult problem in decision-making process since there are many factors in the process. Finding the most appropriate function is crucial in order to preserve the cultural significance of the heritage building. Accordingly, the purpose of the research is to provide a comprehensive review of the factors affecting adaptive reuse decision-making and to develop a holistic model proposal for developing adaptive reuse strategies of heritage buildings.

Firstly, existing sources in the literature have been surveyed in order to identify factors affecting adaptive reuse decision-making. Also, existing models have been questioned and initial model proposal has been developed. Then, selected adaptive reuse examples have been investigated in the light of proposed model and the model has been revised according to the results of the analysis. At the end, the finalised model has been applied to a case study.

Totally, 50 adaptive reuse examples have been observed through site survey in the scope of the study including 20 examples in Italy, 3 in France, 3 in Austria, 2 in Hungary, 1 in UK, 9 in Turkey and 12 in Cyprus. Observed adaptive reuse examples have been selected that are different in scale, physical character and context. They are also examples, which are socially, economically and environmentally sustainable and they are 'living assets' in their context that are used by local community and tourists as well. Additionally, some of them won architectural prizes in different

periods. All mentioned adaptive reuse examples have been visited, observed and documented; however, 16 examples have been selected to be investigated in depth according to several criteria. The investigated adaptive reuse examples that have been selected are the adaptive reuse examples that have been observed by the author, which is located in different cities of Europe. The selected examples have been selected according to the functional variation of the original and new uses and there is at least one example of each original function (residential, industrial, commercial, religious, military, agricultural, governmental, cultural, educational, health, office).

16 successfully completed adaptive reuse projects have been selected as the examples to be investigated in depth in the light of the proposed model. The selected adaptive reuse projects that are located in different cities of Europe have been observed through site surveys and critically investigated through factors. The observations also have been supported by interviews with the actors in decision-making. The approaches in the examples have been compared with the proposed factors that affect adaptive reuse decision-making and then have been applied to the model.

1.1 Problem Statement

Heritage buildings indicate important aesthetic, cultural and economic resourses (Shipley et. all, 2006), in this respect; they might be sustained for further generations. Change in life style and accordingly the needs of the users may cause many historic buildings to loose its original function and being adapted for new uses (Ahunbay, 1996). Heritage buildings become redundant for some reasons such as changing economic and industrial practices, demographic shifts or increasing cost of upkeep or maintenance. However, primarily they become reduntdant since they are no longer

suited for the function they were built for (Orbaşlı, 2008). There are internal and external factors that cause adaptation of a building.

Adaptive reuse of heritage buildings causes quite difficult challenges for designers (Langston et all, 2007). New use proposals must consider whether the building is appropriate for this use or the new use preserves the cultural significance of the heritage (Orbaşlı, 2008). Deciding how to use a building is a difficult problem in decision-making process since there are many actors in the process. Finding the most appropriate function within the context is crucial in order to preserving and sustaining the cultural significance of the heritage building. The appropriate use of the heritage building will ensure its continuity. In this respect, analysis should be done in adaptive reuse decision making process to find the most appropriate function for the buildings, considering the social, economic and physical benefits of the adaptive reuse in different dimensions for a successful heritage adaptation.

There is a tendency to focus on the technical issues related to the maintenance of the heritage and also the integration of preservation activity into general land use planning; however there is not enough attention to role of management strategies and tactics in the heritage adaptation. The conservation activity should be taken into consideration holistically considering also its management for a sustainable heritage adaptation (Worthing and Bond, 2008).

Unfortunately, there is a lack of holistic policies and methods in decision making of adaptive reuse. Although there are some studies for adaptive reuse decision-making, there is a need of a holistic approach in adaptive reuse decision-making. In this respect, a model proposal has been developed for adaptive reuse strategies for

heritage buildings that are abandoned, inappropriately functioned or disused. The study presents a holistic approach for identifying factors affecting adaptive reuse process and also proposes a model that will help decision-makers in developing strategies for heritage buildings.

1.2 Aims and Objectives

The main issue in adaptive reuse is the random decision of the functional changes without a methodology. It may results the short-term usage of the heritage buildings that cannot ensure the continuity of the heritage building. In order to find the most appropriate strategy for the heritage building, the decisions regarding with the new use of the heritage building should be based on analytic and scientific method. Great amount of funds are spent for the conservation works of these buildings, so for economically, socially and physically sustainable building, the new use should be compatible to the heritage. Unfortunately, there is lack of clear and holistic methodology for adaptive reuse decision-making of heritage buildings.

The research focuses on two objectives. The first objective is to provide a comprehensive review of the factors affecting adaptive reuse of heritage buildings. Existing studies regarding with the adaptive reuse of heritage buildings have been investigated to identify the factors.

On the other hand, the second objective of the research is to set up a holistic model for determining the most appropriate strategy for adaptive reuse of heritage buildings in the light of the identified factors. A model has been developed for developing adaptive reuse strategies for heritage buildings.

Main research question of the thesis has been stated as follow:

- How a holistic model for determining the most appropriate strategy for adaptive reuse of heritage buildings should be?

Accordingly, several sub-questions have been asked with the following order:

- What are the factors that affect adaptive reuse decision-making?
- Who are the actors in adaptive reuse decision-making?
- What are the steps that must be followed in developing the most appropriate strategy for the adaptive reuse of heritage buildings?

The study focuses to propose a model for developing adaptive reuse strategies for heritage buildings, which are abandoned, inappropriately functioned or disused. It proposes a holistic approach for identifying factors affecting adaptive reuse decision-making. The model is expected to assist decision makers in developing the most appropriate strategy for the heritage buildings.

1.3 Methodology

Firstly, the existing models in the literature have been critically investigated. Existing researches that propose models have been investigated in depth. Their method, aim and approach to the subject have been discussed.

Secondly, factors that affect adaptive reuse decision-making have been identified in the light of literature survey analysis. Existing studies on the subject have been searched and factors have been figured out. Then, initial model has been proposed in the light of the factors and investigated models.

Thirdly, selected adaptive reuse examples have been evaluated in the light of proposed model. 50 adaptive reuse examples have been visited and observed through site survey and then 16 re-functioned heritage buildings that are located in Europe have been selected and evaluated in depth. The evaluated adaptive reuse examples have been selected according to the functional variation of the original and new uses and also, there is at least one example of each original function. Observations through site surveys have been done for the selected buildings and they have been investigated according to the factors proposed in the model. For supporting the observation and analysis, interviews have been conducted with the actors of the selected projects. Then, the model has been revised according to the results of the analysis.

Lastly, the proposed model has been applied on a selected case study. After the application of the model the research has been discussed in two ways. The findings of the application of the model on the case study have been questioned and then discussions have been done on the use of the model. At the end, the research has been concluded with the concluding remarks. The structure of the methodology has been summarized in Figure 1.

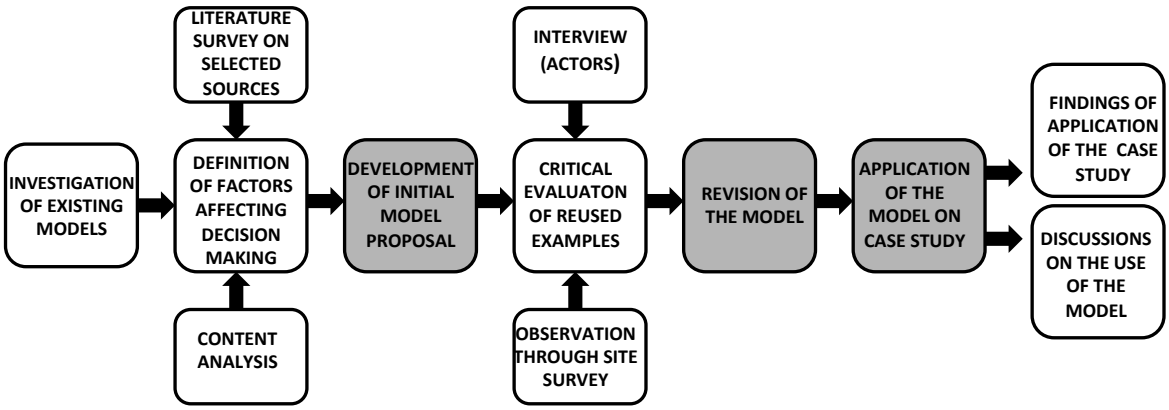


Figure 1: Structure of the methodology

1.4 Limitations

Architectural heritage comprises historic buildings, industrial heritage buildings and buildings which belong to the Modernism period as well. The model can be used for all types of architectural heritage, which is abandoned, inappropriately functioned or disused.

The model has been developed based on the selected adaptive reuse examples that are located in the Europe. Adaptive reuse approaches can be different in any other context due to policy and planning issues; in this respect, the proposed model can be adapted and used to develop adaptive reuse strategies for heritage building in any context by considering the policy and planning regulations of that context.

Chapter 2

LITERATURE REVIEW

Chapter 2 consists of discussions about literature review in the several issues as follow: Firstly, general information has been given about conservation of heritage buildings. Secondly, definition, history and significance of the adaptive reuse of heritage buildings have been introduced. Also, selected international preservation standards and charters have been discussed. Then, existing studies in the literature have been investigated. At the end, decision-making theory has been introduced and its process, approaches and decision-making models have also been discussed.

2.1 Conservation of Heritage Buildings

2.1.1 Definition of Architectural Conservation

Architectural conservation not just comprises architecture in all its various forms. It also involves other subjects such as environmental politics, urban planning, housing, urban economics and tourism, and even war time destruction and renewal. Architectural conservation is an integral part of modern society, and its environments (Glendinning, 2013). In the second half of the twentieth century, in developed communities a notable growth is seen in conservation, and it is now a socially recognized activity (Vinas, 2005).

Conservation includes restoration of a decorative ceiling of a royal palace and also remodelling an old factory to be used as a museum (Orbaşlı, 2008). It involves taking

the existing and improving it to a better state without harming the originality (Forsyth, 2007).

Conservation can be defined as all the process of retaining a place by preserving its cultural significance. It includes different interventions such as maintenance, preservation, restoration, renovation and adaptation (ICOMOS, 1999). In Nara Document on Autenticity (1994) conservation is defined as all efforts to understand a cultural heritage, its history and meaning and also ensure it by restoration and enhancement.

Conservation includes all acts, which sustain the life of our cultural and natural heritage and it is the step taken to stop decay and ensure change dynamically. (Fielden, 2003). It is the process of managing changes to a significant place by sustaining its heritage values, while identifing opportunities to strength those values for present and future generations (English Heritage, 2008).

Architectural conservation is the sustainable management of change. It is not just an architectural deliberation, also an economic and social issue. The concern of conservation involves the past, present and future of a building (Orbaşlı, 2008). In this respect, for the sustainable future of the heritage buildings all conservation plans should be based upon a common intellectual process that covers the following concepts (Gard'ner, 2007). The heritage impact assessment and its process has been summarized in Figure 2:

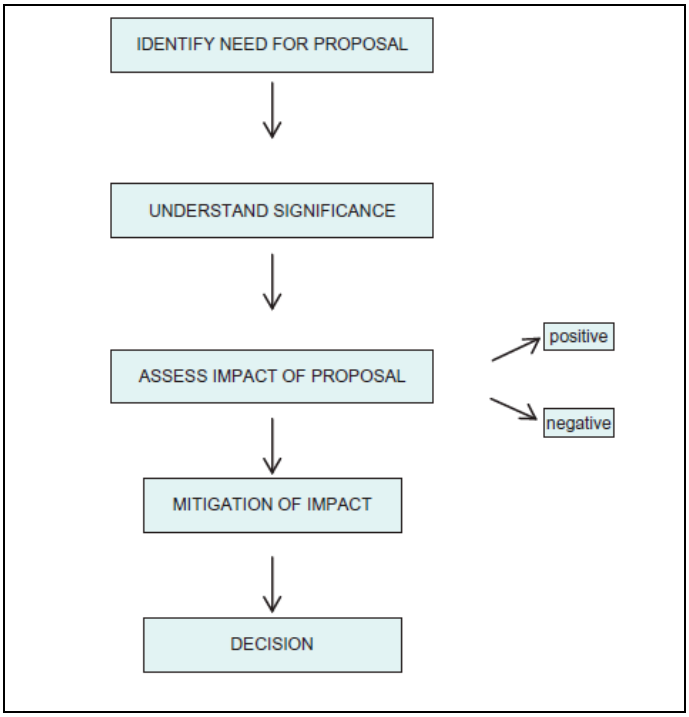


Figure 2: Heritage impact assessment table (Gard'ner, 2007)

During the decision-making process understanding the significance of the place is one of the most important issues in architectural conservation. Before the final decision impact of the proposals should be discussed, its positive and negative impacts should be questioned.

2.1.2 Contemporary Conservation Approach of Heritage Buildings

The history of modern architectural conservation dates back from Christianity and Humanism in the Italian Renaissance, to the recognition of classical antiquity as an important era of the past and also a stepping-stone for cultural continuity and creativity (Rodwell, 2007). Today, conservation is a complex activity; however, just a few decades ago, it was a much simpler activity. Some decades before that, it did not even exist as we know it today as a particular activity (Vinas, 2005).

Modern conservation is described by the change of values in contemporary society and the new concept of historicity. Modern society has focused on the issue of

universal significance. The relation between heritage and its cultural and physical context has been recognized (Jokilehto, 1999).

The significance of the cultural aspects of historic environments has been recognized 1950-1960s. Although there is an increasing awareness of the cultural aspects, the researches on the identification and the documentation of intangible cultural properties are still less advanced than those on tangible cultural properties (Karakul, 2011). Today, communities are becoming more conscious of the unity of human values and monuments as a common heritage. Our duty of safeguarding heritage buildings for future generations is recognized (ICOMOS, 1964). Modern conservation does not mean returning the heritage to the past. It encourages sustainable human development within the reality and the potential of existing cultural, physical and environmental resources (Jokilehto, 1999).

2.1.3 Methods of conservation for architectural heritage

There are number of different methods used in the conservation of heritage buildings and there are distinct differences between each term. Also there are different classification approaches for the interventions method used in architectural conservation.

According to Forsyth (2007), The Venice Charter defined several possible approaches to conservation. Every method represents different level of intervention. While preservation includes the minimal repair and maintenance of heritage building, restoration involves returning a building to an earlier state. Reconstruction also includes returning a building to an earlier state, but also s introduces new materials to the fabric. Douglas (2002) classifies level of interventions as in Figure 3.

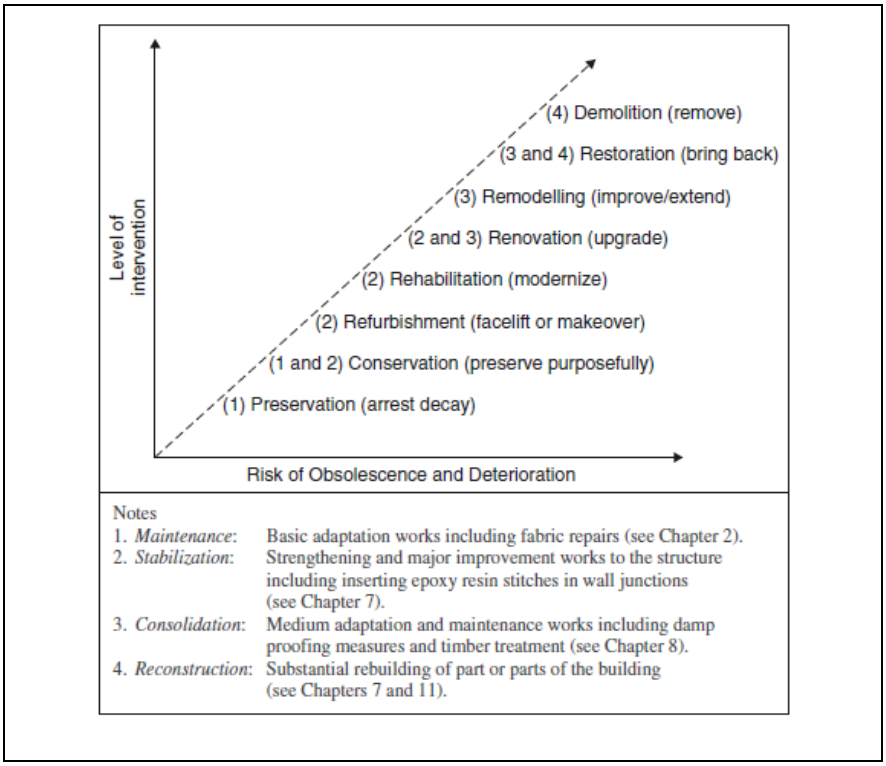


Figure 3: The range of interventions (Douglas, 2002)

Unfortunately, refurbishment, rehabilitation, renovation restoration is occasionally taken as being synonymous with one another or they are usually confused to eachother (Douglas, 2002). There is no less than 32 notions used to describe a variety of conservation-related actions with regard to historical properties; however, each one represents particular set of unique characteristics (Vinas, 2005).

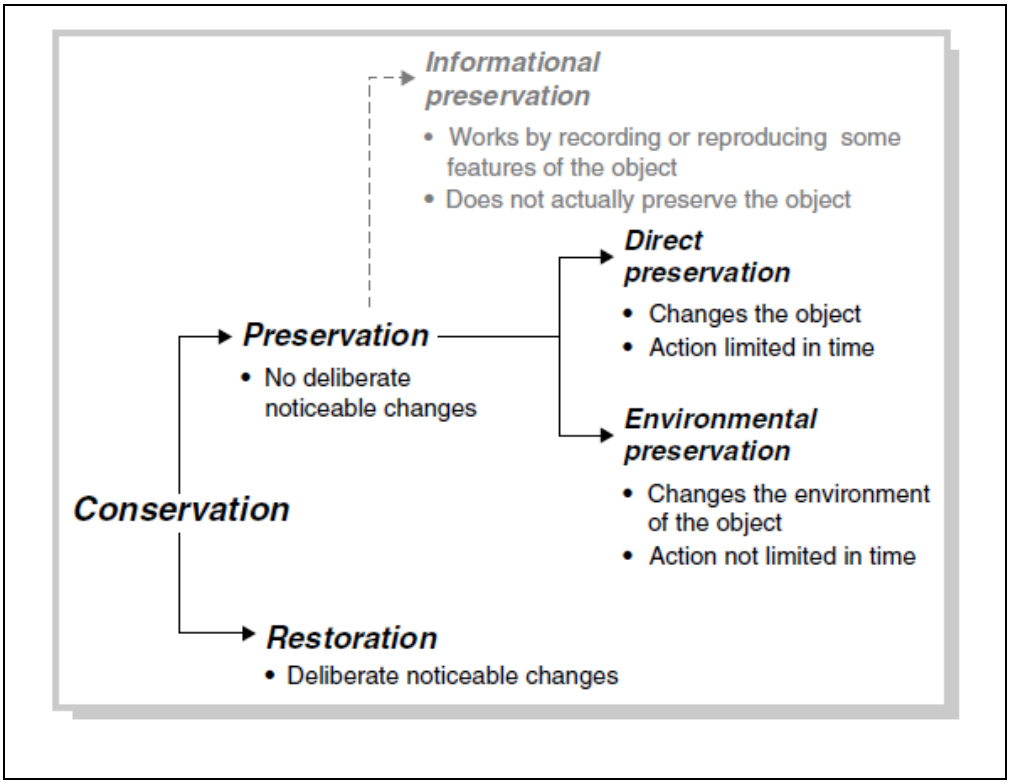


Figure 4: A classification of activities within the conservation field (Vinas, 2005)

Vinas (2005) divide conservation activities into 2 categories as preservation and restoration. Vinas defined preservation as interventions, which there is no deliberately noticeable changes and divided preservation into two groups as direct and environmental. The restoration defined as interventions, which there are deliberate noticeable changes.

On the other hand Gorse and Highfield (2009) uses the terms "building refurbishment and upgrading" for the conservation activities and includes all type of interventions to these two main headings (maintenance, repair, restoration and extension). These intervention methods of the conservation have been discussed in depth and each method has been explained in detail in Chapter 3.

2.2 Adaptive Reuse of Heritage Buildings

2.2.1 Definition of Adaptive Reuse

'Adaptation' comes from the Latin *ad* (to) and *aptare* (fit). In this field, it means to include any work to a building over and above maintenance to change its capacity, function or performance (Douglas, 2002). Adaptation is usually defined as change of use and extending useful life (Ball, 2002; Bullen, 2007). Occasionally, terminologies suc as renovation, refurbishment, remodelling, reinstatement, rehabilitation and recycling of buildings are incorporated with adaptation (Wilkinson et all, 2009).

On the other hand, adaptation of a building is defined as the process of transforming an existing building to accommodate new uses (Brooker and Stone, 2008). The term adaptation means the process of adjustment and alteration of a structure or building to fit new conditions. It can be defined as any work to a building to change its capacity, function or performance, which is beyond the maintenance (Chudley, 1983). It may include alterations, extensions, improvements and other works that modifies the building (Douglas, 2002).

Douglas (2002) divides performance management into two as maintenance and adaptation. He defines maintenance as change in function and defines adaptation as change in capacity and performance (Figure 5).

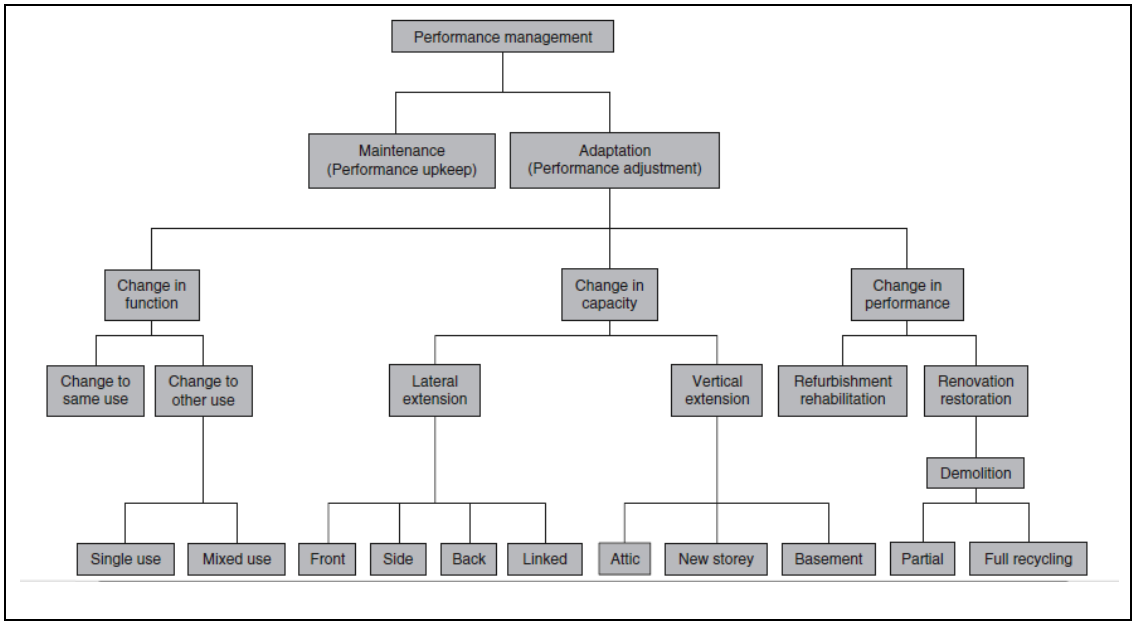


Figure 5: The two elements of performance management (Douglas, 2002)

Velthuis and Spennemann (2007) defines adaptive re-use as a process of change that requires creativeness from the architects involved in finding a way to fit a new function for the building and also all those involved in the process. On the other hand, adaptive reuse can be defined as conversion of a facility to use it different from the original (Iselin and Lemer, 1993).

The Department of Environment and Heritage (2004) defines adaptive re-use as "a process that changes a disused or ineffective item into a new item that can be used for a different purpose". It is often described as a process by which structurally sound older buildings are developed for economically viable new uses (Austin, 1988). Campbell (1996) defines adaptive reuse as converting an existing building to suit the needs of a new use.

Adaptive reuse is a special form of refurbishment that poses quite difficult challenges for designers because changing the function of building will introduce new regulatory conditions (Langston et all, 2007).

2.2.2 Evolution of Adaptive Reuse

Buildings become redunant for some reasons such as changing economic and industrial practices, demographic shifts, increasing cost of upkeep or maintenance and mostly because they are no longer suited for the original function (Orbaşlı, 2008). Adaptive reuse is not a recent phenomenon since reuse occured in the past simply because demolition and the construction of new buildings would simply require more time, energy and money than reuse (Velthuis and Spennemann, 2007). It has been started to discuss architecturally during the 1960s and 1970s due to the growing concern for the environment (Cantell, 2005). Mainly, the ideas of adaptive re-use have been taken from the USA; then, applied in many cities in Britain and exported to the rest of Europe. Much of the original inspiration came from examples of adaptive re-use documented by Sherban Cantacuzino in his two books, *New uses for old buildings* and *Re-architecture: old buildings/new uses* (Falk, 2000).

Until 20th century, a balance between the design of new buildings and designs for existing built structures has been kept by architects. Starting from the 1920s, terms like “conversion architect” or “building in existing fabric” have been started to use in conversion or modernisation works (Cramer and Breitling, 2007). The beginnings of consistent architectural design in existing building fabric have started with the conversion of the Castelvecchio (Old Castle) in Verona Italy, to a museum by Carlo Scarpa.

Especially during the classic modern era, it has been focused on the design on the new buildings and gave less importance in working in existing structures; however today, working in the existing fabric that needs necessary constraints on the designer is seen as one of the most creative and fascinating tasks in architecture (Schittich 2003).

2.2.3 Significance of Adaptive Reuse

The building reuse and adaptation has become an increasing trend within the last decade (Bullen and Love, 2011c) and there is a growing perception that it is cheaper to convert old buildings to new uses than demolish and rebuild (Ball, 2002). Adaptive reuse of buildings is a viable alternative to demolition and replacement since it needs less energy and waste. Also it can offer social benefits by revitalizing familiar landmarks and giving them a new life (Conejos et. all, 2011). New life into existing buildings has environmental and social benefits and helps to retain our national heritage; on the other hand, the focus on economic factors alone has contributed to destruction of buildings physical lives (Shen and Langston, 2010).

There are various reasons of adapting buildings such as conservation and sustainability. Firstly, reuse of an old building is more ecological than erecting a new building. Redevelopment activities spend more energy and expose more waste than adapting the existing building. Secondly, the historic and architectural significance of existing building can be satisfactory reasons why it should be sustained (Douglas, 2002). The main argument on the reasons of adaptive reuse is a very simple one: it is better to use what is there than making effort to build a new one (McCallum, 2007).

At the end of the second millennium, in many European cities there is a clear sign that construction of new buildings is in decline; on the other hand, the reuse of

existing buildings is becoming increasingly important. Today, society is more aware of ecological issues and the demolition of old buildings is percieved as an ecological waste and also as the eradication of local identity, of cultural heritage and of socio-economic values (Cramer and Breitling, 2007). As a strategy to promote sustainability within the built environment, many buildings with cultural and historical values have been adapted and reused instead of demolition (Bullen and Love, 2011a).

Adaptive reuse can transform heritage buildings into accessible and useable places by providing new places to be lived in a sustainable manner. The most successful adaptive reuse projects respects heritage significance of the building and also add a contemporary layer for its future (DEH, 2004).

2.3 Discussions on Important Charters on Conservation and Adaptive Reuse of Heritage Buildings

For over a century, various doctrines have guided the practice of heritage conservation, which had various names. The goal of these doctrines is to understand rules that give rise to new ways of understanding the meanings of heritage. The charters and standards should be seen as a document that provides guiding principles towards defining an appropriate response to particular conservation issues (Wells, 2007). A charter usually focuses a specific issue in order to set up international rules for guiding experts in different parts of the world. There are many different charters and some of them can be listed as follow:

- The Swedish Prolamation Of Historic Monuments (1666)
- The Society For The Protection Of Ancient Buildings (1877)
- **The Athens Charter For The Restoration Of Historic Monuments (1931)**

- **The Venice Charter (1964)**
- **The Declaration of Amsterdam - Congress On The European Architectural Heritage (1975)**
- The Florence Charter- Historic Gardens (1981)
- The Washington Charter (Charter for the Conservation of Historic Towns and Urban Areas) (1987)
- Charter for the Protection and Management of the Archaeological Heritage (1990)
- **Nara Document On Authenticity (1994)**
- Secretary Of The Interior's Standard For Rehabilitation (1995)
- Stockholm Declaration (1998)
- International Cultural Tourism Charter (1999)
- Charter on the Built Vernacular Heritage (1999)
- **The Burra Charter (1999)**
- **The Nizhny Tagil Charter for the Industrial Heritage (2003)**
- Convention for the Safeguarding of the Intangible Cultural Heritage (2003)

6 of the charters and standards, which are highlighted above, are selected as the most significant and evolutionary ones. General overview has been done on the each selected charter and their significance, aims and important points have been discussed below.

2.3.1 Athens Charter for the Restoration of the Historic Monuments (1931)

The charter is also known as '*Carta del restauro Italiana*' and adopted at the first International Congress of Architects and Technicians of Historic Monuments in

Athens. The conference organised by the International Museums Office in 1931 and established basic principles for an international code of practice for conservation.

By the rise of modernism in the 1930s, professionalization of heritage conservation has been affected and the heritage conservation charters lacks conservation philosophy that exists today. Then, introduction of Athens Charter to the field takes a theoretical position against the preservation of heritage buildings (Wells, 2007).

The conference includes general principles and doctrines relating to the preservation of monuments. It recommends monuments should be used for a purpose that respects their historic or artistic character.

2.3.2 Venice Charter (International Charter for the Conservation and Restoration of Monuments and Sites-1964)

The Second International Congress of Architects and Technicians of Historic Monuments is the International Charter for the Conservation of Monuments and Sites (the Venice Charter), which were organized in Venice in May 1964. After the introduction of Athens Charter, there have been few modifications or additions to the existing heritage doctrines between 1931 and 1964; however Venice Charter was an evolutionary doctrine. The charter was evolutionary in terms of consciousness of human values for the first time in the conservation field, which indicated in the charter as "people are becoming more and more conscious of the unity of human values and regard ancient monuments as a common heritage."

Venice Charter put forwards respect for original fabric, precise documentation of any intervention, the significance of contributions from all periods to the building's character, and the maintenance of historic buildings for a socially useful purpose. It

outlines the basic doctrine of an appropriate approach to dealing in philosophical terms with historic buildings.

2.3.3 Declaration of Amsterdam (1975)

The congress had taken place in Amsterdam in 1975 as the crowning event of European architectural heritage year, between delegates from all parts of Europe. The aim of the congress was to encourage authorities for integrated conservation politics, to increase the awareness in values of Europe's architectural heritage and inform the community about the issues in conservation of Europe's architectural heritage. The charter recognizes that Europe's unique architecture is the common heritage of all people.

2.3.4 The Nara Document on Authenticity (1994)

In the charter it is emphasized "The Nara Document on Authenticity is conceived in the spirit of the Charter of Venice, 1964, and builds on it and extends it in response to the expanding scope of cultural heritage concerns and interests in our contemporary world". The aim of the charter was to broaden horizons in order to bring more respect for cultural heritage in conservation practice. The discussed and reported issues in the doctrine are cultural diversity, heritage diversity, values and autenticity of the architectural heritage.

The Burra Charter opened the door to cultural relativism and then, the Nara Document on Authenticity blew the door off its hinges. The Nara Document on Authenticity is important because it is the first conservation doctrine where an upsetting of previous conservation doctrine is sanctified as an acceptable practice (Wells, 2007). It brings greater respect for cultural identity and heritage diversity to conservation practice.

2.3.5 Burra Charter (1999)

The Burra Charter provides guidance for the conservation and management of places in cultural significance. It is based on the knowledge and experience of Australia ICOMOS members. The Charter represents a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, managers, so forth and can be applied to all types of places of cultural significance.

The Burra Charter introduced the concept of *cultural significance* and its associated subjectivity (Wells, 2007). The Charter represents an approach to change, which says "do as much as necessary to care for the place and to make it useable, but otherwise change it as little as possible so that its cultural significance is retained".

The Charter includes a comprehensive list of definitions of items such as: conservation, maintenance, preservation, restoration, reconstruction and adaptation. Additionally, there is categorization and definitions of aesthetic, historic, scientific and social values within the doctrine, which is a significant approach to understanding the concept of cultural significance.

2.3.6 The Nizhny Tagil Charter for the Industrial Heritage (2003)

The assembly was organized by The International Committee for the Conservation of the Industrial Heritage (TICCIH) in Moscow in 17 July 2003 and is special on industrial heritage. The aim of the assembly was to take attraction on the issue of conservation of industrial heritage buildings and structures as well as other types of heritage buildings. The history, meaning and significance of industrial heritage building and structures should be studied in accordance with the spirit of the Venice

Charter. The assembly also emphasizes intangible values of the industrial heritage as well as its tangible values.

The charter includes the definition of the industrial heritage, its heritage values and significance. It emphasizes that it is not enough to preserve industrial heritage buildings it self. All the machinery and structures that are belongs to the original use of the building should be preserved as industrial archaeology. The doctrine is an important step in taking attention on the specific issues in heritage conservation.

2.3.7 General evaluation of international charters

A table is prepared to summarize all the introduction and discussions on international preservation standards and charters. The table includes date, the host country of the event, organization committee and the important keywords that summarize the significance of the charter in short (Table 1).

Table 1: General evaluation of international charters

CHARTER	DATE	PLACE	ORGANIZATION /CONGRESS	IMPORTANT KEYWORDS
THE ATHENS CHARTER	1931	ATHENS	INTERNATIONAL MUSEUMS OFFICE	*EFFECT OF MODERNIZM *THEORETICAL POSITION
THE VENICE CHARTER	1964	VENICE, ITALY	INTERNATIONAL CONGRESS OF ARCHITECTS AND TECHNICIANS OF HISTORIC MONUMENTS	*CONCIOUSNESS OF HUMAN VALUES *EVOLUTIONARY
DECLARATION OF AMSTERDAM	1975	AMSTERDAM, NETHERLAND	COMMITTEE OF MINISTERS OF THE COUNCIL OF EUROPE	*CROWNING EVENT OF EUROPEAN ARCHITECTURAL HERITAGE YEAR *AWARENESS IN EUROPEAN ARCHITECTURAL HERITAGE
THE BURRA CHARTER	1979	BURRA, AUSTRALIA	AUSTRALIA ICOMOS	*CULTURAL SIGNIFICANCE *DEFINITIONS
NARA DOCUMENT ON AUTHENTICITY	1994	JAPAN	ICOMOS	*CULTURAL IDENTITY *CULTURAL HERITAGE
THE NIZHNY TAGIL CHARTER FOR THE INDUSTRIAL HERITAGE	2003	MOSCOW, RUSSIA	TICCIH	*INTRODUCE SIGNIFICANCE OF CONSERVATION OF INDUSTRIAL HERITAGE

Each international preservation standard and charter has been organized for specific aims in different periods. Each of them has introduced a different subject in the conservation field and they have processed by taking the previous a reference point in order to create a common understanding between conservation experts in different countries.

2.4 Investigation of Existing Studies in the Literature

After the definition of the factors affecting adaptive reuse decision-making, a critical investigation of existing models in the literature has been done in order to assist in development of model proposal. 6 related studies (4 journal articles, 2 books) have been selected from the literature, which contains model proposal for the similar purposes with this research. Critical evaluation of these models in the literature has been done in terms of aims and objectives, focus of the model, discussed issues,

difference from this research and proposals for further research. An overview on the selected existing model has been done in Table 2.

Table 2: Overview on analysis of selected existing models

Type of source	Name of the source	Name of the author	Year	Name of the model	Keywords
Journal Article	A new future for the past: A model for adaptive reuse decision making	Peter Bullen Peter Love	2011	A model for adaptive reuse decision making	-Asset management, -sustainable building, -sustainable development, -decision making
Journal Article	Using building adaptation to deliver sustainability in Australia	Sara J. Wilkinson, Kimberly James, Richard Reed	2009	Decision tree for adaptation of existing buildings	-Buildings, regeneration, -sustainable development, -urban areas, -office buildings, -Australia
Journal Article	Methodological bases for documenting and reusing vernacular farm architecture	José María Fuentes	2010	Six step method for the study of the vernacular architecture in the rural district	-Rural heritage, -vernacular architecture, -traditional farm buildings, -reuse, -Spain
Journal Article	Assessment of the decision-making process for re-use of a historical asset: The example of Diyarbakir Hasan Pasha Khan, Turkey	Mücahit Yıldırım	2012	Six steps for reuse assessment	-Adaptive reuse, -management, -sustainability, -historic buildings, -decision making
Book	Adapting buildings for changing use: Guidelines for change of use refurbishment	David Kincaid	2002	Basic options for adaptation	-Adaptation, -existing building, -decision making, -management
Book	Assessing values in conservation planning: methodological issues and choices	Randall Mason	2002	Planning process methodology	-Conservation, planning, -heritage values, -decision making

Articles:

A new future for the past: A model for adaptive reuse decision-making

(Authors: Peter Bullen and Peter Love)

The owners and practitioners lack a point of reference to justify and evaluate their decision regarding with the adaptive reuse; therefore, the paper aims to propose a model to assist practitioners in decision-making process.

As the research method, totally 81 in-depth interviews have been done with stakeholders such as architects, developers, planners, building managers/owners and property consultants. The developed model identifies the critical areas that owners, developers and key project stakeholders need to consider when deciding to either reuse or demolish an existing building. The model also can be used to evaluate the economic, physical and social implications adaptive reuse projects.

The proposed adaptive reuse decision-making model is based in practice and comprises the real-life dilemmas and issues that practitioners are faced. However, the model proposes decision-making strategies for any type of buildings and ignores the neccessary considerations about heritage value and conservation strategies of heritage buildings. The study mostly concentrates on management and investment issues of old buildings. Adaptive reuse process of heritage buildings is a more complex activity than reuse of an ordinary building. It needs deeper analysis in the decision making process in terms of preserving its heritage values.

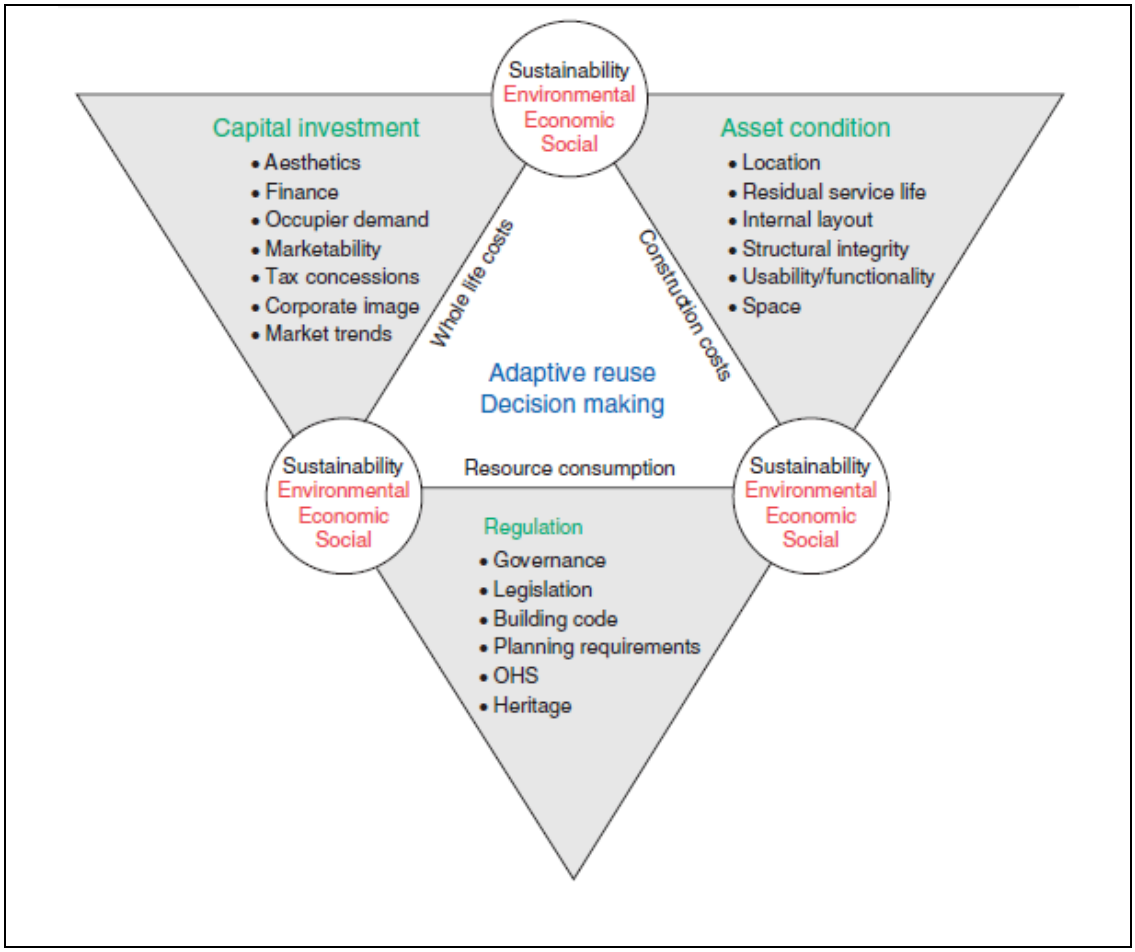


Figure 6: A model for adaptive reuse decision-making (Bullen and Love, 2011)

Using building adaptation to deliver sustainability in Australia

(Author: Sara J. Wilkinson, Kimberly James and Richerd Reed)

This paper aims to set up a rationale for existing office building adaptation within Melbourne, Australia. The problems faced by policy makers to determine which buildings have the optimum adaptation potential are to be identified and discussed.

The study raises the awareness of the way in which the adaptation of large amounts of existing stock can be decreased the negative impact of climate change. It also establishes a framework for a decision-making tool for policy makers.

Social, environmental and economic issues in building adaptation in urban centers and proposes building adaptation criteria for existing buildings. But the research is focused mostly on adaptive reuse of office buildings in urban areas. Like in the previous example, the decision tree propose decision making strategies for the all type of existing buildings and ignores the neccessary considerations about historic value and conservation strategies of heritage buildings. The study mostly concentrates on management and sustainability issues of office buildings in Melbourne.

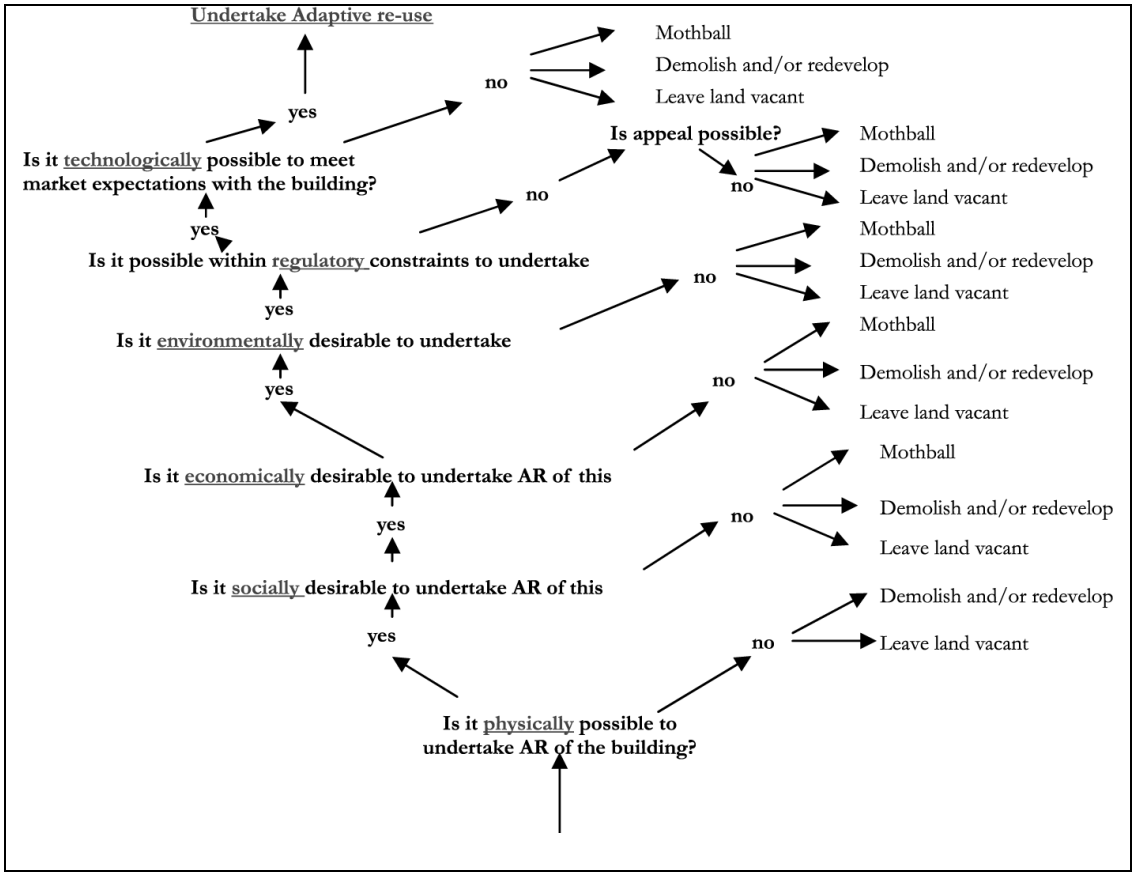


Figure 7: Decision tree for adaptation of existing buildings (Wilkinson et. al, 2009)

Methodological bases for documenting and reusing vernacular farm architecture (Author: Jose Maria Fuentes)

The paper aims to propose a methodological base for data collection and analysis of the vernacular constructions in a particular rural area and also discusses the systematic assessment of the suitability for reuse of old agricultural buildings by multicriteria decision-making techniques.

This paper aims to contribute to literature with the proposal of methodological principles to systematically confront to the reuse of traditional farm buildings at a local or regional context and to assist decision-makers in assessing the reuse potential of traditional farm buildings. The model, which has been proposed, is tested and applied into practice in a rural area of Central Spain.

The proposed methodology has been implemented in a rural area of Central Spain. The study has been introduced a method for conservation and adaptive reuse proposals for the traditional farm buildings in Spain. The focus of the study is to propose a method for just traditional farm buildings that is located in Spain. Method proposals for other type of architectural heritage are beyond the scope of the study. The method cannot be applied to any type of architectural heritage in any context.

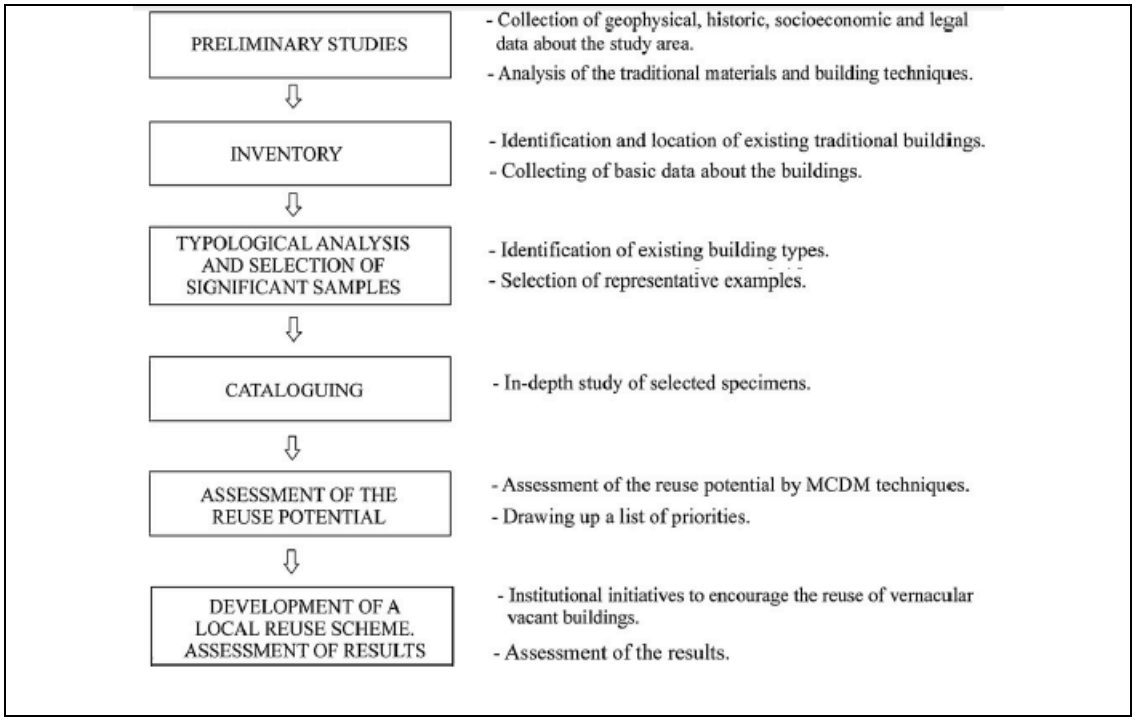


Figure 8: Six-step methodology for the study of the vernacular architecture in a rural district (Fuentes, 2010)

Assessment of the decision-making process for re-use of a historical asset:

The example of Diyarbakir Hasan Pasha Khan, Turkey

(Author: Mücahit Yıldırım)

This paper proposes a methodology for the appropriate reuse of historical patterns that have lost their original function and discusses the results of such reuse. In this study, the historical pattern of Diyarbakir Hasan Pasha Khan was evaluated through the application of the proposed method. The results shows that the proposed methodology can be used for historical patterns to emphasize various reuse criteria. The methodology can be applied to the buildings that face with reuse issues in order to provide solutions for the issues in heritage buildings.

Decision-making methodologies for reuse have been developed and reported, however, the study proposes a methodology for the re-use of historical patterns based

on managing the use and change model of Worthing and Bond. The proposed methodology has been assessed through six steps as shown in Figure 9.

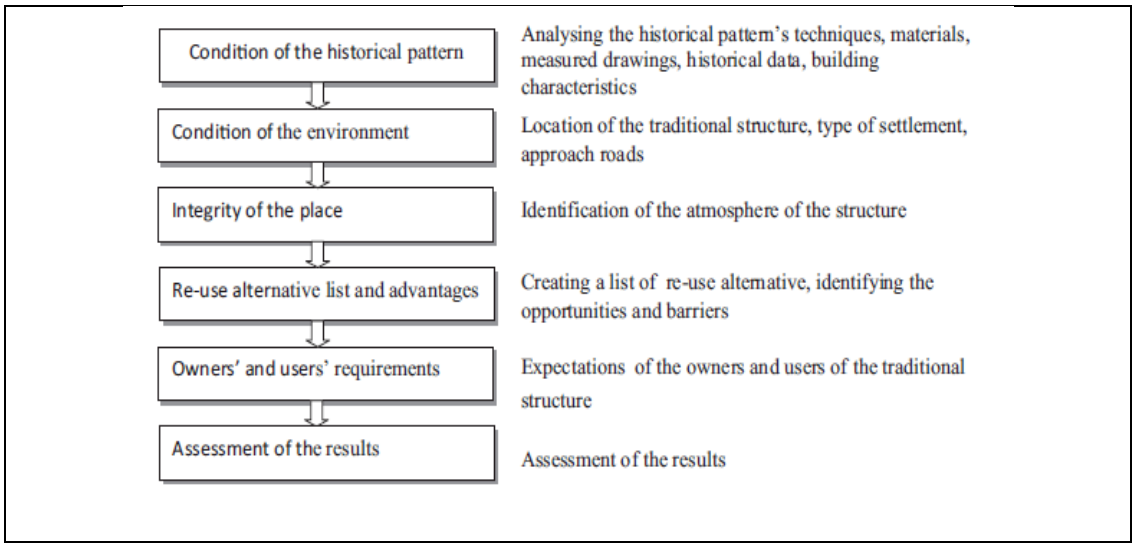


Figure 9: Six steps for reuse assessment (Yıldırım, 2012)

The purpose of the paper is to evaluate reuse alternatives of historical patterns. Basic steps are proposed to assist decision makers who have challenges in decision-making process. This methodology provides a generalised model for decision-making and its practical application to any context. Also, the balance between project feasibility, environmental impact and social benefit has been investigated.

Unlike the two previous journal articles, this research proposes decision-making strategies for historical assets. The proposed methodology can be applied for adaptive reuse decision making to any historical pattern in any context; however, some factors that must be taken into considerations were ignored. The method is basic and the steps have not been explained in detail. On the other hand, the proposed method has a one-way approach but decision-making is a process that sometimes it is needed to go back, evaluate results before the final decision.

Books:

Adapting buildings for changing use (Author: David Kincaid)

The origins of the process of adaptation simply occur since the building is no longer needed for the functions it originally performed. There are some reasons that create this condition, and before considering adaptive reuse of a building these reasons must be searched. Where a building has been vacant or under-utilised for a considerable period of time, basic options are available.

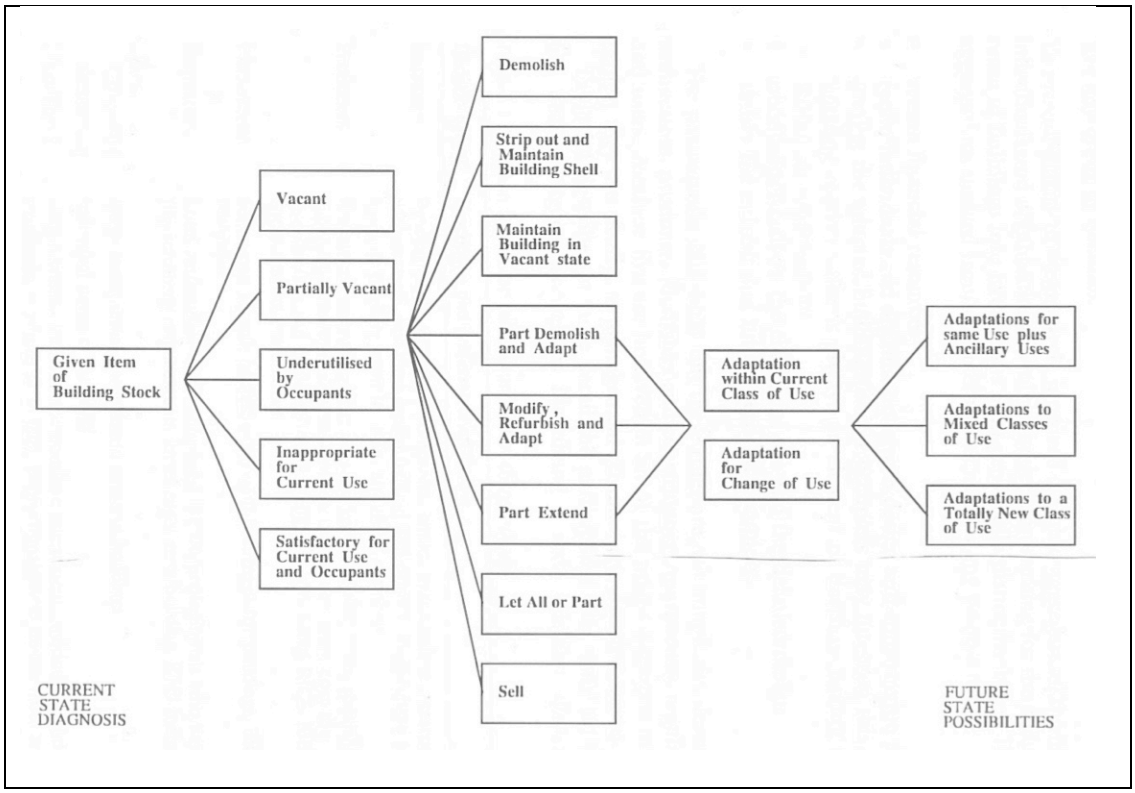


Figure 10: Basic options for adaptation (Kincaid, 2002)

Clearly there are three dominant possibilities: adaptations for same use plus ancillary uses, adaptations for mixed classes of use and adaptations to a totally new class of use. The model proposes basic options for adaptation of an existing building. The steps basically consist of decisions on: definition of current condition of existing building, neccessary interventions, type of adaptation and new class of use.

The model proposes decision-making strategies for the all type of buildings and it is not specified on heritage buildings. Thus, the model ignores cultural significance and heritage values of the buildings. The study mostly concentrates on management; finance, marketing and locak authority approval issues of old buildings.

Assessing values in conservation planning: methodological issues and choices (Author: Randall Mason)

All proposed models for values-based conservation comprises steps that the significance of the heritage is been questioned; however, mostly, experts propose a limited number of established criteria in order to determine its significance. As an alternative to this approach, the study discusses for a deliberate, systematic, and transparent process for assessing heritage values.

The model proposes planning methodology not for adaptive reuse decision-making but for conservation planning methodology for architectural heritage. The study is focused on cultural significance and value assessment and explains that it is one of the important components of conservation planning process methodology.

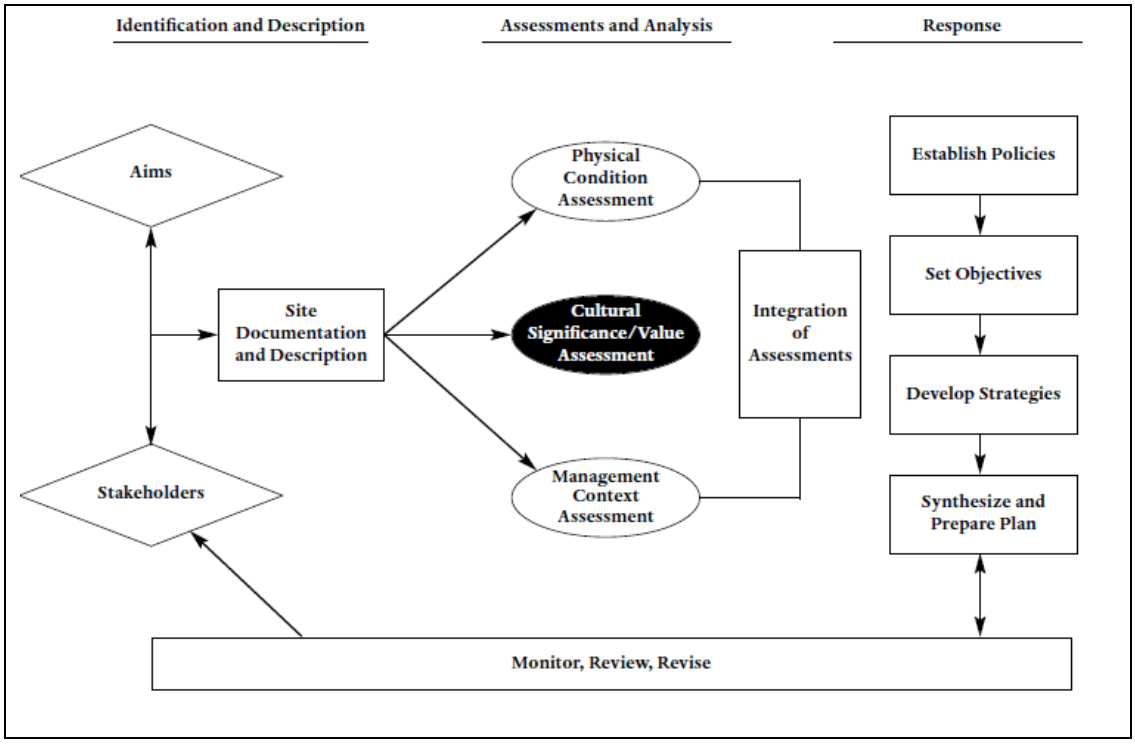


Figure 11: Planning process methodology (Mason, 2002)

The model consists of 3 parts: the first part comprises identification and description, which consists of aims, stakeholders and site documentation and description of existing building stock. The second part comprises physical condition, cultural significance/value and management context assessment, also integration of these assessments. The last part, which is named as 'response' defines action plans: establish policies, set objectives, develop strategies and synthesize and prepare plan.

This study is not a model proposal for adaptive reuse decision-making. It proposes a methodology conservation planning of heritage buildings. Adaptive reuse of an architectural process is a complex activity, which needs correct analysis for better decision-making process. Correct conservation planning is important in preserving cultural significance of heritage buildings and this research proposes a successful planning process methodology, which can be used in decision-making. This study is different than the others evaluated above. It was discussed in this section because it

was aimed to emhasized that conservation planning is one of the important part in developing strategies for adaptive reuse decision-making.

Conclusion of critical investigation of existing models:

6 studies that are related to adaptive reuse decision-making have been selected from the literature. Selected studies have been investigated and compared with the aim and focus of this thesis. The research gap has been figured out and significance of the thesis has been emphasized. All studies have been summarized as below:

- **A new future for the past: A model for adaptive reuse decision-making:** The model proposes strategies for existing buildings. The model cannot be used for a heritage building. The study mostly concetrates on management and investment issues of existing buildings.
- **Using building adaptation to deliver sustainability in Australia:** A method is proposed for adaptive reuse of office buildings in urban areas and it cannot be applied on heritage buildings. It mostly concentrates on management and sustainability issues of office buildings in Melbourne.
- **Methodological bases for documenting and reusing vernacular farm architecture:** The focus of the study is to propose a method for adaptive reuse of just traditional farm buildings that is located in Spain. The method cannot be applied to any type of architectural heritage in any context.
- **Assessment of the decision-making process for re-use of a historical asset: The example of Diyarbakir Hasan Pasha Khan, Turkey:** The proposed methodology can be applied for adaptive reuse decision making to any architectural heritage in any context but some factors that must be taken into consideration were ignored.

- **Adapting buildings for changing use: Guidelines for change of use refurbishment**: The model propose decision making strategies for the all type of existing buildings and it is not specified on heritage buildings. The study mostly concetrates on management and finance issues of buildings.
- **Assessing values in conservation planning: methodological issues and choices:** This model is not a proposal for adaptive reuse decision-making. It proposes a methodology for conservation planning of heritage buildings, which is an important part of the adaptive reuse decision-making.

All existing models that have been evaluated in this section are valuable in their focus. There are more researches done so far on the adaptive reuse decision making however 6 of them are the selected ones. On the other hand, this thesis brings a holistic approach to the issue and proposes a detailed model that can be used to develop adaptive reuse strategies of heritage buildings. The significance of the research is to propose a model that can be applied to any heritage building in any context as a difference than the other studies. The model proposes more complex strategies and deeper analysis on the issue. On the other hand, the investigated studies propose basic aspects of the decision-making.

2.5 Decision Making Theory

Basicly, decision-making can be defined as a process of making a choice among a number of alternatives in order to achieve a result (Lunenburg, 2010). It includes choosing a preferred option or a course of action from a set of available alternatives that is based on the possible consequences of different options (Beyth-Marom et al. 1991; Winterfeldt & Edwards 1986). Making a decision implies that there are a number of alternatives to be identified and choose the most appropriate one that suits

our goals. Deciding the most appropriate strategy is crucial since the outcomes of the decision-making has influence organizational activities and the success of the organization. In this respect, scientific steps must be followed during the decision-making process (Elrantisi, 2013).

The challenge in the decision-making process is to ensure that the most appropriate starategy is approved (Michel, 2007). Decision-making is the process of choosing the most a logical option out of the available ones; however for making a good decision, all the positive and negative points of the alternatives must be taken into consideration. For efficient decision-making, the decision makers should be analyse the outcomes of the each options equally and determine the most appropriate one (Harris, 2012.)

Decision-making should be somewhere between instinct and over-analysis. It should include logical and practical approach that does not require endless investigation, but helps to estimate the options and impacts (MindTools, 2013).

2.5.1 Decision Making Process

Most decisions are done in an uncertain environment and for achieving appropriate decisions more detailed preparation should be made that guarantees better decisions and reduces risks (Harris, 2012). There are different approaches in the different sources that define the decision-making approaches. For the most appropriate decision, decision-making process should be composed of eight steps (Becker, et al., 2009):

1. Define the problem: The most important step in decision making, if we define the problem wrongly, we will not have a right solution.
2. Determine Requirements: Requirements are conditions that any acceptable

solution to the problem should match.

3. Establish Goals: Goals are important to identify valuable alternatives, so goals should be stated positively.
4. Identify Alternatives: After the evaluation of requirements and goals, alternatives can be proposed in a way to meet the requirements and satisfy as many goals as possible.
5. Define Decision Criteria: Based on goals decision criteria will categorize among alternatives must.
6. Select Decision Making Tool: Decision-making tools are qualitative tools (e.g. pros and cons) and quantitative tools such as: Analytic Hierarchy Process (AHP).
7. Evaluate Alternatives Against Criteria: Alternatives can be assessed with quantitative methods, qualitative methods, or any combination. Criteria can be weighted and used to rate the alternatives.
8. Validate Solution Against Problem Statement: After selecting an outshined alternative, the solution should be tested whether it really solves the problem (Baker, et al., 2001).

Basicly, decisions should be done within a limited decision environment and should suggest two things: Firstly, after the decision is made, data and knowledge should be expanded. Second, decisions should be made as late as possible so that there is much time to use the available resources in preparation (Harris, 2012). According to Harris (2012), the steps in decision-making should be followed as:

1. Decide How to Decide
2. Define the Problem
3. Determine Requirements

4. Establish Goals

On the other hand, Mankins (2004) defines that the logical process that decision-makers should apply, involves six steps as follows:

1. Identifying the problem,

2. Gathering information to find relevant choices,

3. Evaluating the information found and the potential consequences of each choice,

4. Combining all this information to decide which choice is the most appealing,

5. Making the behavioural changes and implementing the decision, and

6. Reviewing the results (Mankins, 2004).

In rational decision-making, reasoning skills are utilized that refer to specific cognitive abilities including evaluating probability and thinking systematically or abstractly (Fischhoff, et all 1999). There are different actors affecting the results in decision-making that differs from one project to another. White and Dozier suggested that the following "five distinct participant roles" in the decision-making process:

1.Decision Makers: these participants have executive power to define the use of outputs from the phases of the decision-making process.

2.Proposers: participants who only have the power to make recommendations.

3.Experts: participants who primarily supply input to the currently modeled problem structure.

4.Consultants or Decision Analysts: participants who advise on methods of problem representation.

5.Facilitators: participants who do not have the direct role in the decision-making process but who facilitate collaboration of experts and the transmission of results

within and between rounds of decision-making.

Miller and Starr (1967) state that in decision-making process, there are three aspects that should be considered: Firstly, a decision requires the selection of a strategy to achieve objectives. Secondly, decisions are made under certain states of nature and lastly, the degree of objectives should be determined by selection of the most competitive strategy.

2.5.2 Decision Making Approaches

Decision-making approaches can be divided into three in terms of the leadership styles and its approaches as shown in Table 3.

Table 3: Three styles of leadership and five different processes of decision-making (Vroom and Yetton, 1973)

Authocratic decision making (Individual decision making)	
Definition	In this type of decision-making, the decision maker makes the decision and informs others. There are two separate processes for decision making in an autocratic style:
Process	Autocratic 1– decision maker uses the information that he/she already has and makes the decision. Autocratic 2– decision maker asks team members for specific information and once getting it, he/she makes the decision. Here you do not necessarily tell them what the information is needed for.
Consultative Decision Making	
Definition	In consultative decision-making, the decision maker gathers information from the team and others and then makes the decision.
Process	Consultative 1– decision maker informs team members of what he/she is doing and may individually ask for opinions. However, the group is not brought together for discussion. Decision maker makes the decision. Consultative 2– decision maker is responsible for making the decision. However, the group gets together to discuss the situation, hear other perspectives, and solicit suggestions.
Collaborative Decision Making (Group Decision Making)	
Definition	In this approach, the decision maker and teamwork together to reach a consensus.
Process	The team makes a decision together. Decision maker's role is mostly facilitative and helps the team reach a final decision that everyone agrees on.

Authocratic Decision Making:

This process involves a decision without a group's input and it is known as traditional decision-making approach. It should be applied when participation and contribution of the stakeholders is not compulsory (Francis, 2012).

Consultative Decision Making:

Consultative decision-making, the decision makers gather information from the stakeholders, who will be involved in a decision. Their opinions and ideas are asked but the decision makers make the final decision. The decision makers also responsible to inform stakeholders from any change that are expected to happen (The Times, 2012).

Collaborative Decision Making:

In collaborative approach, decision makers and stakeholders come together collectively to make a choice among a number of alternatives. The final decision is not based on any individual member in the group. In team decision-making, distributed expertise, which bring different knowledge and information to the decision, problem plays an important role (Hollenbeck, et al. 1995).

2.5.3 Decision Making Models

For simplifing decision-making process, the infinite number of complex variables and factors should be eliminated to a small number of important factors. After that, a decision-making model should be designed, in order to assist the decision maker (Kittisarn, 2003). Harrison (1987) states that there are four different decision models that can be used in decision-making process as: The rational, bounded-rationality, political and process model.

Table 4: Decision making models (Kittisarn, 2003)

Model	Decision-making primary criterion	Assumptions
Rational Model	Maximized outcome	Unlimited information Limited objectives No constraints Controlled variables Closed system Quantitatively limited outcomes
Bounded- rationality	Satisfying outcomes	Limited information achievable objectives There are constraints Open system Qualitatively and quantitatively limited outcomes
Political (adaptive)	Acceptable outcome	Unlimited information Limited objectives No constraints Open system Environmentally- limited outcomes
Process (managerial)	Objective driven outcomes	Limited information Dynamic objectives There are constraints Open system Objective- oriented outcomes

Rational Decision Making Model:

Rational decision-making model is the use of reason and logic, in order to achieve a decision that makes sense and it is based on the assumption, which the decision making process is systematic and sequential (Becker, et al., 2009).

The model further assumes that decision makers (Kittisarn, 2003):

1. Have complete information about the opportunity or problems.
2. Have complete information about all alternatives and the consequences of selecting one alternative over any other.
3. Make a decision completely on the basis of anticipations about future outcomes, rather than on authority or political considerations.

Principal deficiencies of the assumptions implied in the rational model (Hilles, 2012):

1. Objectives are not rigid in any managerial setting. Managers must continually adapt their objectives to reflect expected changes.
2. Managers rarely if ever have unlimited information about a given number of alternatives.
3. Managerial decision makers have cognitive restrictions that limit the amount of information and the number of alternatives they can consider.
4. It is unrealistic to assume that a decision-making situation in formal organizations will not allow time and cost constraints.

Bounded Rational Model:

The bounded rational model describes the idea of optimization, which demands unrealistic assumptions about the knowledge, time, attention, and other resources available to humans (Gigerenzer & Selten, 2002). In this type of approach, decision-makers are not completely rational and psychological factors affect the decision-making process. It also can result in choices that appear not entirely rational (Philbin, 2005). The characteristics of the model can be defined as follow:

1. Decisions will always be based on an insufficient knowledge.
2. Decision maker is not obligated to generate all possible alternative solutions.
3. It is impracticable to predict exactly all consequences related to an alternative, so alternatives are permanently partly evaluated.
4. The critical decision to choose among alternatives must be based on some criterion other than maximization or optimization (Lunenburg, 2010).

The main difference between the rational and bounded rationale model is that

rational model seeks maximized results; however, bounded rationale seeks satisfying results.

The Political Model:

Rather than routine organizational information collecting, political model includes negotiaitions with stakeholders. Thus, decision- making in this type of model, aims an acceptable solution for all stakeholders. However, the approach, limits the definition of the problem, the information search processes, the number of alternatives and the number of participants only to those who have the obstructing or implementing power of the decision. The characteristics of the model can be defined as follow (Kittisarn, 2003):

1.Consider a small number of alternatives especially those with limited consequences.

2.Redefine continuously the problem and alternative to make the acceptable decision to all parties.

3.Concern short-term problems.

The Process Model:

The process-oriented approach of the process model may results in different and more appropriate decisions than traditional ways (Hilles, 2012). Decision making with a process consisting model is beneficial for a number of reasons that are explained as follow:

1.It reflects the dynamic nature of decision-making.

2.It describes decision-making activities as happening over unstable spans of time.

3.It implicates that the decision-making process is continuous, so it is an important

part of organizational life.

4.It suggests that managerial decision-making can direct and control the nature, degree and speed of change within the organization (Hilles, 2012).

As discussed so far, there are different approaches and models that can be used in decision-making process. Every decision has its special conditions so the aim should be discussed before deciding the most appropriate approach.

The decision-making is a complicated and challenging process that includes different actors in decision-making. For achieving appropriate decisions more detailed preparation should be made. For the most appropriate decision, decision-making process should be composed detailed analysis that involves all factors and stakeholders that affects decision.

Decision making process and approaches, which have been explained so far will have contribution in the improvement of the model. The selected approaches that have been used in the development of the model will be discussed in the section 5.8 ‘Discussions on the use of the model’.

Chapter 3

IDENTIFICATION OF FACTORS IN ADAPTIVE REUSE DECISION-MAKING

In Chapter 3, literature survey has been done in order to define factors that affect adaptive reuse decision process. These factors have been identifined under 5 heading as: analysis of existing building, conservation actions, adaptive reuse potentials, actors in decision-making and decision of functional changes. Each factor has been classified and explained in depth.

After the recognition of conservation as a discipline, there is a great effort by proffesionals in finding the best criteria for the intervention to heritage buildings; however these criteria is often quite undefined since every heritage building has its own special conditions, which make its problems different from the others. There is a lack of a consistent methodology on the issue, which affects heritage buildings (Robles, 2010). Adaptive reuse is a special condition in the conservation field that needs more concentration on the specific issues. In any project that considered for adaptive reuse or remodelling with change of use, the current use conditions must be evaluated both the exterior and the interior and also the assessment of the heritage building must be done in a comprehensive manner (Rabun and Kelso, 2009).

There are many studies, which work on the issue of adaptive reuse decision process since this study offers holistic approach and unified factors for the succesful implementation of adaptive reuse strategies for heritage buildings. Through the

literature survey factors that must be cared in adaptive reuse process have been identified. These are the factors that must be taken into consideration from the current state of abandoned heritage building until phase that new strategies will be developed. Identified factors have been represented as:

1. ANALYSIS OF THE EXISTING BUILDING

   A. Original function of the architectural heritage

   B. Physical characteristics of the architectural heritage

   C. Values of the architectural heritage

   D. Needs of the district

2. DECISION OF CONSERVATION ACTIONS
3. EVALUATION OF ADAPTIVE REUSE POTENTIALS
4. DEFINITION OF ACTORS IN DECISION MAKING
5. DECISIONS ON FUNCTIONAL CHANGES

There many factors that affect adaptive reuse decision-making. Therefore, for a sustainable adaptive reuse project, all factors should be taken into consideration in a comprehensive manner (Mısırlısoy and Günçe, 2016a). The aspects that have been mentioned above are the factors affecting adaptive reuse decion-making. The mentioned factors have been identified through content analysis of the relevant research study incuding articles, books, thesis and so forth (Table 5).

Table 5: Relevant research study on the factors affecting decision process of adaptive reuse

	Factor	Relevant research study	
1	Analysis of the existing building		
1A	Original function of the building	Building adaptation	(Douglas, 2002)
		Creative reuse of old buildings	(Latham, 2000)
		New life for old buildings	(Cantacuzino, 1975)
1B	Physical charactheristics	Adaptability potentials for buildings and infrastructure in sustainable cities	(Kincaid, 2002)
		Structure systems	(Engel, 1997)
		Industrial buildings: Conservation and Regenaration	(Stratton, 2000)
		Creative reuse of old buildings	(Latham, 2000)
		Degrees of Physical adaptation: current uses of historic naval building types	(Clark, 2001)
		Building Evaluation for Adaptive Reuse and Preservation	(Rabun and Kelso, 2009)
		Building Pathology	(Watt, 2007)
		Understanding Historic Building Conservation	(Forsyth, 2007)
		Form, Space and Order	(Ching, 2002)
1C	Heritage value	A methodological approach towards conservation	(Robles, 2010)
		Architectural conservation	(Orbaşlı, 2008)
		Burra Charter	(ICOMOS, 1999)
		Assesing values in conservation planning: methodological issues and choices	(Mason, 2002)
		Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment	(English heritage, 2008)
		Conservation of historic buildings	(Fielden, 2003)
1D	Needs of the district	The Image of the City	(Lynch, 1960)
		Is your building a candidate for adaptive reuse?	(Campbell, 1996)
		A model suggestion for the reuse of Santa Ruins	(Tutkun, 2009)
2	Conservation actions	Architectural conservation	(Orbaşlı, 2008)
		Form and structure	(Brooker and Stone, 2007)
		Conservation of historic buildings	(Fielden, 2003)
		Contemporary theory of conservation	(Vinas, 2005)
		Venice charter	(ICOMOS, 1964)
		Burra charter	(ICOMOS, 1999)
		Nara document on authenticity	(ICOMOS, 1994)

3	Adaptive reuse potential	Factors influencing the adaptive re-use of buildings	(Bullen and Love, 2011a)
		Adaptive reuse of heritage buildings	(Bullen and Love, 2011b)
		A new future for the past: a model for adaptive reuse decision-making	(Bullen and Love 2011c)
		Improving the implementation of adaptive reuse strategies for historic buildings	(Conejos et. all, 2011)
		AdaptSTAR model: A climate-friendly strategy to promote built environment sustainability	(Conejos et. all, 2012)
		A multi-objective decision-making process for reuse selection of historic buildings	(Wang and Zeng, 2010)
		Strategic assessment of building adaptive reuse opportunities in Hong Kong	(Langston et all, 2008)
		Adaptive reuse of offices for residential use	(Heath, 2001)
4	Actors	Adapting buildings for changing uses	(Kincaid, 2000)
5	Functional changes	Building adaptation	(Douglas, 2002)
		Creative reuse of old buildings	(Latham, 2000)
		New life for old buildings	(Cantacuzino, 1975)
		Adaptive reuse strategies for heritage buildings: A holistic approach	(Mısırlısoy and Günçe, 2016a)

Relevant research study of each factor is defined in Table 5 and all factors will be analyzed deeply in the following section.

3.1 Analysis of the Existing Building

Analysis of existing building has been divided into 4 sections as follow:

- Original function of the heritage building
- Physical characteristics of the heritage building
- Heritage values
- Needs of the district

3.1.1 Original Functions of Heritage Buildings

The safeguarding of heritage buildings often depends on the finding of a viable new use. More imagination should be employed in finding such uses (Cantacuzino, 1975). To be able to suggest a suitable new function to the historic building, it is important to assest the original function of the building. In contemporary conservation approach it is not enough to preserve the building physically but also it is important to sustain the authenticity of the building which is directly releated with the original function. There are various classifications of building types in different studies. Some of the studies in classification of heritage buildings are represented in Table 6.

Table 6: Classification of heritage buildings according to their original use in different sources

Classification of heritage buildings according to their original use		
LATHAM, 2000	**DOUGLAS, 2002**	**CANTACUZINO, 1975**
Country houses Town houses Farm houses Industrial buildings Other type of industrial buildings Offices Markets and retailing Civic building Churches and chapels Schools Hospital Military establishment	Farm buildings Church buildings Industrial buildings Office buildings Public buildings	Churches and chapels Monastic and other religious establishments Fortifications, gates and barracks Town houses, country houses, outhouses and other ancillaries Schools Corn exchanges Barns and granaries Mills Maltings and breweries Warehouses and other industrial buildings Pumping stations

For the classification of original functions land use classifications that are used in urban planning has been also searched. Many classifications for the landuse have been observed in the literature. And then, 3 different classifications have been

analyzed in depth. At the end, a classification has been proposed in the light of other classifications.

Table 7: Land use classification for urban planning

CLASSIFICATION 1 (URL 1)
Health care (hospital, rehabilitation/recreation/wellness center, medical office building) **Retail** (mall, department store, small shop) **Commercial** (office building, corperate center, bank, resort hotel, country club, restaurant, mixed use buildings) **Institutional Building Types** (Institutional Buildings are civic buildings that can be publicly or privately funded.) **Government Institutional Buildings** (City Halls, court houses, judicial centers, police headquarters, detention facilities, military bases, transportation terminals [airports, railway stations, and bus stations] and educational facilities) **Private Institutional Buildings** (Museums; Art Galleries; Cultural Centers; and Scientific Campuses) **Religious** (Cristian churches, Jewish Mikvah, Zoroastrian centers for worship) **Residential** (large residential condominium projects, single family detached home developments, custom homes)
CLASSIFICATION 2 (URL 2)
Residential (rural, low density, medium density. high density) **Commercial** (neighbourhood, community, regional) **Industrial** (light, heavy, port/aviation) **Mixed use** **Military** **Instituional** **Agricultural** **Parks, openspaces and greenways** (park and recreation, resource conservation, historic/cultural)
CLASSIFICATION 3 (URL 3)
Residential (single family, two family, multi-family) **Commercial** (services, retail, wholesale, consumer service, proffesional service, business service) **Industrial** (Extractive, Warehouse, Wholesale, Manufacturing, Manufacturing Services, Utilities Sewerage, Disposal, Light, Railroad and Utilities, Communications) **Transportation (**vehicular transportation, non-vehicular transportation) **Public** (Corrections, Parks, Educational, Religious, Recreational, Sports/Recreational facilities, Health and Welfare) **Quasi public** (open uses, church, building and institution, military, cemetery) **Agricultural** (Crops, livestock)

According to the researches done, residential, commercial, industrial and agricultural building classification is same in most of the studies. However, the critical part is classification of institutional and public buildings. In the first classification, institutional buildings have been divided into two as governmental institutional and

private institutional and also has divided the religious building into a different category. Governmental institutional also includes military, educational and transportational buildings. Private institutional buildings can be also named as cultural buildings.

In second classification, institutional, military and mixed-use buildings are represented in different heading. This classification can be critisized in terms of missing headings for some building types since there is no headings for cultural, educational, governmental, etc.

In third classification, transportation buildings is under a seperated heading and public buildings have been divided into two as public and quasi public. Public buildings include educational, religious, recreational and health care buildings. On the other hand, quasi-public buildings include religious, institutional and military buildings.

There are different approaches for land use classification of building types. However, these classifications that have been represented below are for the contemporary buildings. Within the framework of this research original functions of the heritage buildings have been classified, so the classification should be different in the classification method of land use in urban planning.

In this study classification of heritage buildings have been done as follow. Residential, commercial, agricultural and industrial buildings also classified with the same approach of discussed classifications. However, religious, military, governmental, cultural, educational, health and office buildings have been

represented separately [Adapted from (Douglas, 2002), (Latham, 2000), (Cantacuzino, 1975)]:

- **Residential Buildings** (Private house, Housing complex, Mansion)
- **Industrial Buildings** (Factories, Brewery, Power Station, Mill, Mine buildings, Warehouse, Railways Station, Workshops)
- **Commercial Buildings** (Bazaar, Municipal Market, Hamam, Coffee Shop, Khan, Cinema, Shop, Restaurant)
- **Religious Buildings** (Church, Mosque, Chapel, Basilica, Monastery, Madrasa, Tekke, others)
- **Military Establishment** (Castle, Fortifications, Military Base, Observation Tower)
- **Agricultural Buildings** (Farm, Barn)
- **Governmental Buildings** (Law Court, City Hall, Prison, Palace, Police Station, Fire Station, Post Office, Municipality)
- **Cultural Buildings** (Museum, Art gallery, Cultural center)
- **Educational Buildings** (School, University, Library)
- **Health Buildings** (Hospital, Laboratory, Private Clinique)
- **Office** (Private office, Foundation, Governmental office)

3.1.2 Physical Charactheristics of Heritage Buildings

The preparation of a conservation or adaptive reuse project should include considerations about the original architectural concept (Rabun and Kelso, 2009). Physical characteristics of the historic buildings are one of the determinants in adaptive reuse process. In order to develop suitable strategies, analysis of the physical character should be done in depth in order to understand the significance of the heritage building. Factors of physical chracter has been categorized as below

[Adapted from (Kincaid, 2002), (Engel, 1997), (Stratton, 2000), (Latham, 2000), (Clark, 2001), (Rabun and Kelso, 2009), (Watt, 2007), (Forsyth, 2007), (Ching, 2002)]:

- **Location of the building** (Urban, Sub-urban, Rural)
- **Style/period of the building** (Ancient, Vernecular, Traditional, Modern, Contemporary)
- **Physical condition of the building** (Very Good, Good, Partly Demolished, Ruin)
- **Physical dimensions** (Small single space, Large single space, Small repeated spaces, Large repeated spaces)
- **Number of storey** (Single, Single with mezanine, Double, Multi)
- **Structure system** (Arch, Dome, Vault, Load bearing wall, Frame, Truss)
- **Construction material** (Stone, Brick, Timber, Concrete, Steel)
- **Location of the structural elements in the building** (Wide span, Cluster, Collonade)
- **Spatial organization** (Space within space, Integrated spaces, Attached spaces, Spaces connected with a common space)
- **Formal characteristics** (Central form, Linear form, Radial form, Cluster form, Gridal form)
- **Façade characteristics** (Symmetrical, Asymmetrical, Limited openings, Large openings, Repated openings on the facade)
- **Natural lighting** (Limited openings in the façade, large openings on the façade, skylight)

3.1.3 Values of the Heritage Buildings

Value assessment of heritage building is a crucial step in conservation strategies since it strongly shapes the decisions (Mason, 2002). The significance of a heritage building is the most defining value since the loss of heritage values will devalue the cultural significance of the heritage. Values are the important qualities and characteristics that different users place on the cultural heritage at different times; thus, the aim of the conservation is to preserve these values (Orbaşlı, 2008). The success of conservation depends on safeguarding heritage values (Mason, 2002). Cultural significance helps understanding of the past or enriches the present, and the value to future generations (ICOMOS, 1999). Values can be present in a building all together or alone. However it could also be possible that one of these may dominate the other (Altınoluk, 1998). For identifing the significance of a heritage, first it is necessary to understand the existing fabric, and how and why it has changed over time (English Heritage, 2008).

Value assessment of the heritage helps us to develop better decision-making (Robles, 2010). Understanding the values and significance of a place guides the decisions about its future since the degree of significance determines what kind of intervention is appropriate under law and policy (English Heritage, 2008). Values can be categorized differently in different resource as shown on the Table 8.

Table 8: Classification of heritage values in different sources

Classification of heritage values in different sources					
Riegl, 1903	**Australia ICOMOS, 1999**	**Mason, 2002**	**Fielden, 2003**	**Orbaşlı, 2008**	**English heritage, 2008**
Age Historic Commemorative	Aesthetic Historic Scientific Social (including spiritual, politic, national and other cultural)	Sociocultural Values: Historical Cultural/ symbolic Social Spiritual/ religious Aesthetic Economic Values: Use (market) value Nonuse (nonmarket) values (Existence, Option, Bequest)	Emotional Wonder Identity Continuity Respect and veneration Symbolic and spiritual Cultural Documentary Historic Archaeological and age Aesthetic and architectural Townscape Landscape and ecological Technological and scientific Use Functional Economic (including tourism) Social (also including identity and continuity) Educational Political	Age and rarity Architectural Artistic Associative Cultural Economic Educational Emotional Historic Landscape Local distinctiveness Political Public Religious and spiritual Scientific, research and knowledge Social Symbolic Technical Townscape	Evidential Historic Aesthetic Communal (commemorative and symbolic, social, spritual)

In this study heritage values are classified as below and each explain deeply in the following section [Adapted from (Riegl, 1903), (Orbaşlı, 2008), (ICOMOS, 1999), (Mason, 2002), (English heritage, 2008), (Fielden, 2003)]:

- Architectural value
- Aesthetic value
- Historic value
- Documentary value
- Educational value
- Economic value
- Contextual value

- Social value
- Cultural value
- Symbolic value
- Spiritual value
- Emotional value
- Rarity value

Architectural value: The qualities of design and proportion and the quality of the everyday experience of a building are its architectural value (Orbaşlı, 2008). Architectural values are related to the staleholders' movement through places. It depends on his sensations and interest in decorative plastic and sculptural treatment of significant forms and spaces. It is also related to his pleasure in the colour and texture of the material, appreciation of harmony, scale, proportion and rhythms, given by the elements of design that contribute to the values (Fielden, 2003).

Aesthetic value: Aesthetic value comprises aspects of perception for which criteria should be stated. These criteria can include consideration of the form, scale, colour, texture and material of the fabric; and also the smells and sounds related to the place (ICOMOS, 1999). Aesthetic values are established by the critical methods of art historians and can be changed with culture and fashion (Fielden, 2003). Aesthetics can be seen as subjective and in relation with that aesthetic values are also connected to the knowledge of the viewer. Someone may perceive the lack of some parts or the additions of others since he has a previous image of the heritage. To safeguard aesthetic values in a historic monument its basic identification and conservation should be retained (Mason, 2002).

Historic value: A building is not only physical evidence of the past. It may also have played a role in history of the fabric that is sometimes the only evidence to events and life in the past (Orbaşlı, 2008). A building can have historic value since it has influenced an historic figure, event, phase or activity. Where evidence of the association or event survives for a building, its significance will be greater (ICOMOS, 1999). Historic value includes the whole history of the building, from its origins to the present day. In the decision process of interventions to a heritage, historic value holds the key to understanding the building and the historical background of the builder. It also helps understanding the societies that used, transformed, enlarged or reduced the structure (Mason, 2002).

Documentary value: Heritage buildings may have documentary value if it gives us information about the building techniques employed or the materials used. The documentarty value can be evaluated with the information they contain on building practices of the period, which in turn informs conservation projects (Orbaşlı, 2008). This information should be preserved for further generation.

Economic value: The economic value of the cultural heritage is mostly related to cultural tourism. By the end of the twentieth century, tourism had become a principal reason for the conservation of the cultural heritage the world over (Orbaşlı, 2008). There is a fact that conservation of heritage buildings adds economic value to the district and results increase in property values

Educational value: With the educational value of a heritage building or site, topics including a period of history, a past way of life, social relations or construction techniques can be learnt (Orbaşlı, 2008). It can be recognized by the study of

economic and social history since heritage buildings provide much of the evidence (Fielden, 2003).

Social value: Social value includes the spiritual, political, national or other cultural of a place (ICOMOS, 1999). The meaning of a place to a local community defines its social value (Orbaşlı, 2008). Social values are directly realated to emotional values and the sense of belonging to a place and a group (Fielden, 2003).

Cultural value: Heritage buildings provide information on various aspects of a past period such as lifestyle, use of materials, crafts and techniques used in their construction (Orbaşlı, 2008). The authenticity of the heritage and the meaning of the place to the local community define the cultural value of the place.

Symbolic value: Spiritual feelings depending on the cultural awareness defines symbolic values of a heritage building (Fielden, 2003). This value is given to a monument by identifying specific historical events, individuals, religion, ideologies, culture, or tangible or intangible social images or icons. Communities develop these values over time and they can also change with further generations by gaining or losing its importance (Mason, 2002).

Spiritual value: Spiritual values come from evidence of past, and from the present statement of the monument and its site (Fielden, 2003). Religious places such as churches, synagogues, mosques, temples and other places of worship define a spiritual meaning and value of the heritage for worshippers (Orbaşlı, 2008). It is a value that it is not easy to measure since it is directly related to beliefs of the communities.

Emotional value: Users or visitors of a heritage building may feel an emotional attachment or a sense of wonder and respect at the artistic achievements in design and craftsmanship (Orbaşlı, 2008). Emotional value of a heritage building depends on the community that the heritage belongs to. It is also directly related to the spiritual value of the heritage.

Rarity value: Rarity value is related to the occurrence of a building type or technique in a district where it is not commonly found. On the other hand, rarity value of a heritage from one period may not be seen to have the same value from another. In general, there are few surviving examples that have rarity value (Orbaşlı, 2008).

Contextual value: contextual value of the heritage building is directly related to its location. The heritage building cannot be accepted as a single object. It exists with its close surroundings, which give its contextual value to the heritage. If the heritage is located in a place, which contextually is more valuable, the contextual value of the building will be higher.

3.1.4 Needs of the District

Heritage buildings should not only preserved as a single object, it should also revitalize its environment physically, socially, culturally, and economically (Günçe and Mısırlısoy, 2015). In this respect, defining the needs of the district and proposing a new strategy by considering also the context of the heritage building is important to propose the most appropriate function for the heritage building. It contributes in developing better strategies for the future use of the building by using data that are outcome of the analysis. This analysis includes landuse, social, economic and also environmental analysis of the district (see Appendix E).

Land use analysis: Land use analysis should be done in order to find out common uses of the field and the missing land use categories. Maps of the districts that include close neigbourhood of the heritage building should be prepared and color codings should be given to each category of the buildings. For each source these colors represented differently; however in this research it is decided to represented as:

- Residential: yellow
- Commercial: red
- Industrial: purple
- Religious: dark blue
- Educational: light blue
- Military: pink
- Mixed use: orange
- Office: brown
- Forest: dark green
- Parks/public open spaces/leisure: light green
- Agriculture: white

In addition to the land use analysis, solid-void relation map can be developed in order to determine the density of the land use. These informations can direct us to the most appropriate function.

Social analysis: In order to find out social condition of the people living around the site, survey analysis should be done. The data needed are population of the district,

male/female domination, age intervals of the stakeholders and education level (Table 9).

Table 9: Survey for the social analysis of the district (Developed by author)

SURVEY FOR THE DISTRICT		
Population of the district:		
Male/female domination:	Male	
	Female	
Age intervals:	0-19	
	20-44	
	45-64	
	65-84	
	85+	
Education:	Not finished any institute	
	Primary school	
	Secondary school	
	High school	
	University	
	Master/PhD	
Data revised in:		

Definition of these data through the survey analysis helps decision makers in defining the stakeholder profile of the district and also the possible future users of the heritage building.

Economic analysis: Economic analysis should include the livelihood of the people living in and around the site. This analysis will help decision makers in understanding the economical condition of the district and to propose a function to support it.

Environmental analysis: Environmnetal analysis should be done in order to understand the significance and potentials of the site. It should include the contextual analysis of the site. Several questions can be asked in defining the environmental charaacter of the site as follow:

- What are the environmental characteristics of the site?

- Is the buildings is located next to sea, on the skirt of a mountain or city center?

- Are there any other important monuments in the close neigbourhood?

- If yes, what is the relation of them with the heritage building?

- What kind of relationship can be formed between existing monuments around the site and the new adaptive reuse project?

3.2 Conservation Actions

There are many methods of conservation, which have been defined differently in various sources. These definitions and its meaning may vary from one source to another. In some sources these methods are used synonyms of eachother, thus in order not to cause confusion each of them have been explained one by one. In this study, the term 'conservation' is used, as the main heading that comprises all the methods that have been represented in Table 10.

Table 10: Conservation methods in different sources

Conservation methods				
ORBAŞLI, 2008	BROOKER & STONE, 2007	FIELDEN, 2003	ICOMOS, 1999	DOUGLAS, 2002
-Adaptive reuse/ -Adaptation -Consolidation -Preservation -Prevention -Protection -Reconstittution -Reconstruction -Replicas -Restoration	-Preservation -Restoration -Renovation -Remodelling or adaptation	-Prevention of deterioration -Preservation of existing state -Consolidation of the fabric -Restoration -Rehabilitation -Reproduction -Reconstruction	-Maintenance -Preservation -Restoration -Reconstruction -Adaptation	-Adaptation -Adaptive reuse -Alteration -Consolidation -Conversion -Extension -Improvement -Maintenance -Preservation -Refurbishment -Rehabilitation -Relocating -Remodeling

				-Renovation -Restoration -Revitalization

There is also different classification of these mentioned methods in different sources as discussed in Chapter 2. In this study, conservation actions have been defined in three phases according to the degree of the intervention. Phase I comprises emergency measures of the heritage building; however, there is no deliberately noticeable changes. On the other hand, Phase II includes noticeable changes of the building including strenthing the structure and completion of missing parts. Phase III includes proposals for new additions and conversion of the structure for fitting it to the new use of the heritage building. As the fourth option, there might be the possibility of combination of two or three phase together depending of the necessary interventions (Table 11).

Table 11: Classification of conservaion actions according to the degree of the interventions

CONSERVATION ACTIONS			
Phase I (No noticeable changes)	**Phase II (Noticeable changes)**	**Phase III (New proposals and alterations)**	**Combination of any Phases**
-Preservation -Maintenance -Renovation -Refurbishment	-Restoration -Rehabilitation -Consolidation -Reconstruction	-Remodelling -Transformation -Adaptive reuse -Extension/Addition	-Phase I & II -Phase I & III -Phase II & II -Phase I & II & III

Phase I (No noticeable changes):

Preservation: In some sources, the term preservation is used synonyms to the term ‘conservation’; however, in this study it is used to as one of the methods of conservation. Preservation means to keep something as it is, without changing it in any way by retaining its shape, status, use, etc. (Vinas, 2005). Mostly, it is described

as maintaining a building in its existing condition by working on the repairs and maintenance if it is necessary (Orbaşlı, 2008). The main aim of the preservation is to keep the fabric in its existing condition; however, repairs should be done if it is necessary in order to avoid from further decays (Craven, 2008). Preservation is the process of applying necessary interventions to sustain the existing form, integrity and materials of heritage structure (Ames and Wagner, 2009).

Maintenance: Maintenance includes routine works, which is necessary to keep the existing fabric as it is (Douglas, 2002). In other words, it consists of regular ongoing work to ensure that the fabric is retained in minimum standards (Ashworth, 1997). It is limited to the repair of old defective parts of the heritage building (Giebeler, 2009).

Renovation: It is the process of renewing and updating an existing structure. Mostly, the function remains same and the structure is generally untouched; however, the manner in which the building is used will be brought up to date. These works generally includes service updates of the building such as the heating and sanitary systems (Brooker and Stone, 2007). Renovation does not involve proposing anything new to the building fabric or replacing old with new. It only maintains the value and the function of the existing structure through "upkeep" (Giebeler, 2009).

Refurbishment: Refurbishment can be defined as modernizing a structure and bringing it to acceptable functional conditions (Watt, 1999). Refurbishment measures include upgrading outdated components or surfaces; however, it is usually restricted to major improvements (Douglas, 2002). It does not involve any major changes to

the load bearing structure or interior layout but the extent of refurbishment works can vary enormously (Giebeler, 2009).

Phase II (Noticeable changes):

Restoration: In a general sense, to restore something means to return it to the original state (Vinas, 2005). On the contrary, restoration is the method of returning the existing fabric to its original condition by using material and techniques that belongs to the original period (Brooker and Stone, 2007). While returning the building back to its original condition, it is crucial to provide differentiation between old and new in order to avoid any misinterpretation in the future (Orbaşlı, 2008). It means finishing an incomplete structure and is very similar to reconstruction except that in the former original building elements are still available, which are then supplemented by appropriate additions (Giebeler, 2009). The decisions in the design process of a restoration project are often quite complex and material authenticity is often sacrificed since certain materials may be removed or missing features rebuilt. None of the restoration works is entirely pure because the work is done at a different time in history and mostly, it is not possible to use same materials or techniques again (Ames and Wagner, 2009).

Rehabilitation: Rehabilitation is a practice that may involve what the French call 'mise en valeur', modernization with or without adaptive alteration (Fielden, 2003). Rehabilitation is a process of making possible use of a building with necessary repair and alterations while preserving its historical, cultural or architectural values. Projects in this category do not involve a change of use or adaptation of historic structures. A large amount of material fabric is retained in rehabilitation; however,

there may be less material authenticity due to fact that alterations and additions for the new use are required (Ames and Wagner, 2009).

Consolidation: Physical interventions that undertaken to stop further decay or structural instability of an existing fabric is called consolidation (Orbaşlı, 2008). It includes all kind of methods for strengthing the structure; however, each material has a different construction technique so in consolidation works every case is different that the other. The consolidation works must be done by proffesionals that are expert in the issue since it needs respect to the original fabric.

Reconstruction: Reconstruction is the method of constructing a structure that no longer exists (Giebeler, 2009) and is usually applied for the buildings that may be demolished by disasters such as fire, earthquake or war. As in restoration, reconstruction must be based upon accurate documentation and evidence in order not to cause a misinterpretation (Fielden, 2003). Application of reconstruction works always invite discussions with the criticism such as faithfulness to the original diminish. Although it based on original designs, the new works mostly cause a misunderstanding in differentiating old and new parts (Giebeler, 2009).

Phase III (New proposals and alterations):

Remodeling: Remodelling is the process of altering a building and the functional changes are the most obvious interventions. Also, alterations may be made to the building such as its structure, circulation routes and its orientation. Additions may be constructed while other areas may be demolished (Brooker and Stone, 2007). It is essentially means to make new or restore to former state (Douglas, 2002). Remodeling indicates all kinds of renovation activities for reuse of building during

the adaptation process of an old building. It is to extend the physical, functional and social lifespan of building by improving its functions. It indicates repair, mending, renovation, expansion and reconstruction by keeping the basic frame of the existing building as it is (Sook, 2003). Remodelling is a worthy challenge since having different historic layers on top of each other makes the building unique in terms of identity (Mısırlısoy, 2016); however interventions should be minimum in order to preserve the significance of the heritage. Interventions should be differentiated and compatible with the existing building.

Transformation/conversion: Conversions mostly affect the structure of a building. It includes interventions in the load bearing members and/or the interior layout according to the requirements of the building use. In this type of projects, it is essential to evaluate the existing load bearing structure since changes to the structure require structural calculations, which must also take into account for the existing structure (Giebeler, 2009).

Adaptive reuse: Adaptation can be defined as the process of transforming an existing building to accommodate new uses (Brooker and Stone, 2007). In general, it means modifying a place to suit to its existing use or a proposed use (ICOMOS, 1999) as already discussed in depth in Chapter 2.

Extension/ Addition: In adaptation process of heritage buildings new extensions/additions can be needed in order to create additional spaces or to complete the missing parts of the historic fabric (Mısırlısoy, 2016). Extension can be defined as expanding the capacity or volume of a structure, vertically by increasing the height/depth or by expanding the plan layout (Douglas, 2002). An extension is a

new structure, which is directly connected with the use of the existing building. The planning work should consider the fact that usually structural issues are involved at the junction between the additions and the existing building (Giebeler, 2009). Addition design in historic environments is the most challenging activity within the field among all conservation actions (Ames and Wagner, 2009). The new addition should be differentiated from the old and should also be compatible; however the solutions are based on the creativity of the designer. The old and new can be contrasting or harmonious; however for both the new addition should be separated from the existing to be able to perceive the difference (Mısırlısoy, 2016). Preserving the qualities of the heritage building and being respectful to the existing is important in addition design (Mısırlısoy and Günçe, 2015).

3.3 Adaptive Reuse Potentials of Heritage Buildings

Basicly, potential means to realize economic, social and environmental benefits of adaptive reuse when it is implemented (Conejos et. all, 2011). Realization of potentials of the building is important in terms of developing suitable strategies for the heritage buildings for a sustainable adaptive reuse. Definition of adaptive reuse potentials helps in decision of appropriate function for new use. There are different approaches to these factors in many studies as shown in Table 12.

Table 12: Classification of adaptive reuse potentials in different sources

Classification of adaptive reuse potentials in different sources		
WANG and ZENG, 2010	LANGSTON ET. ALL, 2008	CONEJOS ET. ALL, 2012
Cultural Ecomonic Architectural Environmental Social Continuity	Physical Economic Functional Technological Social Legal	Physical Economic Functional Technological Social Legal Political

In this study, potentials are grouped under 9 headings as physical, ecomonic, functional, environmental, political, social and cultural, which have been represented in Table 13 [Adapted from (Wang and Zeng, 2010), (Lagston et all, 2008), (Conejos et all, 2012)].

Table 13: Defining adaptive reuse potentials of heritage buildings

PHYSICAL	**ECONOMICAL**	**FUNCTIONAL**
-Originality of the architectural character -Aesthetics -Disability access -Human scale	- Site and location (context) -Population density in the location -Profits from market demand -Market opportunity due to location -Financial resources for maintenance cost	-Space/ structure relationship -Spatial flow -Adaptability
ENVIRONMENTAL	**POLITICAL**	**SOCIAL**
- Site access -Orientation of the building -Environmental quality of the surrounding -Neighbourhood relationships	-Conservation planning requirements -Adjacent buildings -Urban master plan -Landuse plan and zoning -Ownership	- Social meaning for the community -Spirit of the building -Public interest to the building
CULTURAL		
-Cultural meaning for the community -Historic significance -Authenticity		

All the defined factors and the subheadings will be explained in detailed:

Physical potentials: Physical potentials are related to the physical characteristics of the building and its relation with the human.

- **Originality of the architectural character**: is about uniqueness or rarity of the heritage building that must be preserved about the architectural character.

- **Aesthetics:** Aesthetic of the building includes originality of materails, decorations, indoor environment or workmanship of the architectural heritage.
- **Disability access:** Possibility of the building to adapt to disability access for disable people should be searched.
- **Human scale:** Dimension of the building, the height of the roof, the width of the spaces, and its relation with the human being is important in decision making for the new use.

Economic potentials: Adapting and conserving a heritage building for a new use contributes to the local economy and attracts other businesses by enhancing the district. For this reason, economic potentials of the heritage buildings should be well analyzed before deciding the new function.

- **Site access:** The location of the building and its access is important in terms of economic potential of the building and it is strongly related with the new use of the asset. Accessibility to the site is one of the important factors in terms of economic potential.
- **Population density in the location:** The density of the population is one of the other important factors in defining economic potential of the heritage. It should be well searched since it will effect the appropriate decision for the new use.
- **Profits from market demand:** The market demands in the region which the heritage is located should be analysed and the possible users should be well defined.

- **Market opportunity due to location:** The location, context and the neighbourhood of the building should be well analyzed in decision-making process since it directly releated to the market opportunities.
- **Financial resources for maintenance cost:** Definition of the financial resources for the maintenance cost is important for the continuity of the heritage building. The resources for the future maintenance should be decided before adaptive reuse of the asset for a sustainable heritage adaptation.

Functional potentials: Functional potentials are related to the spaces and functionality of the heritage building. In adaptive reuse projects, the space requirements of the new use and the existing spaces and structure of the building should be match not to harm the building during adaptation process.

- **Flexibility of spaces:** Flexibility of the spaces is related to the structural layout of the building (wide span, collonade or cluster form). In wide span structures spatial arrengements, growth, division or manipulation is easier; however, it becomes more challenging in colonnade and clustered structures.
- **Space/ structure relationship:** Location of the structural element is important factor in adaptation process since they are non-removeable elements of the heritage building.
- **Adaptability:** Adaptability is related to the ability of the heritage building to change in order to fit the structure to the space requirement of the new function.
- **Spatial flow:** Spatial flow needs consideration of the existing openings of the building and circulation route. If the existing openings do not fit with the expected circulation route of the new function, there might be some

challenges in the design process. However, every solution is specific for a heritage building.

Environmental potentials: Environmental potentials are related to environment relationships of the building and its neighbourhood. Environment and its close surrounding effect the decision of appropriate new use of the heritage building.

- **Site and location:** The context, which the heritage building is located (urban, suburban or rural context), is one of the factors that strongly effect the decision of the new use.
- **Environmental quality of the surrounding:** includes the condition of the buildings in the close surrounding and also social and economic situation of the people living around the site.
- **Neighbourhood relationships:** The neighbourhood relationship is related to the other buildings in the close surrounding. The number, function and type of the buildings around the heritage is important.
- **Orientation of the building:** is related to the relationship of the architectural heritage with the road and the access, direction of the sun and wind, and also with the surrounded buildings.

Political potentials: It includes the laws and regulations about the conservation and adaptive reuse of heritage buildings of the related context, which is a possible barrier in decision-making process.

- **Conservation planning requirements:** In conservation of architectural heritage every country has a control mechanism, which defines the rules and

laws about conservation and restoration approaches. These rules and laws are the factors, which effect the decision of appropriate use.

- **Building regulations:** Building regulations in conservation and adaptive reuse of cultural heritage is factor that affect decision; however, this effect can be negative or positive.
- **Urban master plan:** Every city has an urban master plan that should be obeyed. This could be one of the important factors that must be taken into consideration in decision-making process.
- **Landuse plan and zoning:** Landuse of the surrounding buildings should be well analyzed before deciding the new use in adaptation process. Since it is crucial in terms of defining the possible users of the architectural heritage after adaptive reuse.
- **Ownership:** Ownership is one of the important factors that affect decision-making. Heritage buildings are important for local community but sometimes legally individuals own these heritage buildings instead of government. This can act as a barrier in the adaptation process.

Social potentials: Social potentials investigate the meaning of a historic place to local community and sense of belongingness to the place.

- **Social meaning for the local community:** is related to the original function of the building and the social activities, which took place in it. This social menaing should be sustained for the future.
- **Spirit of the building:** If there is a special condition of the building related to the original function of the building, it would effect the decision of the new use in order not to harm spiritual value of the heritage building.

- **Public interest to the building:** The interest of the people living around to the building is important for decision of appropriate function.

Cultural potentials: Cultural potentials of the building related to the cultural activities and lifestyle, which took place in the building with its original function.

- **Cultural meaning for the community:** is related to the original function of the building, the cultural activities and certain events, which took place in it and should be sustained for the future.
- **Historic significance:** The history of the building fabric sometimes is the only evidence to the events and lifestyle in the past. If there are such characteristics in the fabric they should be sustained for the future while deciding the new use of the heritage building.
- **Authenticity:** Authenticity includes traditions, techniques, spirit, feeling, historic and social dimensions of cultural heritage.

3.4 Definition of Actors in Decision Making Process

Another factor which effects adaptive reuse process is actors in decision-making. Actors can be defined as the people or authorities that act in the decision-making process and may affect the decision of the new use of heritage buildings. Actors can be classified as users, technical team, investors and authorites (Figure 12). In order to find the most appropriate function for the new use, contribution of all the acotrs should be provided.

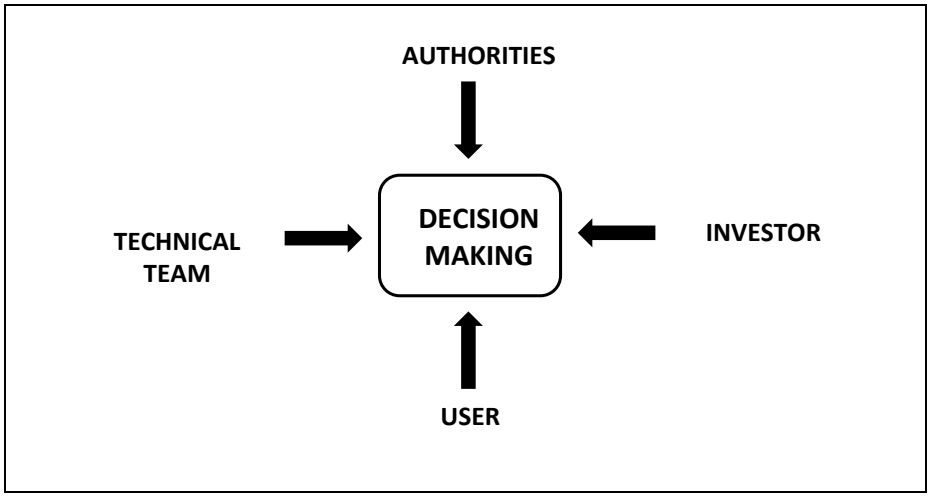


Figure 12: Actors in decision-making (Adapted from Kincaid, 2000)

Actors in decision-making process can be classified as:

- Users (Original users and current/possible users)
- Technical team (Architect, designer, engineer, restoration experts, specialists, etc.)
- Investor (Owner, tenant, municipality, government, funding organization)
- Authorities (Planning authorities, local authorities, municipality)

Users can be divided into two as original users and current users. Original users are the people that are/were using the heritage building with its original use; however for some cases, especially if the building is too old, it is not possible to find the original users. Current users are contextual users of the building that are also the possible users with its future use. Community participation is needed in adaptive reuse projects in order to achive sustainable heritage adaptations (Mısırlısoy and Günçe, 2016b).

The technical team includes architect, designers, engineer, specialist and restoration experts that act in the application of adaptive reuse project and its interventions.

Investor basicly is the owner of the project that invests for the project; however, in some cases, the investor can be tenant, municipality, government or funding organizations. On the other hand, authorities are the authoritiess that define the limitations of the interventions to the heritage building and control its application. These can be local authorities, planning authorities or municipality, which may be different in each country.

For a sustainable heritage adaptation, before the final decision, interviews should be done with the defined actors. Initial development of the interview has been proposed in Appendix D; however it can be developed, adapted or revised for different adaptive reuse projects.

3.5 Decision of New Use Alternatives

For the new use of the heritage buildings, there are three alternatives [Adapted from (Douglas, 2002), (Latham, 2000), (Cantacuzino, 1975), (Mısırlısoy and Günçe, 2016a)]:

- Adaptation with same use (No change in original function)
- Adaptation with mixed use (Keeping the original use and adding some sub functions)
- Adaptation with a totally new use (Changing the original function)

These alternatives should be eliminated according to the analysis and discussions about factors for each case. If the adaptation will be with a totally new use, possible new use alternatives have been identified as below:

- Residential use (Private house, housing complex, dormitory)

- Industrial use (Factory, power station, mill, warehouse, railway station, workshop)
- Commercial use (Hotel, restaurant/café, entertainment, shop, cinema)
- Religious use (Church, monastery, chapel, mosque, madrasa, others)
- Military use (Castle, military base, observation tower, fortress)
- Agricultural use (Farm, barn)
- Governmental use (Law court, city hall, prison, palace, police station, fire station, post office)
- Cultural use (Museum, cultural center, art gallery, multi-functional center, theater)
- Educational use (School, university, library, research center)
- Health care (Hospital, private clinique, laboratory)
- Office use (Private office, foundation, administrative office)

Table 14: Summary of the factors that affect adaptive reuse decision-making

FACTORS AFFECTING ADAPTIVE REUSE DECISION-MAKING			
1. ANALYSIS OF EXISTING BUILDING			
Original function	**Physical character**	**Heritage values**	**Needs of the district**
-Residential buildings -Industrial buildings -Commercial buildings -Religious buildings -Military buildings -Agricultural buildings -Governmental buildings -Cultural buildings -Educational buildings -Health care buildings -Office buildings	-Location of the building -Style/period -Physical condition -Physical dimensions -Number of story -Structure system -Construction material -Location of the structural elements -Spatial organization -Formal characteristics -Façade characteristics -Natural lighting	-Architectural -Aesthetic -Historic -Documentary -Educational -Economic -Contextual -Social -Cultural -Symbolic -Spiritual -Emotional -Rarity	-Land use analysis -Socio-cultural analysis -Economic analysis -Environmental analysis
2. CONSERVATION ACTIONS			
Phase I (No noticeable change)	**Phase II (Noticeable change)**	**Phase III (Including alterations)**	**Combination of any**
-Preservation -Maintenance -Rehabilitation -Renovation	-Restoration -Refurbishment -Consolidation -Reconstruction	-Remodelling -Transformation -Adaptive reuse -Extension	-Phase I & II -Phase I & III -Phase II & II -Phase I & II & III

3. ADAPTIVE REUSE POTENTIALS						
Physical -Originality of architectural character -Aesthetics -Disability access -Human scale	**Economical** -Site access -Population density in the location -Profits from market demand -Market opportunity -Financial resources for maintenance cost	**Functional** -Spatial flow -Adaptability -Space/ structure relationship -Flexibility of spaces	**Environmental** -Site and location -Environmental quality of the surrounding -Neighbourhood relationships -Orientation of the building	**Political** -Conservation planning requirement -Building regulations -Urban master plan -Land use plan and zoning -Ownership	**Social** -Social meaning for the local community -Spirit of the building -Public interest to the building	**Cultural** -Cultural meaning for the local community -Historic significance -Authenticity

4. ACTORS			
Users	**Technical team**	**Investor**	**Authorities**
-Original users -Contextual users	-Architect -Designer -Engineer -Restoration experts -Specialists	-Owner -Tenant -Municipality -Government -Funding organization	-Planning authorities -Local authorities -Municipality

5. FUNCTIONAL CHANGES		
Adaptation with same use (No change in original function)	**Adaptation with mixed use** (Keeping the original use and adding some sub functions)	**Adaptation with a totally new use** (Changing the original function)

Chapter 4

DEVELOPMENT OF MODEL PROPOSAL

In Chapter 4, an initial model has been proposed in the light of the factors that have been identifined in the previous chapter and the investigated research studies. After that, selected adaptive reuse examples have been evaluated in the light of initial model proposal. At the end, the proposed model has been revised according to the findings and results.

4.1 Initial Development of the Model Proposal

All factors that are explained in detail so far have been collected on a chart to form the initial development of the model proposal. As the first step, original function of the heritage building and the history behind it should be analyzed in depth. Then, physical charactheristics of the fabric should be analyzed. Heritage values of the building should be interpreted and needs of the district should be figured out. As the second step, adaptive reuse potentials of the heritage building for the new use should be evaluated. These potentials have been divided into 9 headings. In order to find the most appropriate function for the new use, actors in decision-making should be identified and then the opinion of the possible actors should be asked. Various interviews should be done with technical team, investor, authorities and users. Factors and subheadings have been defined in Figure 13.

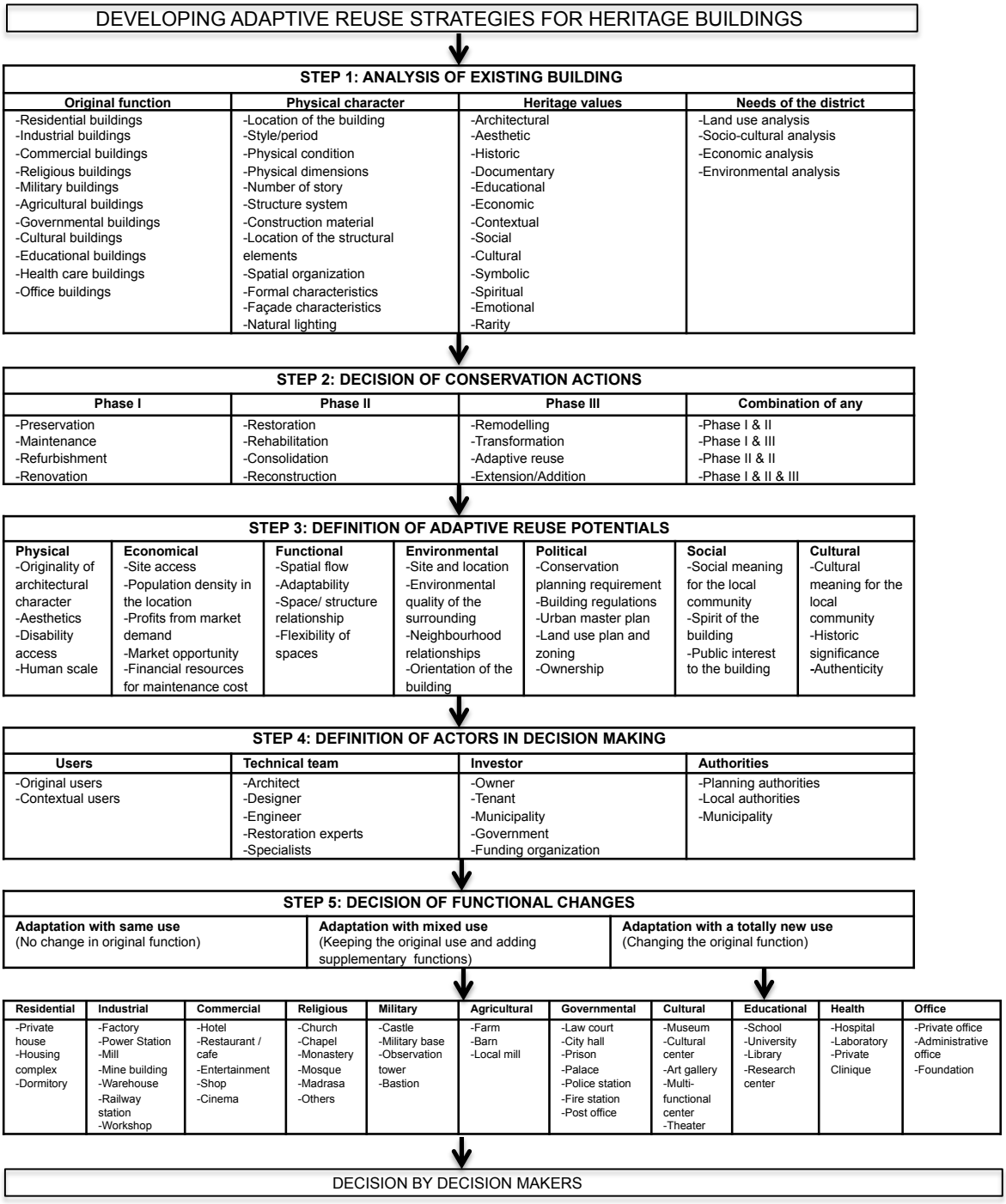


Figure 13: Initial develolement of the model proposal

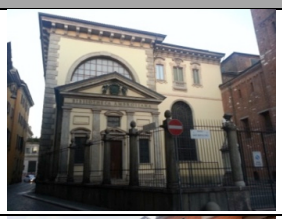
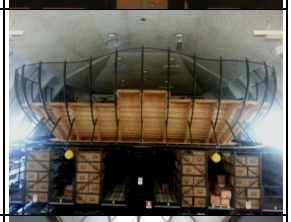
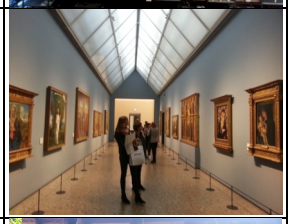
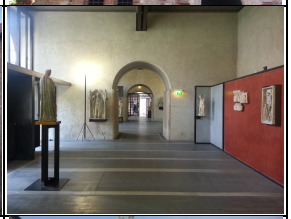
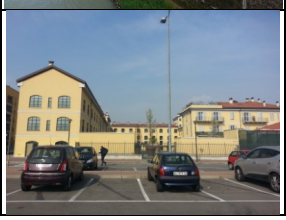
4.2 Evaluation of selected adaptive reuse examples

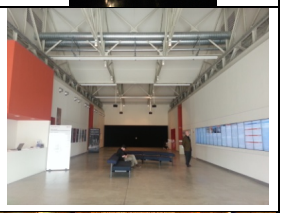
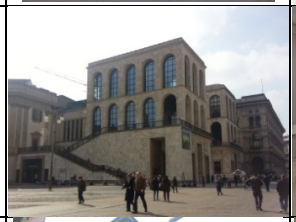
4.2.1 Selection of the adaptive reuse examples

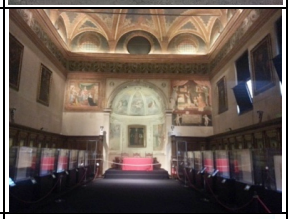
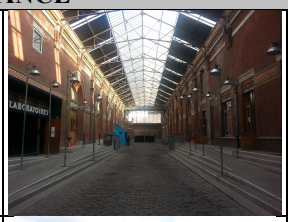
Totally, 50 adaptive reuse examples have been visited and observed through site survey in the scope of the study including 20 examples in Italy, 3 in France, 3 in

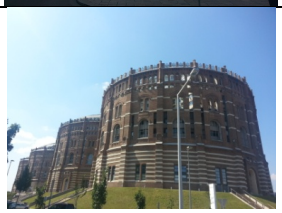
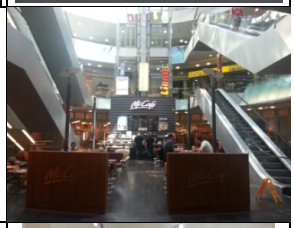
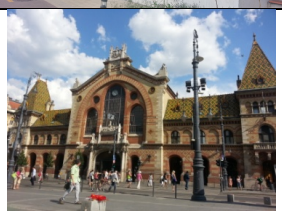
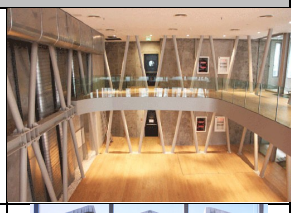
Austria, 2 in Hungary, 1 in UK, 9 in Turkey and 12 in Cyprus (Table 15). All of the adaptive reuse examples have been visited, observed and documented; however, 16 examples have been selected to be investigated in depth according to the following criteria.

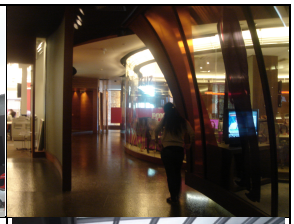
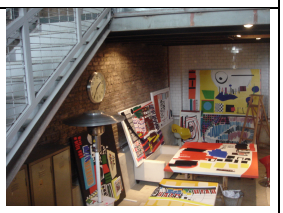
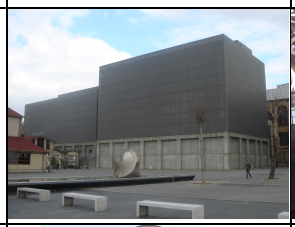
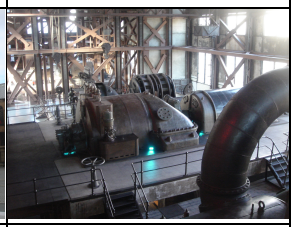
Table 15: List of adaptive reuse examples that have been observed through site survey

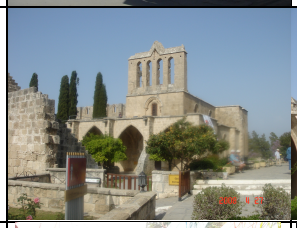
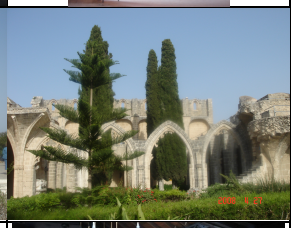
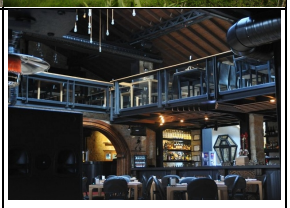
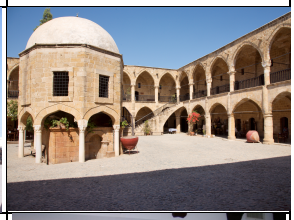
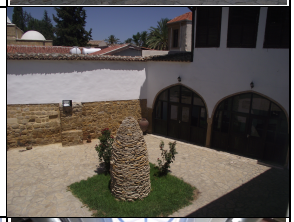
OBSERVED ADAPTIVE REUSE EXAMPLES			
	General information	**Photo I***	**Photo II***
1	**Name:** Ambrosiana Art Gallery **Original use**: Library **Current use**: Art gallery **Location**: Milan, Italy		
2	**Name:** Bastard Store **Original use**: Cinema **Current use**: Retail **Location**: Milan, Italy		
3	**Name:** Brera Art Gallery **Original use**: Monastery+Academy **Current use**: Art gallery **Location**: Milan, Italy		
4	**Name**: Casa di Guilietta (Juliet's House) **Original use**: House **Current use**: Museum **Location**: Verona, Italy		
5	**Name:** Castelvecchio Museum **Original use**: Castle **Current use**: Museum **Location**: Verona, Italy		
6	**Name**: Ex Cartiera Binda (Old paper Factory) **Original use**: Factory **Current use**: Housing complex **Location**: Milan, Italy		

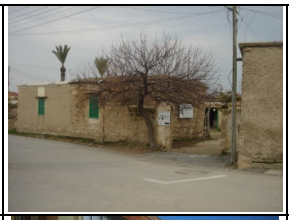
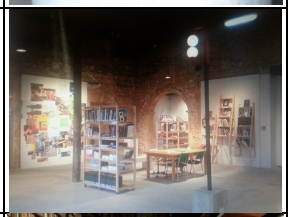
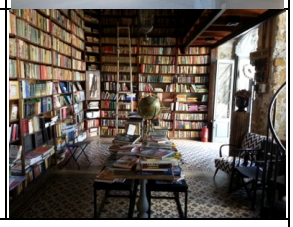
7	**Name**: Fabbrica del Vapore (Steam Factory) **Original use**: Factory **Current use**: Cultural center **Location**: Milan, Italy		
8	**Name**: Gucci Museum **Original use**: Apartment **Current use**: Museum **Location**: Florence, Italy		
9	**Name**: Hangar Bicocca **Original use**: Factory **Current use**: Contemporary exhibition center **Location**: Milan, Italy		
10	**Name:** Il Gattopardo Cafe **Original use**: Church **Current use**: Entertainment place **Location**: Milan, Italy		
11	**Name**: Lambretto Art Project **Original use**: Factory **Current use**: Cultural center **Location**: Milan, Italy		
12	**Name**: Metropol (Dolce&Gabbana Studio & Showroom) **Original use**: Cinema **Current use:** Fashion studio **Location**: Milan, Italy		
13	**Name:** Museo del Novecento **Original use**: Tourism information center **Current use**: Museum **Location**: Milan, Italy		
14	**Name**: Old Broletto **Original use**: Town hall **Current use**: Museum **Location**: Milan, Italy		
15	**Name**: Palazzo Stelline (Stelline Palace) **Original use**: Palace **Current use**: Cultural center **Location:** Milan, Italy		

16	**Name:** Royal Palace of Milan **Original use**: Palace **Current use**: Cultural center **Location**: Milan, Italy		
17	**Name:** Santa Maria delle Grazie **Original use**: Church **Current use**: Church+Museum **Location**: Milan, Italy		
18	**Name:** Sforzesco Castle **Original use**: Castle **Current use**: Museum **Location**: Milan, Italy		
19	**Name**: Torre di Porta Nuova (Porta Nuova Tower) **Original use**: Tower **Current use:** Cultural center **Location**: Venice, Italy		
20	**Name:** University of Milan **Original use**: Hospital **Current use**: University **Location**: Milan, Italy		
FRANCE			
21	**Name**: La Condition Publique **Original use**: Factory **Current use**: Contemporary Art Center **Location**: Roubaix, France		
22	**Name**: La Piscine Museum of Art and Industry **Original use**: Indoor Swimming Pool **Current use**: Museum **Location**: Roubaix, France		
23	**Name**: Orsay Museum **Original use**: Railway station **Current use**: Museum **Location**: Paris, France		
AUSTRIA			

24	**Name:** Albertina museum **Original use:** Mixed use **Current use:** Museum **Location:** Vienna, Austria		
25	**Name:** Gasometers **Original use:** Gas storage **Current use:** Housing complex **Location:** Vienna, Austria		
26	**Name**: MAK (Museum of Applied Arts) **Original use**: School **Current use**: Museum **Location**: Vienna, Austria		
HUNGARY			
27	**Name**: CET **Original use**: Warehouse **Current use:** Mixed-use development **Location**: Budapest, Hungary		
28	**Name**: Great Market Hall **Original use**: Market **Current use:** Market + art and craft shops **Location**: Budapest, Hungary		
UNITED KINGDOM			
29	**Name**: Tate Modern **Original use**: Power station **Current use**: Art gallery **Location**: London, UK		
TURKEY			
30	**Name**: Borusan Cultural Center **Original use:** Residential **Current use**: Cultural Center **Location**: İstanbul, Turkey		
31	**Name:** Esma Sultan Mansion **Original use:** Mansion **Current use:** Cultural center **Location:** İstanbul, Turkey		

32	**Name**: Fox TV Studio **Original use**: Warehouse **Current use**: TV Studio **Location**: İstanbul, Turkey		
33	**Name**: Kadir Has University **Original use**: Tobacco Factory **Current use**: University **Location**: İstanbul, Turkey		
34	**Name:** Loft **Original use:** Warehouse **Current use:** House+studio **Location:** İstanbul, Turkey		
35	**Name**: Rahmi M. Koç Museum (Lengerhane) **Original use**: Workshop/Warehouse **Current use**: Museum **Location**: İstanbul, Turkey		
36	**Name**: Sabancı Museum **Original use**: House **Current use:** Museum **Location**: İstanbul, Turkey		
37	**Name**: Santral İstanbul **Original use**: Power station **Current use**: Museum **Location**: İstanbul, Turkey		
38	**Name**: Vakko Showroom **Original use**: House **Current use:** Retail **Location**: İstanbul, Turkey		
CYPRUS			

39	**Name**: Bedesten **Original use**: Bazaar **Current use**: Cultural Center **Location**: Nicosia, Cyprus		
40	**Name:** Bellapais Monastery **Original use:** Monastery **Current use:** Multi-functional center **Location:** Kyrenia, Cyprus		
41	**Name**: Biblioteque Restaurant **Original use**: House **Current use**: Restaurant/Bar **Location**: Nicosia, Cyprus		
42	**Name**: Büyükhan **Original use**: Khan **Current use**: Retail **Location**: Nicosia, Cyprus		
43	**Name:** Carob Restaurant **Original use:** Residential **Current use:** Restaurant **Location:** Kyrenia, Cyprus		
44	**Name:** Derviş Paşa Mansion **Original use:** House **Current use:** Museum **Location:** Nicosia, Cyprus		
45	**Name**: Eaved House **Original use**: House **Current use**: Cultural Center **Location**: Nicosia, Cyprus		
46	**Name**: Lanitis Center **Original use**: Carob Mill **Current use**: Mixed-use development **Location**: Limassol, Cyprus		
47	**Name**: Local Art Museum **Original use**: House **Current use**: Museum **Location**: Lefkara, Cyprus		

48	**Name**: Mustafa Mulla H. Olive Oil Mill **Original use**: Mill **Current use**: Culture house **Location**: Büyükkonuk, Cyprus		
49	**Name**: NIMAC (Nicosia Municipal Art Center) **Original use**: Power station **Current use**: Art Center **Location**: Nicosia, Cyprus		
50	**Name**: Rüstem Bookshop& Cafe **Original use**: House **Current use**: Bookshop & cafe **Location**: Nicosia, Cyprus		
*Photos taken by Author in 2013-2014			

The investigated adaptive reuse examples that have been selected are:

-the adaptive reuse examples that have been observed by the author.

-located in different cities of Europe.

-has been selected according to the functional variation of the original and new uses.

-There is at least one example of each original function (residential, industrial, commercial, religious, military, agricultural, governmental, cultural, educational, health, office). The original and the new functions of the selected examples have been emphasized in Table 16.

Table 16: Original and new functions of selected adaptive reuse examples

	Name of the building	Original function	New function	City
1	Royal Palace of Milan (Governmental)	Palace	Cultural centre	Milan, Italy
2	Bastard Store (Commercial)	Cinema (Car workshop)	Retail/Office	Milan, Italy
3	Museum of 20th Century (Office)	Tourism Info. Centre	Museum	Milan, Italy
4	Brera Art Gallery (Cultural)	Monastery (Art gallery)	Art gallery	Milan, Italy
5	Ambrosiana Art Gallery (Educational)	Library and Academy	Art gallery	Milan, Italy
6	Il Gattopardo Café (Religious)	Church	Entertainment place	Milan, Italy
7	University of Milan (Health)	Hospital	University	Milan, Italy
8	Castelvecchio Museum (Military)	Castle	Museum	Verona, Italy
9	Tate Modern (Industrial)	Power Station	Contemporary art centre	London, UK
10	Great Market Hall (Commercial)	Municipal Market	Municipal Market (Arts & craft shops)	Budapest, Hungary
11	CET (Balna Budapest) (Industrial)	Warehouse	Multifunctional center	Budapest, Hungary
12	Evagoras Lanitis Center (Industrial)	Carob mill	Cultural centre	Limassol, Cyprus
13	Orsay Museum (Industrial)	Railway station	Museum	Paris, France
14	Gasometers (Industrial)	Warehouse	Housing complex	Vienna, Austria
15	Mustafa Mulla H. Mill (Agricultural)	Olive oil mill	Culture house	Büyükkonuk, Cyprus
16	Rüstem Bookshop (Residential)	House (Bookshop)	Café & bookshop	Nicosia, Cyprus

16 successfully completed adaptive reuse projects have been selected as the examples to be investigated in depth in the light of the proposed model. The selected adaptive reuse projects that are located in different cities of Europe have been observed through site surveys and critically investigated through factors. The observations also have been supported by interviews with the actors in decision-making. The approaches in the examples have been compared with the proposed factors that affect adaptive reuse decision-making and then have been applied to the model.

Selected examples are succesful adaptive reuse projets; however, their success is defined according to the sustainability of the adaptation. They are socially, economically and environmentally sustainable. Selected adaptive reuse examples are 'living assets' in their context, which are used by local people and tourists. Also some of the Project won different architectural prizes.

These examples have been investigated in depth in the light of the initial model proposal. This investigation is expected to be beneficial in discovering the missing points of the proposed model. The proposed model has been revised after the investigations of the adaptive reuse examples.

4.2.2 Evaluation of Selected Adaptive Reuse Examples in the Light of Initial Model Proposal

Firstly, each example has been represented in a table that includes general information about the building, photos and drawings. Then, historical background information has been given for each building and the project has been explained. At the end, projects have been questioned according to the factors that have been defined in the model proposal. These evaluation criteria are:

- Analysis of the existing building (Original function, physical characteristics, heritage values and needs of the district)
- Conservation actions
- Adaptive reuse potentials
- Actors in decision making
- Decision of functional changes

4.2.2.1 Royal Palace of Milan (Palazzo Reale di Milano)

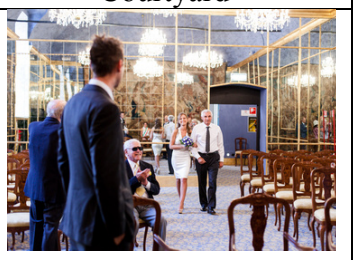
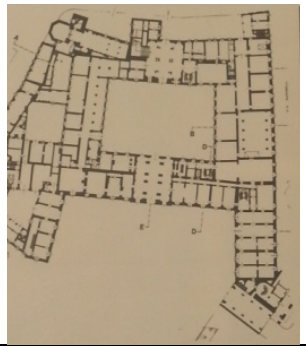
ROYAL PALACE OF MILAN (PALAZZO REALE DI MILANO)		
General Information		
LOCATION: PIAZZA DEL DUOMO **DATE OF CONSTRUCTION:** 16TH CENTURY **DATE OF RENOVATION:** 1968-1989 **ORIGINAL FUNCTION:** ROYAL PALACE **NEW FUNCTION:** CULTURAL CENTER		
		
Before bombing (URL 4)	Before bombing (URL 4)	Entrance facade*
		
Duomo di Milano*	Piazzetta Reale*	Courtyard*
		
Cafe	Exhibition hall	Wedding hall (URL 4)
		
Plan (Dal Co & Polano, 1991)		
*Photos taken by Author, 2014		

Figure 14: Visual materials of Royal Palace of Milan

Historical background: Royal Palace of Milan has ancient origins that go back to Milanese families who governed the city such as Visconti and Sforza. Many people and major events have shaped both the structure and the function of the palace in time. The appearance of the building has changed over the centuries, until it became the prestigious location for major art exhibitions in Milan. It was first called Palazzo del Broletto Vecchio; then, it became the Town Hall, where the city had been ruled and the municipal meetings were held (URL 4).

Project: The palace had been bombed in the Second World War in 1943 and it was seriously damaged by the bombings. A large part of the palace was demolished and it lost much of its treasures. Entire rooms on the main floor were destroyed along with frescoes, friezes, sculptures and decorations. Most of the furniture and ornaments have transferred to another places during the war, which could have never relocated. The restoration project began in 1968 and it took 20 years to complete all necessary interventions (URL 4). Today, Royal Palace is a crucial cultural center and also an exhibition venue. Many important exhibitions are organized with the center in collaboration with museums and cultural institutions including many famous collections from around the world (URL 5).

Evaluation of the Royal Palace of Milan in the light of model proposal:

A. Analysis of the existing building

Palazzo Reale is one of the most important buildings in the center of Milan. It has a strategic location next to Duomo di Milano and opposite of Vittoria Emanule II building. It has two main courtyards: one defines the entrance and the other is the inner courtyard, which is used for different cultural activities. It has a rectangular shape and the rooms have been organized around the courtyard.

Building is quite rich in terms of heritage values. It has symbolic, emotional and rarity values because of the history behind it. It was one of the most important buildings for the city when it was built. On the other hand, architectural, aesthetic, historic, documentary and educational value due to its unique physical characteristics. Also, its economic and contextual values are important because of its strategic location.

B. Conservation actions

During the Second World War the building had been heavily damaged and decided to restorate in 1978. The complete restoration took 11 years to complete. Unfortunately, most of the decoration, ornamentation and the frescos had been demolished during the war. There were different historic layers on the building and the aim of the restoration was to turn the building to its original condition as sson as possible without any alterations. The palace has been preserved and opened as a cultural center with a fascinating location.

C. Adaptive reuse potentials

Building has physical potentials due to originality and aesthetics of the architectural character. It has economic and environmental potential due to its location. Also, social and cultural potentials are important due to social and cultural meaning of the building to the community and historic significance. However, its functional potentials are quite low since the spaces of the building are not flexible and easily adaptability.

D. Actors in decision-making

When the palace had been renovated, at that time there was a need of a building for social and cultural activities. It was a listed building and it was decided to use the building as a cultural center by the Municipality of Milan. In this project, the only actor in decision-making is investor, which are also the authorities (Municipality). The function of the building was decided before technical team involved in project. The technical teams and the users did not act in decision-making process.

E. Decision of functional changes

When the history of the building and heritage values have been taken into consideration, the proposals for the new use of the building become limited. The new function of the building has been proposed as cultural center and there are different functions for the buildings. It has museum part, which many important international exhibitions are organized in different parts of the year. It also has a café and a hall for wedding ceremonies. There are also other museums located around the site but the building varies in proposals of different other functions.

Final evaluation of Royal Palace of Milan

Royal Palace of Milan includes different historic layers on top of eachother like a palimpsest and it is not possible to distinguished one to another. The palace is used by different famous families that ruled the city in different periods. Then, in the Second World War a great part of the building had been seriously damaged. The restoration works took many years and many stages to bring the building to its original state. Today, the Royal Palace found a central role in the social and cultural life of Milan as a museum. It is one of the most important museums not only with its permanent collections but also with the temporary exhibitions that takes a great

attraction from the local people and tourists. The museum housed works from most important artists around the world including Klimt, Kandensky, Monet, Pablo Picasso, etc.

On the first floor there is *Hall of Caryatids*, which occupies was the old theatre burned in 1776 and is the only part that survived the heavy bombings in 1943. Unfortunately, the interiors of the palace lost its original neoclassical interiors after the war.

The restoration includes a complex task of reconstruction of the original features. The third phase of restoration is still in progress and the conservation works includes the museum rooms of the old apartmentreserve that the royal ways of living of the 19th century are documented and maintained. The Palace is a cultural centre that is coordinated with three other exhibition venues: the Rotonda della Besana, the Palazzo Region and Palazzo dell'Arengario.

The cultural center also includes café, conference halls and a wedding hall. It is multifunctional space with the heart of the city. There is different kind of events that are organized in different parts of the city. The cultural center is used not only by local people but also tourists that come to visit the city center. The museum approaches of the cultural center are quite successful in terms of organizing temporary exhibition to support the permanent collection. The conversion is successful in terms of supporting the exhibitions with other functions. People can come and enjoy the building and the square in its café without visiting the art gallery. This kind of supplementary functions ensures the economic sustainability and continuity of the building.

4.2.2.2 Bastard Store

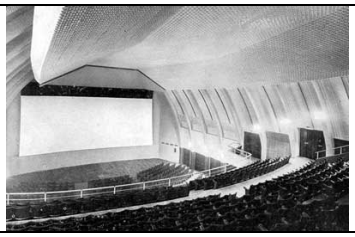
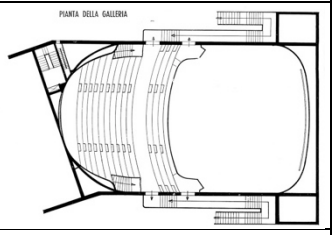
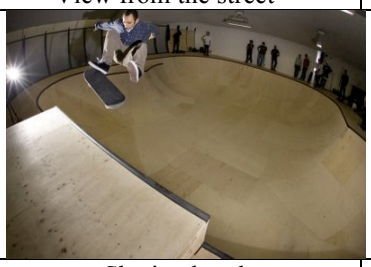
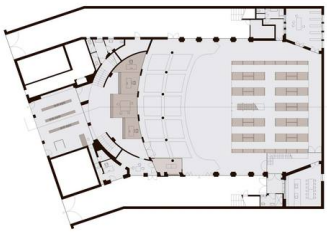
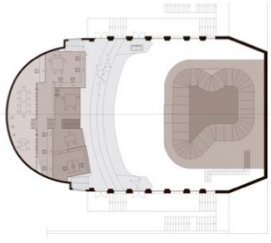
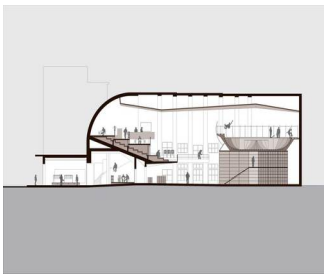
BASTARD STORE (CINEMA ISTRIA)		
General Information		
LOCATION: MILAN, ITALY **DATE OF CONSTRUCTION:** 1940s **DATE OF RENOVATION:** 2005 **ORIGINAL FUNCTION:** CINEMA **NEW FUNCTION:** RETAIL/OFFICE		
		
Original photo (URL 6)	Original photo (URL 6)	Original drawing (URL 6)
		
View from the street *	Exterior view*	Retail part *
		
Skating bowl (URL 6)	Interior view*	Offices (URL 6)
		
Ground Floor Plan (URL 6)	Upper Floor Plan (URL 6)	Section (URL 6)
*Photos taken by Author, 2014		

Figure 15: Visual materials of Bastard Store

Historical background: The building selected was the former Istria Cinema, built by the engineer Mario Cavalle in the 1940s. The building was used as car showroom and workshop for a while; then, owner of the Bastard brand has bought the building from the former owner. The owner of the Bastard Store was looking for a place for design, selling and storage facilities for the brand. Additionally, they want the place to be a kind of meeting point for skaters. Then, they applied to architect Lorenzo Bini for asking help about finding a place. The architect has involved in the decision making process as well. He has calculate the space needs for showroom, design studio, storage and the entertainment activities of the brand and found the old Cinema Istria building as an appropriate place in terms of space requirements (Appendix A).

Project: The building is designed by Studio Metrico (Lorenzo Bini and Francesca Murialdo) between 2007 and 2009. Then, in 2009 project has won 'Arch daily Building Award 2009' in 'Interiors' category. The brand Basterd manufactures and markets clothing for skateboarders and snowboarders. The company asked designers to find and refurbish a building for their new headquarters (Administrative offices, design department, flagship store, store room, skate bowl).

The volume of the old stalls is used as the product storeroom and a skate bowl is attached on this scaffolding, which is suspended around six metres above the storerooms structure and opposite the balcony. The decision to place the bowl above the storerooms arose from the need to economise on space and to establish a visual and spatial relation with the offices on the balcony; however, made from laminated wood and rolled-steel beams, the structure of the bowl is the first example seen worldwidely (Puglisi, 2012).

Evaluation of Bastard Store in the light of initial model proposal:

A. Analysis of the existing building

The original function of the building is a cinema. The old cinema building is not a listed building yet. However, in Milan, buildings belong to modernism period including some old cinema buildings have been started to listed by the municipality.

Used by the previous owner as a car showroom and workshop, the Istria Cinema still had all of its original character. Although complicated to organize from the spatial point of view and be set with the difficulties as regards installing the necessary service infrastructures, the cinema turned out to be a suitable building (Puglisi, 2012).

Building has social, cultural and emotional value since cinemas were one of the most important activities of its era. Unfortunely, due to technological changes these buildings are not in use today. Most of them left abandoned or reused with inappropriate functions. On the other hand, its historic, documentary and contextual value are not as important as other examples. It also has not rarity value since it is not a unique building.

B. Conservation actions

Although the building is not listed, architect was so sensitive to keep the original features as is it including steps, acoustic panels, floor covering, hand rails and even some lighting elements while constructing the new addition as reversible.

The levels were left unchanged and the original flooring and handrails preserved in order to ensure access to the top of the stairs down to the former foyer, and to create

a free and flexible open space. The lower steps are mainly used as a showroom where products are presented to agents who sell them in over 300 shops in Italy and abroad. The showroom can be used for informal meetings, films, fashion shows or simply chilling out (Puglisi, 2012).

C. Adaptive reuse potentials

The new function of the building is a commercial function, which is a semi-public function. When the heritage values, physical characteristics, location and adaptive reuse potentials of the cinema compared with Sforzesco castle, decision makers have more choice in finding a new appropriate use for the heritage building.

The building is a wide span structure but it was not easy to adapt it to a different function due to steps in for the cinema. Thus, functional potentials of the building are low. Political potentials are not important since it is not a listed building. It is located far from the city center so economic potentials also are low. However, in terms of social and cultural potentials building is very important.

D. Actors in decision-making

The adaptive reuse project of Bastard store is different in terms of decision process of new use. First function existed, and then they started to search a suitable building for that function. Owner of the building asked from the architect to find an appropriate building for retail and office function of his brand. Then, the architect started to search an appropriate building for the brand. Thus, the decision makers in this project are architect and the owner of the building.

E. Decision of functional changes

These buildings are important for the local people as collective memory so they must be sustained. However, in terms of cultural significance, Cinema Istria is not the only cinema of its type. There are also similar examples of cinema building design of the same architect belongs to the modernism period. Today, one of them (Metropol, Milan) is using for showroom and performance space of Dolce & Gabbana.

Final evaluation of Bastard Store

The cash desk and clothing display racks are made of three layers of larch panels left over from the construction of the offices. Similarly, the changing rooms were covered with laminated wood scraps from the Bastard Bowl. Flanked by two curving stairways leading up to the balcony, the crescent-shaped space of the old foyer is a recurrent motif in Mario Cavalle's designs. Linked to the area of the former cinema stalls by a series of apertures, the foyer is the building's centre of gravity for all the other main rooms and acts as a hinge for the principal axis of the building and the rotated axis of Via Slataper. The volume of the old stalls is occupied by the tall black painted metal structures of the product storeroom. Attached to scaffolding, a steep stair leads up to the skate bowl. The design offices are set on the sloping surface of the balcony. Projecting out over the stalls, the balcony is- together with the skate bowl- the most spectacular and representive space in the building.

Suspended around six metres above the storerooms structure and opposite the balcony, the Bastard Bowl is the star attraction. The decision to place 200 m2, bowl above the storerooms arose from the need to economise on space and to establish a visual and spatial relation with the offices on the balcony.

The main entrance was converted into a place not only for retail activities, but also to bring together the people who share the brand history and culture. The original steps have been kept as it is and office blocks have been built on these stairs. The old cinema foyer of Mario Cavalle's designs has also been preserved as it is. Individual pieces of shop furniture are mounted on casters for arranging them freely.

It is located a bit far from the city center, on a sub-street and cinema building is not easily recognizable from the outside. Building is a reinforced concrete structure. The roof is composed of several reinforced concrete arches. A ceiling is suspended from the intrados of the vault by means of an iron frame. There is a foyer of the cinema, looking to the main road that is used as the selling space of the brand today.

The adaptation is successful in terms of preserving the originality of the heritage building. All the architectural features that belong to the old cinema building have been preserved as it is although it is not a listed building. All the decisions taken are based on the sentivitity of the architect and also the owner of the building. Existing stairs, balusters and floor covering materials have been preserved and new designs are made which is in a harmony with the existing ones. Also, the original stairs and codes in the cinema hall have been maintained and office blocks are designed in a demontable way without damaging the original stairs.

The space requirements of the new function fit to the physical character of the building. It is a successful adaptation since it gives a new life to the abandoned cinema building. The conversion also brought new socio-cultural activities to the district.

4.2.2.3 Museum of 20th Century (Museo Del Novecento)

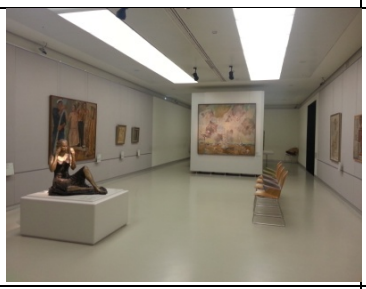
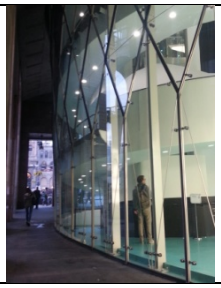
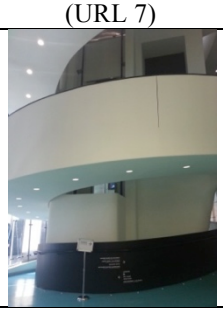
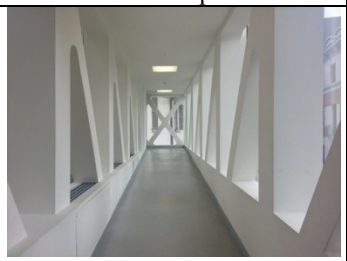
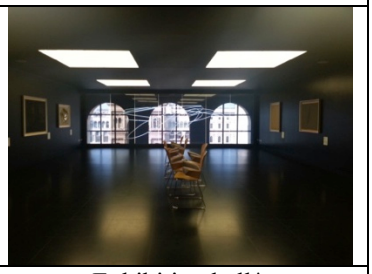
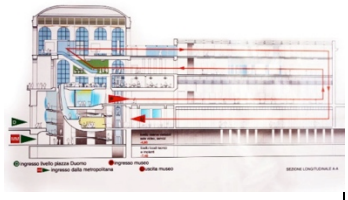
MUSEUM OF 20TH CENTURY		
General Information		
LOCATION: MILAN, ITALY **DATE OF CONSTRUCTION:** 1937-1942 **DATE OF RENOVATION:** 2010 **ORIGINAL FUNCTION:** TOURISM INFORMATION CENTER **NEW FUNCTION:** MUSEUM		
		
View from square*	Exterior view*	Restaurant (URL 7)
		
Exhibition hall*	The ramp*	Interior view*
		
Bridge exterior*	Bridge interior*	Exhibition hall*
		
Plan (URL 8)	Section (URL 8)	Model (URL 8)
*Photos taken by Author, 2014		

Figure 16: Visual materials of Museo del Novecento

Historical background: The building was called Palazzo del Arengario before conversion, which is designed by Enrico Agostino Griffini, Pier Guilio Magistretti, Giovanni Muzio and Piero Portaluppi between 1937 and 1942. It is constructed in the destroyed part of the Royal palace in 1936 while redesigning the square. Palazzo Arengario is composed of two linear blocks, which defines the entrance to Piazza Diaz (Gramigna and Mazza, 2013).

Museo Del Novecento is located in Piazza Del Duomo. The piazza was originally created in the 14th century and has been gradually developing ever since. It was the center of administration with the Cathedral, Royal palace and Town hall buildings. Today, it houses the most prestigious socio-cultural activities and the foremost tourist attraction of the city. After its construction, Palazzo Arengario never finds a proper function within the mechanism of the square. For a while it was used as tourism information office; then, a competation is organized to convert the building to a museum.

Project: The transformation project of the building in to Museo Del Novecento fundamentally has two objectives: to organize inside the container in distribution system and a historical museum that optimizes the use of linear space, and return the building to a strong and attractive institution which transforms it in a privileged place of Milanese culture. In the vertical tower, slabs are placed a vertical lift system with a spiral ramp that starts from the level of metro and reaches to the top floor, which is a level of the panoramic terrace facing to Piazza del Duomo. The first part of the interior is a public space, freely accessible to the restaurant overlooking the panoramic terrace of the Royal Square and the cathedral. The long sleeves of the building houses the main exhibition galleries (Brandolini, 2005).

The project to transform the building into a museum dell'Arengario is developed by architects Italo Rota & Partners. The aim was to create a museum that allows optimizing the use of available space and makes the historic building strong and at the same time charming. The two-level exhibitions halls are designed in a way that allows you to enjoy the view towards Piazza Duomo and from the fifteenth-century facade of the Royal Palace (Capitanucci, 2012).

Evaluation of Museum of 20th century in the light of initial model proposal:

A. Analysis of the existing building

Museo Del Novecento building is part of a symmetrical two towers located in the Piazza Del Duomo. Building is unique architecturally when compared with the other buildings around. Palazzo Dell'Arengario is located in a strategic point; in the heart of the city centre in the Piazza Del Duomo next to two important monuments: The Cathedral and the Palazzo Reale. Palazzo dell' Arengario is composed of two parts. In the front, there is small part of the building composed of three floors facing to the Piazza Del Duomo, which is designed as the entrance space of the museum with a spiral ramp. At the back, there is another part attached to it that houses the main exhibition spaces of the museum.

Building has architectural, aesthetic, documentary and educational value because of its physical character; also economic and contextual value due to its location. On the other hand, the spiritual, emotional, symbolic and socio-cultural values are not as important as other examples since it not a very old building and were used as tourism information center before.

B. Conservation actions

The Arengario has a fascinating location, but difficult to reconcile with the idea of a museum and limited in size despite the addition of a large wing from nearby Palazzo Reale. For this reason, slabs were removed in three floors and a ramp was added into the volume as circulation element. This approach is still being critised by many Italian restoration experts. The building is original in terms of its form, architectural characteristics and the decorated facade. On the other hand, historic value is moderate since it was built in 1940s and is not as monumental as the other buildings surrounding the piazza. Thus, the facade is kept as original and a spiral ramp were inserted after removal of slabs.

C. Adaptive reuse potentials

Piazza Del Duomo houses the most prestigious commercial activities and the foremost tourist attraction of the city. For this reason, it has economic and environmental potentials. On the other hand, physical and functional potentials are low especially when it is compared with Hangar Bicocca. As explained in the conservation actions, building has been constructed as a triple floor tower and it was not easy to provide entrance to the exhibition halls. Thus, the slabs were removed to replace the ramp in the tower.

Building is a Facadism example. The decision of removing the slabs was taken because in terms of spatial characteristics, building does not have rarity and historic value. It was not a unique building in terms of spatial characteristics.

D. ***Actors in decision making***

Building is located next to Palazzo Reale, which was used as Royal Palace before and now reused as a cultural center. Museo Del Novecento is connected to Royal Palace with a bridge extension. The museum consists of 20th century Italian art collections which was planned to be exhibited in Palazzo Reale and has been cancelled due to lack of space. After they changed the idea of exhibiting collections in Palazzo Reale, they started to search a new space for the collection. Then, they decided to convert the tourism information office to museum of 20th century. After the decision of converting the building into museum, municipality announced a competition for the design of the museum and architect and designer Italo Rota won the competition.

In this project, the only actor in decision-making is investor (Municipality). The technical teams do not act in decision-making process. The function of the building was decided before technical team involved in project. Again like in the example of Bastard Store, first there were function and then a new building has been searched for the function.

E. Decision of functional changes

As explained above, the new function of the building has been decided to answer a necessity, which was 'A museum of 20th century art'. In terms of location and contextual value, using this building as a museum was a correct approach since the Piazza del Duomo attracts many local and tourist visitors due to also with other monuments located around the square. Building has a great number of visitors and it is economically sustainable.

Final evaluation of Museum of 20th century

The building is constructed with the load bearing system, arcaded on the facade. Arch structure is used for the facades. It is decorated with some figures around the arches on the facades of the building. The building has a cluster organization however there is no structural element in the middle which gives designer freedom in the adaptation process. Building is composed of 3 storey and is a traditional building constructed with a Neoclassical style which seen on most of the buildings located around Piazza Del Duomo. During Second World War most of the historic buildings located in the city centre was seriously damaged and renovated after the 1940s.

The museum is located in the most important square of the Milan city and houses a collection of over 4000 works that belongs to the 20th century Italian art. The museum was established with the aim of spreading the knowledge of 20th century art with a comprehensive collection. Beside the exhibition and collections, the museum is also active in for the conservation, investigation and promotion of 20th century Italian cultural and artistic heritage.

The building is designed with a concept of a contemporary approach when compared with the other museum approaches in the city. The inner slabs were removed and a spiral ramp is placed in the building that welcomes visitros and introduces the visit of the museum. The bookshop and restaurant is open to the public and you can visit them without entering to the museum.

The building can be accepted one of the most extraordinary cases in the city in terms of the level of the intervention. The ramp is an impressive installation that exactly fits in the building without touching to the exsiting walls of the building. The

interventions to the building caused a division between restoration experts. There is a group that criticize the level of the intervention and believes that it originality of the heritage building has been damaged. However, there is another group of experts that finds the intervention brave but reasonable. It could not be ignored that, today, the building become one of the important landmarks of the district and the museum is visited by the people not only for its rich collection but also its outstanding architecture and view looking towards the Duomo di Milano.

4.2.2.4 Brera Art Gallery (Pinacoteca di Brera)

<table>
<tr><th colspan="3">BRERA ART GALLERY (PINACOTECA DI BRERA)</th></tr>
<tr><th colspan="3">General Information</th></tr>
<tr><td colspan="3">LOCATION: MILAN, ITALY
DATE OF CONSTRUCTION: 14. Century- 17. Century
DATE OF RENOVATION: 1925, 1950,1980s, 2009
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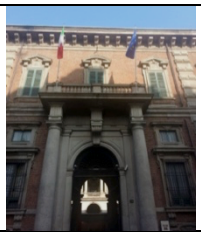
NEW FUNCTION: ART GALLERY</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
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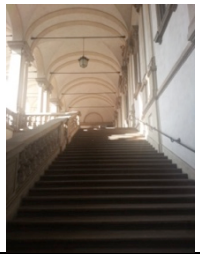
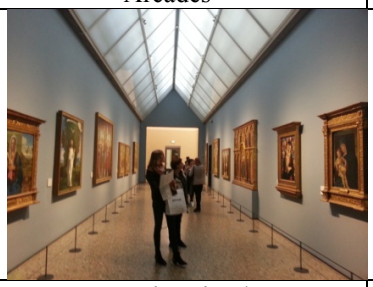
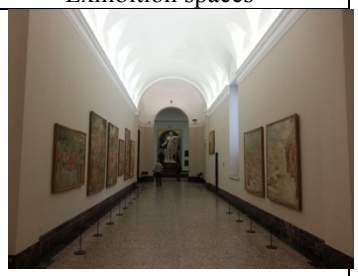
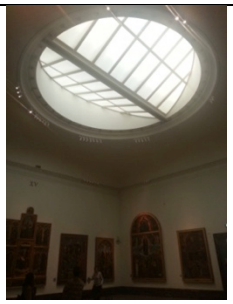
(URL 9)</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Courtyard*</td><td>Arcades *</td><td>Exhibition spaces *</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Interior view*</td><td>Interior view*</td><td>Interior view*</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Skylight*</td><td>Portico*</td><td>Plan (URL 10)</td></tr>
<tr><td colspan="3">*Photos taken by Author, 2014</td></tr>
</table>

Figure 17: Visual materials of Pinacoteca di Brera

Historical background: The Brera Gallery has a rich history, which consists of different historic layers on top of each other. The building had been used as different functions before and many restoration works had been done by different architects in different periods. In order to understand the building's history, it is important to look at these layers carefully. The building has been built as a monastery and then, today's look of the building has been built on the ancient fourteenth-century monastery of the order of the Humiliated. Then, it passed to the Jesuits who established a school in the building, which met its current form in the beginning of the seventeenth century by Francesco Maria Ricchini (URL 8). The building is like a palimpsest and it is not possible to distinguish these interventions.

Project: The Brera Gallery is one of the world's best-endowed museums for this type of figurative documentation. Since it opened, the museum has been situated in its current location in the grand first floor halls still known as the 'Saloni Napoleonici'. These were created by building a floor in the nave of the medieval church of Santa Maria di Brera, which had been suppressed in 1808. In 1882, under the directorship of Guiseppe Bertini, that the two instutions (Gallery and Academy) would be officially separated. However, it was agreed that the museum would continue to exhibit in the same spaces. At the beginning of the 20th century, the Brera Gallery reopened with a new exhibition design developed by the director Corrado Ricci. Now for the first time the works were arranged by regional school and chronological order (Bandera, 2010).

Evaluation of Brera Art Gallery in the light of initial model proposal:

A. Analysis of the existing building

In 14th century building was a monastery and then in 18th century has started to be used as art academy and gallery. Finally, in 19th century, gallery and academy officially separated. From 19th century until today, building has been used as art gallery. Pinacoteca di Brera is known one of the most significant art galleries of Milan in terms of important collections. It also has a strategic location in the Brera region of Milan. It is a listed building and has a rich history with different historic layers.

Building is quite rich in terms of heritage values. It has symbolic, emotional and rarity value for being one of the oldest art galleries in Italy with such a rich collection. On the other hand, architectural, aesthetic, historic, documentary and educational value due to its unique physical characteristics. Also, its economic and contextual values are important because of its strategic location.

B. Conservation actions

In 1980s museum went through a period of crisis and first museum bookshop and cafe of the Italy has opened. This was the significant turning point of the museum. In the adaptation process, a completely new function has not been produced; instead, original function of the building has been kept and supported with sub-functions for the social and economic continuity of the building. Finally, this modification has survived the heritage buildings. There are different interventions in different periods and it is not possible to perceive each intervention. Building has been renovated in different times by different people.

In 1943 gallery has been bombed in II. World War and has been reconstructed from 1946 to 1950. Between 1977 and 1998 restoration and adaptation of the gallery has been done. Skylights have been designed on the roof of exhibition spaces for having more sunlight into the building and new lightings for art pieces have been designed. Also, some adaptations have been done in terms of spatial transformation. In 2009, new exhibition spaces designed with more contemporary approach.

C. ***Adaptive reuse potentials***

Building has physical potentials due to originality and aesthetics of the architectural character. It has economic and environmental potential due to its location. Also, social and cultural potentials are important due to social and cultural meaning of the building to the community and historic significance. However, its functional potentials are quite low since the spaces of the building are not flexible and easily adaptability.

D. ***Actors in decision making***

Brera Art Gallery is known as one of the oldest galleries in Italy, which has such a rich collection. Building has rarity value, in this respect it was decided to keep it with its original use and it is supported with additional functions. In decision making process, the actors were investor and the authorities.

E. Decision of functional changes

The use of building as an art gallery dates back to 18th century. Before 19th century it was used both gallery and the art academy. Then, in 19th century gallery and academy had been officially separated. However, it was agreed that the museum would continue to exhibit in the same spaces with the original collection.

Because of having important values, the heritage building has decided to be used as art gallery. The function comes from the history of the heritage building and it is not a correct approach to change it.

Final evaluation of Brera Art Gallery

During the First World War the Brera Gallery was closed and emptied of paintings. The museum reopened in 1925, revealing the elegant restoration work of the architect Piero Portaluppi, who renovated in Neo-renaissance style the rooms housing masterpieces such as Raphael's 'Marriage of the Virgin'.

Brera was closed once again when the Second World War broke out. The re-opening in 1950 was preceded by new restoration work in the galleries, which had suffered serious damage during the bombing raids of 1943. The architect was once again Piero Portaluppi. Some of the rooms underwent radical transformation; many of the ceilings were modified. The lighting was completely redesigned.

In the 1970s, under the direction of Franco Russoli, the museum went through a period of crisis and rethinking, marked by a polemical closing of the doors. Carlo Bertelli's stewardship in the 1980s brought about a significant turning point: the first museum bookshop and cafe in Italy were inaugurated and climate controlled storage rooms where the works could be viewed were built. A substantial museum reorganization project was undertaken and continued into the mid-1990s, with a number of operations directed by the architect Vittorio Gregotti.

In 2009 and the following year, the exhibitions were redesigned in a number of the rooms, proposing new juxtapositions paintings and adding a number of works that

had previously been in storage. The new colour scala in all the rooms along the ring and experimentation with direct lighting of works in most of the rooms is meant to enhance the visitor's sense of continuity moving through the museum and facilitate the perception and appreciation of its extraordinary works.

Building has a rectangular shape with a courtyard in the middle. There are arcaded porticos around the courtyard between close and open spaces. In the courtyard, there is unique sculpture works dates back 18th century. There is another attached building with similar characteristics that today used as Brera Academy.

Art gallery function needs an introverted organization due to security aspects. Thus, the compatibility of the building with an art gallery function can be discussed since the nice courtyard and the porticos cannot be used effectively. Openings looking to the courtyard are covered in order not to have the direct sunlight to the art pieces and also for security reasons.

4.2.2.5 Ambrosiana Art Gallery (Pinacoteca Ambrosiana)

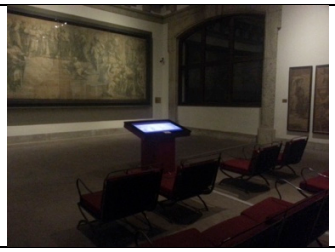
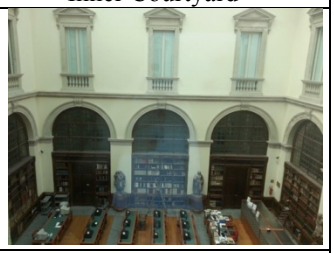
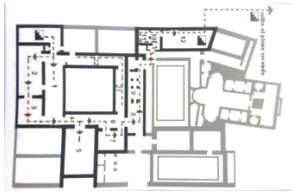
AMBROSIANA ART GALLERY (PINACOTECA AMBROSIANA)		
General Information		
LOCATION: MILAN, ITALY **DATE OF CONSTRUCTION:** 17TH CENTURY **DATE OF RENOVATION:** 1906, 1938, 1963, 1997 **ORIGINAL FUNCTION:** LIBRARY **NEW FUNCTION:** ART GALLERY/ LIBRARY		
		
Back view*	Entrance*	Front view*
		
Relation with the church*	Church *	Inner Courtyard*
		
Exhibition room*	Exhibition room*	Library*
		
Historic Library*	Portico*	Plan (Source: Museum Broshure)

Figure 18: Visual materials of Ambrosiana Art Gallery

Historical background: The library founded by Cardinal Federico Borromeo and opened in 1609, which was conceived as a learning and culture center. It was consisted of a library and an academy of fine arts.

The Ambrosiana Library is undoubtedly one of the first Italian libraries and also one of the first in the world. At the beginning, the library is formed with the help of donors. Then, it has been reached to its rich collections, which is still exists and exhibits in the last part of the exhibition. The Library has a historical, literary, religious, particularly classic retrospective that is aimed the study of the past; is governed by two colleges that one is responsible for its cultural activities, and the other of the Conservatives, in charge of its administration (Rossi and Rovetta, 1997).

Project: The Academy is established in 1621 and started to use by architects, painters and sculptures. Like other monuments in Milan, also Ambrosiana had been demolished seriously by the bombings of 1943 and several restoration works had been done in different periods by different architects as follow (URL 11):

- 1905-1906: Luca Beltrami, Antonio Grandi and Luigi Cavenaghi
- 1932- 1938: Ambrogio Annoni
- 1963: Luigi Caccia Dominioni
- 1990-1997

The Biblioteca Ambrosiana inaugurated in 1609 as one of the earliest libraries open to the public. Three courses were offered, in painting, sculpture and architecture in the academy and the first course began officially in 1621 with 24 students.

In 1618, with a deed of gift, the cardinal endowed the gallery than being constituted with his collection of paintings, drawings, prints and sculptures, to be housed in a new building separated by a garden from the library and designed by the architect Fabio Mangone. Construction had begun in 1611. The Pinacoteca Ambrosiana, opened in 1618 contained 172 paintings. Then, the library received a valuable donation of about thirty portraits of illustrious figures and a series of copies of images from the catacombs dating from paleo-Christian to medieval times (Rossi and Rovetta, 1997).

Evaluation of Ambrosiana Art Gallery in the light of initial model proposal:

A. Analysis of the existing building

Ambrosiana is one of the first libraries in the world. It was opened as a learning and culture center, which consist of a library and an academy of fine arts. Now, it is converted to art gallery. Pinacoteca Ambrosiana has a strategic location in the city center. It is located close to Piazza del Duomo, which is one of the most important tourist attraction points of the city. Building has a clustered organization with a fascinating courtyard in the middle. There are porticos looking towards courtyard around the building.

Today, the historic library part is exhibiting in the building which contains old books belong to 17th century. It is a listed building and has a symbolic value because of being one of the first libraries of world. It's social, cultural, spiritual, emotional, and rarity values are also very important. Building is unique of its kind in terms of physical character so it has architectural, aesthetic, documentary and educational values as well. On the other hand, economic and contextual values are important due to its location.

B. Conservation actions

Like other monuments in Milan, also Ambrosiana had been demolished seriously by the bombings of 1943 and several restoration works have been done in different periods by different architects. In 1905, some adaptations have been done, new display systems were introduced and artwork restorations have been done. In 1927, the museum has been enlarged and new arrangements have been done. Between 1959 and 1966 the gallery has been updated to new interior design and furnishing standards. Lastly, in 1997, abandoned rooms were recovered and new upgrades have been done in technological point of view. Building physically preserves its cultural identity until today since every intervention have respected to the previous ones. However, it is not easy to perceive each intervention in different periods.

C. ***Adaptive reuse potentials***

It is unique in terms of being the first library of the Italy. For this reason, the building has social and cultural potentials. It has socio-cultural meaning for the community and historic significance. Because of its clustered organization the functional potentials are quite low since it is not easy to adapt the building with every function. Building has physical potentials due to originality and aesthetics of the architectural character. It has economic and environmental potential due to its location.

D. ***Actors in decision making***

Because of uniqueness of the building and rarity value, the historic library part has been opened to the visitors as an exhibition and art gallery function was added to the building. It is a listed building and the actors in decision-making were investors and authorities.

E. Decision of functional changes

In terms of importance of the collection gallery is not as significant as the Pinacoteca di Brera. However, in terms of spirit of the place and architectural character building is more impressive. The function itself comes from the history of the building and changing the function of the building is not a correct approach because of the heritage values. Due to heritage values of the building, a passive function is appropriate in terms of preserving its cultural significance.

Final evaluation of Ambrosiana Art Gallery

Ambrosiana was a library that belongs the 17th century, which also known as the first library in Europe. Then, the building also used as an academy for a while. Today, the building is converted to an art gallery with a rich collection. There are totally 24 rooms that houses outstanding art works that belongs to the Italian paintings and sculptures. It also includes a new library, art academy and a bookshop. Additionally, the historic library is still exhibited as a part of the exhibitions. The circulation of the building has been organized in a way that the historic library is the last part of the exhibition before the exit. The dramatic effect of the historic library impresses people after the exhibitions. The original books have been preserved successfully and are still exists in the library.

It is three-storey building with a secret courtyard in the middle. The courtyard is surrounded with arcaded porticos that are used as semi-open spaces. The courtyard cannot be perceived from the outside and the building surprises visitors with its faschinating architecture.

The heritage building has been restored in different periods by different architects. The building consists of different historic layers on top of eachother. The restoration includes 4 phases as follow:

During the restoration works held by Luca Beltrami (1905-1907) several transformations have been done the heritage building is adapted to a new displaying system. Also, some artwork restorations have been done to be displayed in the gallery.

In 1927, Ambrogio Annoni has adapted the museum to an understanding of 20th century. The museum was enlarged and new arrangements had been done within the museum.

Then, between 1959 and 1966 the museum had been updated to new standards by Luigi Caccia. The interior environment had been redesigned and new furnitures had been proposed.

Lastly, during 1990s, abandoned rooms were recovered and existing rooms had been renovated in a more modern way. Updates in technological point of view had been done including lighting system of the museum. However, these interventions are still claimed to destroy the traces from the Caccia's interventions.

The restoration process of the heritage building was a long and challenging process. In general, each phase respects the interventions made before; however, it is not possible to distinguished one from other.

4.2.2.6 Il Gattopardo Cafe

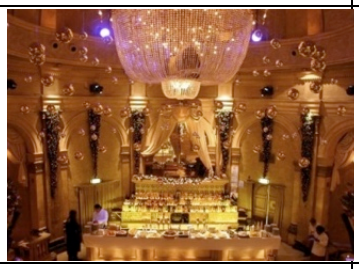
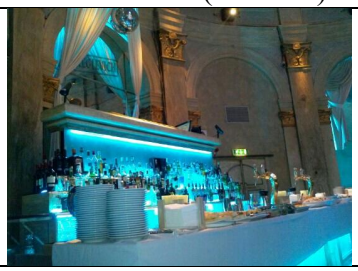
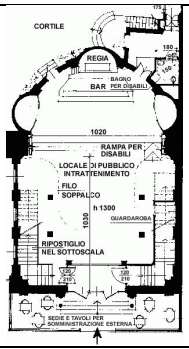
<table>
<tr><td colspan="3">IL GATTOPARDO CAFE</td></tr>
<tr><td colspan="3">General Information</td></tr>
<tr><td colspan="3">LOCATION: MILAN, ITALY
DATE OF CONSTRUCTION: 1900s
DATE OF RENOVATION: 2001
ORIGINAL FUNCTION: CHURCH
NEW FUNCTION: ENTERTAINMENT PLACE</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>View from the road *</td><td>Exterior view*</td><td>Entrance *</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Interior view (URL 12)</td><td>Interior view (URL 12)</td><td>Interior view (URL 12)</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Mezzanine floor (URL 12)</td><td>Chandelier (URL 12)</td><td>Bar (URL 12)</td></tr>
<tr><td colspan="3"> 
</td></tr>
<tr><td colspan="3">Plan (URL 12)</td></tr>
<tr><td colspan="3">*Photos taken by Author, 2014</td></tr>
</table>

Figure 19: Visual materials of the Gattopardo cafe

Historical background: Gattopardo was a church, which was dedicated to Saint Joseph. It was built at the beginning of the last century and then, deconsecrated in 70's. In 2001, it was converted to a multifunctional entertainment space at the center of the city.

The place can be rented for different kind of activities. The place is used as disco/bar; also it is possible to organize all kind of events such as private parties, conferences, concerts, exhibitions, fashion shows, gala dinners, business lunches, etc. It is also possible to use the place for television, photographic and cinema sets (URL 12).

Project: The place takes its name from Luchino Visconti's film 'Il Gattopardo' which means leopard in English. The restoration works of the church has been carried out in a year without altering the original features of the place. The place has a elegance atmosphere with fascinating details. Ancient Palermitan palaces have inspired the concept of the space. The chandelier, which is placed over the dance floor, is the most dominant element of the design. It is composed of 65.000-drop crystals, which change their colours and nuances with the help of a computerized scanners system. Gattopardo cafe can host 100 people for a buffet on the balcony, which has a separate entry, 350 in the ground floor. Also some theatre performances can be organized in the place for 120 guests (URL 12).

Evaluation of Il Gattopardo in the light of model proposal:

A. Analysis of the existing building

Gattopardo was a church that has been deconsecrated and converted to a multifunctional entertainment place. The church is located in the center of the city in a residential district. The building is attached to its residential buildings next to it. It has been built by red bricks and ornamented with white stone. It consists of a single space with a mezzanine floor.

Its architectural, aesthetic and historic value are quite significant. The contextual, spiritual, emotional and rarity values are high when we compared with an industrial building; however they are quite low when it is compared with any other religious buildings which is more monumental.

B. Conservation actions

There is not too much intervention to the church. It was in good condition when it is decided to convert to another function. The church has been preserved and maintained as it is. The only intervention was the interior decoration of the place. The huge chandelier, which has been placed in the middle of the space, has become the most important feature of the place.

C. Adaptive reuse potentials

The building has economic and environmental potential because of its context. The functional and physical potential are not quite high since the building is large and easily adaptable because of its architectural character. Political potentials can be also barrier for the new use alternatives because of regulations in adaptive reuse of religious buildings.

D. Actors in decision-making

In this project, the actor in decision-making is the investor. Users and technical teams are not decision makers of the new use. Authorities did not act in decision making of the new function since it has been rent to private owner; however authorities control the future use of the building.

E. Decision of functional changes

In most of the European countries, there are many religious buildings, which are out of use. Since they are disused local authorities cannot manage conservation and rehabilitation of these religious buildings. In order to sustain these buildings reuse with another function is inevitable. So authorities have began to rent or sell these buildings to private users with controlling its future use. However several threats could be appear in future use of these buildings. New use should be respect the originality of the building and its spiritual value as well.

Final evaluation of Il Gattopardo Cafe

The heritage building was a small church located in the residential area. After a while, the number of the visitors for the church decreased and it was deconsecrated in 1970s. It stayed closed for a while, ant then it was rented to be converted to entertainement place.

The church has outstanding character with the inner hall and the balconies looking towards it. The inner decoration of the entertainment place takes its concept from the ancient ballrooms. The most important elements of the design are the chandelier that supports the concept.

The conservation works have been respected to the religious building. The intervations were limited and originality of the church has been preserved. Also, the new designs have been made to highlight the significance of the place rather than competing with it.

The heritage values of the building are one of the most important indicators. Spiritual, emotional and symbolic values of the religious buildings are important determinants in the adaptive reuse decision-making. The interaction of the religious building with the community and the users should be taken into consideration. If it is a religious building that its spiritual and emotional values are crucial for the local community, the new use alternatives will be limited. The decisions of the new uses for the religious buildings cannot be only depends to the decision maker and the users, it is also a politic decision.

In this case, the church is not this much monumental when compared with the others. For instance, when compared with Duomo di Milano, which is also another church located in Milan, its contextual, spritual, emotional and rarity values are quite low. In this respect, it gives flexibility to the decision-makers in deciding the new use for the religious building.

4.2.2.7 University of Milan (Universita Degli Studi di Milano)

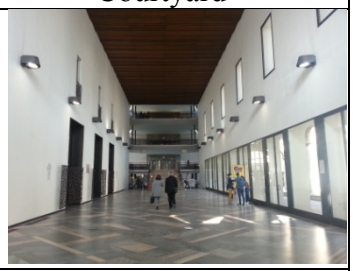
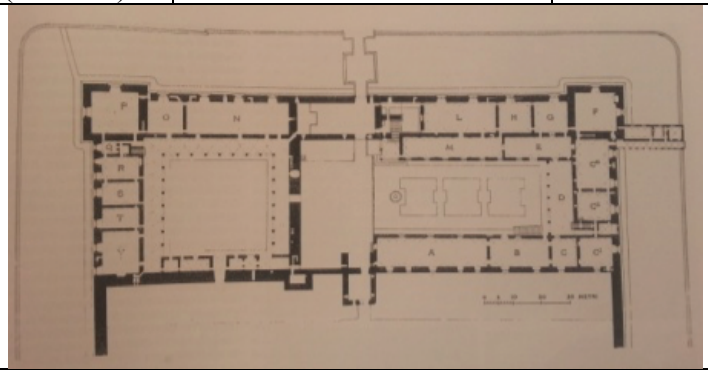
UNIVERSITY OF MILAN		
General Information		
LOCATION: MILAN, ITALY **DATE OF CONSTRUCTION:** 1456 **DATE OF RENOVATION:** 1958 **ORIGINAL FUNCTION:** HOSPITAL **NEW FUNCTION:** UNIVERSITY		
		
After bombing (URL 13)	After bombing (URL 13)	After bombing (URL 13)
		
Entrance *	Exterior view *	Courtyard*
		
Classrooms (URL 13)	Portico *	Interior view *
		
Ground Floor Plan (Dal Co and Polano, 1991)		
*Photos taken by Author, 2014		

Figure 20: Visual materials of University of Milan

Historical background: The building was built as a hospital by the Sforza family, which was the dukes of Milan in the 15th century. The building is one of the first Italian examples of civil architecture (URL 13).

Project: It was seriously damaged by the bombings of 1943. In 1958, after a complex series of reconstruction and renovation works, it became home to the University Rector's Office, the administrative offices and the Faculties of Law and Humanities (URL 13).

Evaluation of the University of Milan in the light of model proposal:

A. Analysis of the existing building

The building is located in the center of the Milan; in a strategic location close the Duomo di Milano. It has a rectangular shape with two inner courtyards, which the spaces are organized around them. There are porticos between the closed spaces and the courtyard, which act as transitional spaces. It has been built by red stones with a ornamented façade.

The architectural and aesthetic values of the building are important due to its unique features. It has historic and rarity value as being one of the first and most important hospitals that had been built by Sforza family. The documentary and educational values are also important since it symbolizes the idea of a hospital in that era. However, the social, cultural and emotional values of the building are not as important as the others.

B. Conservation actions

The building has been turned to its original state with series of restoration works. The demolished parts have been reconstructed and the existing parts have been maintained. It has been respected to the originality of the building and the built heritage has been preserved successfully.

C. Adaptive reuse potentials

The functional and physical potential are not quite high since the building is not easily adaptable to every function due to its space organizations. The building has economic and environmental potentials due to its strategic location, next to Duomo di Milano, which the most important square of the city. The socio-cultural values of the building are not high so it does not have social and cultural potential since it was built as a hospital. In terms of heritage values there is not barriers for the new function of the building so it also has political potential. If the social and cultural potential is high, using an architectural heritage as university is not an appropriate approach since this function can damage the historic characteristics of the building. The building is graded lower in terms of functional potentials since in terms of space division and structural elements, it is not a simple task to adapt building for another function. However, university function is appropriate for the hospital building. The space arrangements of a hospital are appropriate for the space requirements of a university in terms of divisions.

D. Actors in decision-making

The hospital is a listed building so the decision maker for the new use was the investor that was the authorities at the same time. The technical team and the users were not involved in the decision-making.

E. Decision of functional changes

It has been decided to convert the building into university due to its physical and functional potentials. In general, the adaptive reuse approaches can be acknowledged with a tendency to use the architectural heritage in the form of museum, art gallery or cultural center's in order to preserve the heritage of the buildings and sustain the traditional knowledge. If the correct analysis and identification of the potentials are done, another function, which can sustain the originality of the building, can also be assigned to the heritage of the buildings. The hospital building that converted to University of Milan is a successful example in this context.

Final evaluation of University of Milan

University of Milan building was a hospital building that belongs to the 15th century. During the Second Worls War, it had been seriously damaged in like other many heritage buildings in Milan. Then, it has been restored and converted to a university campus.

The heritage building is composed of two main courtyards, which are effectively used by students for different kind of activities. Other spaces are organized around the courtyard and used as classrooms and offices for the academicians. The conversion is successful in terms of functional change since space divisions in a hospital were suitable to the university function. Another proposed function with a need of larger space might be caused interventions that could have been damaged the originality of the heritage building.

The university building also houses different activities and exhibitions during ‘Milan Design Weeks’ due to its strategic location in the heart of the city and also its

physical characteristics with a large courtyard in the middle for flexible exhibitions. Every year the courtyard houses successful art installations in and around the courtyard during the Design Weeks.

University of Milan is a government university and it is one of the most known universities of Italy especially in science and law faculties. The building has been renovated in different periods so far but it still needs some rehabilitation works, however, the conservation works lacks a budget.

4.2.2.8 Castelvecchio Museum (Museo di Castelvecchio)

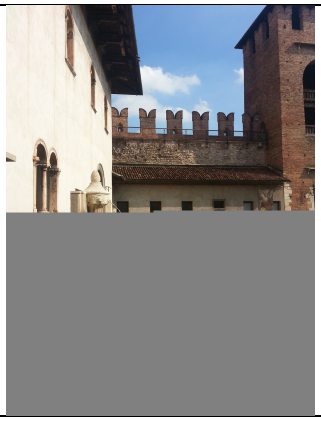
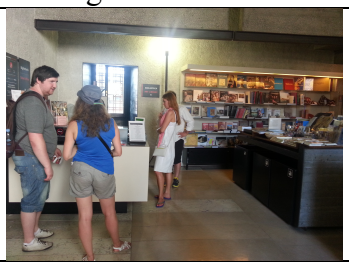
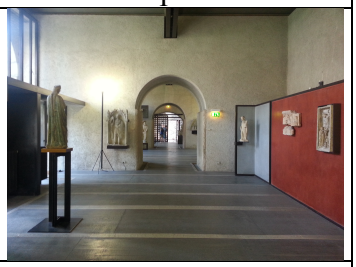
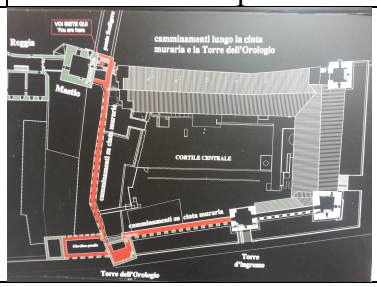
CASTELVECCHIO MUSEUM (MUSEO DI CASTELVECCHIO)		
General Information		
LOCATION: VERONA, ITALY **DATE OF CONSTRUCTION:** 1ST- 18TH CENTURY **DATE OF RENOVATION:** 1957-64 **ORIGINAL FUNCTION:** CASTLE **NEW FUNCTION:** MUSEUM		
		
Exterior view*	View from the river*	Courtyard*
		
Brigde on the river*	Pool in the courtyard*	Sculpture*
		
Bookshop*	Exhibition space*	Exhibition space*
		
Plan (Source: Exhibition Panels)		
*Photos taken by Author, 2014		

Figure 21: Visual materials of Castelvecchio Museum

Historical background: Castelvecchio Museum in Verona consists of complex of buildings, which have been built in different times. It is situated next to the river Adige, which runs through the centre of Verona. It is connected to the other side of the river with a bridge that marks the line of the historic wall, which surrounded the city and divided the castle into two. It was built from the 1st to the 18th century and renovated between 1957 and 1964. The museum was designed to house a collection of sculptures, paintings and artefacts about the city and the surrounding area from the 12th to the 18th century. The most important piece was a sculpture that had acquired an important symbolic value for the city, a statue of one of the original members of the family (Cangrande I), seated upon a horse (Brooker and Stone, 2004).

Project: The aim of the project was to understand historical and contextual qualities and then to apply a new contemporary layer of value and consequence to the building. This project was a revolutionary approach in 1950s and even today it is one of the greatest examples of remodelling projects (Brooker and Stone, 2004).

The conversion is not only successful in terms of conservation and museography approaches but also successful in terms of management practises as well. The reason to visit the castle is not just its rich collections, also the building itself as an object. These two aspects make the conversion successful and sustainable in terms of management.

Evaluation of Castelvecchio Museum in the light of initial model proposal:

A. Analysis of the existing building

The castle is a listed building and a unique architectural heritage for Verona. It is unique in terms of being the only castle located in the city and having a strategic

location in the city center. The castle is located at the end of a bridge, which connects the two sides of the river. Castle acts also as a meeting point for the local people and tourists. It is well integrated to the city with its fascinating architecture.

The castle is also important in terms of architectural character and having different historic layers on top of each other like a palimpsest. It has been started to built in the first century and the construction have been continued until 18th century. It has constructed as load bearing structure with local stones that belongs to medival period and preserved successfully until today. It consists of double floor with solid facades and openings looking towards the courtyards.

The building was built as a fortress, and then converted to the residential palace. Military structures represent a sense of identity, national pride and bearing a message of the oppression. So the castle is important with its heritage values both tangible and intangible. It has architectural, aesthetic, historic, documentary, economic, educational, contextual, social, cultural, symbolic, and rarity value.

B. Conservation actions

The purpose of the Project was to keep the original parts as it is and to add a contemporary layer, which is in the harmony with the existing. The original castle has been preserved as the original and new exhibition blocks have been added in the courtyard. It is a successful example of ‘continuity between tradition and modernity’. The aim of the project is trying not to introduce a contrast to castle. The forms were kept same and new additions have been designed. The project is an idea of new museum by keeping original fabric as it is. The restoration project aims to going back to original by keeping different historic layers on building.

C. Adaptive reuse potentials

It has physical potentials because of originality of the architectural character and economic potential because of its location. Also social and cultural potentials are quite high since the meaning of the building and historic significant are important for the community.

D. Actors in decision making

In this example, the decision maker of the project is the investor and the authorities since it is a listed building. Technical teams and users do not act in the decision making process.

E. Decision of functional changes

In general, Italians has a tendency to use the heritage buildings, especially the listed ones, as museum since it is a passive function and they do not want the heritage buildings to be damaged. Although it is not possible to convert all listed heritage buildings to museums, in this case converting the heritage building into museum is a correct approach because of uniqueness of the building, heritage values, location and potentials.

Final evaluation of Castevecchio Museum

The museum is perfectly integrated with the city in terms of its location, new use and also with the collections exhibited in the museum. The new function respects the history and the originality of the building. The interior of the museum has been designed with a contemporary style. The materials, colours and exhibiting elements are in harmony with the historic building and at the same time can be differentiated from the old. The castle consists of different parts that have been built in different

periods; however, new additions are legible and have been built with appropriate materials. The museum also is well designed in terms of circulation, lighting and organization of displays.

Castelvecchio Museum is composed of a complex of buildings, courtyards, gardens and the tower of the Scaliger Castle. The historical and the contextual qualities of the place are understood and a new contemporary layer that respects the originality of the heritage building has been added. The original structure is enclosed on three sides by a strong shear wall.

The castle was a complicated fusion of different historic periods and one of the most fascinationg features of the intervention is that all historic layers on the building is uncovered. A series of additions were strategically placed with the building, which was used to exhibit the art works. The exhibition panels have been designed in a modernist way to contast with the historic environment of the heritage. On the other hand, these elements highlight the art pieces instead of competing with them.

One of the most important features of the museum is the statu of The Cangrande, which has emotional importance. The statu can be seen from each corner as the vistors walks around the museum. It can be perceived starting from the entrance in its framed and sheltered position.

4.2.2.9 Tate Modern

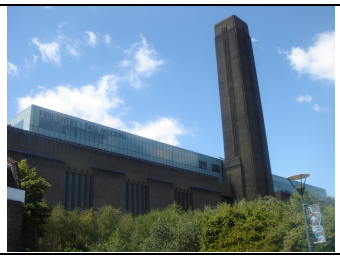
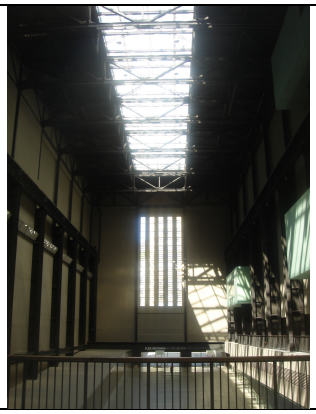
TATE MODERN		
General Information		
LOCATION: LONDON, UK **DATE OF CONSTRUCTION:** 1947-1963 **DATE OF RENOVATION:** 1994-2000 **ORIGINAL FUNCTION:** POWER STATION **NEW FUNCTION**: ART GALLERY		
		
New extension (URL 14)	Exterior view*	Millenium Bridge*
		
End of the bridge*	Entrance hall*	Inner view*
		
The tower*	Skylight*	Entrance*
*Photos taken by Author in 2014		

Figure 22: Visual materials of Tate Modern

Historical background: The Bankside Power Station is located just across the Thames River (Powell, 1999). The power station was designed by Sir Giles Gilbert Scott and built in two phases between 1947 and 1963. It consisted of a stunning turbine hall, 35 metres high and 152 metres long, with the boiler house alongside it

and a single central chimney. The site had been redundant since 1981 (URL 14). When the building has lost its original function due to technological developments, it had been decided to convert the building to an art museum.

Project: A competition had been organized and Zurich based architects 'Herzog& De Meuron Architekten' won the competition. While other competitors' proposed radical alterations to the building (Powell, 1999), their project aimed to accentuate the particularly huge and industrial qualities of the building. The gallery spaces occupy the appropriate rooms around the edge of the building, while the vast turbine hall has become an internal public street. The most dramatic and obvious element of the remodelling is the insertion of a massive lantern or glazed roof, which hovers along the central axis of the building. It functions as a lightwell during the day, throwing the natural light into the public space at the center of the gallery. Although the function of the building has complete changed, the inheret qualities of it have not (Brooker and Stone, 2007). The Bankside Tate has been linked to the City by a new bridge, designed by Sir Norman Foster and Sir Anthony Caro (Powell, 1999).

Evaluation of Tate Modern in the light of initial model proposal:

A. Analysis of the existing building

Tate Modern was an industrial factory, which is decided to reuse as an exhibition space for contemporary art in the frame of urban development of the district. It is a wide span building covered with flat roof and a transparent box has been added on the roof, which is used as the cafe.

Tate was a power station building. Its symbolic and spiritual values are not as important as some of the other case studies. However, in terms of architectural,

aesthetic, historic and rarity value, it can be accepted as a good example of industrial buildings. It also has documentary and educational values because it gives us idea of an old power station of its time.

B. ***Conservation actions***

The building was in good condition when the conversion was decided. The walls and the roof were successfully preserved and a transparent space has been added on the roof. Maintenance work has been done and necessary adaptations have been done for the additional functions and their service spaces like restaurant. Bankside is not a listed building but still the project respected to the originality of the building and the architectural character of the building has been preserved.

C. Adaptive reuse potentials

The physical chacteristics of the building (being a wide span building) was perfectly suitable for an exhibition space. It is a flexible space, which can be organized according to different exhibitions. So building has physical and functional potentials for an exhibition space. Additionally, the exhibition space and a restaurant function have responded the needs of the district.

D. ***Actors in decision making***

Tate Modern was a part of the regeneration project of the district. The needs of the region have been searched and the abandoned industrial building has been decided to use as cultural purpose. In this project, the decision makers are investor and authoritiess in decision-making process. On the other hand, users and technical teams did not involved in decision-making.

E. Decision of functional changes

In 21st century, industrial buildings are accepted as valuable as other historic buildings in terms of cultural heritage. It gives information about new generations about the architecture and construction techniques of the related period. Thus, industrial buildings also deserve preservation. The factory has been converted into exhibition space for contemporary art, which includes also a restaurant and a bookshop. The new use has provided the needs of the district. The center attracts too many visitors, including locals and the tourists, for the exhibitions.

Final evaluation of Tate Modern

After closure of Bankside Power station in 1981, the industrial building was at risk of being demolished by some developers. Many suggestions had been done for the new use of the buildings; however, the application to list the building as an industrial heritage was refused. Finally, in 1994 it is announced that Bankside Power Station would be the home for the new Tate Modern. The structure was roughly divided into three main areas each running east-west - the huge main turbine hall in the centre, with the boiler house to the north and the switch house to the south. The most obvious intervention to the existing structure is the two-story glass extension on the roof. Internal structure has been preserved as original.

The gallery houses a national collection of British art from 1900 to the present day, including international modern and contemporary art. It is known as one of the largest museums of modern and contemporary art in the world. When Tate Modern had attracted more visitors than originally expected, it had been decided to extend the museum in 2004. The expansion is focused on the south west of the building with the intention of providing new display spaces.

A ten-storey tower was built above the oil tanks that are designed by again Herzog & Meuron. The extension is opened to the public in June 2016. The new extension includes additional gross internal area for display and exhibition spaces, performance spaces, education facilities, offices, catering and retail facilities.

4.2.2.10 Great Market Hall

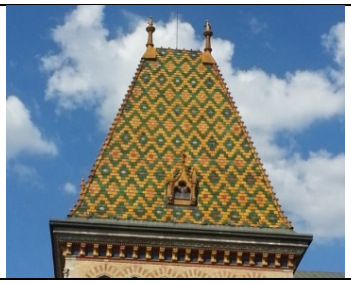
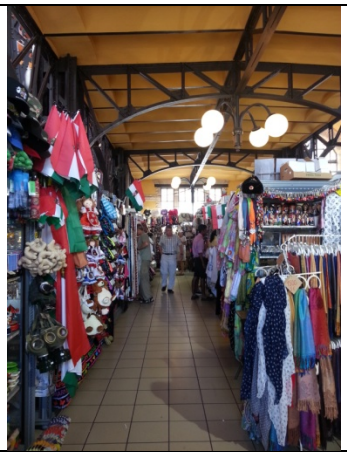
GREAT MARKET HALL		
General Information		
LOCATION: BUDAPEST, HUNGARY **DATE OF CONSTRUCTION:** 1897 **DATE OF RENOVATION:** 1990s **ORIGINAL FUNCTION:** MARKET **NEW FUNCTION:** MARKET+ SOUVENIR /ART AND CRAFT SHOPS		
		
Front facade*	Entrance*	Back facade*
		
Ground level*	First floor*	Tile details*
		
Entrance*	Souvenir shops*	Groceries*
*Photos taken by Author, 2014		

Figure 23: Visual materials of The Great Market Hall

Historical background: The Great Market Hall or Central Market Hall is the largest and oldest indoor market in Budapest. A competition was held to determine the

architect for this grand market. Samu Petz was chosen and construction started in 1894 (Steves and Hewitt, 2011). Unfortunately, just before the opening in 1896, a fire destroyed a sizeable portion of the roof, delayed the opening until the following year. Market also had been demolished in the II World War and in the mid-1990s. The city government decided to restore the monument and the market was reconstructed between 1991 and 1994. The result was a clean, bright, colourful new market that serves the needs of the city's residents and its many visitors (URL 15). Today, The Central Market Hall is one of the most popular tourist attractions of the city. On the ground floor offer produce, meats, pastries, candies, spices, and spirits. The second floor has mainly eateries and souvenirs. The basement contains butcher shops, fish market, and pickles (URL 16).

Project: The restoration works include bringing the market into its original state. The roof of the building was one of the most important features of the structure so the demolished roof was constructed again with traditional tiles called ‘Zsolnay’. The interventions restored the building without destroying its originality and architectural character. In 1999, the project was awarded with FIABCI Prix d’Excellence.

Evaluation of the Great Market Hall in the light of model proposal:

A. Analysis of the existing building

The building was also used as market before. Then, in the war it has been damaged and restored to continue the same use of the building. It consists of mezzanine floors which are connected each other with the help of bridges and stairs. The building has been constructed with load bearing system and the roof has been covered with steel structure. The design of the building has some neo-gothic touches with the roof style and the entrance gate.

The architectural, aesthetic, historic and rarity value of the building are quite high due to its unique features. However, the most important values in this building are social, cultural and emotional values. The market was one of the most important social activities of its time. Its cultural meaning is also important for the community that it belongs to. The documentary and educational values are also important since it symbolizes the idea of a market of its era.

B. Conservation actions

The market was demolished after II World War. The restoration works include bringing the market into its original state. The roof of the building was one of the most important featues of the structure so the demolished roof was constructed again with traditional tiles called 'Zsolnay tiling'.

The restoration works of the market were successful. The intervention restored the building without destroying its originality and architectural character. However, in 1999, the project was awarded with FIABCI Prix d'Excellence.

C. Adaptive reuse potentials

It is a wide span large building which can be easily adapted to any project so they have physical and functional potentials. However, social and cultural potentials of the structures are more important. It has also economic potential due to the location and its former function and also has environmental potential due to site access, environmental quality and neighbourhood relationships.

D. Actors in decision-making

The actor in decision-making is the authorities, which are at the same time investors of the project. Users and technical teams did not act as actors in the decision making process. There were no other discussions to propose another function for the market. It is decided that it should be used as the original function with some adaptations.

E. Decision of functional changes

The adaptive reuse project of this building is different than the other examples discussed above. The use remained same but the market idea of our era has been rethought. Some more functions were added to the building such as souvenir shops. In the time it was built the building's only function was to serve as a shopping facilities, on the other hand, today it became one of the most important tourist attraction points of the city. People sometimes came just to visit building itself rather than doing shopping.

Final evaluation of Great Market Hall

The building consists of mezzanine floors which are connected each other with the help of bridges and stairs. It has been constructed with load bearing system and the roof has been covered with steel structure. The design of the building has some neo-gothic touches with the roof style and the entrance gate. The architectural and aesthetic value of the building is quite high due to its unique features. However, the most important values in this building are social, cultural and emotional values. The market was one of the most important social activities of its time. Its cultural meaning is also important for the community that it belongs to.

The market is still in its original use but it has been adapted to the needs and standards of our era. Also, the originality of the market and the sense of place have been preserved. Supplementary functions were added to the building such as souvenir and art and craft shops. In the time it was built the building's only function was to serve as a shopping facilities, on the other hand, today it became one of the most important tourist attraction points of the city. The adaptation of the market has satisfied need and the expectations of the market vendors, tourists and also local community. The market is physically, economically and socio-culturally sustainable since 1994.

4.2.2.11 CET (Central European Time) (Balna Budapest)

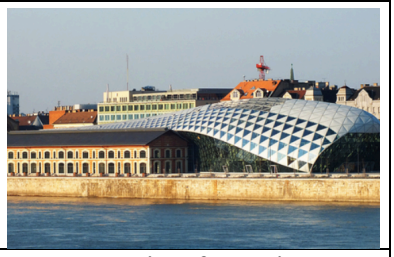
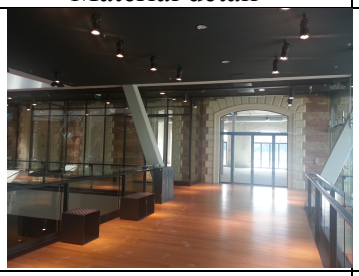
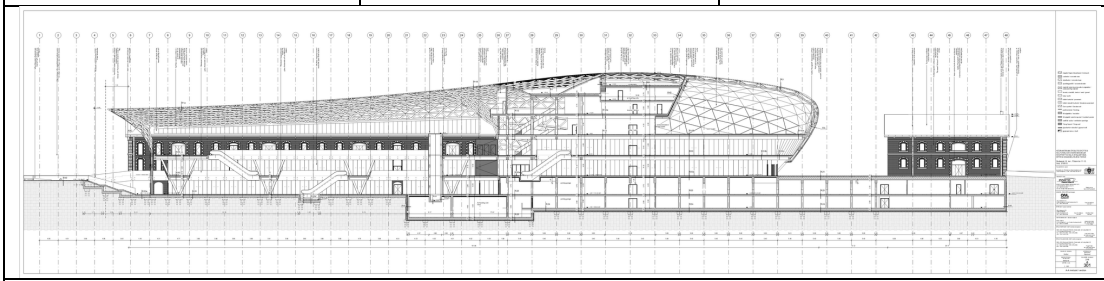
CET (BALNA BUDAPEST)		
General Information		
NAME: CET (BALNA BUDAPEST) **LOCATION**: BUDAPEST, HUNGARY **DATE OF CONSTRUCTION:** 1900S **DATE OF RENOVATION:** 2011 **ORIGINAL FUNCTION**: WAREHOUSE **NEW FUNCTION**: MIXED USE DEVELOPMENT (RETAIL & CULTURAL)		
		
Exterior view*	Danube river*	Extension from river (URL 17)
		
Café*	Material detail*	Plaza*
		
New additions*	Inner view*	Roof structure*
		
Section (URL 17)		
*Photos taken by Author, 2014		

Figure 24: Visual materials of the (CET) Balna Budapest

Historical background: Bálna is a commercial, cultural, entertainment and leisure centre and also a meeting point for new experiences. It is located next to Danube River and connects the tourist and the gastro-zone. The unique shape of the new addition can be seen from the river and takes the attraction of the visitors.

Project: CET (Central European Time) has been designed by studio ONL in 2010. The project is a mixed-use development and the concept refers an important metropolitan centre in the heart of the city. The shape of the building refers to the smooth and friendly streamlined body of a whale. Name and shape of the building symbolizes its cultural potential and commercial position. The project also aims re-establishing visual contact between the two sides of Danube River (URL 17).

Two warehouses originally belong to the 19th Century and the goods were distributed to the 6 warehouses, which originally occupied the banks of the Danube; however, unfortunately, three of the 6 warehouses are now remaining in the site. The design team proposes to develop a landmark complex in a smooth transition from old to new. The first two warehouse buildings have been carefully renovated while adjusting the size of the vertical windows as to open up the hermetic nature of the buildings to the Danube (URL 17).

Evaluation of CET in the light of model proposal:

A. Analysis of the existing building

The warehouses have a strategic location next to Danube River. The building is also important in terms of architectural character. It is composed of two blocks that has a linear organization facing with the river. It has rectangular openings repeated on the main façade. The original parts of the warehouses have been successfully preserved

until today; however new additions were needed to adapt the building for the space requirements of the new function and to connect two separated blocks together as a single space. It has been constructed by load bearing structure, and the new additions are steel structures, which can be reversible when it is needed.

The warehouses have architectural, aesthetic, economic value. Its documentary, educational and rarity values can be accepted as quite low since they were ordinary warehouses. The contextual value is high due to its strategic location. The symbolic and spiritual values are not important as the others when compared with the other examples.

B. Conservation actions

Historic and aesthetic values and their preservation was one of the most important aspects during adaptation process. Old warehouses have been maintained and their originality has been preserved. The new function of the building required new additions, which are inspired from shape of a whale. Different blocks have been connected with new additions.

In general, the adaptive reuse project was successful in terms of preserving the cultural significance and identity of the heritage buildings. Contemporary conservation principles have been followed during restoration project. New additions have are reversible and legible and also respects the originality of the heritage building.

C. Adaptive reuse potentials

It has economic potentials due to its location and site access, physical and functional potentials since it was a wide span building and the space is divided by newly added structures for the new space requirements of the building. The physical chacteristics of the building (being a wide span building) was perfectly suitable for a retail and cultural space. It is a flexible space, which can be organized according to different functions. So building has physical and functional potentials. The main concept of the building is to create a center that brings people together. Adaptive reuse has been contributed to the local economic and cultural development to the whole region.

D. Actors in decision-making

The decision makers of the project were investor and authorities. Technical teams and the users do not act in the decision making process.

E. Decision of functional changes

It was a correct approach to convert the warehouse into a multifunctional center due to the potentials of the building and its location. In general, the project has positive effects of transformation on its close vicinity. It is a successful conversion example since it was restored within the frame of modern conservation principles and made positive contributions to physical and social development of its close neighbourhood.

Final evaluation of CET (Central European Time)

The existing warehouses were composed of two blocks that are separated and isolated from each other. The new addition is designed in a way that connects two blocks and creates a common indoor space between two. The addition is built from steel structure and covered with glass in order to take daylight into the building. The

addition in the middle is designed for service spaces such as elevators and transitional spaces. The exsiting blocks are divided for creating different spaces for different kind of activities in the building. The new addition is extended towards the plaza and a square has ben created for also outdoor activites.

The building is located in one of the most important tourist attraction points of the city, which houses many tourists from different countries every day. It is a successful adaptive reuse project in terms of functional changes. When compared with the other categories, we have more flexibility in finding new uses for the industrial heritage structures. In this respect, converting the industial heritage building to a mixed-use development that includes retail and cultural activities was a sutiable approach.

The new function of the building is responded to the needs of the district. The conversion of the warehouses into a retail and cultural center has contributed to socio-cultural development of the district. New commercial buildings have been opened and people have started to make investment to the district. It also encouraged restoration of other heritage buildings and whole district has started to develop.

4.2.2.12 Lanitis Center

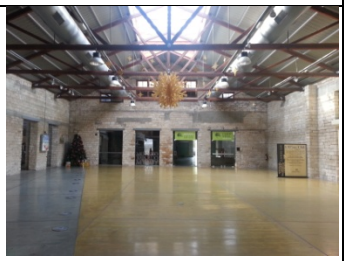
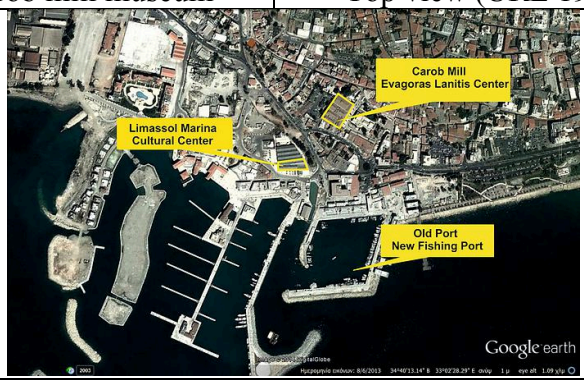
<table>
<tr><td colspan="3">LANITIS CENTER</td></tr>
<tr><td colspan="3">General Information</td></tr>
<tr><td colspan="3">LOCATION: LIMASSOL, CYPRUS
DATE OF CONSTRUCTION: 1900s
DATE OF RENOVATION: 2002
ORIGINAL FUNCTION: CAROB MILL
NEW FUNCTION: MULTI-FUNCTIONAL CENTER</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Exterior view*</td><td>Reception*</td><td>Roof details*</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Performance/event space*</td><td>Exhibition space (URL 18)</td><td>Restaurant*</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Carob mill museum*</td><td>Carob mill museum*</td><td>Top view (URL 19)</td></tr>
<tr><td>  </td><td colspan="2"> 
</td></tr>
<tr><td>Carob mill museum*</td><td colspan="2">Plan (URL 19)</td></tr>
<tr><td colspan="3">*Photos taken by Author, 2015</td></tr>
</table>

Figure 25: Visual materials of Lanitis Centre

Historical background: The Carob Mill is a listed industrial building located in the city center of Limassol. The site, which the building is located, was originally used for the storage of Carob products that used to be processed through the carob crushers. The milling equipment is located in the center of the building and has been restored as a carob museum since they are important as industrial archaelogy. The multi-functional center consists of a main entrance hall and a second entrance from the parking area (URL 18).

Lanitis Carob Mill was built in the early 1900s when carobs were one of the main exports of Cyprus. The building is located between the Medieval Castle and the new Limassol Marina. It connects the past with the present and adds a contemporary layer to the city. The building was renovated in 2002 including 'Carob Mill Museum', 'Evagoras and Kathleen Lanitis Foundation', 'Richard & Berengaria' Ballrooms and 'Karatello' restaurant. Today, the center hosts many local and international exhibitions, congresses and other events (URL 20).

Project: The renovation works aim to retain the original form of the building with its stone walls, pitched roofs and skylights, while integrating the new elements of lightweight construction in such a way that they can be removed without damaging the original building fabric. The only major modification to the space was the removal of a central row of concrete columns, which were constructed to support the weakening trusses. The existing roof sheeting was removed, and new laminated timber trusses were installed, which is designed to offer a high standard of thermal and acoustic insulation. The concept was developed with an architect from Greece, Antonis Stylianides (URL 18).

Evaluation of the Lanitis Centre in the light of model proposal:

A. Analysis of the existing building

The Lanitis Centre was constructed as a carob mill, which now has been converted to multifunctional centre. The centre includes a mill museum that old machineries are exhibited, art gallery, restaurant, cinema and conference hall.

The old mill is located in the old town of Limassol next to old castle, near marina, which is a tourist attraction point of the city. The centre has indoor/outdoor interaction looking towards square where the old castle located. The building is a large span structure. It consists of rectangular pitched roofed spaces attached to each other, repeated on the same alignment.

The mill has architectural, aesthetic and historic value due to its architectural character. The economic and contextual value is high due to its strategic location. Its documentary and educational values are important due to the industrial archeology exhibited in the mill museum. It shows visitor how the carob was processing in that time. However, the symbolic and spiritual values are not important as the others when compared with the other examples. The rarity value is also important since it not the only mill located in Cyprus but it is the largest one and the architectural character is different than the others.

B. Conservation actions

The old mill was in good condition when it is decided to convert it to a multifunctional centre. The originality of the building had been preserved physically. The existing structure has been maintained. As mentioned in the project, the only intervention was on the roof. A central row of concrete columns, which

were constructed to support the weakening trusses have been removed and timber trusses have been installed. Although the roof structure in a later addition, it is in a harmony with the existing structure. The material and colour choices respect the originality of the building.

C. Adaptive reuse potentials

It has economic potentials due to its location and site access, physical and functional potentials since it was a wide span building and the space is divided by newly added structures for the new space requirements of the building. However, social and cultural potentials of the structures are low since it is an industrial building. Due to its strategic location the building has economic potential and also has environmental potential due to site access, environmental quality and neighbourhood relationships.

D. Actors in decision-making

In this project, the decision maker is the investor. However; it is a listed building so authorities also decision makers. Technical team and the users are not act as decision makers of the project.

E. Decision of functional changes

A multi-functional centre was the one of the important needs of the region. The centre includes three sections: the mill museum, Evagoras Lanitis Centre and the restaurants. The mill museum gives information about carob mill process of 1900s and gives ideas about the former function of the heritage building to the visitors. The centre organizes successful cultural events including temporary exhibitions in the different parts of the year, national and international conferences. And the restaurant has a cafe and a luxury restaurant of world cuisine.

Final evaluation of Lanitis Center

The building is located in one of the most important tourist attraction points of the city. It attracts many tourists from different countries every day. It is a successful adaptive reuse project in terms of having different functions together that makes the heritage building a 'living assest'.

The space requirements of the new function fit to the physical character of the building. It is a successful adaptation since it gives a new life to the abandoned mill building. The conversion also brought new socio-cultural activities to the district. The center houses different kinds of national and also international temporary exhibitions every year.

The adaptation is also successful in terms of preserving the originality of the heritage building. All the architectural features that belong to the old mill building have been preserved and also the historic mill has been exhibited within the center.

Industrial heritage buildings it is not enough to preserve the physical character of the heritage. All the machinery and structures that are belongs to the original use of the building should be preserved as industrial archaeology.

Adaptive reuse examples should not be accepted as single projects. Its contribution to the environment and the region is also crucial. Preservation of an individual building can be a catalyst to renewal of others. It can help the transformation of the whole area. The project is also successful in terms of creating a new life out of the city center. It caused regeneration of the whole area and to an increase in land value.

4.2.2.13 Orsay Museum

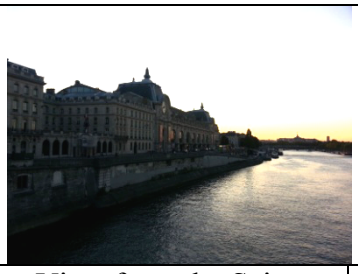
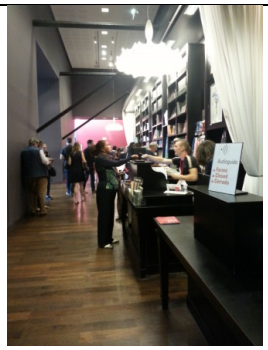
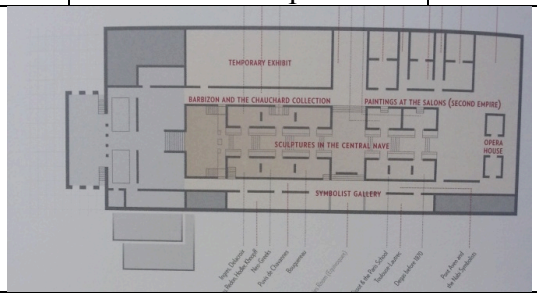
ORSAY MUSEUM		
General Information		
LOCATION: PARIS, FRANCE **DATE OF CONSTRUCTION:** 1810 **DATE OF RENOVATION:** 1986 **ORIGINAL FUNCTION:** RAILWAY STATION **NEW FUNCTION:** MUSEUM		
		
Before conversion (Mathieu, 2012)	View from the Seine River*	Exterior view*
		
Exterior view*	Interior view*	Bookshop*
		
Exhibition space*	Exhibition space*	Restaurant*
		
Plan (Mathieu, 2012)		
*Photos taken by Author, 2015		

Figure 26: Visual materials of Orsay Museum

Historical Background: Orsay Museum is located at the heart of the Paris, on the left bank of the Siene River, opposite the Tuileries Gardens near Louvre Museum. It is an extremely original building, which was a former train station, and the museum offers a collection of masterpieces of unequalled diversity since 9 December 1986.

In preparation for the Exposition Universelle of 1900, the railway company (Compagnie des chemins de fer d'Orleans) suggested a central station to be built. Three renowned architects, Emile Bernard, Victor Laloux and Lucien Magne, were called upon to design the general layout and the facade of the station; due to the proximity of such prestigious buildings as the Hotel de Salm, the Louvre, Tuileries and Place de la Concorde, a simple metallic structure was, indeed, out of the question (Mathieu, 2012).

On 21 April 1898, Lucien Laloux's project was selected. The design of his train station was monumental with impressive stone facades, and included a 370-room hotel. He had drawn all the ornamentation in an elegant and eclectic style blending Louis XIV, XV and XVI periods. The central station, thought already operational in May 1900, was officially inaugurated on 14th July. Eventually, however, the facilities became outdated and finally the train station stopped its activities on 23 November 1939; the hotel, meanwhile, continued welcoming guests until 1973 (Mathieu, 2012).

Project: In the 1960s, there was talk of demolition; the national railway company (SNCF) was thinking of replacing it with a luxury 1000 to 1500 room hotel. Le Corbusier, and others, even submitted top and front view drafts along with models, but finally, in 1970, authorization is given to destroy the building. As fate would have it, another crime against architecture- the destruction in 1972 of the Halles de

Baltard, the former Parisian whole-sale food market dating back to 1878- helped reverse the decision and the station was listed, in 1973, as a protected monument and finally classified as an historical monument (Mathieu, 2012).

The National Museum Administration suggested the building could house a collection of all the major art forms produced during the second half of the 19th and the first years of the 20th century, thus establishing a link between the Louvre and the National Museum of Modern Art. The idea was agreed and in 1974 the museum's programming was underway. In 1978 the ACT architecture agency (Renaud Bardon, Pierre Colboc and Jean-Paul Philippon) won the contest organized by the government (Mathieu, 2012).

Their design moved the entrance to the side, and placed the collections along the huge central nave which was cleared so as to make the most of its spaciousness; on each side of the central alley, were a series of rooms and above them galleries could be accessed on each level from the domed areas of the former station. On the attic level a gallery with zenithal lighting ran the length of the facade. The hotel reception rooms were incorporated into the design, the restaurant remained as it was. The metal pillars and beams as well as stuccoed ceilings by Laloux were preserved, restored and can now be fully enjoyed (Mathieu, 2012).

Lastly, the museum's exhibition rooms had to be designed, the materials and the colours chosen, the furniture selected; another contest was launced, won in 1980 by Ms. Gae Aulenti from Italy. Since then, the museum has evolved and scenography has been rethought; subsequently the large Impressionist galleries and the Amont Pavilion dedicated to Decorative Arts were remodeled, in 2011, under the

supervision of Jean-Michel Wilmotte and Dominique Brard. Orsay Museum has been rejuvenated and given a new start (Mathieu, 2012).

Evaluation of the Orsay Museum in the light of model proposal:

A. Analysis of the existing building

The former train station is located in the city centre, in a strategic location facing to Siene River, opposite of Louvre Museum. It has a linear organization, which follows the river and has a large wide span space. It consists of 5 floors which different exhibitions is organized each floor. The building is constructed with stone and which has fascinating ornaments on the facade. The structure has been built by load bearing system; the roof is built with steel sturcture and covered with glass.

The building has architectural, aesthetic and historic value due to its architectural character. Its contextual and economic values are also very important since it is located in a strategic location in the middle of the city center. It also has educational, documentary and rarity value; however social, cultural, spritual and emotional values are not as important as the others.

B. Conservation actions

The former train station was in good condition when it is decided to convert it to museum and the originality of the building had been preserved physically. The existing structure has been maintained and the large space is divided into small parts with the help of additional structures in order to organize the different exhibition parts. Although these additional parts are free standing structures and can be removed, they are so bulky and blocking the perception of the space. The material and colour choices of the new added parts can be rethought. The interior design

should be in a way that emphasizes the art collections; however, in some parts colour and material choices are competiting with the art works.

Also there is nothing left in the building from the industrial archaeology. Museum should include a “train station museum” part, which exhibits visuals and explanation about the history of the building since the original function of the building is not understandable when you visit the museum.

C. Adaptive reuse potentials

The building is a wide span large structure, which can be easily adapted to any function so they have physical and functional potentials. However, social and cultural potentials of the structures are low since it is an industrial building. Due to its strategic location the building has economic potential and also has environmental potential due to site access, environmental quality and neigbourhood relationships.

D. Actors in decision-making

As explained in the project section, in 1970, authorization is given to destroy the building. Then, in 1973, the station was listed as a protected monument. The National Museum Administration suggested the building to be used as museum with a collection of all the major art forms produced during the second half of the 19th and the first years of the 20th century with establishing a link between the Louvre and the National Museum of Modern Art. In this project, the decision makers are authorities, which also are the investors. Technical team and the users are not act as decision makers of the project.

E. Decision of functional changes

The station building is converted to a museum, which also includes a restaurant and bookshop. The museum has a rich permanent collection and also temporary exhibition spaces which famous exhibitions are housed in the different parts of the year.

When the heritage values of the building are taken into consideration it was a correct approach to convert the station building to museum. The heritage building is a part of industrial heritage of the country and it was not a suitable approach to demolish it and built a hotel complex instead.

Final evaluation of Orsay Museum

The Orsay station was the main station for the French railroad network, which the most important character of the building is great hall. The government had a plan to demolish the building and built a hotel complex in its place in 1970. Then, finally the decision had revoked and the station was instead placed on the list of Supplementary Inventory of Historical Monuments in March 1973. At the end, they decided to convert the station to a museum.

The museum has a collection from 1848 to 1914, which is from famous art painters such as Monet, Degas, Renoir, Seurat, Gauguin and Van Gogh. It is renovated in 2009 to improve the galleries, exhibition space and circulation. The main focus of the renovation was on lighting and colour of the walls in order to improve the presentation of artwork.

The museum has three floors, which exhibition spaces; galleries and other facilities

are spread over these three levels. It includes the pavilion Amont, the glass walkway, the museum restaurant, the Café des Hauteurs, bookshop and auditorium.

The main exhibition part of the museum is the great hall located on the ground floor, which is used as the main artery of the museum with galleries organised on both sides of the central nave. The great hall's glass walkway serves as the entrance space and the bookshop. Terraces located in the middle level contain other exhibition parts while the top floor includes additional exhibition spaces for the temporary exhibitions.

The Column Gallery houses the neo-impressionist works and it has been converted into a flexible space, which can be adapted for future temporary exhibitions. The pavilion Amont has been completely rebuilt. The exhibition areas have been expanded and new facilities, such as lifts and walkways, added. The flooring and wall colours have also been replaced. The gallery's Café des Hauteurs has been rehabilitated and its interior has been redesigned to create a nice atmosphere to enjoy within the museum.

The building is located in one of the most important tourist attraction points of the city. It houses many tourists from different countries every day. It is a successful adaptive reuse project, which is sustainable; however, as discussed before it is not possible to convert every heritage building into museum. Cultural functions are always the best but easiest solution for the new uses of heritage buildings. When compared with the other categories, we have more flexibility in finding new uses for the industrial heritage structures. More alternatives could have been developed for the new use of this building with another functions.

4.2.2.14 Gasometers

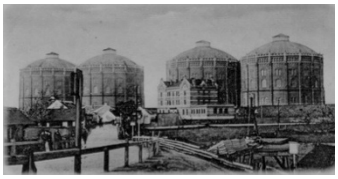
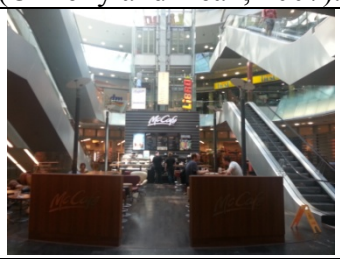
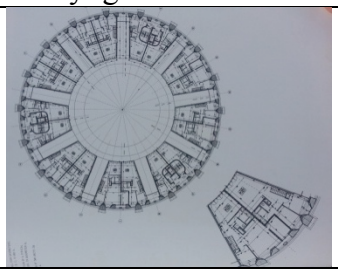
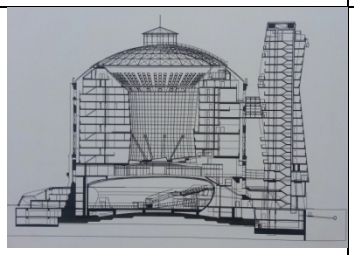
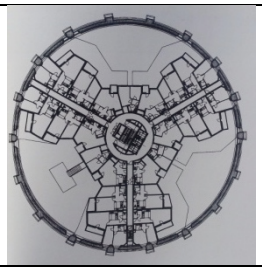
GASOMETERS		
General Information		
LOCATION: VIENNA, AUSTRIA **DATE OF CONSTRUCTION:** 1896-1899 **DATE OF RENOVATION:** 1999-2001 **ORIGINAL FUNCTION:** GAS STORAGE **NEW FUNCTION:** HOUSING COMPLEX		
		
Before conversion (URL 21)	General view*	Gasometer D (O'Kelly and Dean, 2007).
		
Bridge addition*	Bridge addition*	Interior view from the mall*
		
Skylight from mall*	Added block in Gas. B*	Window details*
		
Plan (Gasometer A)	Section (Gasometer B)	Plan (Gasometer D)
Sources of drawings: (O'Kelly and Dean, 2007)		
*Photos taken by Author, 2014		

Figure 27: Visual materials of Gasometers

Historical background: German engineer Schimming won the competition to design gasometers for Vienna city, and in 1896. The construction of the Gasometers started on 27th October 1896. The construction of the four gasometers was completed in 1899 (URL 21).

The structures were built to accomodate the total gas supply for the city of Vienna, the four gasometers stand as monuments to the city's history. Each gasometer consists of a steel frame with polychrome brick outher cladding. Situated within an industrial estate, the gasometers were decommissioned in 1985 and remained empty for seven years (O'Kelly and Dean, 2007).

The gasometers were the largest in Europe, when they were built. Then, in 1981, the gasometers have been listed by the Vienna's heritage ministry as of industrial heritage. When Vienna converted its gas supply to natural gas in 1978, the gasometers became disused (URL 21).

Project: In 1995, there was a called for ideas for the new use of the structures within scope of revitalitation and remodelling of heritage buildings in Vienna city. Each gasometer is designed by a different architect including: Jean Nouvel (Gasometer A), Coop Himmelblau (Gasometer B), Manfred Wehdorn (Gasometer C) and Wilhelm Holzbauer (Gasometer D). The project is completed in 2001 and each gasometer was divided into several zones for living, working and entertainment and shopping. The shopping mall levels in each gasometer are connected to the others by skybridges. The historic exterior wall of bricks was conserved and new additions have been replaced in the Gasometers in order to adapt the structures for the space requirements of the new function (URL 21).

The buildings have now been developed as a way to reintegrate this area into the fabric of the city, while at the same time developing a self-sufficient urban strategy of mixed-use development, which will include residential units aimed at a range of users, entertainment center and retail and office space. The site's infrastructure includes an extension of the existing transportation system and the construction of the North-East Highway (O'Kelly and Dean, 2007).

Evaluation of the Gasometers in the light of model proposal:

A. Analysis of the existing building

The Gasometers are located in a sub-urban context, which is close to the Vienna city. The structures were built with bricks with load bearing system and covered with steel frames. There are repeated openings on the facades of the 4 Gasometers. The whole elements of the structures have been preserved until today. They were large single spaces and some new structures added in order to gain them back to life.

The Gasometers were not just any industrial buildings in the Vienna. In time, they were built; the gasometers were the largest in Europe. They are outstanding examples of industrial architecture. They have architectural, aesthetic and historic value due to its architectural character. They also have educational, documentary and rarity value; however social, cultural, spritual and emotional values are not as important as the others. They do not have contextual and economic value before the conversion since it is not an urban context; however they have been increased after the opening of Gasometers as housing complex.

B. Conservation actions

The conservation actions applied can be accepted in remodelling and addition category. The industrial structures, which were in good condition, were maintained and new block additions were inserted and attached to the existing structures. 4 Gasometers have been designed by 4 different architects and have different plan layouts and ideas of housing. The new added parts respects the originality of the building since they are free standing structures and they are not touching to the existing walls. They are constructed by steel frame structures, which can be removed when it is needed.

C. Adaptive reuse potentials

They are wide span large structures, which can be easily adapted to any project so they have physical and functional potentials. However, social and cultural potentials of the structures are low since it is an industrial building. They did not have economic potentials before the conversion but now the land values in the region have been increased. They have environmental potential due to site access, environmental quality and neighbourhood relationships.

D. Actors in decision-making

In 1981, the Gasometers are listed as outstanding examples of industrial architecture by the country's heritage ministry. In this project, the authorities (since it is a listed building) and investors are the decision making of the new function. Technical teams and the users did not act in the decision making process.

E. Decision of functional changes

The idea of the project arises after Vienna undertook a remodelling and revitalization of the protected monuments. Then, in 1995 there was call for ideas for the new use of the structures. After the opening of the Gasometers as housing new residential areas have began to appear in the region.

The project is also a part of an urban strategy to develop sub-urban residential areas and to avoid the overcrowded population of the city centers. The Gasometers have metro stop right next to it and it is easily accessible to the city center.

Final evaluation of Gasometers

The Gasometers have been redesigned with a concept ‘a city within a city’. It was converted to retail and commercial units that answers all the basic needs of the dwellers. They were four cylindrical gas containers that are enclosed with red brick façade. The Gasometers were gutted during remodelling and only the red brick façade and the steel roof were left as it is.

It consists of appartments, an event hall, a cinemacenter, a shoppingmall, a student home, the viennas municipal archive, offices of telecommunication companies, a kindergarden, schools, medical and other facilities for the dwellers.

Gasometers are one of the most interesting examples of adaptive reuse and remodelling. The architectural character and heritage values gave freedom of creativity to the architects. The success of the project is that the new additions are freestanding structures and do not touch to the existing walls. They are also removable when it is needed without any harm the originality of the structures.

Although the structures are listed buildings and are unique examples, the structures are belong to the industrial heritage and can be convert to housing complex. Housing units in heritage buildings can be a threat towards the preservation of the originality but also there are many successful examples industrial buildings that are converted to housing complexes. If the project is well designed, this threat can be avoided and abandoned buildings can be turned back into life.

The contribution of the reuse to the environment and the community is also important since there is always an interaction between the conversion projects and the environment. Adaptive reuse of a heritage building can be a catalyst to the other projects in the close surroundings. The project is also successful in terms of creating a new life out of the city center. It caused regeneration of the whole area and to an increase in land value.

4.2.2.15 Mustafa Mulla Halil Olive Oil Mill

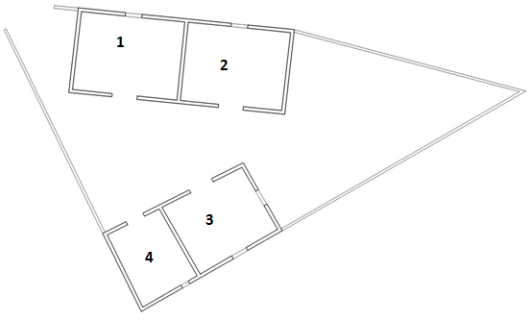
<table>
<tr><td colspan="3">MUSTAFA MULLA HASAN OLIVE OIL MILL</td></tr>
<tr><td colspan="3">General Information</td></tr>
<tr><td colspan="3">LOCATION: BUYUKKONUK, CYPRUS
DATE OF CONSTRUCTION: Not clear
DATE OF RENOVATION: 2010
ORIGINAL FUNCTION: OLIVE OIL MILL
NEW FUNCTION: CULTURE HOUSE</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Before restoration
(USAID, 2010)</td><td>Before restoration
(USAID, 2010)</td><td>Before restoration
(USAID, 2010)</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Exterior view*</td><td>Courtyard *</td><td>Mill after restoration*</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>The press room exterior*</td><td>Workshops and display rooms*</td><td>Views from the workshop environment
(Seden, 2011)</td></tr>
<tr><td> 
</td><td colspan="2">  </td></tr>
<tr><td>Schematic Plan (Drawn by: Author)</td><td colspan="2">Exhibition*</td></tr>
<tr><td colspan="3">*Photos taken by Author, 2015</td></tr>
</table>

Figure 28: Visual materials of Mustafa Mulla Halil Olive Oil Mill

Historical background: Büyükkonuk village is located on the southeast of the island on the Karpas Peninsula. The local people in the village know village as Eco-days, which organized, in certain periods. Olive is the most cultivated product of the village, it always had an effective role in the economic field of the village and there are two historic olive mills in the village. The Mustafa Mulla Halil olive oil mill, which was located in Büyükkonuk, was one of the oldest olive oil mills located in North Cyprus.

Büyükkonuk olive oil mill can be considered as an example to processing using donkey/man power with the machines. The most important instrument was the circular crushing basin, which made it possible to use animal power for the first time. They put olive in the crushing basin with mass amount of olives; a donkey rounded the millstone for crushing them (Golmakani, 2011). According to the interview with Bahar Seden, which is the Project Assistant of the mill, building was used as an house for a local family and it takes the name Mustafa Mulla Halil from its owner. When team started to the project the building was collapsed and demolish parts of the mill had been reconstructed (USAID, 2010).

Project: The restoration work of the mill had been started in 2007 by Save Project Team with the help of foundation supplied by the USAID organization. The project of the restoration is prepared by Save project team and coordinated by İsmail Cemal which lives in the village as well. Restoration work took 6 months but when the restoration had been finished building left empty since nobody knows what to do with it. Then mill has been rent to HASDER for 50 years. Finally, in march 2010 with implementation of HASDER and collaboration of Büyükkonuk Municipality a

project was prepared with the foundation of the European Union and building was converted as 'The Mill Culture House' (USAID, 2010).

HASDER Mill Culture House Project has been selected under Rural Development Sector Programme. Community Development through village Initiatives First Call for Proposals for funding by the European Union. This project covers the training of locals for handcrafts living in and around Büyükkonuk and results in making them technical teams (USAID, 2010).

The original crushing and pressing machine in the mill is preserved as it is and is exhibiting for the visitors in the museum part of the building. The old living unit and the storage part of the building are converted to workshop spaces for wood-carving, traditional weaving, silk cacoon works, lefkara and straw knitting.

Evaluation of the Mustafa Mulla Halil Olive Oil Mill in the light of model proposal:

A. Analysis of the existing building

The building represents the traditional architecture of Cyprus, industrial improvement of the island and olive oil production/ processing methods. It is located in the centre of the village, which is easily accessible from all parts of the village.

It consists of two single-storey blocks, which was connected with a courtyard in the middle. First block, which is facing to the main road, is the living unit and the storage of the dwellers. The second block is the olive crushing and pressing space of the mill. Unlike the other examples discussed so far, the mill is located in a rural context. The factory has architectural and aesthetic value. It also has documentary

and educational values due to the industrial archeology that still exists inside the mill museum. The contextual value is high due to its location within the village. The rarity value is also important since there are not too many mills, which still exist today. The symbolic and spiritual values are not important when compared with the other examples since it was an industrial building.

B. Conservation actions

Mill was built with local stone and mud brick. Traditional construction method of masonry walls is used. New mud brick has been prepared and dried under sun with the old technique. Missing stones had been collected from in and around the village. The roof of the building structured with wooden lintels and covered with local bamboos. On the floor, local Cypriot marble is used for covering material. Doors and windows were replaced with the new ones, which are the imitations of the original ones.

C. Adaptive reuse potentials

The building does not have physical and functional potentials for all kind of function since it is composed of very small spaces without any inner connection. On the other hand, due to its strategic location the building has economic potential and also has environmental potential due to site access, environmental quality and neighbourhood relationships.

It also has political potential because it is not a unique building and there are not strict regulations like some other monuments. Its social and cultural potentials of the building are important due to its heritage values.

D. Actors in decision-making

When the building has been restored, they could not decide the new function of the building. Then, HASDER has rent the building to convert it to a Culture House. In this project, decision maker is the investor of the building. Users also have been contributed in the project. Some of the villagers helped the professionals in renovation process of the mill. Authorities and technical teams did not actively act in the decision making process. Although it is not a listed building, it took enough attention and the building has been survived successfully (Appendix C).

E. Decision of functional changes

Social and cultural activities were the needs of the village, so the project has been converted to a multi-functional culture house. Adaptive reuse of the mill has benefits to the local people since the project covers the training of local women for handcrafts living in and around Büyükkonuk and results in making them technical teams.

The first project of training had been started in June 2010 and finished in 1 year. Scope of the project comprises giving free handicraft courses to the housewives, provide jobs for them and help them to contribute their family economy. 60 women had been educated living in and around the village (Büyükkonuk, Yedikonuk, Sazlıköy, Kaplıca). Other social activities had been organized such as observation trips, which is helpful for their personal improvement. In December 2011, project had been completed and certificates had been given to the women. Now products such as wood carving, traditional weaving, silk cacoon works, lefkara and straw knitting are exhibiting in the mill.

Final evaluation of Mustafa Mulla Halil Olive Oil Mill

The selection of the new function is appropriorіate since the building has contribution to the continuity of socio-cultural values. It responce to the social and cultural needs of the village.

Adaptive reuse of the mill contributes to the economic development and cultural tourism of the village. Local and foreign tourists are visiting the village to observe the restored olive oil mill. It attracts many tourists to the region so many restaurants and guesthouses have been established after restoration of the old mill. Mill also has been visiting by group of students from different schools in different cities. Young generation find the chance to learn the culture of the past, way of live, socio-cultural values, materials and building techniques.

It contributes to the continuity of the new function and continuity of the building structure. However, building has some missing points in terms of the new function and its space requirements. In terms of spatial relationship, every space in the complex do not have connection from indoor with each other. The courtyard is the only common space, which has connection with the other spaces. The space needs of the activities for the workshop for 60 people are not enough. Activities for the workshop such as wood carving and weaving needs larger space because of the dimensions of the machines needed.

4.2.2.16 Rüstem Bookshop & Cafe

<table>
<tr><td colspan="3">RÜSTEM BOOKSHOP & CAFE</td></tr>
<tr><td colspan="3">General Information</td></tr>
<tr><td colspan="3">LOCATION: NICOSIA, CYPRUS
DATE OF CONSTRUCTION: 1900s
DATE OF RENOVATION: 2009
ORIGINAL FUNCTION: HOUSE
NEW FUNCTION: BOOKSHOP AND CAFE</td></tr>
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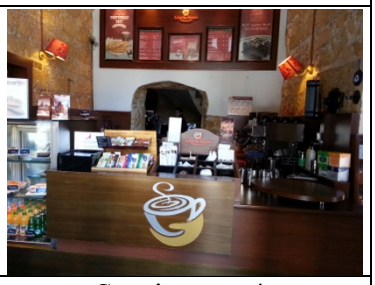
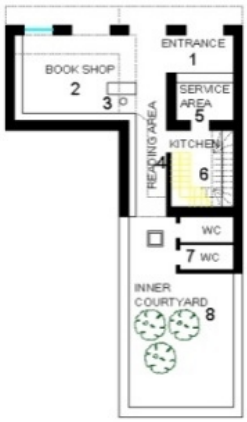
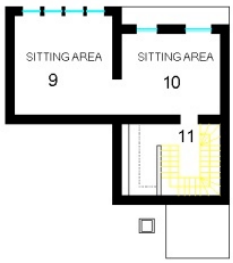
</td><td>  </td><td>  </td></tr>
<tr><td>Exterior view*</td><td>Restaurant*</td><td>Service area*</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Courtyard*</td><td>Sitting area*</td><td>Bookshop*</td></tr>
<tr><td>  </td><td> 
</td><td> 
</td></tr>
<tr><td>Bookshop*</td><td>Ground floor plan**</td><td>First floor plan**</td></tr>
<tr><td colspan="2">*Photos taken by Author, 2015</td><td>**Drawn by Author</td></tr>
</table>

Figure 29: Visual materials of Rüstem Bookshop and Café

Historical background: There is no enough information about the history of the building since it was a residential unit when it was built. The building has been built as a house in the British period at the beginning of 1900s; however the building shows the characteristics of the Ottoman period. Then, in 1937 it was converted to retail as a bookshop. The building belongs to the grandfather of the today's owner of the shop. From the 1937 until today the bookshop still exists (Appendix B).

Project: The restoration of the building has been started in 2009 with the own facilities of the owner of the shop without any financial support or restoration project. A restoration project had not been prepared and an architect or restoration expert did not worked in the application of the project. All the decisions regarding with the project has been taken by the owner of the building.

The idea of converting a bookshop into culture house has started with decrease of the people that reads regularly. The aim of the conversion was to support the existing function of the building with social and cultural activities. In 2011, one part of the building has been rented to a coffee shop, which has international brunches. Then, in 2013 a restaurant part has been added, which serves traditional cusine In 2014, an interior designer has been rented for some modifications of the interior decoration. There are many cultural events that organized such as film screenings, painting and photography exhibitions, children theatres, receptions, book signing day and press releases.

Evaluation of the Gloria Jeans Coffees & Rüstem Bookshop in the light of model proposal:

A. Analysis of the existing building

The building is located in an urban context in the historic city of Nicosia. It shows the characteristics of traditional urban houses located in the close surrounding. The building is composed of two double-floored blocks attached to each other; however from the inner layout, it is single unit. The block at the left shows the characteristics of British period on the island because of the balcony on the façade and the materials. On the other hand, the one on the right, which was the original bookshop part, has characteristics that belongs tot the Ottoman period because of its *jumba* on the façade. It is constructed with load bearing system and local sandstone. The building was in use and good condition when it is decided to renovate the building. The greatest intervention to the building was the removal of later added finishing materials on the façade and the inner walls as well in order to turn the building into its original state.

In general, it is achieved that building is rich in terms of heritage values. Its architectural and aesthetic value is important since it is a typical traditional urban house in the Walled City of Nicosia. On the other hand, the rarity, symbolic, spiritual values are is low when compared with other examples since it was a residential building. The historic, documentary and educational value is quite important because it shows characteristics of the related periods and can teach the further generations how a typical traditional urban house was. The economic and contextual value is high due to its location in the historic city centre; however social, cultural and symbolic values are not as important as them.

B. Conservation actions

The plaster on the façade, which was a later intervention, has been removed. Arch fillings have been removed and cleaned to show the original arches. All the later interventions regarding with the finishing materials have been removed and the building has been turned to the original condition. Structural stabilization has been applied to the whole building and original stones have remained exposed. The floor covering has been preserved as it is since the original tiles on the floor are traditional Cyprus tiles. The bookshop part has been preserved as it is including shelves and the books and then, a corridor like mezzanine floor has been added around the double-floored shelves in order to access to the books easier. The courtyard is cleaned and re-designed. The original well in the courtyard has been preserved and exhibited.

C. Adaptive reuse potentials

The building does not have physical and functional potentials for all kind of function since the house is not large and the spaces are quite small. On the other hand, due to its strategic location the building has economic potential and also has environmental potential due to site access, environmental quality and neighbourhood relationships.

It also has political potential because it is not a unique building and there are not strict regulations like some other monuments on the reuse of the urban houses in the historic city. However, social and cultural potentials of the structures are low since it was a residential building.

D. Actors in decision-making

As explained in the project section, there is no architect or other kind of expert that participated in the project. So, the only actor is the owner of the building. The

authorities also are not decision makers of the project because it is not a listed building. Since it was a residential building there is no limitation for the new use of the building, however only intervention of the authorities is on the façade. According to the rules of the Department of Antiquities and Museums façade of the Traditional Urban Houses of Walled City of Nicosia should not be changed. The original characteristic of the facades should be kept as it is and new materials should be compatible with the existing. So for the inner layout and modifications of the building there was no limitation.

E. Decision of functional changes

The project is successful since it is responded the social and cultural needs of the region. The building is located in the historic Walled City of Nicosia, a region that there are many banks, opposite of the Law Court of the city and also a touristic part of the city. So the customer profile of the shop is mostly lawyers, bank officers and tourists. It responded social needs of the people working around the site such as having lunch, giving a coffee break or organizing meetings. On the other hand, it also responded cultural needs of the local people such as organizing different cultural activities. All these ensured the economically sustainability of the project.

Final evaluation of Rüstem Bookshop & Café

Rüstem Bookshop was one of the oldest bookshops of the town, which is still exists. In this respect, it is important in terms of collective memory of the local people. In general, the originality and authenticity of the heritage building has been preserved. The conservation project has been decided and applied by the owner of the building without any expert in the process. Although the results are successful, it is not a

correct approach in terms of preserving the significance of the heritage building. A wrong decision in the intervation might have damage the originality of the heritage.

The new use of the building is suitable with the original use. Every supplementary function within the building supports the original function. The restaurant serves traditional food for the people works around the site, unfortunately only in the lunchtime. If there is not any organized event, the shop closes at 17.00 since the Walled City is not alive and crowded enough in the evenings. The owner of the shop argues that they hope the Walled City to be more alive during the evenings as well.

The project ensured the continuity of the historic bookshop while adding book-café culture to the town. It is successful in terms of preserving the physical character of the buildings as well as its heritage significance. The bookshop has been preserved and transferred for further generations. Also, the project ensured the soci-cultural needs of the district.

The future project of the owner is to remove the addition in the courtyard, which is not an original part and added in 1960s, and built a small archaeological exhibition place of his own collection.

4.2.3 Results and Discussions of the Evaluation of Adaptive Reuse Examples

The selected 16 adaptive reuse projects that are located in different counties have been observed and analyzed in the light of proposed model. The approaches in the case studies have been compared with the proposed factors that affect adaptive reuse decision making in the model proposal.

According to the results, heritage buildings can be divided into two as listed and non-listed. The proposed model can be applied to both category but the only difference

that will affect the adaptive reuse strategies and the project development is regulations by authorities that responsible from conservation of heritage buildings. Another important finding is that, in some cases there is an abandoned or disused building without a function and the most appropriate function is tried to be find. But in some examples such as Bastard Store and Museo del Novecento, there is a function and the most appropriate building has been searched for the mentioned function. On the other hand, in some examples there is building and the function itself comes from the historic significance of the heritage. In this case, changing the function of the building is not a appropriate approach due to the heritage values like in the examples of Pinacoteca di Brera and Ambrosiana. The original function is kept with a contemporary approach and can be supported with some supplementary functions.

Another factor that can affect the decision of the adaptive reuse strategies is the actors. The actors can be defined as the decision makers of the adaptive reuse projects. It can be divided into 4 groups as investor, technical team, authorities and users. In some cases, the owner can be decision maker, in another case the architect or the authorities. As a correct approach, the decision should be common among all actors. Interviews should be done with all actors before the decision. Users also are one of the most important actors in the decision making process. If it is possible, interviews should be done with both the original users and the possible users. In order to find the most appropriate strategies for the heritage buildings, all factors should be taken into consideration together. Then, the decision should be done. The investigation of the case studies is summarized in Table 17.

Table 17: Summary of the analysis of selected reused examples

	Name of the building	Original function	New function	Function/ Building Relationship	Listed/ Non-listed	Actors in decision making	Decision of functional changes
1	Royal Palace of Milan	Palace	Cultural centre	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
2	Bastard store	Cinema	Retail/Office	There is function/ No building	Non-listed	Investor/ Technical team	Adaptation with totally new use
3	Museo del Novecento	Tourism information Center	Museum	There is function/ No building	Listed	Investor / Authorities	Adaptation with totally new use
4	Pinacoteca di Brera	Monastry	Art gallery	There is building and function	Listed	Investor / Authorities	Adaptation with mixed use
5	Pinacoteca Ambrosiana	Library+ Academy	Art gallery	There is building and function	Listed	Investor / Authorities	Adaptation with mixed use
6	Il Gattopardo	Church	Entertainment place	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
7	University of Milan	Hospital	University	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
8	Castelvecchio Museum	Castle	Museum	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
9	Tate Modern	Power Station	Contemporary art centre	There is building/ No function	Non-listed	Investor	Adaptation with totally new use
10	Great Market Hall	Municipal Market	Municipal Market	There is building and function	Listed	Investor / Authorities	Adaptation with same use
11	CET	Warehouse	Multi-functional center	There is building/ No function	Non-listed	Investor /	Adaptation with totally new use
12	Lanitis Center	Carob mill	Cultural center	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
13	Orsay Museum	Railway station	Museum	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
14	Gasometers	Warehouse	Housing complex	There is building/ No function	Listed	Investor / Authorities	Adaptation with totally new use
15	Mustafa Mulla H. Olive Oil Mill	Olive oil mill	Culture house	There is building/ No function	Non-listed	Investor/ Users	Adaptation with totally new use
16	Rüstem Bookshop	House	Cafe& bookshop	There is building and function	Non-listed	Investor	Adaptation with mixed use

4.3 Revision of the Model

According to results disscussed above the proposed model has been revised and modified. New findings that have been presented in Table 17 have been added to the model. Firstly, function-building relationship before the adaptation process is defined and divided into 3 as follow:

- There is building/ No function
- There is building and function
- There is function/ No building

Secondly, it is questioned whether the heritage building is listed or not. If the building is a listed, authorities become actors in the decision-making and the technical team should follow the regulations defined by planning and local authorities. When the heritage building is not listed, still the model can be applied and the technical team should respect the cultural significance of the heritage building; however, in this case authorities are not actors:

- Listed building
- Non-listed building

Thirdly, the possible actors that affect decision-making had been placed as the fourth step in the initial model proposal. After the investigations, it is achived that definition actors should be the first step. According to the results of the interviews, it is observed that the first step that had been done in the adaptive reuse projects is the definition of the actors in decision-making process.

All the actors in decision-making including users, technical teams, investor and authorities should come together to discuss the future use of the heritage building in the light of the proposed model and its steps. Collaboration of actors in decision-making provides developing more appropriate strategies for heritage buildings. Satisfaction of all actors and the disadvantes and advantages of the strategies should be taken into consideration in the decision-making process. So in the model the place

of the step 4 has been changed as step 1. Actors in decision-making should be defined as the first step and then the following steps should be applied.

Lastly, a management plan should be prepared when the decision has been taken for the future use of the building since the economic sustainability of the heritage building is important for the future maintenance of the building. All these new factors that have been identifed in the analysis of selected adaptive reuse examples have been reflected to the proposed model. Final version of the model represented in Figure 30.

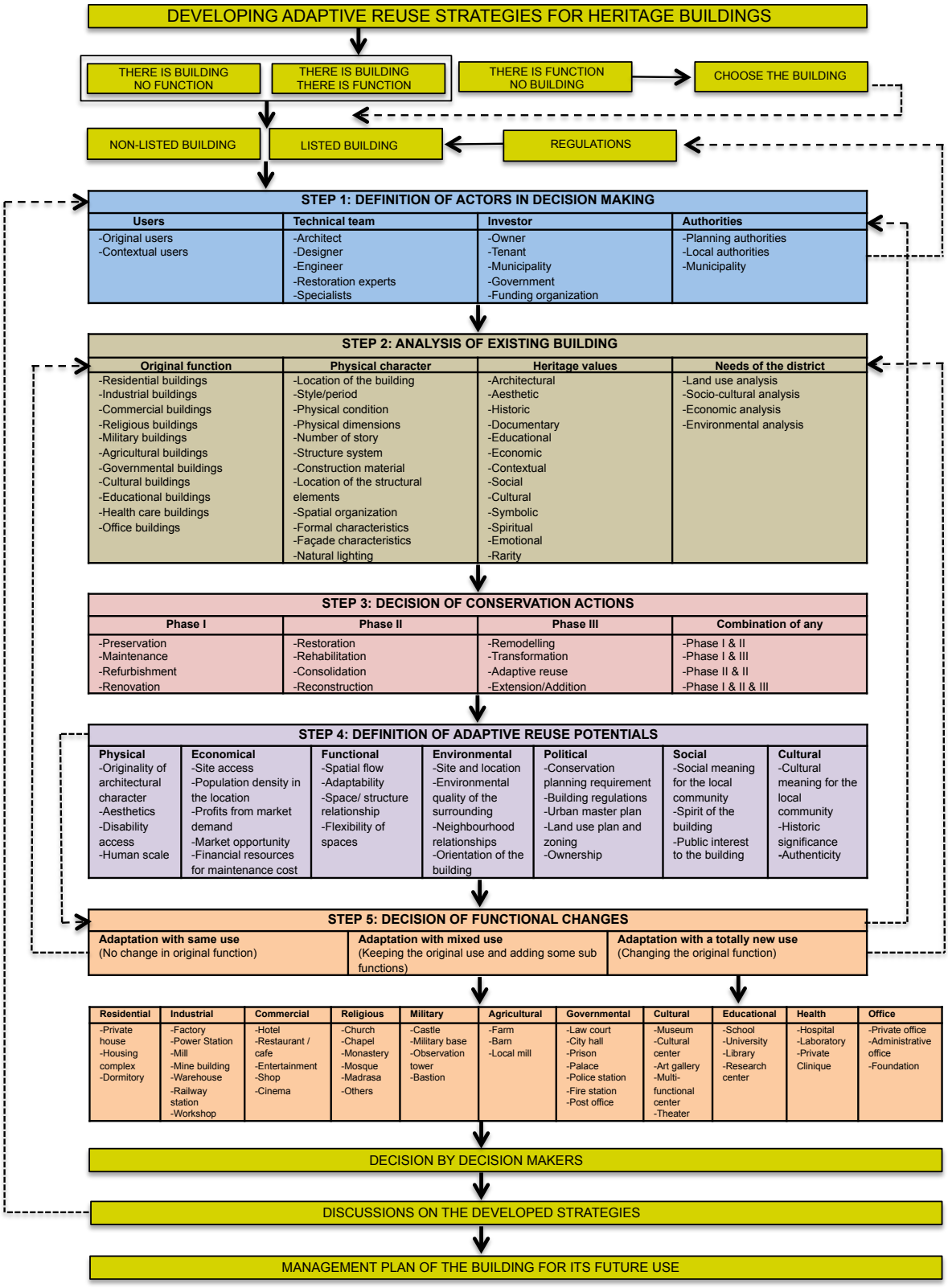


Figure 30: A holistic model proposal for developing adaptive reuse strategies of heritage buildings

STEP 1- Definition of the actors: The first step is to define actors in adaptive reuse decision-making. Actors are the people that will contribute in decision-making process including users, technical teams, investors and authorities. In decision-making process, the actors should be defined as the initial step and interviews should be done with them. An interview has been proposed in Appendix V, however it can be developed or adapted for different projects.

Users can be categorized as original users and contextual users. User contribution in decision-making is very important, however it is mostly ignored in adaptive reuse projects. In some projects it is not possible to find original users, if they still exist their contribution should be provided. Contextual users are the community living around the same district and most probably they are the possible users of the building. Interviews should be done with users and their opinions should be asked about the future use of the building.

Technical teams are the actors that prepare and apply the adaptive reuse project and include architect, designer, engineer, restoration expert and specialist that can be changed from project to project. Most of the projects, investor applies to the technical team after the decision of functional changes; however it is not a correct approach. Their ideas regarding with the future use of the heritage should be asked since they are the experts of the issue.

Investor can be defined briefly as the owner of the building and it can be a private person or company, tenant, government, municipality and funding organizations.

Authorities include municipality, planning and local authorities. These authorities can be government or departments related to conservation of monuments. They are the authorities that decide the regulations on the conservation and restoration projects also check the projects and give approval before the application. The names and missions of these authorities can be change from country to country.

STEP 2- Analysis of existing building: The second step includes identification of original use of the architectural heritage, its physical characteristics, heritage value and needs of the district. The identification of original use is important in terms of making an appropriate decision for the future use of the heritage building. The original function of the heritage buildings can be categorized in 11 headings as: residential, industrial, commercial, religious, military, agricultural, governmental, cultural, educational, health and office buildings. Analysis of physical characteristics of heritage buildings includes location, physical dimension, structure system and location of structural elements, construction techniques and materials, number of storey, style/period and physical condition. Heritage values should also defined in decision-making, which directly affect decision of new function.

Lastly, needs of the district should be questioned since it may assist decision makers in finding the most appropriate function for the heritage building. The built cultural heritage should not be accepted as a single object. It should be evaluated in the frame of the whole context.

STEP 3- Deciding conservation actions: In the third step necessary interventions that will be applied to the architectural heritage should be decided. The observation

of the existing physical condition of the building will directly affect conservation actions and indirectly the decision of the new use.

Conservation actions have been defined in three phases according to the degree of the intervention. Phase I comprises emergency measures of the heritage building; however, there is no deliberately noticeable changes. On the other hand, Phase II includes noticeable changes of the building including strenthing the structure and completion of missing parts. Phase III includes proposals for new additions and conversion of the structure for fitting it to the new use of the heritage building. As the fourth option, there might be the possibility of combination of two or three phase together depending of the necessary interventions.

The heritage can be a neglected building that can be reused by just some maintenance and rehabilitation works, can be a partly demolished building that needs restoration and consolidation works or can be a ruined building that needs adaptations such as remodeling and addition. All these considerations will directly affect decision of the new use so should be observed and necessary decision regarding with the intervention to the building should be taken from the beginning of the process. One of the biggest mistakes in adaptive reuse process of architectural heritage in the practice is to apply all necessary conservation actions, to finish the interventions and then deciding the new use at the end. This may cause later unwanted interventions and unappropriate additions to the heritage building by users in order to adapt the building to the new requirement of the new use.

STEP 4- Definition of adaptive reuse potentials: The fourth step is identification of adaptive reuse potentials of the heritage buildings. Realization of potentials of the

building is important in terms of developing appropriate strategies for the heritage buildings for a sustainable heritage adaptation. Definition of adaptive reuse potentials helps in decision of appropriate function for new use. Adaptive reuse potentials can be categorized as: physical, economic, functional, environmental, political, social and cultural potentials.

STEP 5- Decision of functional changes: Decision of functional changes is the last step of the model for developing new use strategies. Basicly, there are 3 options of functional changes. As the first option building can be used with the original function with some necessary adaptation. This approach can be applied when heritage values of the building are very important. Since changing the function of the building may harm the originality of the heritage. The second option is to keep the original function of the building as it is and to support it with supplementary functions. And the third approach is the adaptation of the heritage building with totally new functional category. This strategy should not be applied for all kind of heritage buildings. The decision depends on the values of the heritage building. If the building is a listed building, the necessary interventions will be controlled by certain authorities. For instance, this strategy may not be applied the religious buildings in certain occasions due to regulation barriers.

As the final step, a management plan should be prepared by the experts after the final decision of the new use. The reused buildings should make profits for the maintenance and rehabilitation works of the building in the future. There is lack of proper management plans and strategies for adaptive reuse projects for the practitioners. The economic sustainability of the building is crucial for the future of

the heritage building, since the main aim should be preserving the values and originality of the building.

Findings and proposals: At the end of five steps, all factors should be concerned holistically, then strategies should be developed and proposals should be made for the future use of the heritage building.

Chapter 5

APPLICATION OF PROPOSED MODEL ON A CASE STUDY

The development of the model has been completed in Chapter 4 and the model has been applied on case study in this chapter. The application of the proposed model needs teamwork and deeper analysis. The aim is to guide decision makers about how the proposed model should be applied and how the strategies should be developed for the future use of the building.

Agios Panteleimon Monastery in Çamlıbel/Myrtou has been selected as the case study that the model has been applied. The selected case study has been analysed according to the steps and factors proposed. Then, adaptive reuse strategies have been developed and new use alternatives and the possibilities of the building have been discussed.

5.1 Selection of the Case Study

The case study that model has been applied, should be a disused or abandoned building. Also, it should be a building that the renovation decision has been taken or under renovation so that interviews can be done with the four actors as proposed in the model. There is a need to do interviews also with the users, investor, technical teams and authorities. If the case study would be selected as a vacant building, it would not be possible to interviews with some of the actors. For this reason, a building has been selected that the conservation works have been started. Agios Panteleimon Monastery in Çamlıbel/Myrtou has been selected as the case study that

the model has been applied. The renovation works of the monastery has been started in October 2015 and aimed to be finished within 1 year. The project is selected by Technical Committee on Cultural Heritage (TCCH) to be conserved and United Nations Development Program- Partnership for the Future (UNDP-PFF) financially supports the project.

The monastery is a complex that consists of 5 separated blocks of buildings, including a church, dorms, toilets, guest rooms and a fountain. There are other monasteries located on the island but Agios Panteleimon Monastery is unique in terms of its symbolic meaning. There are totally 23 monasteries located in the Northern part of the island, as shown in Table 18.

Table 18: Monasteries located in the Northern Cyprus (Source: Kıbrıs Vakıflar İdaresi)

	Name of the monastery	**Village/Town**	**City**
1	Ayios Panteleimon Monastery	Çamlıbel (Myrtou)	Kyrenia
2	Panayia Katharon (Kathari) Monastery	Kozan (Larnaka tis Lapithou)	Kyrenia
3	Apsidhiotissa Monastery	Kaynakköy (Sykhari)	Kyrenia
4	Syna Monastery	Karşıyaka (Vasilia)	Kyrenia
5	Panagia Kriniotissa Monastery	Karşıyaka (Vasilia)	Kyrenia
6	Akhiropietos Monastery	Alsancak (Karavas)	Kyrenia
7	Bellapais Monastery	Beylerbeyi (Bellapais)	Kyrenia
8	Apati Monastery	Esentepe (Ayios Amvrosios)	Kyrenia
9	Antiphonitis Monastery	Esentepe (Ayios Amvrosios)	Kyrenia
10	Melandrina Monastery	Bahçeli (Kalogrea)	Kyrenia
11	Xeroptamos Monastery	Yeşilyurt (Pendayia)	Morphou
12	Pnasi Monastery	Güzelyurt (Morphou)	Morphou
13	Paraji Monastery	Aydınköy (Prastio)	Morphou
14	St. George Monastery	Mevlevi (Kyra)	Morphou
15	Profitis Ilias Monastery	Gürpınar (Ayia Marina)	Nicosia
16	Sourp Magar Monastery	Değirmenlik (Khytrea)	Nicosia
17	St. Spyridon	Erdemli (Tremethousha)	Nicosia
18	Avgasida Manastırı	Yıldırım (Milea)	Famagusta
19	Panayia tou Tokhniou Monastery	Ağıllar (Mandres)	Iskele

20	Panayia Kantariotissa (Kantara) Monastery	Turnalar (Gerani)	Iskele
21	Kanakaria Monastery	Boltaşlı (Lythrangomi)	Iskele
22	Apostolos Andreas Monastery	Dipkarpaz (Rizokarpazo)	Iskele
23	Eleousa (Sina) Monastery	Dipkarpaz (Rizokarpazo)	Iskele

5.2 Political and Economic Issues in Conservation of Heritage Buildings in Cyprus

Cyprus is an island that has been divided into two sectors as Turkish sector in the north and Greek sector in the south, which is separated by a UN Buffer Zone since 1974. The buffer zone cuts through the city of Nicosia and divides the whole island from northwest to southeast. A 180 km line of demarcation separates Greek and Turkish Cypriots. The division, which is continues today, is the main reason for the island's on-going problems in terms of restricting development and imposes issues for future planning. In spite of the division, there are efforts on both sides for the conservation and revitalization of architectural heritage. The division limits development and creates diverse problems for planning (Oktay, 2007).

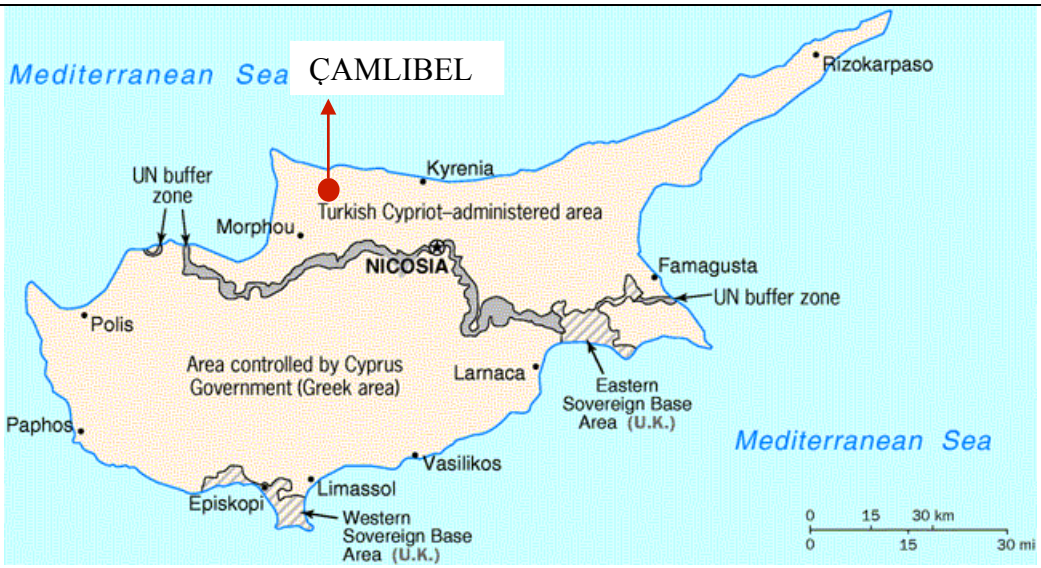
Starting from 1986 to the present day, many projects have been conducted with the funds by *The United States Agency for International Development* (USAID) and the European Union through *United Nations Development Programme (*UNDP) (Vehbi and Günçe, 2014). Since 2001, the European Union funded Partnership for the Future Programme (UNDP-PFF) aims at contributing to the peace and confidence building process in Cyprus through different levels of interventions. UNDP-PFF started working in Cyprus with a bi-communal programme focusing on the rehabilitation of Nicosia; however, in 2004, the programme was extended to the other cities such as Famagusta and Kyrenia. In recent years UNDP-PFF's focus has

returned to bi-communal projects to support to the Technical Committee on Cultural Heritage (TCCH) for the preservation and promotion of the immovable cultural heritage of Cyprus (URL 28). Generally, TCCH gives more importance to the conservation of abandoned religious heritage buildings in both sectors since it is seen as a threat to the peace and reunion of the island.

Agios Panteleimon, which is selected as the case study of the research is a monastery located in the Northern sector. Two different communities living on the island have different religions and beliefs; which is effect the conservation of religious heritage buildings. Before the division of the island Greek Cypriots were living in the village; however, current stakeholders of the village are Turkish Cypriots. In this respect, due to the current stakeholders of the village and lack of budget to restore the heriatge building, the monastery and its church is not in use today.

5.3 Location of the Agios Panteleimon Monastery

Çamlıbel/Myrtou is a village located in 28 km south east of the Kyrenia city next to the Kyrenia-Morphou road. The village is located in a junction point that connects roads from Nicosia, Kyrenia and Morphou. It has neighbourhood to the other villages such as Tepebaşı, Geçitköy, Karpaşa, Hisarköy and Özhan. The village takes its name from a tree that exists in the region, which is known as ‘mersin-myrtia-myrtos-myrtle’.



URL 22

Figure 31: Location of Çamlıbel/Myrtou on the map

Çamlıbel/Myrtou is an ancient village, on the east outskirts, which there are remains of the Byzantine village of Margi. Its principal monument is the Monastery of Agios Panteleimon, which was a residence of the Bishop of Kyrenia from 1571 to 1921 (Robertson, 1990).

5.4 Historical Background of the Agios Panteleimon Monastery

Monastery of Saint Panteleimon is one of the most famous monasteries in Cyprus. The monastery takes its name from Agios Panteleimon, which was a saint who suffered martyrdom at Nicomedia under Maximian, A.D. 303. He was born in 275, and was the son of a rich Pagan father and Christian mother (URL 23). The monastery was used as Bishop of Kyrenia since it has no hegoumenos (the superior of a monastery) of its own (Hackett, 1901).

Agios Panteleimon was the patron of saint of doctors. In his pagan youth he had studied medicine at Constantinople, but after his conversion to Christianity he cured the deaf, the blind and the lame by prayer alone. Following his martyrdom, his

healing powers were said to have transferred themselves to his silver gilt icon at the monastery (Darke, 1993). The Monastery of St. Panteleimon is the principal monument of the village and its history of the church goes back to the 5th century AD. St. Panteleimon was born at Nicomedia in Bithynia, the son of a heathen father and a Christian mother. He became the favourite physician of the Emperor Galerius Maximianus (Gunnis, 1947).

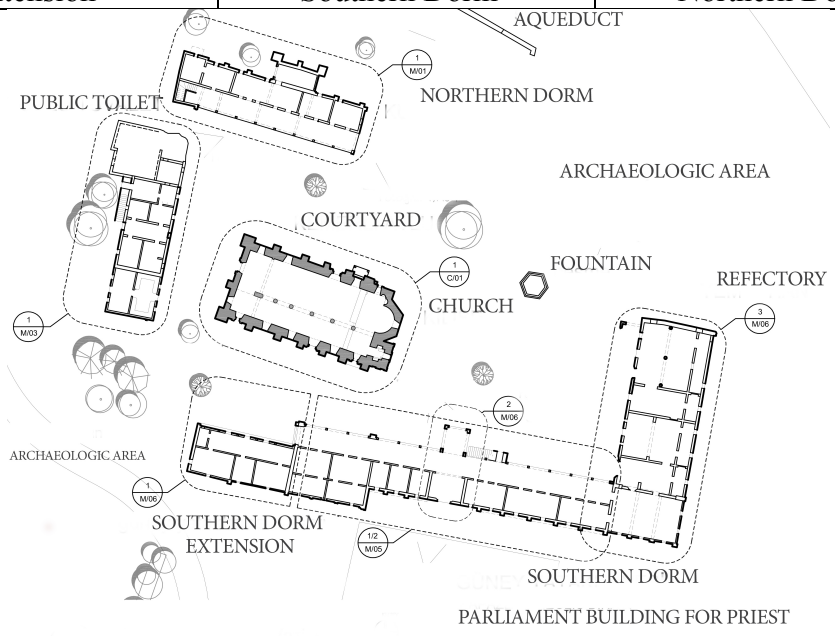
AGIOS PANTELEIMONAS MONASTERY		
General Information		
LOCATION: ÇAMLIBEL, CYPRUS **DATE OF CONSTRUCTION:** 1600s **ORIGINAL FUNCTION:** MONASTERY		
		
Exterior view*	Exterior view*	Courtyard*
		
Toilets *	Church *	Church Interior*
		
Extension*	Southern Dorm*	Northern Dorm*
		
Plan (Source: UNDP-PFF)		
*Photos taken by Author, 2015		

Figure 32: Visual materials of the Agios Panteleimon Monastery

There are many local myths that are told about the monastery over the centuries. Some of them have been indicated below:

According to tradition, two monks from Asia Minor came to Myrtou bringing with them an icon of Saint Panteleimon, where a piece of the saint's finger was hidden (URL 24). They were trying to find a suitable place to establish a new a monastery. Unfortunately, they could not find any place that satisfied them and had started to pray Saint Panteleimon to help them. While they were praying, suddenly water started to flow between stones. Then, they decided that this was the place they were looking for. They built a small church and decided to dedicate to Saint Panteleimon. An icon of the saint was placed in the church, together with his holy bones, which the monks had brought with them to Cyprus (URL 23). The icon and the pieces of the holy bones have caused many wonders among the Christians of the region. The monastery was probably built in 1735, the year when the Russian monk Vasileios Barsky visited it (URL 24).

Another local tradition says that while St. Panteleimon was passing from the village of Myrtou by riding his horse, he arrived in a place with large acacias. He stopped there to rest and searched for some water to drink but the place had no water. He was frustrated and got on his horse to leave. As the horse was lifting his leg, a water spring appeared and water began to flow from the horse's footprint. The Saint then descended and prayed to God and after that he drank cool water. The site has survived to this day along with the footprint of the horse and the water spring flowing from it (URL 25).

The monastery includes buildings that belong to different dates. Block C, which is located at the main entrance, is a later addition in 1900s is a portion for use as a guesthouse. The style of the building is of very ordinary kind, but the church has Renaissance details. The church has been altered and enlarged in different periods, probably in 17th and 18th centuries. The original nave was pulled down and rebuilt on a larger scale with the addition of a remarkable loggia of pointed arches and vaulting on the south side. This loggia was evidently built by a person whose tomb of an altar shape still exists under the center arch of the arcade. No inscription remains on this tomb, but a tradition survives that the individual in question was a celebrated physician. Between the nave of the church and this loggia or narthex is the chapel of the patron Saint of an ancient date (Jeffrey, 1983). The church was heavily restored in the 1920s, when the monastery was the residence of the Bishop of Kyrenia, and a very little of any age or interest remained beyond a few icons of the saint dated 1770. The church was closed in the 1950s and is badly run down (Darke, 1993). As Jeffrey (1983) indicates below there were icons and paintings in the church, however today they do not exist. Some of them have been lost after 1974 and some is now exhibiting in Kyrenia Metropolitan Palace in Nicosia (URL 27).

"Many of the icons of this church appear to be above the average in workmanship, and they may be medieval. The altar and baldachino of wood is ancient and decorated with interesting paintings and inscriptions"(Jeffrey, 1983).

The church is two-aisled, vaulted, but unfortunately it has no frescoes because they were destroyed in 1821 (URL 25). The monastery also contains an icon of the patron saint, which is reported to possess miraculous powers. So the monastery attracts in consequence large crowds of worshippers (Hackett, 1901). Before the Turkish

occupation, every year on 27 July, the feast day of Saint Panteleimon, a large three-day festival was held and thousands of people from all over Cyprus had visited the the monastery (Kassinis, 2011).

The fair of Agios Panteleimon was held here each 27 July until the 1974. There was a Greek Cypriot camp at Agios Panteleimon prior to the 1974 war, so the monastery had been damaged during the war (Goodwin, 1984).

During the 19th century, the monastery housed a Greek school. The bell tower, built in 1839, is one of the first of the Ottoman rule period. Although the monastery was turned into a military camp, two bells are preserved in the bell tower. At the beginning of the 20th century, ten monks lived in the monastery; the last one being Sofronios Michailides, who died in Myrtou on July 27, 1976, the day Saint Panteleimon is celebrated (URL 24).

Until 1974, the monastery was one of the most significant Christian pilgrimage sites of Cyprus. After 1974, the monastery was turned into a Turkish military camp (URL 24) and the monastery of Saint Panteleimon was converted into barracks for the army (URL 26).

Before 1974, the monastery enabled Myrtou to develop socially and economically and it also made a significant contribution to the development of education in the area. From the first years of British colonial rule (1878), the monastery founded an elementary school, which operated on its premises until 1920 (Kassinis, 2011).

Today's settlement of Myrtou is formed around the monastery of Saint Panteleimon. The monastery played an important role in socio-economic development of the village especially in Ottoman rule and it also functioned as the religious and spiritual centre of the area (URL 27).

Today, in every 27 July, Greek Cypriots come from the Souther part of the island to visit the monastery. They celebrate Agios Panteleimon by having their rituels.

5.5 Architectural Character of Agios Panteleimon Monastery

The selected case study is a listed building, which its ownership belongs to Kıbrıs Vakıflar İdaresi, like other churches and monasteries located in the Northern part of Cyprus. Originally, it was a monastery and it also includes a church. It is composed of 3 detached buildings and a church in the middle of these three buildings (Figure 32). Block A is the Southern dorms of the monastery, and also the parliament building of the priests. The shorter leg of the L shape was the refectory. Block B at the North also was a dorm and Block C was the common toilets of the monastery. In the courtyard there is also a fountain and aqueducts (Figure 32).

CHURCH	AGIOS PANTELEIMONAS MONASTERY				
General Information					
Location: Çamlıbel/ Myrtou	Type Of Building: Church	Date Of Construction: 1735	Physical Condition: Good	Structure System: Load bearing	Construction Materials: Stone

Church *

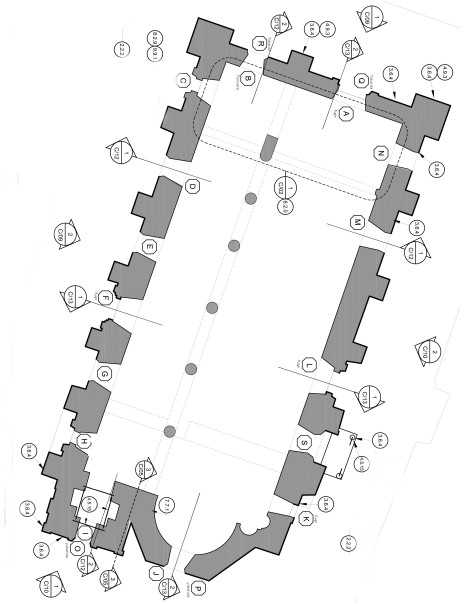
Interior view*

Arcades*

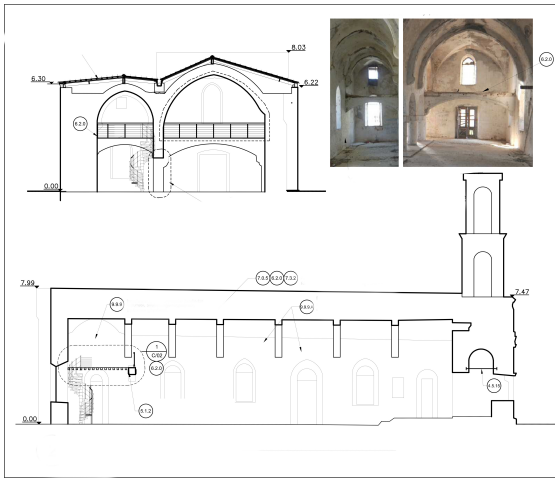
Bell tower*

Main door*

Window detail*



Plan (UNDP-PFF, 2015)



Sections (UNDP-PFF, 2015)

*Photos taken by Author, 2015

Figure 33: Visual materials of the Agios Panteleimon Monastery- Church

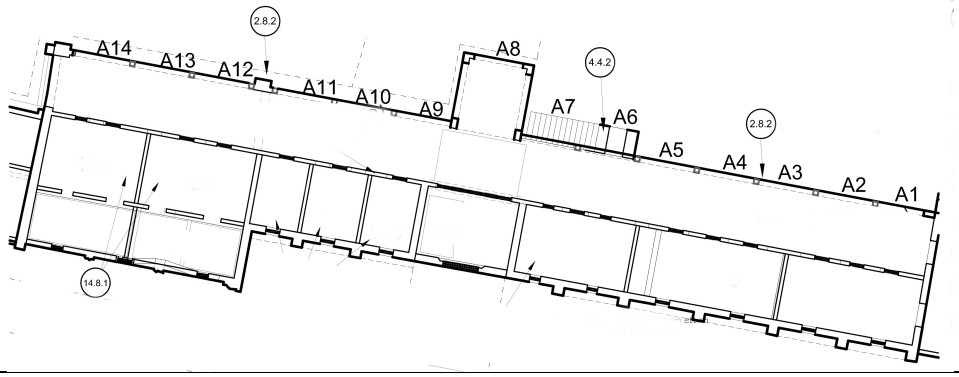
BLOCK A	AGIOS PANTELEIMONAS MONASTERY				
General Information					
Location: Çamlıbel/ Myrtou	Type Of Building: Dorm	Date Of Construction: 1735	Physical Condition: Partly demolished	Structure System: Load bearing	Construction Materials: Stone

Southern Dorm (Parliament building)*

Southern Dorm (Parliament building)*

Refectory extension and fountain*

Dorm extension*



Plan (Source: UNDP-PFF, 2015)

Elevation (Source: UNDP-PFF, 2015)

*Photos taken by Author, 2015

Figure 34: Visual materials of the Agios Panteleimon Monastery- Block A

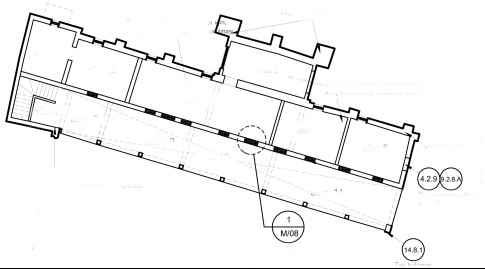
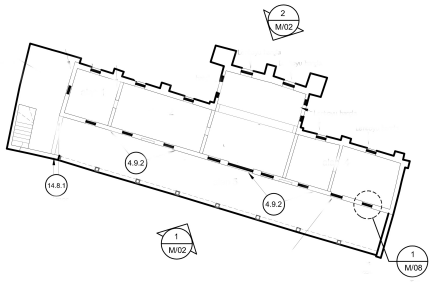
BLOCK B	AGIOS PANTELEIMONAS MONASTERY				
General Information					
Location: Çamlıbel/ Myrtou	Type Of Building: Dorm	Date Of Construction: 1735	Physical Condition: Partly demolished	Structure System: Load bearing	Construction Materials: Stone
					
Northern dorms*			Front facade*		
					
View from the courtyard*			Side view*		
					
Ground floor plan (Source: UNDP-PFF, 2015)			South elevation (Source: UNDP-PFF, 2015)		
					
First floor plan (Source: UNDP-PFF, 2015)			North elevation (Source: UNDP-PFF, 2015)		
*Photos taken by Author, 2015					

Figure 35: Visual materials of the Agios Panteleimon Monastery- Block B

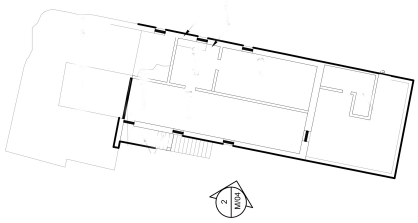
BLOCK C	AGIOS PANTELEIMONAS MONASTERY				
General Information					
Location: Çamlıbel/ Myrtou	Type Of Building: Toilets	Date Of Construction: 1735	Physical Condition: Partly demolished	Structure System: Load bearing	Construction Materials: Mudbrick

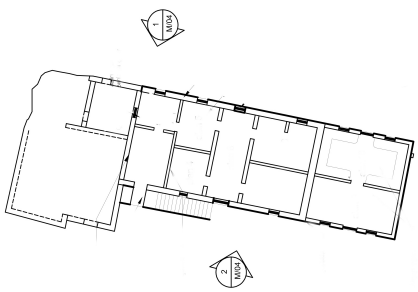
Toilets (guest rooms)*

Later additions*

Front facade*

Back facade*





Plans (Source: UNDP-PFF, 2015)

Elevations (Source: UNDP-PFF, 2015)

*Photos taken by Author, 2015

Figure 36: Visual materials of the Agios Panteleimon Monastery-Block C

5.6 Application of the Model on Agios Panteleimon Monastery

In this section, the proposed model has been applied to the monastery step by step and new strategies have been developed for the future use of the building. The building has been investigated through five steps as proposed in the model.

STEP 1: DEFINITION OF THE ACTORS IN DECISION MAKING PROCESS

Users (Original and current users):

Totally, 100 interviews have been conducted with the users of the village. 80 semi-structured interviews have been conducted with the current residents of the village. Also, 20 interviews have been conducted with the former users (Greek Cypriots that today live in the Southern part of the island) of the village (see interview questions in Appendix D). The interviews composed of four parts. First three parts consists of physical, economic and social indicators of the building and in the last part there are questions about decision of functional changes.

According to the results of the interviews, %70 of the current stakeholders stated that the monastery should be used as mixed use. The church should be used with its original use but the monastic buildings should be used with different functions to contribute socio-cultural and economic development of the village since it is a need of the district. %30 of the current stakeholders stated that the complex should be used with a totally new function, including the church since there is no Christians that use building as a church.

On the other hand, in the 20 interviews that have been conducted with the original users of the village, it has been stated by the stakeholders that the complex should be

used with the same use as a monastery and no other additional function should be proposed since the monastery is one of the most important monasteries located on the island spiritually and emotionally.

Technical teams (Site engineer of the project):

Site engineer of the project states that the church will be conserved soon and should be used with its original use due to its heritage values; however, the other monastic buildings can be used with sub-functions to support the church. It is needed to propose some additinional functions in terms of continuity of the heritage building. This can also contribute socio-cultural and economic development of the village.

Investor (United Nations Development Programme- Partnership for the Future) & (Technical Committee on Cultural Heritage):

The aim of the UNDP-PFF is to bring the both sectors closer to the re-union of the island. The conservation of religious building (conservation of churches and monasteries in the Southern part of Cyprus and mosques in the Northern part of Cyprus) is seen as a threat to the re-union. In this respect, although there is other types of heritage building that have been conserved by the Technical Committee on Cultural Heritage; mostly, conservation projects have been focused on the religious buildings.

Due to the possibility of the re-union of the island, UNDP-PFF and Technical Committee on Cultural Heritage disagree the reuse of the monastery with a completely new use. The church should be kept with the original use and the use of the monastic buildings can be discussed with the other decision makers.

Authorities (Kıbrıs Vakıflar İdaresi):

Semi-structured interview also has been conducted with Mustafa Kemal Kasapoğlu from Kıbrıs Vakıflar İdaresi. He has stated that the decision on the adaptive reuse of the monastery is a political decision since it is a religious building, although the monastery belongs to the EVKAF. The monastery has been used as residence of Bishop of Kyrenia before the closure of the building and they beilive that the building should be re-opened as a monastery again.

Kasapoğlu stated that "The monastery still is under rehabilitation and the project has not been completed yet. There is not any discussion and decision about the future use of the monastery but the church will be used as it is. It will be preserved and can be opened for the ritual and ceremonies for Greek Cypriots that comes from other part of the island. On the other hand, the monastic buildings can be used with cultural use. Collaborations can be done with the universities and they can use the monastic buildings for different social, educational and cultural activities."

STEP 2: ANALYSIS OF EXISTING BUILDING

Physical character: The monastery is located in a rural context in Çamlıbel/Myrtou village. The church shows characteristics of Renaissance period; on the other hand, monastic buildings around the church that have been built in later periods, show characteristics of vernacular architecture in term of construction techniques, materials and architectural characteristics such as arcaded porches on the facades.

The church is in a good condition although it needs emergency interventions. It is composed of two different parts divided with an arcaded wall in the middle. It is a wide span structure covered with two vaults and the pitch roof on top. The church also consists of a bell tower, which is guessed that it was built later in Ottoman

period. The church is built by load bearing system with local stones. On the south façade it consists of arches on the façade and on the other 3 facades the structure consists of repetition of buttresses with arch shaped windows between each two buttresses.

On the other hand, the monastic buildings are partly demolished and the roofs of the structures have been collapsed. They have been built in mixed structures, which there are interventions in different periods. Some parts are mud brick and stone structures; also some parts have been supported by frame structures. All blocks are double floored and have linear forms that are located around the church since it is the focal point of the complex. Buildings are composed of small repeated spaces attached to each other, since they were built for accommodation purposes. Block A and B have arcaded porch (*sundurma* as the local name) in front of rooms, looking towards the courtyard. They have symmetrical facades that are composed of repeated arches and the windows. The entrances are in the middle of the buildings, which have been defined with an addition. Block C is different than the two other blocks in terms of façade and spatial characteristics since it is guessed that it is a later intervention. Jeffrey (1983) states that this block had been built as guest rooms; however, in other further sources it has been introduced as main toilet block. It is guessed that it might be converted into toilets during the use of the building as a Greek school in later period. The block is composed of attached spaces without a 'sundurma'. The access to the first floor is from the outer space with a stair at the backside of the building.

Heritage values: Although there are some more monasteries similar to Agios Panteleimon, the building has *architectural* and *aesthetic* value due to its unique

architectural characteristics. It also has *historic* value since the building was one of the oldest monasteries on the island. The *documentary* and *educational* values are important since it shows characteristics of the related periods and can teach how a monastery in the related period looked like.

The *contextual* value is not too much high since it is located in a rural context, however in terms of location within the village, it is in a strategic location since it is located next to the main road on the way to Kyrenia. The social and cultural values are important because when the monastery was constructed visiting the building was one of the important activities of the former villagers. The social and cultural meaning of the building to the local community was crucial.

As mentioned before there are 22 more monasteries but its *spiritual* and *emotional* value makes the monastery more valuable than the others. Within its context it has *symbolic* value since it is the most important landmark of the village. Additionally, it has symbolic value for the island. It is one of the most important monasteries religiously due to the myths that started from the construction of the monastery and continued to be believed until today. Physically, its rarity value is not as important as the symbolic and spiritual value since it is architecturally similar with the other monasteries located on the island. Due to the contextual and symbolic values, the monastery also has economic value and potential for the future use of the building.

Definition of the needs of the district: Definition of the needs on the district is one of the most important indicators in decision-making process. Apart from the other issues that already discussed by the actors in decision-making, defining the needs of the district is important in terms of a sustainable heritage adaptation. In order to

define it, there are four different analyses that should be introduced as: land use, socio-cultural, economic and environmental analysis.

Land use analysis: As seen in solid-void relationship analysis (Figure 39), the density of the village is not intensive. Most of the buildings located in the village are residential and commercial. There are also a school (public utility), a hospital (public utility), a police station (public utility), a cheese factory (industrial), a mosque (religious) and the monastery (religious) located in the village. There is also a military area in the centre of the village (Figure 37). The village lacks other kind of buildings such as cultural buildings.

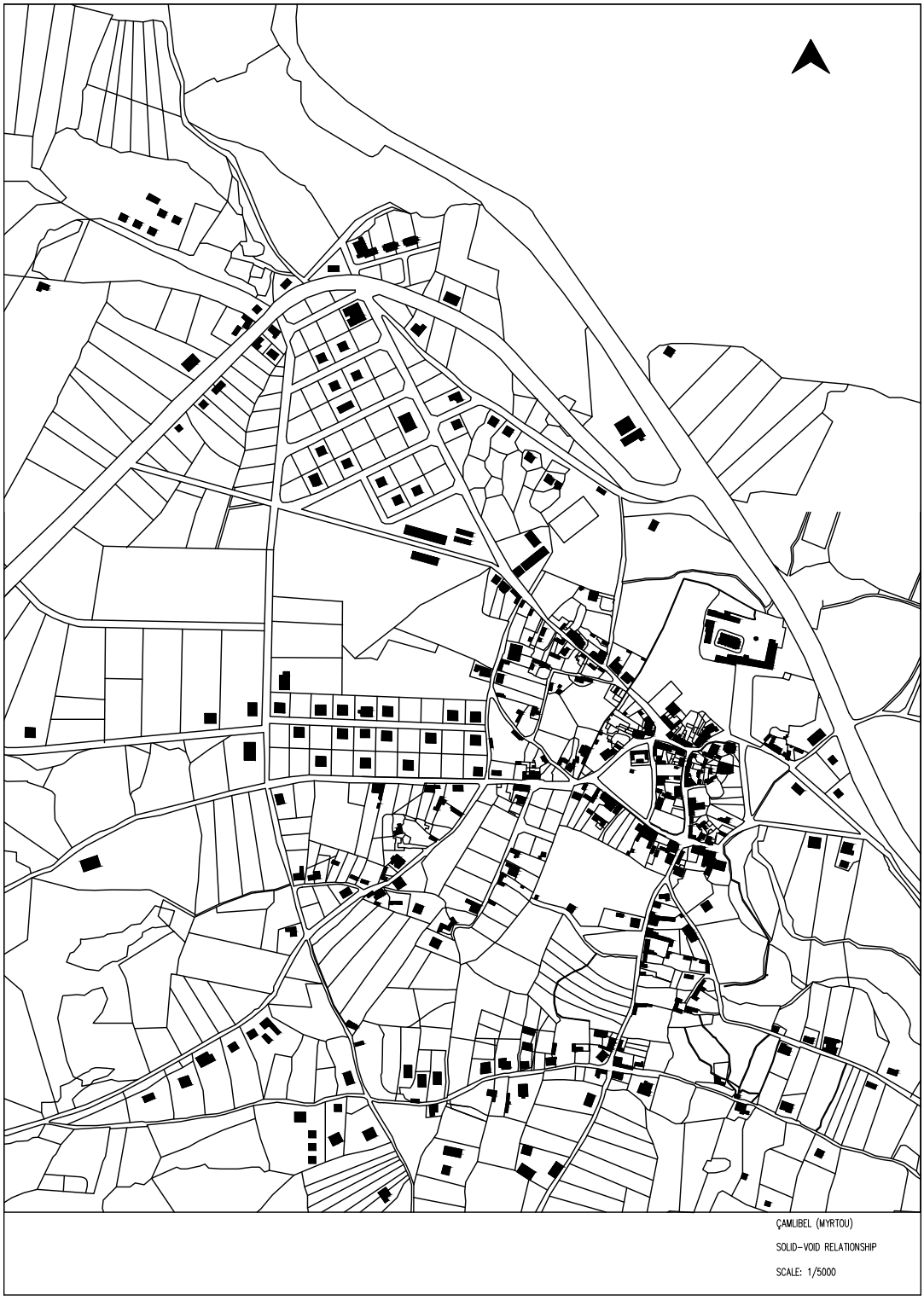


Figure 37: Solid-void relationship of the Çamlıbel/Myrtou village (Source: Tapu dairesi, Re-drawn by: Damla Mısırlısoy)

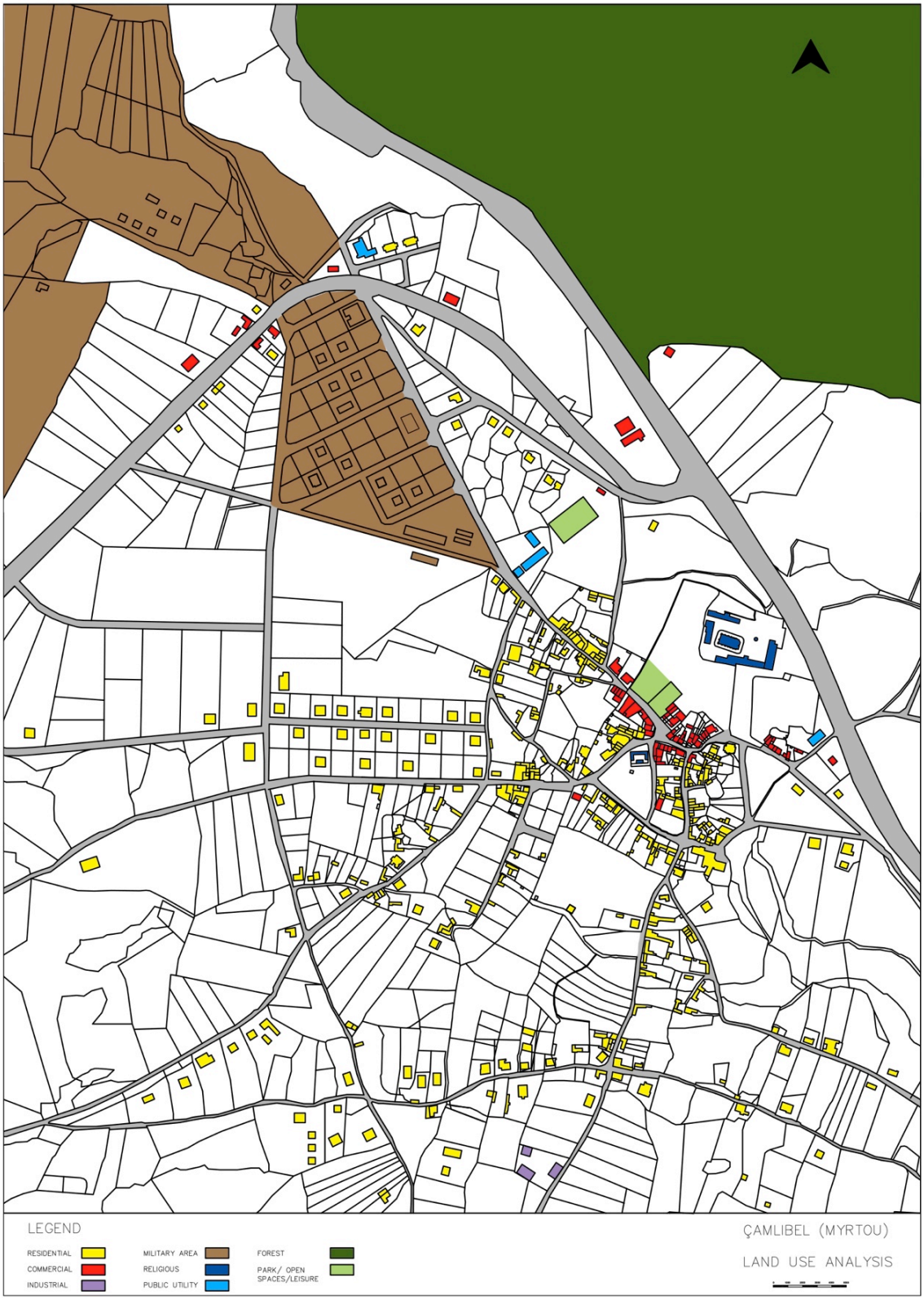


Figure 38: Landuse analysis of the Çamlıbel/Myrtou village (Source: Tapu dairesi, Re-drawn by: Damla Mısırlısoy)

Social analysis: A survey has been done for defining population of the village, male/female domination, age intervals and educational level of the stakeholders of the village (Table 19). This information is needed in terms of future users of the building since it helps defining the most appropriate function for the heritage building. Totally, there are 872 people living in the village. 466 of them are male and 406 of them are female. Most of the population is young people since 617 of the people are between age of 0-44 and 255 of them are 45 and more. 556 of the stakeholders have been finished at least one institution in the primary, secondary or high school level. On the other hand, 150 have not finished any of them. There are also 166 people that are in the graduate level and above.

Table 19: Survey of the village (Source of the data: Devlet Planlama Örgütü, 2015)

SURVEY FOR THE ÇAMLIBEL		
Population of the Village:	872	
Male/female domination:	Male	466
	Female	406
Age intervals:	0-19	256
	20-44	361
	45-64	183
	65-84	65
	85+	7
Education:	Not finished any institute	150
	Primary school	238
	Secondary school	104
	High school	214
	University	147
	Master/PhD	19
Data revised in 2011		

As seen in the results, there are too many young people in the village but there are no social and cultural activities for them in the district. In the village, there is a primary school in the village called 'Çamlıbel Aysun Primary School', a sport club, children playground and football field. While deciding the new use of the monastery these are the inputs that must be taken into consideration.

Economic analysis: The main source of livelihood in the village is agriculture and livestock. Carob and olive oil trees are most of the important economic sources of the villagers. There are also a great number of people that work in the government as officer. Most of the women that live in the village are housewife.

There is not too much local investment in the village. There are a few retail spaces such as coffee shops, market, gas station and restaurants. There is also a small factory for the milk products.

In some intervals Eco-tourism days are organized in the village by the municipality. Local products and arts & crafts are sold during the eco-tourism days. It helps the promotion of the village and contributes economy of the district. Local people can sell their products and can contribute their household budget. Eco-days are also important transferring the cultural heritage of the district to the further generation, thus it helps sustaining the village.

Environmental analysis: Just to the south is the Maronite village of Karpasha, with the rebuilt medieval church of Stavros. Immediately, west of Myrtou is Dhiorios (Tepebaşı) (315m), providing good views of Morphou Bay and of the Troodos range

to the south. An early 19th century church has replaced a medieval building, parts of which can be seen at its west end (Robertson, 1990).

There are important landmarks around the district such as the Sanctuary of Pighades, which belongs to Bronze age. Another important monument is Mavi Köşk (Blue Mansion) that was a residential building and converted to a museum.

2 km. outside Çamlıbel, there is Bronze Age Sanctuary of Pighades. The temple of Pighades belongs to the 1600-1050 AC and it lies among trees on the way to Çamlıbel with its centrepiece of a small step stone blocks. It is topped with two stones in the shape of bull's horns. The excavated area has revealed a double courtyard with cisterns, all surprisingly well constructed for this early date (Darke, 1993). However, despite the importance, there is no enough promotion and security (not even a site guardian) to the building and it does not take attention of enough visitors.

	
(URL 29)	(URL 30)

Figure 39: Sanctuary of Pighades, Çamlıbel/Myrtou

Another important tourist attraction point of the district is Mavi Köşk, which was a residential building belongs to Paolo Paolides and has been converted to museum.

The building has been built by Paolo Paolides in 1957, which he is a Greek originated from Italy. It is a double storeyed villa, which is built by 20th century construction techniques and in combination of the characteristics of Greek, Turkish, Mediterranean and Italian architecture (URL 31).

Courtyard of the mansion (URL 31)

Figure 40: Mavi Köşk (Blue Mansion)

The mansion has luxury-furnishing details such as milk pool and also technological features that was extraordinary for 1950s such as earthquake rooms. During the war in 1974, he had been run away from the mansion to Italy through the underpass that he had been constructed. The ending point of the underpass could not be discovered since he exploded the tunnels after his run away (URL 31).

Source: (URL 32)

Figure 41: Geçitköy Dam, Kyrenia, Cyprus

Close to the Agios Panteleimon, there is a dam in the Geçitköy village (Figure 41). For almost a decade, the dam was empty due to lack of rain on the island. In November 2015, with an underwater pipe system, drinking water has been brought to the Northern part of the island from Turkey. It is decided to collect the water that will be brought to the island in the dam. The system is still testing period but afterwards, the land values of the region will be increased and the district will be developed due to new investments.

STEP 3: DECIDING CONSERVATION ACTIONS

4 types of buildings on the site should be analysed separately since 3 different blocks and the church have been built in different periods and have different architectural character, structure system, construction material and techniques. The site also

includes an archaeological area, which should be preserved for the future excavations.

UNDP-PFF has started to rehabilitate the Church and Block B (dorms) as the first step in October 2015; however, according to the interview that have been conducted with the UNDP-PFF and TCCH, restoration of the whole monastery is in the list of future projects of Technical Committee on Cultural Heritage.

The conservation actions that have been stated below have been taken from the conservation project that has been prepared for UNDP-PFF without any contribution of the author. These actions include only intervention for the Phase 1 of the project. It is a project that already starts so the interpretation on the decided actions is beyond the scope of the study.

Church: According to the conservation actions in the model, the church is in Phase II. The interventions of the church will be Phase I in this level, and then the church will be fully restored in Phase II when there are enough budgets. The interventions includes emergency measures of the building such as (UNDP-PFF, 2015):

-Cleaning of all the vegetation around the field.

-Constructing a drainage channel in the courtyard

-Cleaning of existing stones and surfaces

-Structurally stabilizing the monument

-Removal of concrete floor around the church that was a later addition

-Renewing the roof

-Filling the stones with the mortar on the roof and the walls

-Injection of mortar to the cracks on the walls

-Protection of existing wall paintings

-Cleaning and protection of existing wooden doors and windows

-Removal of existing plaster on the walls and application of the new plaster

Block A: Block A is in Phase III according to the model, since it the roof has been collapsed and some parts of the walls have been demolished. The building needs emergency interventions; however, there is not enough budget for this block in this phase. The interventions includes emergency measures of the building such as (UNDP-PFF, 2015):

-Cleaning of all vegetation around the building

-Filling cracks

-Structurally stabilizing the building

-Supporting the arches and openings

-Removal of existing floor finishing

-Existing doors should be kept, repaired and reused

-Existing plaster on the façade of the building should be removed

-Providing a new roof with composite materials

-Removal of existing plaster on the walls and application of the new plaster

Block B: According to the conservation actions in the model, the church is in Phase III. The restoration works of this block has been started and will be completed within a year. The interventions includes emergency measures of the building such as (UNDP-PFF, 2015):

-Cleaning of all vegetation around the building

-Filling cracks

-Structurally stabilizing the building

-Preservation of decorated arch on top of the main entrance

-Repairing and structurally supporting the inner mud brick wall on the first floor

-Preservation of existing bricks on the roof and using new ones when it is needed

-Providing a new roof with composite materials

-Applying plaster to the inner walls

-Filling and plastering openings on the north façade since they are later intervention

-Removal of existing plaster on the walls and application of the new plaster

Block C: Block C is in Phase II according to the model, since some parts of the walls have been demolished. The building needs emergency interventions; however, neccassary interventions will be completed in a future phase. The interventions includes emergency measures of the building such as (UNDP-PFF, 2015):

-Cleaning of all vegetation around the building

-Filling cracks

-Structurally stabilizing the building

-Removal of new additions on the first floor since they are not original

-Existing doors should be kept, repaired and reused

-Partly demolished stonewall on the east façade should be kept as it is

-Constructing a new roof with composite materials

-All openings should be supported and new doors and windows should be designed

-Existing plaster on the façade of the building should be removed, mud bricks should be repaired and then plaster that is suitable for mud bricks will be applied.

STEP 4: DEFINING ADAPTIVE REUSE POTENTIALS

Definition of potentials of the building is important in finding the most appropriate use for the former monastery. Each potential has been discussed in depth in the light of the analysis discussed in Step 2.

Physical potential: The building is important in terms of being the only monastery in the district. The layout of the building is unique in the district due to its space organizations as well. In other monasteries located on the island, mostly monastic buildings are located around a close courtyard that is surrounded by high walls with a high level of privacy and the church is mostly attached to the one side of the courtyard. In this example, the church is located in the middle of the courtyard and the other monastic buildings are located around the church without having surrounded walls located around the courtyards.

With the analysis of physical character, it is observed that building is composed of 3 different blocks except the church. They are linear blocks, which face to the courtyard and composed of divded spaces. The complex has potentials to propose different kind of activities in each block according to the selected strategy.

The monastery has potential to adapt the buildings for disability access since some of the buildings are single storeyed and some of them are double storeyed. Some solutions can be found easily to adapt the double storeyed ones to the universal design principles. Mostly in religious buildings the building is not very close to the human scale. In this example, the monastic buildings are not very high and the height of the church is very close to human scale.

Economic potential: The building has economic potentials since the monastery is located in rural context but in a strategic location. The population density of the district is not intensive but the building has market opportunity due to its location. It has also economic potential due to its heritage values. It one of the most important monasteries on the island and it takes attraction of the visitors even with its current condition without any intervention.

With the environmental analysis it is achived that there are other historic monuments close to the monastery, which are important monuments in terms of cultural heritage. They are important tourist attraction points as well. There are also organized activities within the village such as eco-days and festivals. The future use of the building should be taken into consideration in combination of these monuments and activites in order to contribute promotion and economic development of the district. Another indicator of the economy of the district is under water pipe system in the region. The system is still testing period but afterwards, the land values of the region will be increased and the district will be developed due to new investments.

According to the social and economic analysis, there is no enough social and economic activities within the district so proposing this kind of activities within the building can make profits and use it as financial resources for maintenance cost; however, in order to achieve it proper management plans should be made for the future use of the building.

Functional potential: The spaces of the monastic buildings are small spaces attached each other since they were designed for accommodation purposes. These space divisions should be kept as it is due to the structural issues and also

preservation of architectural characteristics of the heritage buildings. However, these considerations create problems in terms of adaptability of the building for the new space requirements. The new use for the building should be thought according to all these characteristics of the building in order not to harm the originality of the architectural heritage.

On the other hand, building has potential to use semi-open and open spaces that faces towards the courtyard. The outdoor spaces can be designed to use them effectively in relation with the courtyard. The courtyard also has potential to create physical linkage between each monastic building.

Environmental potential: The monastery has potentials due to its site access. It is very close to the village settlement and also next to the main road on the way from Nicosia to Kyrenia. It has potential to be used with a function, which stakeholders of the village may benefit.

In terms of neighbourhood relationships building has environmental potentials as discussed in the economic potentials as well. It is located close to the dam that drinking water will come from Turkey and will be distributed to the whole island. Also, there are important landmarks in the distict, which takes attraction of many visitors. Thus, the building has potential to contribute the cultural tourism of the district.

Political potential: The most sensitive issue in adaptive reuse of the monastery is the political issues since it is a religious building. As discussed in the interview in the EVKAF, which is the current owner of the building, the future use of the building is

beyond the decision of them. The decision will be a political decision rather than being the decision of the owner of the monastery; however the socio-cultural and economic potentials of the building and its benefits for the current stakeholder of the village should be taken into consideration.

Social potential: The monastery has social meaning for the community, especially for the original users. There is public interest to the building since even today; Greek Cypriots come to visit the monastery even it is in a demolished condition. The emotional and spiritual values of the building are important indicators of the decision-making as seen in the interview results. Coming to visit the church was a kind of social activity for the former stakeholders of the village.

Today, the building lost its public interest since the current stakeholders are Muslims and they do not visit church. The spiritual and emotional values of the building do not make sense for them. They believe the monastery should be preserved as a cultural heritage of the community. They want building to be used for social and cultural activities for the stakeholders of the village since there is not much at the moment.

Cultural potential: Like its social potentials, the monastery also has cultural meaning for the former stakeholders of the village religiously. Visiting the monastery was a part of their culture before the division of the island.

Today, the building has historic significance and authenticity architecturally for the current users. It is the common cultural heritage of the both communities and must be

preserved physically by respecting to the original function of the building and its spiritual value for the original users.

STEP 5: DECISION OF FUNCTIONAL CHANGES

All of the factors that affect decision making for the future use of the monastery have been discussed step by step. The aim of applying the proposed model on the Agios Panteleimon Monastery is to show how the model will be applied in order to develop adaptive reuse strategies for decision-making of architectural heritage. The study does not aim to test the proposed model since testing approach would be another research study and it is the beyond the scope of the research. The application of the model and final decision-making needs a deeper study with the contribution of all the actors in decision making of the heritage building.

According to the proposed model, there are three different strategies. In this section, alternative strategies will be discussed; also their advantages, disadvantages, future possibilities and their threats will be investigated. Then, the final decision will not left to the actors in decision making.

STRATEGY 1 -Adaptation with same use:

According to the some of the actors including original users and investor, the original use of the heritage building should be kept as it is. Original users (Greek Cypriots) that live in the other part of the island see the building as a part of their cultural heritage in terms of spiritual and emotional values; on the other hand, for the current stakeholders of the village, the building is just a part of cultural heritage of the district physically since they are in other religion.

The building had been used as a residence for the Bishop of Kyrenia between 1571-1921. It might be returned to its original function again but there are some risks for the future of the heritage building. First of all, if the building would be used as a monastery, there is a threat of lack of use since the current stakeholders of the village are Muslims. The building might not be used effectively and this situation would cause the lack of economic continuity of the building for the future maintenance cost. Secondly, using the building as monastery will create privacy problems. Local people and tourist would request to visit building as a preserved monument and this will be an issue for the stakeholders of the monastery. Thirdly, there is lack of socio-cultural activities for the current stakeholders of the village especially for the young people and the women. The building has potential to be used with a function that can create facilities for them. If it would be used as a monastery, the building would not be able to contribute socio-cultural development of the district. Changing the use of the building and selecting the most appropriate new use may contribute economic development of the district and new investments can be done.

STRATEGY 2- Adaptation with mixed use:

The second strategy for the building is to keep the church as the original function and giving new uses for the monastic buildings as supporter functions. The church might be kept it open for the ritual and pray for the visitors; on the other hand, other buildings can be used as socio-cultural activities. The building might be used for cultural tourism and to ensure people experiencing the history, folklore and culture of the district.

The monastic buildings can be used as cultural activity centre. Workshops can be organized for children and young people. Art and craft courses can be given for the

women living in the village. Then, these products can be exhibited and sold to the visitors of the building. Also collaborations can be done with the universities located close to the village (such as Middle Eastern Technical University). Some parts of the building can be provided to the students to be used for educational activities.

The new uses also need places to get rest and eating activities. A café or restaurant part should be provided for the visitors and users of the building. The former refectory part of the monastery can be used for this purpose. Also, one block of the monastic buildings can be used for accommodation purposes as boutique hotel.

Excavations should be done in the archaeological area around the site. The art works that will be found out during the excavation works can be also exhibited in the building as a museum part. Historical background information of the monastery should be given to the visitors since the building has an important and rich story.

This kind of new activities will support economic continuity of the building for the future maintenance costs. Additionally, it will contribute the promotion of the district and its economic development.

STRATEGY 3- Adaptation with totally new use:

A totally new use can be proposed for the future use of the complex but according to the factors that have been discussed in the model, it is not a correct approach in terms of preserving the values of the heritage building. There are important values of the building and a totally new use may harm the originality of the building. The physical conservation of the heritage building is not enough; also the spirit of the building should be preserved.

In the world, there are many examples of adaptive reuse of religious buildings with a new use, which are out of use. The local authorities cannot manage conservation and rehabilitation of these religious buildings so they have began to rent or sell the religious buildings such as churches to private users by controlling its future use.

This decision is made also with the analysis of its heritage values. Every religious building cannot be used with a new use. If the building is disused, in order to sustain these buildings reuse with another function is inevitable.

5.7 Findings of the Application of the Case Study

After discussion on the three strategies, in order to achieve a quantitative approach a table has been prepared, which helps comparing the three proposed strategies and select the most appropriate one for the Agios Panteleimon Monastery.

In the table, all the discussed factors in adaptive reuse decision-making have been listed and their effects on the three strategies has been discussed. These effects have been classified in three categories as negative, positive and neutral. A factor may have a negative effect in proposing new use alternatives in decision-making process that can be a barrier in the adaptation process. Also, a factor may have has a positive effect on the related strategy and it might be a driver in the adaptive reuse of the heritage building. On the contrary, a factor may not affect the related strategy. These three effects of the factors and their relationship between the developed strategies have been represented in Table 20. The table helps to evaluate the proposed three strategies in a quantitative and reasonable approach. The negative and positive effects of the factor should be taken into consideration and proposals should be re-interpreted holistically.

Table 20: Defining the factors as barriers or drivers on the related strategy for Agios Panteleimon Monastery

RELATIONSHIP BETWEEN FACTORS IN DECISION-MAKING AND STRATEGIES FOR AGIOS PANTELEIMON MONASTERY										
FACTORS AFFECTING THE STRATEGY		**STRATEGY 1: ADAPTATION WITH SAME USE**			**STRATEGY 2: ADAPTATION WITH MIXED USE**			**STRATEGY 3: ADAPTATION WITH TOTALLY NEW USE**		
1. ACTORS IN DECISION MAKING	**USERS (ORIGINAL USERS/ CURRENT USERS)**	-	0	+	-	0	+	-	0	+
		-For the current stakeholders of the village, the building is just a part of cultural heritage of the district physically since they are in other religion. -On the other hand, original users of the monastery wish to see the heritage building with its original use and they do not agree the change in function.			-Current stakeholders of the village wants building to be used with a function that have help socio-cultural and economic contribution of the village.			-Neither original nor current stakeholders of the village agree the use of the monastery with a totally new use.		
	TECHNICAL TEAM	-	0	+	-	0	+	-	0	+
		-Engineer of the project does not agree on the adaptation of the monastery with same use.			-Engineer of the project agrees on the adaptation with the mixed use by keeping the church for the rituals and re-functioning the monastic buildings.			-Engineer of the project does not agree on the adaptation of the monastery with a totally new use.		
	INVESTOR	-	0	+	-	0	+	-	0	+
		-Investor of the project does not agree on the adaptation of the monastery with same use.			-Investor of the project agrees on the adaptation with the mixed use by keeping the church for the rituals and re-functioning the monastic buildings.			-Investor of the project does not agree on the adaptation of the monastery with a totally new use.		
	AUTHORITIES	-	0	+	-	0	+	-	0	+
		-Authorities of the project do not agree on the adaptation of the monastery with same use. -On the other hand, Bishop of Kyrenia wants to use the building as a monastery again.			-Authorities of the project agree on the adaptation of the monastery with the mixed use by keeping the church for the rituals and re-functioning the monastic buildings.			-Investor of the project does not agree on the adaptation of the monastery with a totally new use.		
2. ANALYSIS OF EXISTING BUILDING	**ORIGINAL FUNCTION**	-	0	+	-	0	+	-	0	+
		-It is a religious building so due to its values adaptive reuse options is more limited than the other types of buildings.			-It is a religious building so due to its values adaptive reuse options is more limited than the other types of buildings. The church might be kept as it is and monastic buildings can be re-functioned.			-Reusing the monastery with a totally new use may harm the values and its originality.		
	PHYSICAL CHARACTER	-	0	+	-	0	+	-	0	+
		-Using the building with its original use is more suitable in terms of physical character of the building.			-Keeping the church with its original use is an appropriate approach in terms of preservation of its physical character but suitable functions should be given for the monastic buildings.			-If the appropriate functions are assigned to the buildings according to the physical character, the originality of the heritage will be preserved.		
	HERITAGE VALUES	-	0	+	-	0	+	-	0	+
		-Original users (Greek Cypriots) that live in the other part of the island see the building as a part of their cultural heritage in terms of spiritual and emotional values.			- By the adaptation of the monastery with the mixed use by keeping the church for the rituals and re-functioning the monastic buildings may preserve the heritage values of the building. Supporting with new function will increase the heritage values.			-There are important values of the heritage and a totally new use may harm its originality. The physical conservation of the heritage building is not enough; also the spirit of place should be preserved.		

Table 20 continues:

FACTORS AFFECTING THE STRATEGY		STRATEGY 1: ADAPTATION WITH SAME USE			STRATEGY 2: ADAPTATION WITH MIXED USE			STRATEGY 3: ADAPTATION WITH TOTALLY NEW USE		
	NEEDS OF THE DISTRICT	-	0	+	-	0	+	-	0	+
		-Using the building as a monastery does not answer the needs of the district.			- There is lack of socio-cultural activities for the current stakeholders of the village especially for the young people and the women.			-The building has a potential to be used with a different function that may create facilities for the stakeholders of the village and may answer the needs of the district.		
3. CONSERVATION ACTIONS		-	0	+	-	0	+	-	0	+
		-Conservation actions do not affect the decision since the function will not change in this strategy.			-Final decision of the new use for the building should be decided before starting to apply the necessary interventions. For the monastery, the conservation works have been started but the future use of the building is not known yet. Firstly, the new use should be decided and then the building should be designed according to the space requirements of the new use. This situation may cause inappropriate interventions by the users.			- The new use should be decided before starting to apply necessary interventions.		
4. ADAPTIVE REUSE POTENTIALS	**PHYSICAL POTENTIAL**	-	0	+	-	0	+	-	0	+
		-Physical potential do not affect the decision since the function will not change in this strategy.			-The building is important in terms of being the only monastery in the district. Accordingly, the proposed function should be appropriate in order to preserve its originality.			-The building is important in terms of being the only monastery in the district. Accordingly, the proposed function should be appropriate in order to preserve its originality.		
	ECONOMIC POTENTIAL	-	0	+	-	0	+	-	0	+
		-The use of the building as monastery is a risks for the future of the heritage.. It might be lack of economic continuity of the building for the future maintenance cost.			-New activities may support economic continuity of the building for the future maintenance costs. Additionally, it will contribute the promotion of the district and its economic development.			-Changing the use of the building and selecting the most appropriate new use may contribute economic development of the district and new investments can be done.		
	FUNCTIONAL POTENTIAL	-	0	+	-	0	+	-	0	+
		-Functional potential do not affect the decision since the function will not change in this strategy.			-The spaces of the monastic buildings are small spaces attached each other since they were designed for accommodation purposes. These space divisions should be kept as it is due to the structural issues and also preservation of architectural characteristics of the heritage buildings. However, these considerations create problems in terms of adaptability of the building for the new space requirements. Accordingly, appropriate new uses for the monastic buildings should be proposed.			-The spaces of the monastic buildings are small spaces attached to each other since they were designed for accommodation purposes. These space divisions should be kept as it is due to the structural issues and also preservation of architectural characteristics of the heritage buildings. However, these considerations create problems in terms of adaptability of the building for the new space requirements. Accordingly, appropriate new uses for the whole complex should be proposed.		

Table 20 continues:

FACTORS AFFECTING THE STRATEGY		STRATEGY 1: ADAPTATION WITH SAME USE			STRATEGY 2: ADAPTATION WITH MIXED USE			STRATEGY 3: ADAPTATION WITH TOTALLY NEW USE		
4. ADAPTIVE REUSE POTENTIALS	ENVIRONMENTAL POTENTIAL	-	0	+	-	0	+	-	0	+
		-The building has environmental potentials to be used with various functions as mentioned in other two strategies. Using the building as monastery is the neglect of these potentials.			-The monastery has potentials due to its location. It is very close to the village settlement and also next to the main road. Also, there are important landmarks in the district, which takes attraction of many visitors.			-The monastery has potentials due to its location. It is very close to the village settlement and also next to the main road. Also, there are important landmarks in the district, which takes attraction of many visitors.		
	POLITIC POTENTIAL	-	0	+	-	0	+	-	0	+
		-The biggest issue in adaptive reuse of the monastery is the political issues since it is a religious building. The future use of the building is beyond the decision of the owner. It will be a political decision rather than being the decision of the owner of the monastery.			-The political issues are the barriers for adaptation of the monastery with the mixed-use. It is monastery that was used as the Bishop of Kyrenia so they want the heritage building to be used as a monastery again after the conservation works.			-The political issues are the barriers for adaptation of the monastery with a totally new use.		
	SOCIAL POTENTIAL	-	0	+	-	0	+	-	0	+
		The monastery has social meaning for the community, especially for the original users. There is public interest to the building since even today; Greek Cypriots come to visit the monastery even it is in a demolished condition. The emotional and spiritual values of the building are important indicators of the decision-making as seen in the interview results. Visiting the church was a social activity for the former stakeholders of the village.			-Today, the building lost its public interest since the current stakeholders are Muslims and they do not visit church. The spiritual and emotional values of the building do not make sense for them. They believe the monastery should be preserved as a cultural heritage of the community. They want building to be used for social and cultural activities for the stakeholders of the village since there is not much today.			-There is lack of socio-cultural activities for the current stakeholders of the village.		
	CULTURAL POTENTIAL	-	0	+	-	0	+	-	0	+
		-The cultural potentials of the building and its benefits for the current stakeholder of the village should be taken into consideration. There is no contribution to cultural development of the district with the original function.			-If it would be used as a monastery, the building would not be able to contribute cultural development of the district.			-The building has historic significance and authenticity for the current users. It is the common cultural heritage of the both communities and must be preserved physically by respecting to the spiritual value of the original function.		
5. DECISION OF FUNCTIONAL CHANGES		-	0	+	-	0	+	-	0	+
		- If the building would be used as a monastery, there is a threat of lack of use since the current stakeholders of the village are Muslims. The building might not be used effectively and this situation would cause the lack of economic continuity of the building for the future maintenance cost.			-Changing the use of the building and selecting the most appropriate new use may contribute economic development of the district and new investments can be done. The church might be kept it open for the ritual and pray for the visitors; on the other hand, other buildings can be used as socio-cultural activities. The building might be used for cultural tourism and to ensure people experiencing the history, folklore and culture of the district.			-Changing the function of the religious building completely is not an appropriate approach due to its heritage values.		

Table 20 continues:

FACTORS AFFECTING THE STRATEGY	STRATEGY 1: ADAPTATION WITH SAME USE	STRATEGY 2: ADAPTATION WITH MIXED USE	STRATEGY 3: ADAPTATION WITH TOTALLY NEW USE
FINAL COMMENTS	Using the building as monastery is not an appropriate decision socially and economically. Also, it means ignorance of the context and stakeholders of the village.	Keeping the church as it is and proposing appropriate functions (such as cultural or educational) to the monastic buildings may satisfy both communities and also may preserve the values of the monastery.	Proposing a completely new use may damage the authenticity and heritage values of the monastery since it is a religious building.
Codes: (-), (0), (+)	(-): The mentioned factor has a negative effect on the related strategy and it might be a barrier against the adaptive reuse of the heritage building. (0): The mentioned factor does not affect the related strategy. (+): The mentioned factor has a positive effect on the related strategy and it might be a driver in the adaptive reuse of the heritage building.		

When all the factors have been thought holistically, if the building will be used with the original use, the future of the building is under threat economically. Also, it means ignorance of the context and stakeholders of the village. On the other hand, keeping the church as it is and proposing appropriate functions to the monastic buildings may satisfy both communities and also may preserve the values of the monastery. And lastly, proposing a completely new use will damage the authenticity and heritage values of the monastery since it is an important religious building, where desire to worship here continues.

According to the analysis, when the negative and positive effects of the proposed strategies have been taken into consideration, the most appropriate function for the building is adaptation with mixed use in combination with cultural and educational use for a sustainable heritage adaptation. However, in order to do the final decision, contribution of the all stakeholders and decision makers is needed.

Before the final decision all actors should become together, discussed the issues and agree on a common decision, which is the most appropriate strategy for the future of the heritage building. Community participation and stakeholder's collaboration should be provided in developing better adaptive reuse strategies for a sustainable heritage adaptation.

Needs of the district should be analysed in depth in order to assign the most appropriate use for the heritage building. The heritage building should not be accepted as a single object. The conservation and promotion of the cultural significance of the region should also be taken into consideration. If the adaptive

reuse project of the monastery would be successful, it can act as a catalyst in the district and may encourage other conservation activities in the region.

Final decision of the new use of the heritage building should be decided before starting to apply the necessary interventions. The decision on the conservation actions is the step 3 in the model, which means there are 2 steps that must be completed before it. For the monastery, the conservation works have been started but the future use of the building is not known yet. Firstly, the new use should be decided and then the building should be designed according to the space requirements of the new use. This situation may cause unwanted interventions by the users in the future.

Potentials of the heritage building should be taken into consideration. Especially, the economic and social potentials of the heritage buildings should not be ignored for the sustainable use of the heritage building.

There is a great problem in the management and sustainability of renovated heritage buildings in Northern part of the island. Usually, building is preserved physically but it lacks a living function. This happens because political issues mostly effect the final decision. There are international principles that are applied for the adaptive reuse of architectural heritage for the continuity of the building. The decision should not be based only the political issues.

In the main, the ownership of the heritage buildings in Northern part of the island belongs to the Department of Antiques and Museums or EVKAF, and all interventions regarding with the heritage buildings are under supervision of them.

There are guidelines and regulations in conservation strategies of heritage buildings but there are no policies that propose adaptive reuse strategies for heritage building. New policies should be developed for developing adaptive reuse strategies for heritage buildings. Decision makers and community should be also educated on these issues.

It is important to understand the significance of the built heritage as a living assest rather than a just physical assest that should be preserved. It is not possible to convert all heritage buildings into museum, art gallery, and cultural centre. A successful adaptive reuse projects should be also economically sustainable. If there is no threat against the significance of the place other functions such as shop, department stores, boutique hotels, cafe or restaurants could be given to the heritage buildings.

All the discussions on the adaptive reuse of the Agios Panteleimon Monastery have been applied to the proposed model (Figure 42). Then, final discussions and proposals regarding with the use of the model have been made.

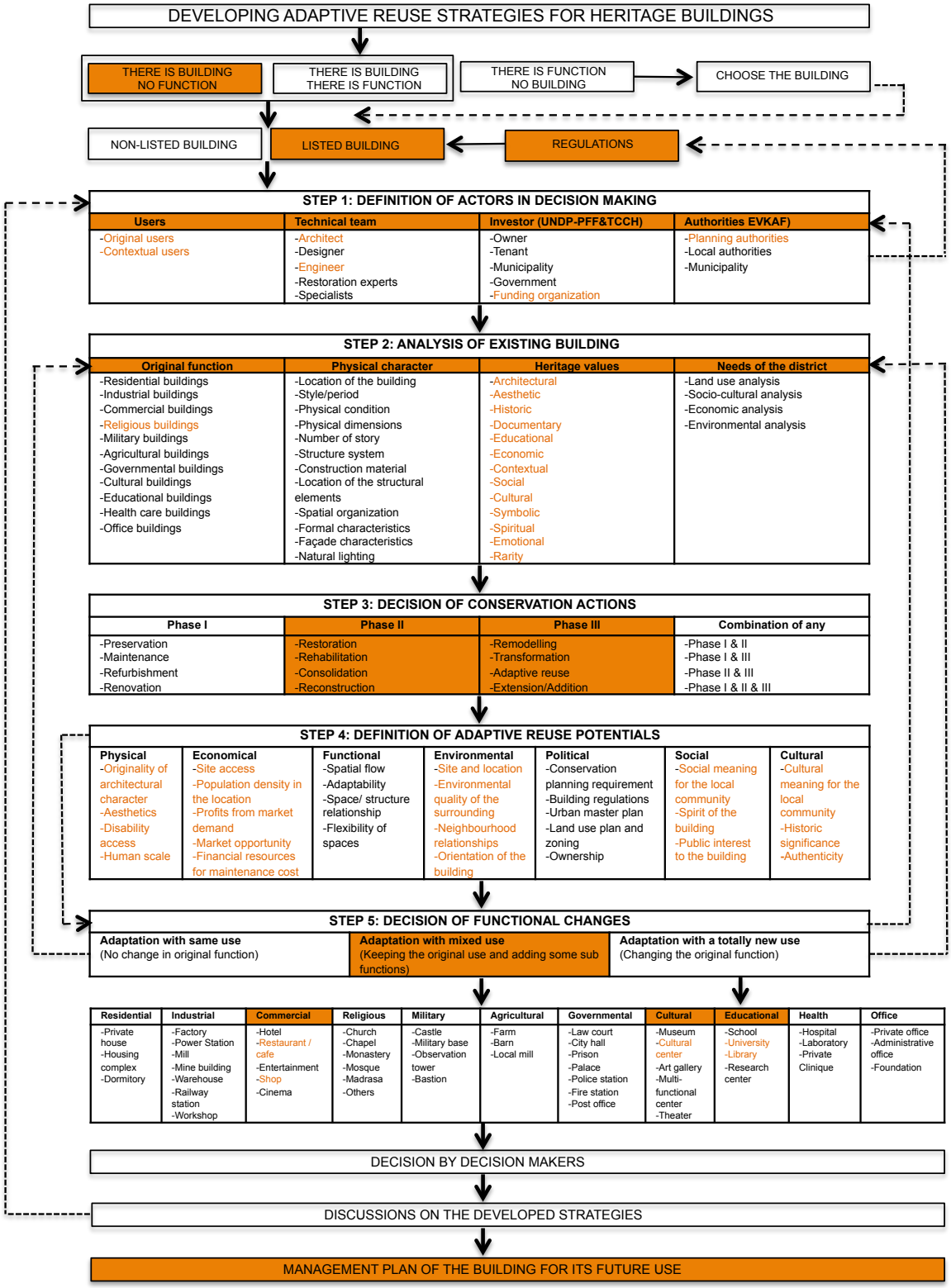


Figure 42: Application of the proposed model for Agios Panteleimon Monastery

5.8 Discussions on the Use of the Model

The model represents the steps, which should be followed in the adaptive reuse decision-making. As seen by the arrows, the decision is not a one-way approach. When it is necessary, decision makers should turn back to previous steps and re-evaluate the decision. All factors should be concerned holistically before developing the strategies and proposals for the future use of the heritage building.

In most of the adaptive reuse projects, conservation actions is applied and the new use is decided after finishing the interventions. This may cause unwanted interventions and inappropriate additions to the structure by the future users.

User and community participation in the decision-making process is also important for appropriate decision-makings. Potential users of the buildings and their opinions regarding with the new use of the building is mostly ignored. User/visitor needs and expectations should be defined before the final decision since it provides decision of better strategies for the future use of building.

The model can be used to evaluate the appropriateness of the new use for the re-functioned buildings and also can be used to define the problems in the decision-making. It can also be used to propose new strategies for the abandoned or disused heritage buildings, which lacks a living function.

The proposals for the future use of the heritage buildings should not be focused on a single category of functions; however, functional variation of the new proposals should be provided according to the characteristics of the heritage building.

The decision-making approaches that can be used with the model are *consultative and collaborative decision making* (Discussed in section 2.5 Decision making theory). As a *consultative approach* an expert could be hired to apply the model to the selected heritage building and to develop the strategy alternatives and inform the actors about the results. However, the final decision depends on the actors. Also, as the *collaborative approach*, decision makers and actors come together collectively to make a choice among a number of alternatives.

The model can be applied to both listed and non-listed buildings. It assists experts in adaptive reuse decision-making in practice, and can be used by the architects, designers, engineers, urban planners and restoration experts. On the other hand, the study creates a base for developing the subject for further researches.

Chapter 6

CONCLUSION

As being reflections of people's lifestyle and culture, heritage buildings are important in transferring this knowledge to further generations. They should be sustained to transfer this knowledge for safeguarding the traditions, history and culture of communities. Built cultural heritage is crucial, since they symbolize and give glimpses from related past periods in time. Instead of destroying, they should be sustained since they are evidence of the people's lifestyle and culture living in or around them. Conserving architectural heritage and giving new functions according to their location, size, and potential can makes the heritage building to be sustained. By adaptive reuse of built cultural heritage as public places, culture and history of past will be safe and sustained for next generations.

In historic buildings, mostly the lifetime of the building stock is longer than its function so need of the adaptive reuse of them with a new function is inevitable. When the buildings lost their original function and stayed abandoned or disused, new functions should be proposed for them in order to increase the lifetime, however these new uses must be appropriate in terms of preserving the cultural significance of the historic fabric. When buildings are adapted for different functions, the new use and the interventions should preserve the originality and architectural character of the building in order not to give wrong or missing information for further generations. This could be possible by the definition of all factors affecting adaptive reuse

decision making before deciding how to use an abandoned or disused heritage building.

Adaptive reuse of heritage buildings is a challenging process since there are many factors that must be concerned with an integrated approach. Original function, physical characteristics, heritage values, needs of the districts and potentials of the building should be concerned holistically. In order to question the success of an adaptive reuse project, it is not enough to evaluate the project only in terms of conservation principles.

While giving new functions to heritage buildings, the existing building should be analysed in depth. In decision-making process, surveys should be conducted in the district in order to understand the site and its context. It is not only enough to retain the building physically, originality of the buildings must be preserved by giving appropriate function and hence appropriate users.

The research proposes a comprehensive methodology for development of adaptive reuse strategies for heritage buildings and it also provides a comprehensive review on the factors affecting decision-making. The model has been proposed for developing strategies for heritage buildings including also industrial heritage buildings or buildings belong to the Modernism period, which is abandoned, inappropriately functioned or disused.

Analysis should be conducted in adaptive reuse decision-making process in order to find the most appropriate strategy for the heritage building. All the factors of adaptive reuse should be considered in different dimensions. The significance of the

heritage and its meaning to the local community should be taken into consideration in combination with the physical aspects.

Success of an adaptive reuse project depends on various aspects. It is not enough to evaluate the success of the adaptive reuse only in terms of preservation aspects since a successful adaptive reuse project should be also economically sustained. In this respect, a management plan also should be prepared for sustainable heritage adaptations.

The international principles of heritage conservation should be harmonized with local needs, beliefs, practices and traditions. There is no heritage without communities since communities create heritage. Loss of relationships between continuity, community and cultural heritage causes the loss of sense of place and identity. For the continuity of heritage buildings spirit of place and local culture should be preserved as well as physical characteristics of the building. The process of conservation should be a holistic approach.

The aim of the conservation should be sustaining both tangible and intangible values of the place. Adaptive reuse of a heritage building can be a catalyst to the other projects in the close surroundings. The contribution of the reuse to the environment and the community is also important since there is always an interaction between the conversion projects and the environment. In order to achieve a successful conversion, the history of the heritage should be assessed, and then appropriate functions should be given also according to the needs of the region.

This research will have contribution to the field in adaptive reuse of heritage buildings. The model proposes a qualitative approach; however, final decision depends on variables such as the decision makers, actors in the adaptive reuse project, context of the heritage building, policy issues of the related context, etc. The final decision can be interpreted and then decided considering these variables.

As a further study, the model can be reviewed to propose a quantitative model to propose a score or marking for adaptive reuse of heritage buildings. The final model also can be applied to several case studies to be able to make comparison and discussions as a testing method.

In the research, the term ‘sustainability’ is discussed in combination with the term ‘continuity of the cultural heritage’. However, the proposed model can also be adapted and reinterpreted by the discussions on the social, economic and environmental dimensions of the sustainability.

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APPENDICES

Appendix A: Semi-structured interview with Lorenzo Bini (Architect of Bastard Store)

1. Can you please give us brief information about the project?

Bastard Store is designed by Studio Metrico (Lorenzo Bini and Francesca Murialdo) between 2007 and 2009. Then, in 2009 project has won 'Archdaily Building Award 2009' in 'Interiors' category.

2. What was the original function of the building?

The building was built as a cinema by the engineer Mario Cavalle in the 1940s. Then, it was used as car showroom and workshop for a while. Finally, it has been bought by Bastard Store from the former owner to be used the building as their new headquarters (Administrative offices, design department, flagship store, store room, skate bowl).

3. Who are the decision makers in the adaptive reuse project? Who is deciding the new use of the building? How?

The architect has envolved to the decision making process as well. The owner of the Bastard Store was looking for a place for design, selling and storage facilities for the brand. Additionally, they want the place to be a kind of meeting point for skaters. Then, they applied to architect Lorenzo Bini for asking help about finding a place.

4. What are the steps and strategies taken in decision-making process?

The architect has calculate the space needs of showroom, design studio, storage and the entertaintment activities and found the old Cinema Istria building as an appropriate place in terms of space requirements.

5. Who are the actors in decision-making process for this project?

The old cinema building is not a listed building yet. However, in Milan, buildings belong to modernism period including some old cinema buildings have been started to be listed by the municipality. Although the building is not listed architect was so sensitive to keep the original features as is it including steps, acoustic panels, floor covering, hand rails and even some lighting elemets and construct the new addition as reversible.

6. Which parts/characteristics of the building have been preserved?

The levels were left unchanged and the original flooring and handrails preserved in order to ensure access to the top of the stairs down to the former foyer, and to create a free and flexible open space. The lower steps are mainly used as a showroom where products are presented to agents who sell them in over 300 shops in Italy and abroad. The showroom can be used for informal meetings, films, fashion shows or simply chilling out. Suspened around six metres above the storerooms structure and opposite the balcony, the Bastard Bowl is the star attraction. The decision to place 200 m^2 bowl above the storerooms arose from the need to economise on space and to establish a visual and spatial relation with the offices on the balcony. Made of laminated wood and rolled-steel beams, the strucure is a world's first.

7. What were the challenges during adaptation process of the building to a new function since you were designning in a heritage building?

The roof is composed of several reinforced concrete arches. A ceiling of 800 m^2 is suspended from the intrados of the vault by means of an iron frame. Used by the previous owner as a car showroom and workshop, the Istria Cinema still had all of its original character. Although complicated to organize from the spatial point of view and beset with the difficulties as regards installing the necessary service infrastructures, the cinema turned out to be a suitable building, especially since the

typical activities of the world and history of Comvert could be arranged in the continuous physical and visual communication.

8. What are the benefits of the building's new function to the community (economic, physical, social or cultural)?

Building has social benefits to the community with the skating show activities. The project provides place for skaters with bowl inserted to the building. Skaters may join to performe in these shows and people may join to watch performances.

9. Does the building contribute to the sustainability of the cultural identity with the new function? Did the community engage in this specific adaptive reuse proposal? In what way?

The original function of the building was cinema and it was not possible to use it again with the same use. The new function is not related to original one but the building has been preserved physically. When you visit the building, you can have an idea of a cinema building, which belongs to 1940s. The identity of the building has been preseved successfully. As i mentioned before, different kind of activities take place in the building and people can join these activities freely.

10. Do you think the new function is appropriate for this building or should it be used with same function, mixed use or with a different funciton? Why?

The original function of the building was no longer sustainable because of technological changes. It was built in the modernism period and no longer meets the needs of the cinema function idea of the 21st century. In my opinion, using the building with a new function was an appropriate decision.

Appendix B: Semi-structured interview with Ali Rüstem (Owner of Rüstem Bookshoop)

1. Can you please give us brief information about the project?

There is no enough information about the history of the building since it was a residential unit when it was built. The building has been built as a house in the British period at the beginning of 1900s; however the building shows the characteristics of the Ottoman period.

2. What was the original function of the building?

In 1937 it was converted to retail as a bookshop. The building belongs to the grandfather of the today's owner of the shop. From the 1937 until today the bookshop still exists.

3. Who are the decision makers in the adaptive reuse project? Who is deciding the new use of the building? How?

The restoration of the building has been started in 2009 with the own facilities of the owner of the shop without any financial support or restoration project. A restoration project had not been prepared and an architect or restoration expert did not worked in the application of the project. All the decisions regarding with the project has been taken by the owner of the building.

4. What are the steps and strategies taken in decision-making process?

The idea of converting a bookshop into culture house has started with decrease of the people that reads regularly. The aim of the conversion was to support the existing function of the building with social and cultural activities. In 2011, one part of the building has been rented to a coffee shop, which has international brunches. Then, in 2013 a restaurant part has been added, which serves only lunch for the people works

around the site. If there is not any organized event, the shop closes at 17.00 since the Walled City is not alive and crowded enough in the evenings.

5. Who are the actors in decision-making process for this project?

All the decisions regarding with the project has been taken by the owner of the building.

6. Which parts/characteristics of the building have been preserved?

The original bookshop part has been preserved as it is with the original books and the shelves as well. The original facade and the interior wall divisions also have been preserved.

7. What were the challenges during adaptation process of the building to a new function since you were designning in a heritage building?

The restoration has been started without any stategic plan or project. Then, all the decisions have been taken spontenously. So this situation has created challengies in the project process.

8. What are the benefits of the building's new function to the community (economic, physical, social or cultural)?

In 2014, an interior designer has been rented for some modifications of the interior decoration. There are many cultural events that organized such as film screenings, painting and photography exhibitions, children theatres, receptions, book signing day and press releases. The future project of the owner is to remove the addition in the courtyard, which is not an original part and added in 1960s, and built a small archaeological museum of his own collection.

9. Does the building contribute to the sustainability of the cultural identity with the new function? Did the community engage in this specific adaptive reuse proposal? In what way?

Rüstem bookshop was of the oldest bookshops of the city so it has emotional value for the stakeholders. Additionally, the building has heritage value for the community since it is a traditional urban house, however the community did not engage in the adaptive reuse proposal.

10. Do you think the new function is appropriate for this building or should it be used with same function, mixed use or with a different funciton? Why?

The most appropriate function for the building is to use it as mixed use. Because the bookshop part must be kept and supported with subfunctions for the sustainability of the building.

Appendix C: Semi-structured interview with Bahar Seden (Project Assistant of Mulla Hasan Mill in Büyükkonuk)

1. Can you please give us brief information about the project?

Büyükkonuk village is located on the southeast of the island on the Karpas Peninsula. The local people in the village know village as Eco-days, which organized, in certain periods. Olive is the most cultivated product of the village, it always had an effective role in the economic field of the village and there are two historic olive mills in the village. The Mustafa Mulla Halil olive oil mill, which was located in Büyükkonuk, was one of the oldest olive oil mills located in North Cyprus.

2. What was the original function of the building?

The building was used as a house for a local family and it takes the name Mustafa Mulla Halil from its owner. When team started to the project the building was collapsed and demolish parts of the mill had been reconstructed.

3. Who are the decision makers in the adaptive reuse project? Who is deciding the new use of the building? How?

The restoration work of the mill had been started in 2007 by Save Project Team with the help of foundation supplied by the USAID organization. The project of the restoration is prepared by Save project team and coordinated by İsmail Cemal which lives in the village as well. Restoration work took 6 months but when the restoration had been finished building left empty since nobody knows what to do with it. Then mill has been rent to HASDER for 50 years. Finally, in march 2010 with implementation of HASDER and collaboration of Büyükkonuk Municipality a project was prepared with the foundation of the European Union and building was converted as 'The Mill Culture House'.

4. What are the steps and strategies taken in decision-making process?

HASDER Mill Culture House Project has been selected under Rural Development Sector Programme. Community Development through village Initiatives First Call for Proposals for funding by the European Union. This project covers the training of locals for handcrafts living in and around Büyükkonuk and results in making them producers.

5. Who are the actors in decision-making process for this project?

Hasder and Büyükkonuk Municipality were the actors of the project.

6. Which parts/characteristics of the building have been preserved?

The original crushing and pressing machine in the mill is preserved as it is and is exhibiting for the visitors in the museum part of the building. The old living unit and the storage part of the building are converted to workshop spaces for wood carving, traditional weaving, silk cocoon works, lefkara and straw knitting.

7. What were the challenges during adaptation process of the building to a new function since you were designning in a heritage building?

Some parts of the building, including roof, had been collapsed and local materials had been produced to be used to complete the missing parts of the buildings. Production of these materials was the most challenging part of the roject.

8. What are the benefits of the building's new function to the community (economic, physical, social or cultural)?

The project provides facilities like hand craft courses for the women living in and around the building. They produce this products, exhibit them and sell them so it has social, cultural and economic contribution to the community.

9. Does the building contribute to the sustainability of the cultural identity with the new function? Did the community engage in this specific adaptive reuse proposal? In what way?

It has been contributed to the continuity of the cultural identity since the industrial heritage of the district has been preserved. Some of the staleholders of the village had been contribute in the project as well.

10. Do you think the new function is appropriate for this building or should it be used with same function, mixed use or with a different funciton? Why?

The new function of the building is the most appropriate use for the built cultural heritage since the originality of the building has been preserved and also it contributes to the socio-cultural and economic development of the village.

Appendix D: Semi-structured interview-Template

(This interview should be done with the all actors in decision-making)

PART1- Questions about Physical indicators of the building

1. Do you know the original function of the building? If yes write it down please.

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2. If no, Can you guess the original function of the building? If yes write it down please.

.....

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3. Do you think the building is easily accessible in terms of location?

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4. Is the building a landmark in the region? In what ways?

.....

.....

5. Would you agree to the demolition of the building? Why?

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.....

6. Do you think that building should be preserved as a cultural heritage? Do you agree the restoration of the building? Why?

.....

.....

7. Which parts/characteristics of the building should be preserved?

.....

.....

PART 2- Questions about Socio-cultural indicators of the building

8. Have you learnt something about cultural heritage of the region by being there? How?

.....

.....

9. Is it a place that makes people come together with its original function?

.....

.....

10. Do you think the building is a part of the culture in the region? In what ways?

.....

.....

11. Do you think the building contributes cultural identity of the district? How?

.....

.....

12. Would you agree the conversion of the building to a new use?

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13. What is the significance of the building for the local community with its current state?

.....

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14. What are the benefits of the building's original function to the local community (economic, physical, social or cultural)?

.....

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15. What would you prefer to find in the new function of the building?

.....

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PART 3- Questions about Economic indicators of the building

16. Can the building contribute to the continuity of the cultural identity? How?

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17. Does the building have potential to make profit with its original function? How?

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.....

18. Does the building have economic benefits to the community with the original function? If yes, what are these benefits?

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19. Does the building have potentials to have economic benefits to the community with a new function? If yes, what are these benefits?

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20. Does the building have potentials to be sustainable by itself with the original use? How?

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21. Can building contribute to the cultural tourism if the building will be used with its original function? How?

.....

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22. Can building contribute to the cultural tourism with a new use? How?

.....

.....

23. Did the community engage any specific adaptive reuse proposal? In what way?

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.....

24. Does the building have potential to contribute identity and branding of the region with the adaptive reuse project?

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25. How the adaptive reuse of the building can contribute to local economy with the adaptive reuse of the building?

.....

.....

PART 4- Questions about the decision of functional changes

26. Do you think the building shoud be used with same function, mixed use or with a different funciton? Why?

a. Same function

b. Different function

c. Mixed use (same function+ additional functions)

.....

.....

.....

27. What are your suggestions for the new use of the building? Why?

a. Residential (private house, housing complex, dormitory)
b. Industrial (factory, power station, mill, warehouse, railway station, workshop)
c. Commercial (Hotel, Restaurant/Cafe, Entertainment, Shop)
d. Religious (church, mosque, monastery, chapel, madrasa, etc.)
e. Military (castle, military post, observation tower, bastion)
f. Agricultural (farm, barn)
g. Cultural (museum, cultural center, art gallery, theather)
h. Governmental (law court, city hall, administrative office, prison, police station, fire station, post office)
i. Educational (kindergarden, school, university, research center)
j. Health care (hospital, private clinique, laboratory)
k. Office (private office, foundation)
l. Mixed Use
m. Other

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Appendix E: Site survey for analysis of the district

Population of the district:.....

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Age intervals of the population:.....

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Male/female domination:.....

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Education level of the population: .....

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Source of livelihood in the region: .....

.....

Social activities for the male/female/kids: .....

.....

Cultural activities in the region: ……

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Economic activities in the region:…….....

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