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Effectiveness in Adaptive Reuse of Modern Heritage Buildings

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Adaptive reuse (AR) of modern buildings, including industrial buildings from the late 19th and 20th centuries, is a complex process as it involves many actions and actors, which influence the result of projects. Effective AR can provide many advantages for societies. This paper aims to provide an overview of the three most highlighted criteria, mentioned by previous researchers, for assessing effectiveness of AR of modern buildings.

This research followed seven steps: 1.Reviewing the criteria of “effectiveness” in AR projects in the literature 2.Collecting the data (jury reports of NRP and Europa-Nostra awards) 3.Distilling the reports related to modern heritage buildings 4.Translation of Dutch reports in English 5.Analysing and coding the texts following the criteria mentioned in the literature 6.Analysing the role of effective AR of modern heritage buildings in providing sublimation and social value 7.Formulating some conclusions/recommendations.

This review indicates despite the attribution of the effectiveness of AR of non-modern heritage buildings to the attraction of tourists, the effectiveness of AR in modern buildings is often attributed to positive effects on the surroundings and local community. Moreover, in modern buildings, compared to non-modern buildings, qualities provided by new interventions are highlighted more. This can be related to open space plans, stronger materials, wider spans, and spacious urban settings providing a higher tolerance for acceptable change.

By revealing the aspects of effectiveness within these two criteria, this study contributes to the broader understanding of the AR potential of modern buildings. Though this review is useful for encouraging the reuse of modern buildings, the methods/tools to be used to achieve effective results need more investigation in future research.¹

1. Introduction

During the DOCOMOMO 2020+1 conference in Tokyo, Japan, the DOCOMOMO Rehabilitation awards were presented.² This confirms that adaptive reuse (AR) has become a more and more common practice when dealing with heritage buildings³, including traditional, modern, etc. However, not all AR interventions are similarly effective in terms of providing benefits for societies.⁴

Different research has investigated the criteria of effectiveness in AR of heritage buildings. For example, Arfa et al. proposed several criteria and many aspects for

considering a reuse project as effective.⁵ They emphasized the role of effective AR in improving the social values and sublimation (architectural and cultural aspects) of heritage buildings. They mentioned these as the most highlighted criteria by the juries of two important awards. However, while their criteria and aspects are comprehensive, the authors did not specify the role of different typologies or periods (e.g. modern) in enhancing the effectiveness within societies.

In 2003, UNESCO defined modern heritage buildings as the “architecture, town planning and landscape design of the 19th and 20th centuries”.⁶ These buildings are the representatives of the past and are defined by the rapid and unparalleled technological and socio-economic developments in the 19th and 20th century. The ubiquity of the design and structures of these buildings has made their value recognition difficult, especially in non-European countries.⁷

Figure 1 shows the proportion of AR projects of modern and non-modern heritage buildings among the NRP and Europa-Nostra winners. This suggests that there might be a lack of attention to modern buildings at the European level; the DOCOMOMO rehabilitation awards might fill this gap.



Figure 1. The proportion between modern and non-modern heritage buildings among the winners of the NRP and Europa Nostra awards. Own illustration.

This research aims to provide an overview of the most highlighted criteria for considering AR of modern heritage buildings as effective. The ultimate aim is to translate those into guiding principles for effective AR processes and to raise awareness for the potential of preserving and reusing modern buildings.

Arfa et al. mentioned three criteria as the most highlighted ones by the jury to describe the effectiveness of AR projects.⁸ Based on the validation of this for modern buildings, which is explained in section 3, this paper is structured based on these criteria:

- Social value creation
- Sublimation– cultural aspects
- Sublimation– architectural aspects

2. Materials and methods

The methodology used in this research has been adapted from the research conducted by Arfa et al.⁹ with some amendments and it is outlined in **Figure 2**. The NRP and Europa-Nostra awards have been selected due to being among the most well-known awards for AR at the European and Dutch levels and having access to their jury reports.



Figure 2. The procedure of conducting the research. Own illustration.

Following the definition of modern heritage buildings provided by UNESCO¹⁰, 13 modern buildings have been selected to be analysed among the 48 winners (**Figure 3**).

3. Criteria of effectiveness in ar projects

The most highlighted criteria that Arfa et al. proposed are "social value creation", "sublimation-cultural aspects" and "sublimation-architectural aspects".¹¹ Splitting the results into modern and non-modern buildings indicated that those criteria are also the top-ones mentioned for modern buildings. The number of reused modern buildings covering a group of aspects within each criterion is represented in **Figure 4**. Hereafter, these criteria and groups of aspects (marked in **Figure 4**) are further discussed.

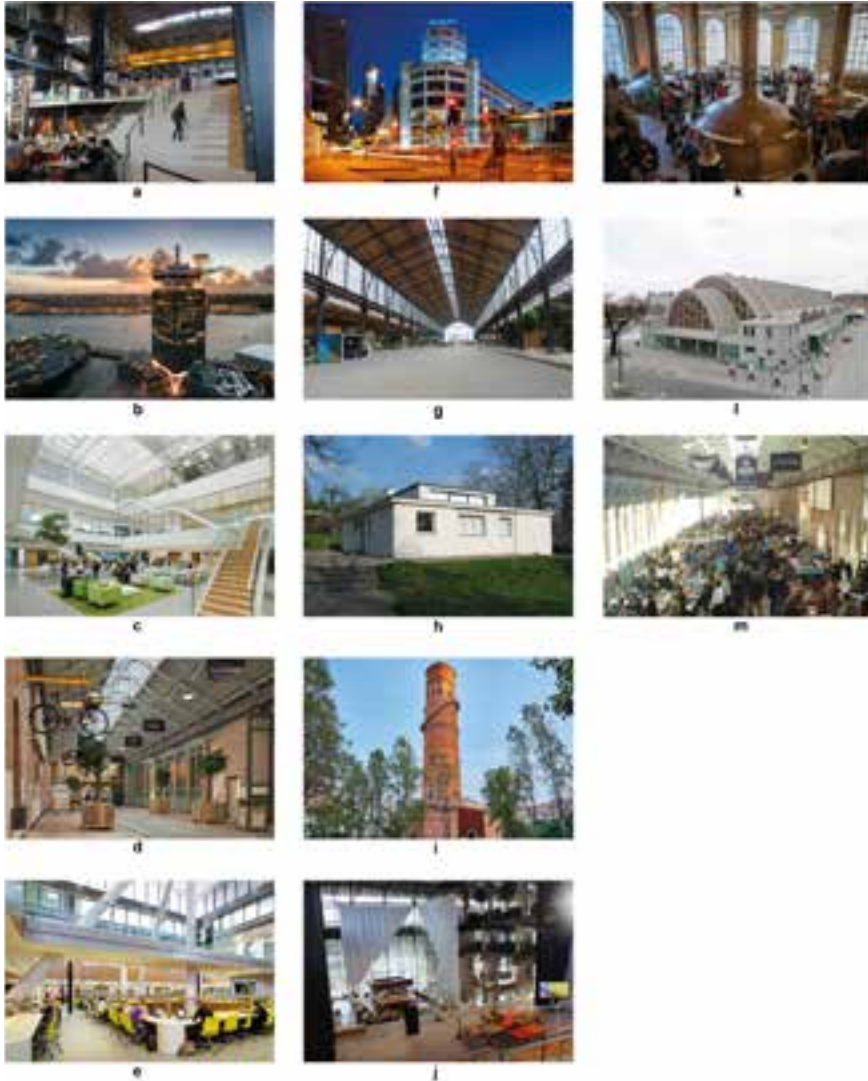


Figure 3. List of the selected cases among the NRP and Europa Nostra Awards; the NRP award winners: a. LocHal, Tilburg, The Netherlands, © F.H. Arfa; b. A'dam Tower, Amsterdam, The Netherlands, © M. Kort; c. The Carpentry Factory, Schiedam, The Netherlands, © M. van der Burg; d. The Halls, Amsterdam, The Netherlands, © Bright Light Photography; e. MetaForum, Eindhoven, The Netherlands, © Dynamobel; f. Light tower, Eindhoven, The Netherlands, © vastgoedmarkt; the Europa Nostra award winners: g. Gare Maritime, Brussels, Belgium, © F.H. Arfa; h. Haus Am Horn, Weimar, Germany (CC BY-SA 3.0); i. Barcelona, Spain (CC BY-SA 3.0); j. LocHal, Tilburg, The Netherlands; k. De Hoorn Brewery, Leuven, Belgium, © B. van der Perren; l. Boulingrin, Reims, France, © C. Weiner; m. The Halls, Amsterdam, The Netherlands, © D. van den Berge. The photos in this figure are either own photos or are licenced under Attribution-ShareAlike 3.0 (CC BY-SA 3.0).



Figure 4. The number of reused modern buildings covering the groups of aspects within the criteria. Own illustration

Social value creation

Heritage buildings provide social values for their surrounding communities. The “groups of aspects” and “aspects”, proposed by Arfa et al.¹² (see **Figure 4**), have been used to analyse the influence of modern heritage buildings in social value creation.

Landscape quality and atmosphere

The continuation of the city dynamics and becoming a vibrant environment is among the most emphasized aspects by the juries. For example, the LocHal¹³ (Tilburg, the Netherlands) was a no-go area in the years before its reuse. Thanks to the AR of this building, it became the beating heart of Tilburg.¹⁴ In the cases of Carpentry Factory¹⁵ (Schiedam, the Netherlands), LocHal¹⁶ and Boulingrin¹⁷ (Reims, France), the AR of the building contributed to the revitalization of the entire neighbourhood.

The creation of more quality and space for social and cultural entrepreneurship and joint new initiatives is another point mentioned for improving the atmosphere within the reused modern buildings. For example, the reuse of A'dam tower¹⁸ (Amsterdam, the Netherlands) transformed an inaccessible place into a lively workplace for entrepreneurs.

Wider community

Modern buildings have the potential to attract wider communities. For example, the A'dam Tower¹⁹, the LocHal²⁰, and the Carpentry Factory²¹ have attracted many international visitors, not limited to tourists. The Carpentry Factory houses a top engineering firm hiring many alumni from educational and research institutes such as TU Delft²². Based on the jury report published by NRP, the A'dam Tower receives around 3500 visitors daily, consisting of users in different sections such as catering, hotel, and employees of leading music companies such as Sony Music.²³

The Europa-Nostra jury appreciated the increment of tourists via reusing modern buildings. In the reports of the NRP award, nothing has been mentioned about attracting tourists. This focus on attracting various groups of users rather than tourists in the Netherlands is common in their practices and can have many beneficial lessons for other countries.²⁴

Local community

The role of modern heritage buildings in improving different aspects related to local communities has been clearly mentioned in the jury reports of both awards. For example, the AR of the Light Tower²⁵ (Eindhoven, the Netherlands) has transformed this building into a place where the local community lives, works, meets, and relaxes. Enrichment of the quality of life for citizens has also been mentioned in the jury reports of the LocHal.²⁶ Europa-Nostra does not highlight this impact for modern buildings in local communities. The reason might be the severe attention of this award to non-modern buildings.

Well-being and Health

The attention of both awards to well-being and health provided by these buildings is noticeable. For example, the LocHal²⁷ and the Besòs Water Tower²⁸ (Barcelona, Spain) provide a vibrant cultural, educational, and social centre for different groups of people, resulting in positive effects on their mental health. Acoustic comfort and visual peace is the other aspect, contributing to the health of users.

Sublimation-cultural aspects

This criterion concerns the effectiveness of AR projects to preserve and enhance the cultural values of heritage buildings. While historic and cultural values of modern buildings have not been fully recognized at a global level²⁹, reviewing the jury reports indicates the juries' appreciation of modern buildings in several groups of aspects, which are as follows:

Authenticity and integrity / Intrinsic value

The jury emphasizes the recognition of the intrinsic qualities and values³⁰ of modern buildings, by preserving and restoring them to their original shape and transferring them to the future. Having full-respect for the authenticity of the building and its fabric and landscape is highlighted. For example, this has been mentioned in the jury reports of the Haus am Horn³¹ project (Weimar, Germany), in which even the components of the terrains have been kept following the original concept in 1923.

Local identity / Cultural and knowledge capital production

These two groups of aspects have only been briefly mentioned in the modern buildings winners of the Europa-Nostra award. For example, in the report of Besòs Water³², the jury mentioned the role of this building related to the Spanish industrialization era in recalling the local people on their identity and forming their collective memory. The original function and temporary exhibitions in the Boulingrin³³ project provided new cultural dimensions and produced knowledge for visitors. Both of these two groups have received more attention in the jury reports of the non-modern buildings.³⁴

Mutual cooperation

The cooperation between different stakeholders in the AR process has been recognized by the juries to contribute to the increment of the cultural values. For example, in The Halls³⁵ (Amsterdam, the Netherlands) most of the tenants were actively involved in the process before the implementation phase and the cooperation between different stakeholders is exemplary. Similarly, the contribution of the previous workers in the Besòs Water Tower³⁶ project and providing oral testimonies for the museological parts of the project have many lessons for other AR projects.

Cultural vibrancy

The AR of modern buildings has a significant role in initiating and bringing cultural activities within their surrounding environments and even the wider contexts. While the non-modern heritage buildings have also been appreciated for this, the vibrancy provided by modern, especially industrial buildings, is more evident. This will be due to their design and spatial composition (e.g. dimensions and flexibility of their layout), which can provide space for a wide range of cultural activities within these buildings.

Sublimation–architectural aspects

The effectiveness of heritage buildings, in terms of their architectural qualities, is a less-discussed topic.³⁷ However, interestingly both awards have emphasized this, especially NRP with describing the architectural qualities of the reused modern buildings. The mentioned aspects have been grouped accordingly.

Spatial quality and zones

The open space plans and wider spans of modern buildings enable architects to use and emphasize their spatial qualities. For example, in the case of the LocHal³⁸ or the Carpentry Factory³⁹, the provided spaces are open, simple, and offer tranquillity, having positive impact on the health and well-being of users.

Joinable/divisible and multi-functional spaces

Some modern buildings, especially industrial buildings, have enormous sizes. In the winner cases, the jury have appreciated bringing the scales of these buildings to a human scale, while preserving their spatial qualities. Moreover, the redesign of several modern buildings is appreciated by the juries when the spaces are joinable and divisible to be flexible and able to accommodate various functions. For example, in the LocHal⁴⁰, the architects with the guidance of a sustainability company⁴¹ divided the space into six zones: while the spaces have different functions, some of them can temporarily become more enclosed or open.

Complementary redesigns

Highlighting the values by adding new additions has been addressed as positive by the jury of the Europa–Nostra award. A noticeable point is that the jury of the NRP award considers effectiveness as improving the spatial qualities within the reused heritage building as an integrated complex. However, the jury of Europa–Nostra award does not consider this integration and always mentions the “new parts” and “old parts”. Though they emphasize these “two parts” should be in balance, this distinction is rather visible in their reports.

Multiple access points

Due to the specific characteristics of heritage buildings, it is not always feasible to consider all different groups of users in the redesign. However, the

Europa-Nostra jury has highlighted this for visitors or users with disabilities and also the capacity of modern buildings to be altered for satisfying this demand.

4. Discussion and conclusions

This paper provides an overview of the three most highlighted criteria for effectiveness of adaptive reuse (AR), mentioned in previous research: social value creation and sublimation (cultural and architectural).

Following UNESCO's definition of modern buildings, the number of modern buildings among the winner lists in the Europa-Nostra award is minor. Only around 18% of winners are modern, whereas over 75% of the NRP winners can be considered modern. However, reviewing the reports and the aspects mentioned for assessing this limited number of buildings showed the attention of the jury in both prizes to the creation of social value and sublimation.

According to the jury reports, the spatial characteristics and layout of modern buildings provide numerous opportunities for their reuse. Designing multi-functional spaces, created with temporary elements, cause them to be flexible. Modern buildings can be places in which people conduct a wide range of activities, such as working, meeting, eating, and living. The studied cases act as a quality booster within their environments. Effectiveness of AR of non-modern buildings has usually been mentioned as acting as places where many tourists come and visit the buildings. Among the award winners, these buildings mainly had single-focused functions (e.g. churches or non-interactive museums).

This paper shows that the contribution of different groups of stakeholders and local communities to the AR of modern buildings, the life of those buildings can be prolonged. According to the jury reports, the initiation of their reuse process might be hindered by the different interpretation of the traditional concept of "heritage values" and the "age-values". In several winner cases, listing modern buildings as young monuments secured them from demolition and now they play a significant role in the revitalization of their surroundings.

This paper reveals the outstanding effects and benefits of reusing modern buildings and encourages different authorities to pay more attention to them by preserving, reusing, and assigning them various functions needed within societies. It can be observed that, by reprogramming and reusing modern buildings, parts of the cities (often no-go areas) have been tremendously revitalized.

Though this review of jury reports of award-winning projects is useful for encouraging the reuse of modern buildings, the methods and tools to be used to achieve effective results need more investigation in future research.

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Notes

- 1 Ongoing PhD research by Fatemeh Hedioh Arfa at the Delft University of Technology under the supervision of Dr. Hielke Zijlstra, Dr. Barbara Lubelli, and Dr. Wido Quist.
- 2 "First Docomomo Rehabilitation Award."
- 3 Veldpaus, Fava, and Brodowicz, "Mapping of Current Heritage Reuse Policies and Regulations in Europe."
- 4 Arfa et al., "Criteria of 'Effectiveness' and Related Aspects in Adaptive Reuse Projects of Heritage Buildings."
- 5 Ibid.
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- 9 Ibid.
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- 12 Ibid.
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