Sustainability through Art

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Abstract

One of the most prominent urban problems European cities face, is not only the physical degradation of its historic city centers, but also the degradation of their social, economic and environmental context. Moreover, common rehabilitation methods and strategies are often unsuccessful combatting such problem, and new ways and strategies must be researched, tested, and implemented under a new sustainable development policy.

Creativity and artistic activities can play an important role in the resolution of this problem. For example, the re-occupation of derelict buildings, through creative and innovative activities, can contribute to resolving the primary issue.

While analyzing a comparative case study using three examples: LxFactory in Lisbon, Ateneu Popular 9 Barris in Barcelona, and 59 Rivoli in Paris, it’s possible to conclude that their rehabilitation through art and culture, could produce positive side effects leading to social renovation and solid economic activity within itself and its surrounding area, creating new local economies, jobs, new tourists attractions, real estate opportunities and more.

Considering the current standpoint and outlook on rehabilitation, as an action and movement of sustainability, especially at the environmental level, and associating it with the arts and culture movement, will allow it to solve the social and economic problem simultaneously. By introducing new dynamic living spaces in unoccupied and derelict buildings also re-energizes the economic value of the building as well as, most importantly, regenerating the actual city.

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1. Introduction

Sustainability through art, in its various contexts and dimensions, incorporated in the implementation of artistic and cultural activities in the cities (and societies), is expressed on an approach that can be cemented in the intrinsic principles of Sustainable Development and the freedom of creative expression.

Art and culture can play an important role in the search for sustainable societies, though they are still too often neglected [1]. They have been considered secondary in urban development policies and therefore are not considered as their potential promoters. However, the importance of art, as a catalyst of culture and society, is historically indisputable [2]. Man’s need to express itself through art and creativity has always followed the city’s evolution.

By using art and culture as social development tools, it is possible to overcome various social problems, to promote the animation of public spaces, to enable the creation of value in the form of physical facilities, as well as the quality of the built environment [3].

The rehabilitation of the building stock, promotes the protection and conservation of the cultural heritage, and may be considered as an enhancer factor of sustainability, contributing to the reduction of impacts on the environment [4], as well as an effective strategy for the promotion of Sustainable Development.

Through the analysis of three cases studies, and their comparative study, it is argued that the artistic and cultural activities, installed in derelict or vacant buildings, should be framed within Sustainable Development, particularly for the benefit of the social dimension.

2. Methodology

The methodology was based on a sequence of actions that allowed the measurement of the influence of art on Sustainable Development.

This article uses a comparative study to determine whether rehabilitation through art somehow impacts its urban environment.

Through the comparison of different case studies, it was sought to identify and establish the importance of cultural and artistic activities as developers of the urban fabric. The three case studies chosen had some similarities. All chosen interventions occupied buildings that were either in use or vacant, with the intention of giving them a new use with artistic, cultural or creative activities. Another mandatory feature was the existence of rehabilitation works, after the implementation of the case studies. The cases were all located in consolidated urban areas, in the European Continent.

Following the analysis of the three case studies, it was possible to identify the axes of action, allowing their subsequent evaluation. They were selected through the comparative assessment criteria, which revealed their relevance, reflecting the specificities of each case study. The axes were then associated to the Sustainable Development dimensions, that includes environmental, social and economic factors.

The organization of the paper, and the sequence of actions used in this methodology are represented in the figures presented below (Fig. 1).

Fig. 1. (a) Paper organization; (b) Methodological Structure.
3. Framework

The birth of cities, although difficult to precise in time, happens with the need of Man to group, as a social being [5]. Historically, cities are associated with knowledge, creativity and innovation [6].

The historical and organizational evolution of cities, and Man himself, led to different experiences and needs, which have led to contemporary cities problems. Nowadays societies face many challenges, particularly those regarding their economic, environmental and social aspects, namely environmental degradation, climate change, resource scarcity, social inequalities, financial and economic crises, amongst others, that led to the investigation and research for strategies to achieve Sustainable Development.

Sustainability is a complex concept, with extensive implications which, sometimes, blocks its implementation. However, this is not insurmountable and constitutes an incentive to search for new technologies. On the other hand, the variety of interpretations of concepts and strategies that Sustainable Development lends, has hampered its implementation and certification, emerging, therefore, the need to develop instruments that enables its assessment [7], [8].

Sustainability and Sustainable Development continue to have different meanings for different people. These different interpretations arise from the knowledge that although we need to achieve human well-being and quality of life, that goal is not attainable if, during the process, the functional integrity of ecosystems is endangered [9].

To effectively respond to environmental, social and economic issues, preservation, conservation and rehabilitation play a key role in a sustainable administration. One of the most efficient strategies, in the defense of sustainability in the building industry, involves the rehabilitation, renovation and reuse of existing buildings. Rehabilitating a building may be considered a sustainable action, since the principles intrinsic to its implementation can lead to the reduction of energy consumptions.

Urban rehabilitation can achieve results beyond the physical conservation of the building stock, contributing to Sustainable Development. It is an inclusive action, through the rehabilitation of buildings and requalification of the public space, promoting the installation of services, trade and industry, and repopulating areas, restricting the urban sprawl, while strengthening the local cultural and social identity.

In fact it has been verified that large urban renewal projects are followed by an increase in real estate values, which suggests an increase in the quality of life and economic activity [10].

In recent years there has been a growing concern and awareness of environmental protection. However, modern society concerns cannot be exclusive to the depletion of resources and destruction of natural systems. There is an urgent need to focus on the social aspects, as well.

Social inequalities are closely related with the emergence of social movements and phenomena. Squat is one of these movements, which despite having a long history, has evolved to meet the new specifications presented to today's societies. The inability of some governments to introduce art and culture, concretely and effectively in their development policies, led to the emergence of “Squat”. This type of occupation wishes to eliminate the shortage of certain types of facilities, including workspaces and exhibition places for artists, but also cultural and social spaces [11].

The importance of spaces dedicated to artistic and cultural activities has been validated by several studies, which point to important social benefits achieved through art and culture. These activities influence the local economy, promoting, concomitantly, the approach of social, ethnic and racial groups thereby fostering a sense of tolerance [12].

Art, through participatory art projects, can contribute to social cohesion. These allow people to get together, while providing neutral spaces, encouraging teamwork and cooperation. They can also contribute to achieve more cohesive societies, fostering intercultural understanding and also allow and encourage local populations to get involved in their communities [13].

However, according to the report "ESSnet-CULTURE - European Statistical System Network on Culture" culture is among the sectors that are partially neglected, relegating cultural goods and services to last. The increasing importance given to the social dimension is, nowadays, more evident, leading to higher educational and cultural levels [14].
4. Case Studies

The use of vacant buildings as spaces for the development of creative activities, allows the rehabilitation of the physical structures, and benefits the urban and social environment. The change in uses is not always peaceful. But, there are several examples of success in Europe.

Three case studies were chosen. Chosen interventions occupied buildings that were either in use or vacant, with the intention of giving them a new use with artistic, cultural or creative activities. Another mandatory feature was the existence of rehabilitation works, since the implementation of the case studies. The cases would also have to be in consolidated urban areas, and placed in the European Continent. The final selection comprised the following cases:

- LXFactory, Lisbon, Portugal;
- Ateneu Popular 9 Barris, Barcelona, Spain,
- 59 Rivoli, Paris, France.

4.1. LXFactory

Although initially LXFactory (Fig. 2) presents a context of semi-illegal use, given the industrial nature of the area, they were able to "conquer" the public opinion, while proceeded to the rehabilitation of the entire complex. The success of the initiative even led to the fact that its use became no longer temporary, achieving its future usage with creative activities.

It is in Lisbon, in Alcântara parish. It emerged in 2007, two years after the purchase of this lot. This was an expectant area, so the company tried to monetize the space waiting for the final resolution of Alcântara Urban Plan (PU) [15]. So, to be sure that the buildings were not left abandoned, the owner created LxFactory, which became the current cluster of creative businesses [16], [17]. Initially the aim was to temporarily occupy the ground floor and 1st floor of the main building [17]. However, given the success of the initiative and the demand that generated, the rehabilitation has gone-spreading to other spaces available. The rehabilitation works have focused on consolidation, cleaning and
conservation of heritage, which, in general, had a relatively good condition. The assignment of a new use this space was not initially accepted by all the departments responsible for the working permits, for example, the Lisbon City Council and the Economic and Food Safety Authority (ASAE). This situation arose because, according to the Lisbon’s Master Plan (PDM) of Lisbon, this was an area for industrial use, and therefore, this new activity was an illegal premise. Investors tried to get around this difficulty by using the “creative industry” designation [19].

Currently, the reality of LXF has changed, thanks to the success it has achieved and managed to evolve from a temporary use to a permanent use, ensuring the forthcoming activity. This change will bring about some changes, particularly at formal level, and to do so, the demolition of the walls surrounding the complex is going to take place as well as the construction of an overpass over the railway line Cascais, connecting the waterfront, to enhance the surrounding urban environment, with the local social fabric and the city itself [17].

The influence of a project such as LxFactory is global, since it reuses an abandoned structure thus creating value where it did not exist, hosting companies and individuals that are productive, contributing therefore to the economy [15] and giving life back to the space and consequently to the urban environment in which it operates.

The new experiences, resulting from this use of old industrial complex, brought social and economic improvements to the parish of Alcântara and also to the city of Lisbon. By incubating new businesses, the jobs created had effects on the local social fabric, an area that was revealing an abandonment and decay, with social fractures resulting therefrom.

4.2. Ateneu Popular 9 Barris

Ateneu Popular 9 Barris arose in 1977, following the struggle of residents from a Barcelona neighborhood to shut down and to dismantle a polluting asphalt factory, creating the Ateneu Popular.

It is a public socio-cultural center, which through social circus, enhances the creative spirit and artistic training (Fig. 3) [20]. It works framed in the socio-cultural fabric of the neighborhood, through shared management, developing various cultural, social and educational programs and activities. Its main objective is the participation, creation and interpersonal relationship in the field of culture.
areas with various authorities of the neighborhood, local entities, metropolitan and European networks, in platforms and co-productions, with schools, various groups and communities [24].

Includes a circus school for children and a youth circus school; promotes educational programs for groups at risk of social exclusion; provides training for Social Circus trainers, in collaboration with Cirque du Soleil; produces shows like “Circ d'Hivern”; offers spaces for circus training and experimenting. It also promotes workshops for children of the neighborhood's childhood centers. Works framed in the socio-cultural fabric of the neighborhood, and seeks to actively involve the population in its operation and management [23], [24].

The main reason for the success of Ateneu, relates with its strong links to the territory and its community, leading to an active participation of the municipality. These aspects, amongst others, help to explain how its implementation, hasn’t led to gentrification that, many times, results from changes caused by the creation of spaces dedicated to art and culture. This phenomenon may have been prevented, in the first place, because the project was raised "inside" the neighborhood. Their initial players were residents of the neighborhood itself, in opposition to cases where the situation results from the activity of external agents. Secondly, Ateneu continues to foster the support and the presence of residents aiming a participative management [23]. It attains closeness to residents and a sense of belonging that reveals to be an essential part of its success. Another important aspect to be mentioned, that helped to prevent the gentrification phenomenon, is its peripheral location in relation to the historical, economic and tourist center of Barcelona.

The management process contributes to the autonomy of the commission representatives and promotes the recognition, by the residents, of the added value that this kind of artistic facilities, with these valences brings.

4.3. 59 Rivoli

59 Rivoli is a Squat that arose in 1999 when a group of artists who sought a place to work, to exhibit their works and to live, squatted a vacant building on Rue de Rivoli in Paris (Fig. 4) [25], [26]. It had a somehow troubled start. The French State filed a complaint against the group of artists, and their eviction was programmed. The action turned out to be delayed six months. During this period the French media became interested in the case and the public opinion forced the government not to pursue the court action.
In 2001 during the election campaign, the presidency candidate of the Paris Municipality, Bertrand Delanoë, promised to legalize the 59 Rivoli squat. According to Aguilera (2010) the last municipal election periods in Paris proved to be moments of debate about the Squat movement. Thanks to Delanoë election, the shaky situation of 59 Rivoli changed. With the purchase proposal submitted by the municipality to the French State, was possible to begin the process of legalization of this squat, implementing the project "L'essaim D'ART" conceived by the collective "Chez Robert, Electron Libre", which became 59 Rivoli Association [25].

The building needed urgent rehabilitation works, and was therefore closed in 2006. It only reopened in 2009. Today, the building presents an open space to the public, with studios for 30 artists and an exhibition gallery. In the gallery are exhibited works of non-resident artists, musical concerts are also promoted as well as film festivals and performing arts activities. Contrary to what happens in traditional galleries, where one can only see the final work of the artists, in 59 Rivoli is possible to enter the creative world of artists and talk to them, which makes this a very dynamic space.

59 Rivoli is characterized by its initial squat genesis. Despite the Squat movement’s genesis being illegal, they are sometimes able to help solving the needs of the population or a group of individuals. This was the case, since 59 Rivoli primarily responded to a housing shortage problem and the lack of workspaces and exhibition areas. Later, with its evolution and subsequent legalization, the project no longer took care of the housing issue, but kept working with all other areas.

One of the aims of the group KGB, responsible for this squat, was to create a place that would make the artistic creation process visible, in all its phases till the final product, rather than just exhibiting the final work. The group recovering the vacant building could provide an awareness and art education for the public that visits them. The Squat movement could, in this case, actively contribute to the promotion of art.

The ownership of the building, made by the group of artists, led to their emotional connection to the site, which culminated in several days of struggle in the name of the original idea: the creation of a space connected to art and artistic production, in central Paris. The number of visits is so significant that the 59 Rivoli is now one of the most important cultural centers of Paris. These facts, linked with the willingness of the association's management to promote art from around the world, with the allocation of workspaces to artists from all continents, made this initiative a success.

5. Comparative Study

Following the study of the different cases, axis of action was identified. Selected through the criteria for the comparative assessment, they were chosen because they were relevant, reflecting the specificities of each case study. The axis was associated to Sustainable Development dimensions, including environmental, social and economic.

The axis of action considered for this study are:

a) Local Social Fabric - this section evaluation focuses on the influence of the case studies on the surrounding social fabric, and to what extent new experiences and dynamics were created, promoting the proximity and appropriation of space by its inhabitants.

b) Stimulus to the Creation of Other Facilities and Services – For this evaluation, greater importance was given to facilities and services related with culture/art/creativity, as well as those more relevant to the social fabric, such as educational, health and social facilities.

c) Building Rehabilitation and Urban Rehabilitation – In this item the cases are evaluated regarding its influence in the rehabilitation of buildings and urban space. The building rehabilitation aims to assign the necessary performance characteristics, combined with those characteristics of functional, structural and constructive security of the buildings. Urban rehabilitation refers to an urban scale, as an integrated planning process, aiming the rehabilitation of a certain area, through total maintenance, whenever possible, of the urban and build heritage, modernizing and improving the urban infrastructures, facilities and public spaces, promoting greater attractiveness and dynamics.

d) Value creation – It evaluates the ability of innovation and introduction of economic gains in the urban fabric. It can be achieved through the rehabilitation of derelict or vacant buildings, with little or no use that become profitable again. It may lead to the creation of new jobs, housing, trade and facilities, thus improving the wellbeing of the surrounding population.
Job creation – In this item addresses the influence, of each of the cases, in the creation of new jobs, that is, the generation of employment.

Workspace creation – In this item is possible to determine the cases ability to influence the creation of new workspaces.

Promotion of cultural activities – This axis aims to assess whether the cultural activities promoted by each case influence the local community and/or city. Although, currently, communities tend to value its cultural aspects, this subject remains underappreciated, as a promoter of social welfare.

Contribution to Local tourism - The purpose of this section is to characterize how the cases contributed to increase tourist flows. When available, this assessment accounts the relationship between the number of visitors before the implementation of the project and at the date of the study.

Note: the evaluation of the axis "job creation" differs from the evaluation of "workspace creation", since the last focuses on creating the physical space, not the creation of the activity itself, as it is the case of "job creation".

In Table 1 are listed the axis of action considered for this study.

### Table 1. Axis of action by Sustainable Development Dimension.

<table>
<thead>
<tr>
<th>Axis of Action</th>
<th>Sustainable Development Dimensions</th>
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<tbody>
<tr>
<td></td>
<td>Environmental</td>
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<tr>
<td>a Local Social Fabric</td>
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<tr>
<td>b Stimulus to the Creation of Other Facilities and Services</td>
<td>x</td>
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<tr>
<td>c Building Rehabilitation and Urban Rehabilitation</td>
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<tr>
<td>d Value Creation</td>
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<td>e Job Creation</td>
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<td>f Workspaces Creation</td>
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<td>g Promotion of Cultural Activities</td>
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<td>h Contribution to Local Tourism</td>
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The analysis was performed per a qualitative and perceived interpretation of the case studies, and the evaluation has been executed based on information collected in unformal interviews, conducted to participants in each of the projects, through local observation, as well as through the outputs generated by the study of bibliographic analysis.

Table 2 presents a rating by axis of action, for each case study, further indicating the associated Sustainable Development dimension. The assessment of each axis is based on a grading scale of four ratings: “No influence/Not applicable”; “Little influence”; “Medium influence”; “Great influence”.

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Table 2. Case Study evaluation by axis of action.

<table>
<thead>
<tr>
<th>Axis of Action</th>
<th>LXF</th>
<th>Ateneu Popular</th>
<th>59 Rivoli</th>
<th>SD Dimension</th>
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<tbody>
<tr>
<td>a Local Social Fabric</td>
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<td>Social</td>
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<td>b Stimulus to the Creation of Other Facilities and Services</td>
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<td>*</td>
<td>Social</td>
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<td>c Building Rehabilitation and Urban Rehabilitation</td>
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<td>d Value Creation</td>
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<td>e Job Creation</td>
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<td>h Contribution to Local Tourism</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>Environmental</td>
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</tbody>
</table>

* No influence/Not applicable  
** Little influence  
*** Medium influence  
**** Great influence

Through the examination of the assessment a great disparity in the rankings can be noted. One of the axis with more different assessment results refers to their influence in the "Social fabric". This disparity can be explained, given the special characteristics of each case, namely: location, history and objectives. This fact justifies the different classifications, that both point to the difficulty in producing an influence in this field, as to the possibility of producing a significant positive impact.

The item showing steadier results was the "Building Rehabilitation and Urban Rehabilitation". It must be noted that this uniformity deals directly with the evaluation of the buildings rehabilitation rather than with the urban rehabilitation assessment.

The best general ranking was achieved by the "Value Creation", where all cases achieved the highest score. On the other hand, the axis with worse results, in general, were the "Stimulus to the Implementation of Other Facilities and Services" and "Job Creation".

It matters, yet, to refer to the success or failure of the interventions examined. Although, the cases were based on an initial illegal premise, this did not lead to failure.

Such questions whether if legalization of Squat interventions proves to be essential to its maintenance and success.

5.1. Local Social Fabric

The results concerning the evaluation of this axis revealed a clear dissimilarity between the cases. The location and objectives of each case justify, somehow, this disparity.

LxFactory influence in the local social fabric seems little representative which, somehow, can be explained by the structural characteristics of the complex. This case study is a walled site, creating a barrier, both physical and sensory. Also the fact that its primary objective was the profitability of the spaces, until the approval of Alcântara Urban Plan, justifies its meager influx in this field.

The case study with greater relevancy in influencing the local social fabric is Ateneu Popular 9 Barris. This influence can be explained by its history and management. As already mentioned, Ateneu came following a struggle against an asphalt factory. The population’s sense of belonging, about this facility, has been preserved through a participatory and integrated management. In fact, one of its initial objectives is the participation and promotion of relations between individuals, to achieve social development through culture.
59 Rivoli proved to have little influence in the local social fabric. However, this little influence can be explained by the characteristics of its social and demographic surroundings. In fact, Louvre’s district is one of the least populous of Paris; its unexpressive housing density level explains the classification.

The disparity verified in results of this evaluation can be justified by the objectives of each case. The cases where the objectives are clearly the promotion, social integration and development, in conjunction with a proper management, such as Ateneu, relevantly influenced the local social fabric. On the other hand, the cases with a management more focused to the economic and market context, not caring to produce effects at the social level, its influence is low, as is the case of LxFactory.

However, the difference in rank among the cases can also be justified by differences in their urban context. In residential and populous areas, the cases tend to produce greater influence. On the other hand, in areas with lower population density, the ability to produce influence at the social level is scarce, given the lack of inhabitants. 59 Rivoli, if located elsewhere in a more populous area, could eventually produce greater influence on the local social fabric, because it is a municipal facility with a more social orientation.

5.2. Stimulus to the Creation of Other Facilities and Services

The assessment made to the influence of the cases, while catalysts of implementation of new facilities and services, showed results, despite, little expressiveness. The exception is Ateneu that achieved a high rating.

It was difficult to determine the influence of LxFactory regarding its ability to motivate the implementation of other facilities and services. This difficulty can be explained by its surroundings, an area in mutation, with a consolidated urban fabric, but with new projects and plans underway, that will determine the location of new facilities. However, although it is not possible to correlate directly to its influence, it is worth mention the installation of a new space for artistic and creative activities on the grounds of the Carris Museum, located to the west of LxFactory.

In this factor Ateneu Popular 9 Barris presents the highest possible rating. This facility is located in a neighborhood with high population density - Nou Barris. However, during the decades of 60 and 70 of the 20th century, this neighborhood was largely deprived of essential basic services, such as sewage and water systems, facilities and public services.

The Nou Barris residents Association, through the organization of the popular initiative that led to the occupation of the asphalt plant, which was to become Ateneu Popular 9 Barris, tried to respond to this shortage of facilities. The success in the implementation of this facility, and its recognition by the competent authorities, led to the creation of other facilities, public and private, such as public schools, and the professional school of Circus-Rogelio Rivel.

In 59 Rivoli, the catalyst effect of other facilities and services was ranked as "no influence". Once again, this rating can be explained by its location, since there was no need to make up for any lack of facilities, namely given the lack of social fabric that could justify it.

Although this axis of action produced an overall little influence, through the analysis of Ateneu Popular, it is possible to conclude, that these cases of rehabilitation through art may, in fact, influence the implementation of other facilities and services, contributing to the regeneration of cities, through the qualification and increased offer of facilities and services.

However, as for the previous axis, the insertion context of the cases in the territory proves to be a big conditioner of its success. The cases are therefore more likely to succeed in more populous residential areas, showing less ability to produce influence in lower population density areas. As for the implementation of new public facilities, the influence of the cases is related with its location, allied to its attractiveness to the resident population.

5.3. Building Rehabilitation and Urban Rehabilitation

Regarding this axis, the evaluation revealed uniformity in the results, with a "medium influence" rating for all cases.

In terms of urban rehabilitation, the case where this is more patent is LxFactory, which may be justified by the urban design of the complex, different from the other case studies. However and perhaps because it is a walled area, its influence on urban rehabilitation, outside the complex is minimal. The buildings have not been through a deep rehabilitation, but small rehabilitation operations, and its cleaning and maintenance, aiming to provide the necessary conditions for its spaces use.
The rehabilitation of Ateneu Popular 9 Barris was a continuous process, which lasted a few decades, through ad hoc rehabilitations of the factory building, terminating with the demolition of much of the original building, which was replaced by a new one. The urban regeneration emerged as a result of the rehabilitation process. However, this has been punctual and quite located (only in the surrounding area of the facilities).

59 Rivoli operated without any rehabilitation intervention until its legalization, when it was forced to carry out profound works, characterized more by the reconstruction of the building interiors, than for its rehabilitation. In terms of urban rehabilitation, this facility had null influence, justified by its location: a noble street of the city, in an historic consolidated area that, for has undergone various processes of urban renewal over time.

None of the case studies promoted a deep rehabilitation of its buildings. In the LxFactory the scarce rehabilitation was intentional, seeking to promote the industrial identity (LxFactory). Even so the rehabilitation works allowed the building to obtain the necessary security conditions for their use. As for 59 Rivoli and Ateneu Popular, the buildings rehabilitation required their almost total demolition: in the case of the 59 Rivoli, with the complete demolition of the building interior, and in the case of Ateneu Popular, with an almost total demolition of the existing building. These demolitions implied later reconstructions that, this way, compromised the environmental dimension of Sustainable Development. However with the rehabilitation the spaces became usable again, promoting therefore the Sustainable Development environmental, social and economic dimensions. Environmental, because, by opting for rehabilitation instead of new construction, it helped to reduce potential environmental impacts that a demolition and new construction would imply. Social, because it reused a space that was almost entirely expectant, promoting, therefore local safety, while serving the local population through the installation of spaces to accommodate new economic activities.

5.4. Value Creation

The axis of action with, overall, better rankings is value creation. LxFactory and 59 Rivoli achieved the highest score. This classification is justified by the previous nature of these spaces.

At the time of LxFactory acquisition, by its current owners, only a printing plant was installed on its premises, occupying a small portion of the industrial complex. Although the complex had some use, it was a minor occupation, and, therefore it was not significant in relation to its overall dimension. Currently, and given its almost full occupancy, by companies actively contributing to the local economy, the increase in the value creation is quite representative.

Ateneu Popular 9 Barris was classified in this axis as presenting a smaller influence, compared with other cases. This fact does not suggest a less importance of this facility, being rather indicative of some of its historical characteristics. This facility was established, following the closure of the asphalt factory. The building was already being used at the time of this project implementation being, therefore, previously responsible for the creation of value. Also the high investment made by the Municipality, both in rehabilitation of the building and the maintenance of the project activity, with a strong dependence on public funding for its operation (about 60%), in a way, conditioned this evaluation.

59 Rivoli building stood vacant being consequently unable to produce any kind of capital. However, through its occupation, the building gained a new use and became, once again, an element contributing to the urban experience of the city, being worth noticing the number of visitors per year. This facility was legalized and is now a municipal property, and consequently must respect certain rules, including one that prohibits the artists to sell their works, resulting undoubtedly in a decrease in leverage of the economic value.

Considering the results obtained in the evaluation of this axis of action, it can be concluded, that cases of this nature can create value. This capability is closely linked to the initial nature of the real estate in question. In fact, promoting activities in derelict buildings, without any use, exponentially increases the value creation.

5.5. Job Creation

Considering the influence of the case studies to job creation, the evaluation revealed quite low values, except for LxFactory, which obtained a high result. The assessment relates to the direct employment allocated to each of the cases, associated with the indirect jobs that cannot be ignored and are, therefore, considered in this evaluation.

In LxFactory’s case, the installation of existing companies did not create new jobs, but their presence promoted the creation of other companies, with the consequent increase of employment. It should be noted that "co-work", a concept
explored in LxFactory, played an important role in this case. It encourages interaction between the various stakeholders, enabling the exchange of information and ideas, factors which enhance the generation of new business activities, and are associated with the emergence of new enterprises. But, in this case, not only the installation of companies promotes job creation. In fact, the food court and shops installed in its premises are also responsible for the creation of several jobs in LxFactory.

Ateneu Popular 9 Barris has only eleven permanent jobs. To these figures must be added the temporary jobs that are the result of various events and activities promoted by the facilities, and the professionals who teach in the Children and Youth Circus Schools.

59 Rivoli has not been very active as promoter of employment, since the artists already exercised their profession, and only needed a place to do it. However, the existence of a physical space with the necessary conditions for the exercise of its activity promotes the continuity of the work produced by the artists. In the cities where this case is located, the demand for these spaces largely exceeds the offer.

In conclusion, depending on the nature of the undertaken activities, these cases may or may not present an influence on job creation. In cases similar to LxFactory, where its goal is to create clusters for companies linked to creative activities, the job creation can be significant. When the purpose of the cases focuses the job creation these may be successful, directly or indirectly, either to a medium scale (LxFactory) whether to a microscale, as is the case of Ateneu Popular.

### 5.6. Workspaces Creation

The assessment made for the creation of workspaces presents ratings between "no influence" and "great influence", for Ateneu Popular and LxFactory, respectively. The other two cases revealed a "medium influence".

LxFactory was classified with the maximum quotation in this field, since it promoted many workspaces, having around a thousand-people working on its premises. However, the fact that this is one of its main valences (tenancy of premises for businesses linked to creative activities) and one that led to its implementation, coupled with the area of its space, well above all the other cases, justifies these figures and the disparity in rank compared to the other case studies.

Ateneu Popular is a facility with a relatively small dimension which, although not intending as one of its main objectives the creation of workspaces, offers a small working area for circus artists. Its size can justify its classification.

The main aim of 59 Rivoli has been the creation of places where artists could work. Despite having clearly and unambiguously, responded, to this purpose, the fact that only a relatively small number of workspaces are available (studios for 30 artists), led to its medium ranking.

The creation of workspaces can be one of the primary objectives of the cases under study. Of these cases, three have that objective since its inception, having managed to achieve it. So when the intention of the intervention is to create workspaces for creative companies or artists, that objective is achieved.

The relative ease in satisfying this axis can be explained by the scarcity of the availability of such spaces. Indeed, both in Paris, as in the city of Berlin, there is a notorious disparity between the demand and offer of spaces of this kind, which has led to the growth of the phenomenon "Art Squat".

This axis of action responds directly to the economic dimension of Sustainable Development. This response is related to the axis of action "Value Creation", as promoting the establishment of workplaces, in derelict buildings, increases the value creation. However, there is also the possibility of producing effects at the environmental dimension, by reducing the commuting movements, and encouraging new forms of cooperation and work associated with the enabling of entrepreneurship.

### 5.7. Promotion of Cultural Activities

The evaluation of the axis “Promotion of Cultural Activities” showed a strong influence in this field, explained, by the creative and artistic genesis of all cases. The content and disclosure of the events promoted by the case studies appear to have greater importance than their physical location, which does not seem to have special preponderance.

LxFactory obtained a low rating which can somehow be justified by its programmatic characteristics, more focused on the economic context. However, it should be noted the promotion of thematic exhibitions, of "Street Art" and the
"Open Day", a semiannual event, featuring a diverse cultural program. Associated with the high number of visitors, companies installed here may also have a decisive role, with the promotion of parallel initiatives, activities and their own creations and at the same time, promoting therefore the "LxF Factory" trademark.

Ateneu Popular is one of the cases with greatest influence in the promotion of cultural activities. The show "Circ d’Hivern" is highly responsible for this influence. Over the years, it acquired international recognition, with the consequent increase in public, but also greater responsibility. Allied to this event, and yet in the field of circus activities promotion, it must be denoted the role of the children and youth schools, in operation since 2003. The vast number of concerts and shows, dedicated to the scenic, musical and performing arts also contributed to the achievement of the maximum rating.

The classification assigned to 59 Rivoli also reflects a strong influence in the promotion of cultural activities. This space is opened to the public six days a week presenting to its visitors a permanent exhibition of the thirty-resident artist’s work and design process evolution. The gallery space, dedicates its programming to temporary exhibitions of non-resident artists, small eclectic musical concerts, as well as annual music festivals.

Regarding the influence of these cases in the promotion of cultural activities, the uniformity of the results recorded in the evaluation of three of the three cases, is justified by its artistic and cultural nature, evident in all of them. In 59 Rivoli, the situation is even clearer, since its original purpose was to provide galleries and workspaces for the development of artistic activities, as well as other cultural events programed all year around. Also, Ateneu Popular fits in this context, although in a different perspective, because the circus artistic activities occupy a large part of the events produced and promoted by the Association. On the other hand, LxF Factory, pursuing a more economic and market context, promotes several cultural activities and occasional events more dispersed in time, but constant and perfectly identified with the nature of the complex.

5.8. Contribution to Local Tourism

The evaluation on this axis denotes a parallelism in the evaluation of three cases: LxF Factory, Ateneu Popular 9 Barris and 59 Rivoli, which achieved the same rankings.

LxF Factory reveals little influence in its contribution to the promotion of tourism. In fact, despite being referenced internationally in several newspaper articles, magazines and tourist brochures, the clear majority of its visitors come from other parts of the city of Lisbon (Gomes, 2014). However, it is expected that with its maintenance, present and future collaboration with the Lisbon City Council and with the implementation of Alcântara PU, this influence will become, in a near future, more expressive.

The Ateneu Popular case does not have major influence on tourism promotion. However, at the parish level where it is located, this facility is one of the few places with the capacity to generate tourist flows. This promotion is achieved mainly by its events, namely concerts, exhibitions and the “Circ d’Hivern”, the most relevant event organized by Ateneu Popular.

The number of visitors of 59 Rivoli is relevant; however, this case causes few new tourist flows. Its importance to tourist level has more to do with its location near the Louvre, in a street of great touristic importance. The generation of a significant flow of visitors, with about 70,000 annual visitors, according to the association, presents itself as a relevant factor for this evaluation.

Still regarding tourism, it is important to refer the presence, in every case study, of "Street Art", with works by some leading artists in this area, that help to promote the brand and image of the facilities and often to include the building itself in thematic tourist itineraries.

This type of intervention can generate important tourist flows, assisting in the development of the local economy. It should be noted that some cases, given its importance, size and unique features, they have could do its international self-promotion. They strength the economy, at a local community level, and at a city level.

However, and considering that this evaluation regards the contribution of the case studies to the Sustainable Development, these tourism movements need to be carefully planned, managed and monitored to prevent or, at least, mitigate any possible negative impacts, which may prove particularly harmful to the host societies, if the principles of sustainability are not considered and respected.
6. Conclusions

Culture is the basis of human development and civilization. It must be considered as the set of material and immaterial traces that characterize the societies in general, and social groups [28]. The way art and culture influence the social fabric can fit in the context of intangible assets, which requires new and different approaches of analysis and intervention. Given its intangible and immaterial nature, it is particularly difficult to measure social sustainability [30].

Through the comparison of different case studies, it was sought to identify and establish the importance of cultural and artistic activities has developers of the urban fabric.

The constant evolution of societies results in changes that are not always integrated in a well outlined and planned political structure. This reality, sometimes, causes specific deficiencies that affect certain groups, and eventually result in alternative strategic actions. The current three case studies fall within this context. Some of these cases have a specific source that appears to result from imbalances, particularly in the social dimensions; which deviate societies from Sustainable Development.

It was concluded that the initial illegal genesis in all case studies, combined with the dynamics produced by artistic activities and their authors, have boosted the disruptive capacity of art, implementing and influencing very rapidly the surrounding urban tissues. On the other hand, it was noted that the legalization of the squat cases may have been decisive for its maintenance and success.

There are certain aspects that appear to contribute to the success of these interventions. Some are achieved through the creation of clusters dedicated to creative industries, by making the available spaces profitable, and some are achieved from tourism. At the social level, there has been a greater inclusion of the population, different and various forms of participation in the management and programming of interventions as well as in the promotion of cultural events.

However, some of these interventions relegate its eventual contribution to the Sustainable Development to a secondary status. This may be justified by the way they occur, either because they are spontaneous, informal and/or illegal, either because they have a temporary, non-long-lasting life and thus may not present an immediate relationship with sustainability.

Urban rehabilitation, supported on artistic activities, can play an important role as a tool to overcome the uncertainty of the challenges caused by current social development models. The use of derelict, abandoned or underutilized buildings, with new uses of artistic and cultural nature, sets up an ideal context for resource savings, greater social integration, the creation of conditions for the emergence of local economy, all in a context of potential value creation.

It appears to be important to find new ways to encourage and support the rehabilitation through art. However, it is necessary to anticipate illegal interventions, through a strategy of fair and inclusive urban development policies.

The analysis of this study underscores the importance of art, culture and creative activities while promotional agents of the Sustainable Development and the rehabilitation of cities.

References