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Received: 14/05/2025

Revised: 08/08/2025

Revised: 05/09/2025

Accepted: 06/09/2025

Published: 08/09/2025

Academic Editor:

Dr. Alexandros Bartzokas-Tsiompras

Research Article

Exploring the Effectiveness of Urban Regeneration: The Comparative Study of the Industrial Heritage Sites of Łódź (Poland) and Yazd (Iran)

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Abstract: To establish appropriate strategies for the urban regeneration of districts with industrial heritage, it is essential to consider the factors that may influence the effectiveness of any regeneration. This study compares the revitalisation of industrial heritage sites in Łódź, Poland, as a European regeneration model, and Yazd, Iran, as an Asian counterpart—two cities that share similar textile manufacturing histories but possess distinct political, cultural, and socio-economic factors. The study examines the challenges associated with achieving effective urban regeneration in the setting of industrial heritage sites. The study employed semi-structured interviews with experts and professionals, complemented by fieldwork and observational analyses of textile manufacturing heritage sites, with a particular emphasis on revitalisation projects. The originality of this paper lies in the application of a synthetic approach to the analysis of qualitative data for comparing typologies of urban regeneration strategies within the contexts of two socio-culturally and economically distinct countries. The results indicate that for effective urban regeneration within industrial heritage sites it necessitates the attainment of socio-economic outcomes through a balanced approach to public-private financing, while mitigating the undue influence of private investments. Furthermore, projects that enhance accessibility and infrastructure, as well as promote the adaptive reuse of historical resources, should be prioritised. Such initiatives not only generate financial income but also yield social benefits and contribute to the preservation of cultural heritage values. The paper provides valuable insights for urban planners regarding the effectiveness of urban regeneration processes in districts characterised by industrial heritage.

Keywords: Effective urban regeneration; industrial heritage; sustainability; revitalisation; adaptive reuse; Poland; Iran

Highlights:

- The revitalisation project must be designed to align with both material and non-material values.
- Shifts from private investments to collaboration highlight the industrial heritage in Łódź.
- Substantial evidence underscores the impact of religious values on urban management in Yazd.

DOI: 10.48088/ejg.m.far.16.2.314.334

ISSN: 1792-1341



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1. Introduction

In the post-industrial era, abandoned locations within urban centres or suburban areas constitute an integral component of the urban landscape (Kazimierczak & Kosmowski, 2018). Since these sites no longer fulfil their original purpose and have contributed to the degradation of the urban landscape, decision-makers are confronted with the challenging task of determining an appropriate course of action for such locations (Della Lucia & Pashkevich, 2023). Consequently, they may choose to maintain the status quo, demolish the existing structures and redevelop the land, or renovate the current buildings to provide them with a new functional purpose (van Duijn et al., 2016). Buildings of historical or architectural significance may undergo processes of conservation, preservation, revitalisation, and adaptive reuse (Vafaie et al., 2023; Wilkinson et al., 2014). These processes are fundamental to the management and sustainability of heritage buildings, which are crucial for the effectiveness of urban regeneration. According to ICOMOS, conservation refers to the processes of maintaining and managing changes to heritage buildings in a manner that sustains and enhances their heritage significance. This may involve actions aimed at safeguarding the value of heritage assets through minimal intervention (ICOMOS, 2013). Preservation, in contrast, focuses more narrowly on protecting a heritage building from deterioration, destruction, or inappropriate change, often by freezing it in its current state. Preservation represents a more static process than conservation, -prioritizing the retention of the original fabric and form (Venice Charter, 1964). In practice, preservation is frequently applied to buildings of high

significance or when historical authenticity is of paramount importance. Revitalisation refers to the reintegration of heritage buildings into the social and economic fabric of a community, often involving community engagement and urban renewal strategies. Pendlebury (2008) characterises revitalisation as a dynamic process that seeks to reanimate a heritage site through investment and renewed use, frequently linked to urban regeneration. It amalgamates cultural, social, and economic objectives, fostering both the preservation of the building and its reintegration into contemporary life. Adaptive reuse is the process of repurposing buildings for new uses while retaining their heritage values. Bullen and Love (2011) contend that adaptive reuse is a sustainable approach that enables buildings to meet contemporary needs without resorting to complete demolition or excessive alteration.

The authors of this paper took into account almost all of these activities with an emphasis on revitalisation activities, because they were mostly undertaken in this research case studies and they were included in the broader process of urban regeneration of districts with industrial heritage according to a process defined by Roberts (2000, p. 17) as a “comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subject to change”. Other similar definitions have been used, such as the one from Hulsbergen et al. (2005) that refers to urban regeneration as an effective and beneficial multidimensional process that influences the socio-economic development of cities by modernising industry, creating new jobs, strengthening social networks and promoting the active participation of city residents in decision-making processes. Urban regeneration of industrial heritage districts is crucial for preserving heritage resources and historical values for future generations, as well as for economic, social, and environmental improvements (Zhang et al., 2019). The effectiveness of urban regeneration can be evaluated through a combination of expert assessments, which include the attainment of established objectives, community and stakeholder satisfaction, and dimensions of long-term sustainability. Additionally, effectiveness may be assessed using a benchmarking approach that incorporates both quantitative indicators (e.g., visitor numbers, jobs created, property values) and qualitative measures (e.g., place identity, cultural vitality, inclusivity), typically analyzed comparatively over time. This study adopts expert assessments, specifically focusing on the achievement of established goals and the satisfaction of community and stakeholder perspectives.

Existing research has primarily concentrated on assessing the effectiveness of urban regeneration (Ploegmakers & Beckers, 2014; van Duijn et al., 2016), yet it fails to analyse the factors that influence this effectiveness. The studies that have considered such factors in some respects tended to use quantitative spatial and non-spatial data (Dell’Anna, 2022; Guo et al., 2021; Jarczewski & Koj, 2023; Vardopoulos, 2023). The novelty of this paper lies in the application of qualitative data analysis, specifically through semi-structured interviews, within a comparative typology of urban regeneration approaches. The objective is to identify the factors influencing the effective regeneration of districts characterised by industrial heritage and to examine how this effectiveness is defined within the context of industrial heritage sites. Additionally, previous studies (Cysek-Pawlak et al., 2023; Della Lucia & Pashkevich, 2023; Konior & Pokojnska, 2020; Martinović & Ifko, 2018) have focused on one or multiple locations within a single country. This paper contributes to research on the effectiveness of urban regeneration processes utilising industrial heritage, exemplified by the case studies of Yazd, Iran, and Łódź, Poland. These case studies exemplify industrial heritage cities situated in Central Europe and West Asia, each characterised by distinct socio-economic, socio-cultural, and physical conditions. These two cities served as central hubs for textile manufacturing; however, the majority of textile factories have been closed since the 1990s, largely due to urban development and wasteful textile imports (Dehghan Pour Farashah et al., 2019; Walczak, 2015). Beginning in the 2000s, certain buildings have undergone transformations in usage as a result of the obsolescence of their original functions (Dehghan Pour Farashah, 2023; Walczak & Kępczyńska-Walczak, 2024). The conducted study serves a cognitive purpose and empirically investigates the challenges associated with effective urban regeneration in the context of industrial heritage sites. This allows us to address the following questions:

1. What socio-economic, socio-cultural, and physical factors influence the revitalisation of industrial heritage sites in Łódź and Yazd?
2. How is effective urban regeneration defined within the context of industrial heritage sites in Yazd and Łódź?

The outcomes of the study yield critical insights for local policymakers responsible for the regeneration of districts possessing industrial heritage, informing the relevant factors that must be considered in the decision-making process. Conclusions drawn from this research may also contribute to further academic exploration of regeneration strategies, as they cover important issues regarding the factors influencing the urban regeneration of industrial heritage districts in the context of two socio-culturally and economically different countries. The research objectives and methodology are illustrated in Figure 1.

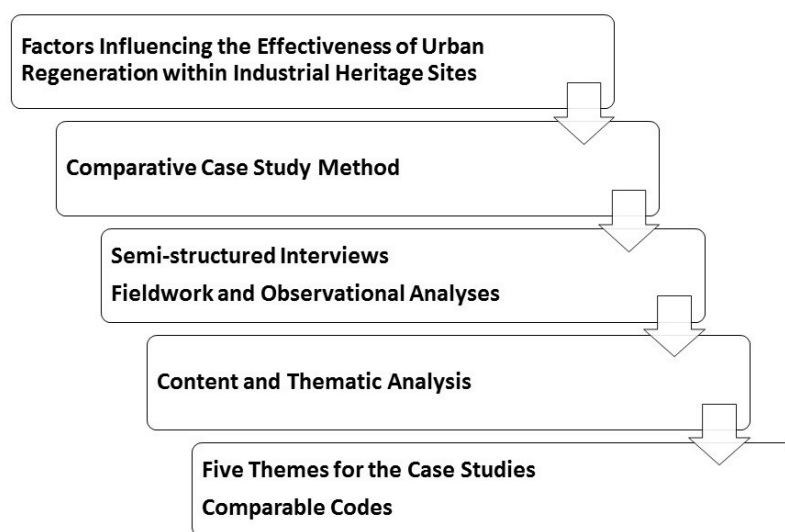


Figure 1. Research plan (Source: Authors).

2. Theoretical Background and Current State of Research

Post-industrial sites, rich in local history, knowledge, manufacturing traditions, and intangible heritage, are revitalised to strengthen social bonds and residents' identification with their surroundings (Dehghan Pour Farashah, 2023). Examples of successful urban regeneration with revitalisation and adaptive reuse have been presented in numerous case studies, for example, those described by Martinović and Ifko (2018) ; van Duijn et al. (2016); and Cysek-Pawlak et al. (2023) which show the success in many cities where industrial buildings have been transformed into cultural centres, offices and apartments. The revitalisation and adaptive reuse of industrial heritage buildings have contributed not only to the stimulating of the local economy but also to the increase in the tourist attractiveness of these places and social and spatial benefits (Baumgartner, 2025; Konior & Pokojńska, 2020; Kuzior et al., 2022).

Regarding the socio-economic aspects of urban regeneration, (Martinović & Ifko, 2018) indicates that the revitalisation of post-industrial facilities fosters job creation and stimulates the local market; however, it also results in phenomena such as gentrification, inadequate public facilities, diminished local community involvement, and the erosion of the sense of place. Similarly, Walczak and Kępczyńska-Walczak (2024) demonstrated in their research that the industrial heritage facilities of Łódź, Poland, predominantly serve retail and service functions at present. However, several studies appear to contradict these perspectives. Ploegmakers and Beckers (2014) assert that the revitalisation of industrial sites has a negligible effect on economic outcomes. These outcomes include public participation in revitalisation initiatives, housing availability, and the provision of public transportation (Zhao et al., 2023). Furthermore, Pollard (2004) asserts that certain urban regeneration plans for post-industrial sites may also result in adverse consequences, including the displacement of traditional manufacturing communities.

The cultural and social factors of the regeneration of industrial heritage sites have been articulated by various scholars, including Kuzior et al. (2022). As indicated by Cysek-Pawlak et al. (2023), the regeneration of historical districts encompasses the incorporation of new connections, passageways, and green spaces that serve recreational purposes. According to Hwang (2014), plans for urban regeneration must be meticulously developed, taking into account the distinctive characteristics and needs of the local community. The successful and comprehensive urban regeneration plan should actively consider the cultural activities and historical context of these sites (Chondrogianni & Stephanedes, 2022; Ferilli et al., 2017). As indicated by other researchers (Nocca et al., 2024), regeneration processes should encompass a socio-cultural dimension that reflects the social and cultural values inherent to a specific area and its context. It is essential to consider the alignment of the revitalisation project with both tangible and intangible values. However, research conducted by various authors (Wrona, 2020) indicates that the transformation of industrial sites may lead to gentrification, which, in certain instances, poses a threat to local communities. Consequently, it is imperative for designers and planners to consider the needs of diverse social groups during the regeneration process. Numerous case studies have documented both successful and unsuccessful outcomes of urban regeneration in districts characterised by industrial heritage. Selected examples are summarized in Table 1.

Table 1. Successful and unsuccessful outcomes of urban regeneration (Source: Authors).

Successful outcomes of urban regenerations	Sources
- Transformation into cultural centres, offices, and residential apartments. - Incorporation of new connections, pathways, and green spaces that facilitate recreational activities.	van Duijn et al. (2016); Cysek-Pawlak et al. (2023)
- Stimulating the local economy. - Increase in the tourist appeal of these locations. - Social and spatial advantages. - Fostering employment generation. - Stimulation of the local economy.	Konior and Pokojńska (2020); Kuzior et al. (2022)
- Public participation in revitalisation initiatives - Housing availability. - Provision of public transportation services.	Martinović and Ifko (2018)
	Zhao et al. (2023)
Unsuccessful outcomes of urban regenerations	
- Gentrification - Insufficient public facilities - Diminished engagement of local community members - Erosion of the sense of place - Predominance of retail and service functions	Martinović and Ifko (2018)
	Walczak and Kępczyńska-Walczak (2024)
Negligible impact on economic outcomes.	Ploegmakers and Beckers (2014)
Displacement of traditional manufacturing communities	Pollard (2004)

The physical dimensions of urban regeneration and their associated challenges have been extensively documented in academic studies (Yin & Feng, 2024; Zhang & Ren, 2024). The critique of contemporary architectural interventions in urban regeneration is significant (El-Basha, 2021), highlighting the necessity for the thoughtful and well-planned integration of new functions into existing structures. Additionally, Liu et al. (2023) assert that effective urban regeneration can only be realised through a comprehensive understanding of the territorial context, as well as the identification of the specific aspects and components that require revitalisation in order to achieve sustainable development within urban areas. The implementation of urban regeneration must also consider the socio-economic status and physical conditions of the local context (Guimarães, 2017). Szmygin (2009) underscores the necessity of modernising historic buildings for utilitarian purposes; however, he contends that this process may result in a loss of authenticity, which is arguably the most valuable aspect of contemporary heritage preservation. Consequently, he highlights the significance of implementing small-scale architectural modifications to safeguard the historic fabric. Szymański (2017) shares a similar perspective, emphasising the importance of delineating the procedure for adaptive reuse in the development of plans for the regeneration of locations with industrial heritage sites. This step is crucial to avert degradation and adverse transformations.

Depending on the objectives outlined in the regeneration action plan, it is essential to select an appropriate strategy that aligns with the specific area and local conditions. Numerous strategies exist, and they can be tailored to meet the desired objectives of the regeneration actions. An extensive analysis of such strategies was conducted by Pulles et al. (2023). Some of these strategies propose the identification of key variables (factors) that determine the multi-dimensional content of urban regeneration. These variables include spatial data and non-spatial data, such as building density and land use patterns (Huang et al., 2020; Zheng et al., 2016), density of public transport stations (Huang et al., 2020), and road network density (Huang et al., 2020). Additionally, the economic dimension (Ren et al., 2018; Tang et al., 2019), population density in decision-making processes, as well as the density of heritage objects and the regeneration modes and strategies of such districts (Liu et al., 2023) are also considered. Table 2 presents several factors that should be considered when planning effective urban regeneration.

Table 2. Factors influencing urban regeneration (Source: Authors)

Factors influencing the successful urban regeneration	Sources
• Considering the specific characteristics and needs of the local community in the development of revitalization plans.	Hwang (2014)
• Consideration of the cultural activities and historical context of various sites.	Ferilli et al. (2017)
• Consideration of the socio-cultural dimension that reflects the social and cultural values inherent to a specific region and its context.	Nocca et al. (2024)
• Considering the needs of diverse social groups during the regeneration process.	Wrona (2020); Maghsoodi Tilaki and Farhad (2024)
• The imperative for the deliberate and strategically considered integration of new functions into established structures.	Yin & Feng (2024); Zhang and Ren (2024); El-Basha (2021)
• A comprehensive understanding of the territorial context and the identification of specific aspects that necessitate revitalisation are essential for the advancement of sustainable development within urban areas.	Liu et al. (2023)
• Consideration of the socio-economic status and physical conditions within the local context	Guimarães (2017)
• The modernisation of historic buildings for functional purposes, while striving to preserve their authenticity to the greatest extent feasible.	Szmygin (2009)
• Adaptive reuse strategies for industrial heritage regeneration to prevent degradation and detrimental transformations.	Szymański (2017)

3. Materials and Methods

This paper employs a comparative case study method to investigate the location of industrial heritage sites in Łódź and Yazd, along with the various factors that influence the effectiveness of urban regeneration. The comparative case studies augment the value of individual case studies by facilitating deeper insights through the contrast and comparison of multiple cases. This methodological approach aids in the identification of patterns, best practices, and causal relationships across diverse contexts, ultimately resulting in more robust conclusions and potentially - generalisable findings. In this context, the authors applied semi-structured interviews with experts and professionals, supplemented by fieldwork and observational analyses of the textile manufacturing heritage sites, particularly focusing on revitalisation projects within these two cities. The fieldwork and observational analysis encompass a comprehensive examination of the condition of industrial heritage sites and their contexts, employing photography and note-taking as primary methods. The authors documented the adaptation and modification of these sites for new uses, as well as the interactions between users and the heritage spaces. Several open-ended questions were posed during the interviews (See appendix 1). The interviews in Yazd were conducted from July 2023 to September 2023, and from November 2023 to March 2024 in Łódź. The study involved interviews with 54 experts who served as informants in the process of industrial heritage revitalisation in Yazd and Łódź. The interviewees were experts in the fields of architecture, urban planning, urban revitalisation, geography, economics, regional planning, and socio-economic planning. Additionally, they served as a professor at a university or held positions as experts in an engineering consulting firm, the city architect's bureau, and the regional planning office in Yazd and Łódź (See appendix 3 and 4). The participant selection strategy for the interviews was based on snowball sampling, ensuring a balanced representation between the public-private and academic-practitioner sectors. It excludes other pertinent stakeholders, including users, investors, and national policymakers. Initial invitation messages were dispatched to experts in Yazd, which were subsequently followed up with telephone calls, resulting in the participation of 24 experts in the interview process. Concerning Łódź, experts were solicited for interviews through email correspondence, and a total of 30 individuals participated in the interview process. Interviews with participants were conducted in their offices or in a nearby café in Persian in Yazd, and in Polish and English in Łódź, thereby ensuring compliance with

anonymity protocols. With the participants' consent, a voice recorder was used during the interviews, which were subsequently transcribed. Each interview lasted between 25 and 40 minutes, with the Polish and Persian interviews being translated into English transcription. The English transcribed data were transferred to Atlas.ti software (version 8). Content and thematic analysis techniques were employed to analyze the texts. The textual data were examined using these techniques to elucidate underlying themes (Ghaderi et al., 2020). The materials were reviewed up to four times to improve familiarity with the analysis process. Rereading facilitates the discovery of meanings, constructions, and patterns (Clarke & Braun, 2018). The open coding phase of the three-step data coding process in this analysis identified primary research themes. Data was coded according to research inquiries, classified based on semantic and conceptual relationships and named (See appendix 2). A network of coding groups was established, with a principal theme for each network and additional sub-codes/sub-themes to clarify interconnections among concepts (Ghaderi et al., 2024). In the results section, excerpts from the interviews will be incorporated throughout the text to illustrate or reinforce specific points.

3.1 Łódź

Łódź is situated in the central region of Poland (Figure 2). It was granted city rights in 1423 and remained a modest settlement until the eighteenth century. By a decision of the authorities in 1820, the city transformed into a rapidly developing centre of industry, particularly in the field of textile manufacturing. Immigrants from various regions of Europe, predominantly from southern Germany, Silesia, Bohemia, and Jewish communities, migrated to Łódź. Consequently, Łódź evolved into a multicultural city characterised by the coexistence of diverse groups, including Jewish, German, Russian, and Polish populations (Mokras-Grabowska & Mroczek-Żulicka, 2024). Łódź ranked as the third largest city in Poland by population in 2016. After experiencing rapid development in the 19th and early 20th centuries, the city underwent a relatively stable period of growth and expansion throughout the socialist era. This trend was subsequently followed by a decline following the political transformation that occurred in 1989 (Galuszka, 2022). This transformation also led to the collapse of the textile industry, which faced the necessity to reinvent itself and identify new uses for its abandoned industrial heritage sites. Consequently, there has been a growing acceptance and adaptive reuse of these sites, particularly former textile factories, since the early 2000s. These factories have been converted into educational facilities, shopping centres, cultural venues, and residential spaces (Walczak, 2015). Table 3 presents data regarding several textile factories that have been repurposed for new functions. The cluster of revitalization efforts in the early 2000s indicated a growing concern regarding the regeneration of former industrial sites, which emerged in conjunction with the transition to a more consumption-oriented society. These cases illustrate how Łódź has embraced its historical legacy and revitalised numerous former factory buildings and sites (Figure 3). This approach has facilitated the preservation of Łódź's distinctive character while concurrently adapting to the post-industrial economic landscape.

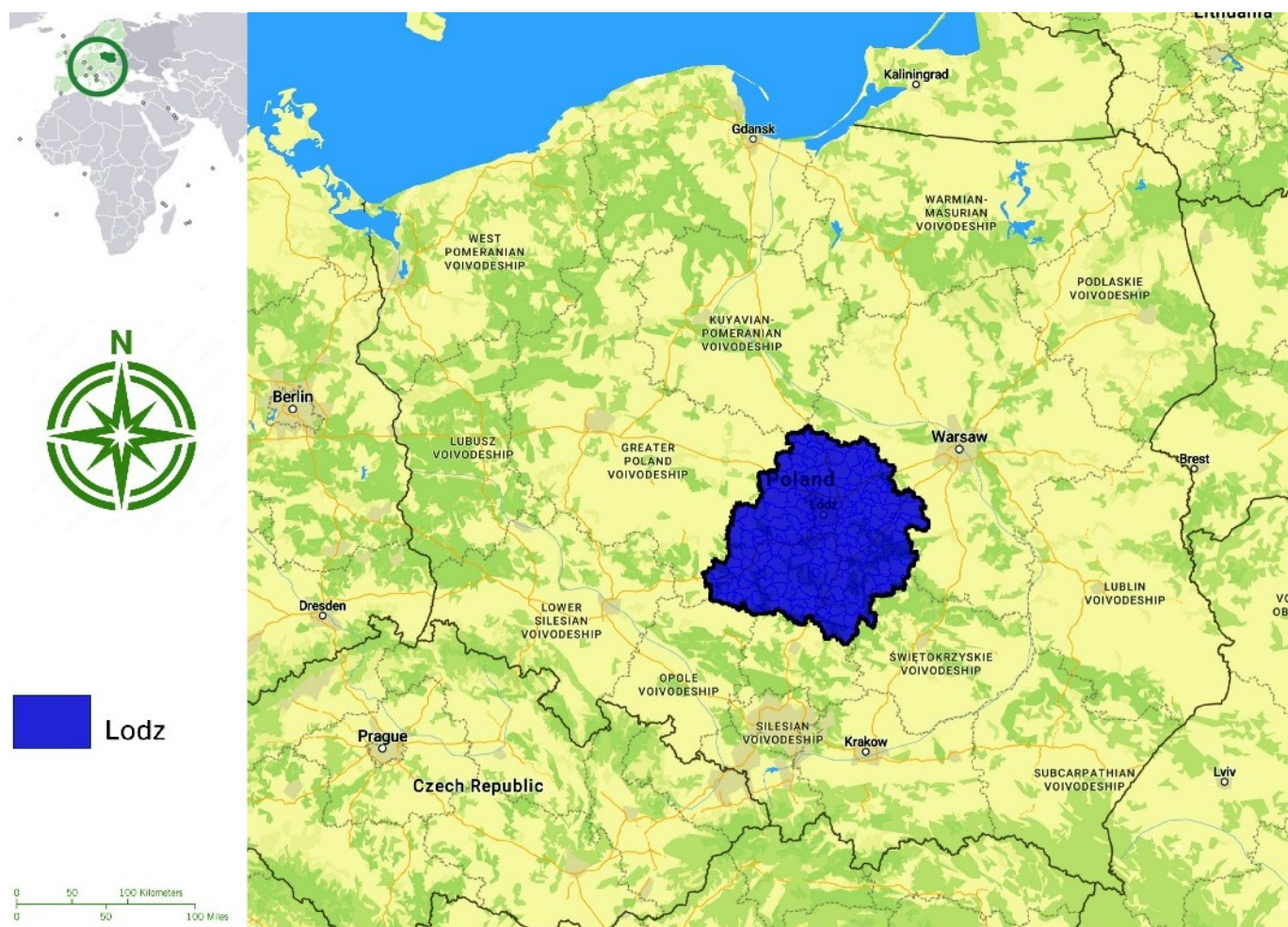


Figure 2. Location of Łódź province in Poland (Source: Authors).

Table 3. List of textile factories of Łódź (Source: Authors).

Factory. No	Name of Factory	Establishment Year	Year of Closure	Current Condition	Revitalisation Completion Date	Area (Hectare)
1	Geyer's White Factory	1837	1990	Museum	1960	2.88
2	Ferdinand Goldner's factory	1883 - 1896	1995	University	2001	1.1
3	Księży Młyn (Priest's Mill)	1824	2006	Offices and housing	2024	10
4	Scheibler's Factory (Western part – now "Fuzja")	1878	2003	Residential, offices and res- taurant	2024	18.5
5	Grohman factory	1888	2003	Abandoned / office, confer- ence, cultural and exhibition centre	2013	1.45
6	Biedermann factory	1863	1990	Destroyed and new factory	Not applicable	4.4
7	Allart, Rousseau & Cie.	1879	1989	Abandoned and destroyed / housing	Not applicable	8.8
8	Rosenblatt factory	1880	1934	Lodz University of Technology / Mostly new buildings	1945	7.6
9	Salomon Barciński fac- tory	1884	2004	Residential Dental Medic / completely new buildings	Not applicable	4.8
10	F.W. Schweikert fac- tory	1908	1994	Lodz University of Technology Library / partly new buildings	2002	8.7
11	Markus Silberstein Fac- tory	1896	1980	Apartment rental agency / partly destroyed, partly aban- doned, partly office	2000	2.4
12	J.Heinzel dyeing and printing house	1861	1925	Destroyed, buildings from 20th century	Not applicable	4
13	Teodor Finster factory	1881	1990s	Offices and Social Sciences Academy / labor Office	2000s	1.6
14	Jan Stüldt factory	1886	1937	Destroyed	Not applicable	1.8
15	Factory of Zygmunt Jarociński	1889	1995	Abandoned	Not applicable	1.5
16	Stiller and Bielszowski Factory	1876	1950s	Warehouses / Little factories	2000s	1.7
17	Izrael Poznański's fac- tory	1872-1892	1992	Arts centre, shopping mall, and leisure complex	2006	27
18	Osser	1903	1995	Abandoned / workshops	Not applicable	4
19	Eisenbraun	1894	1950s	Workshops	Not applicable	2,8
20	Kretschmer	1880	1990s	Hotel, Apartments	2013	2

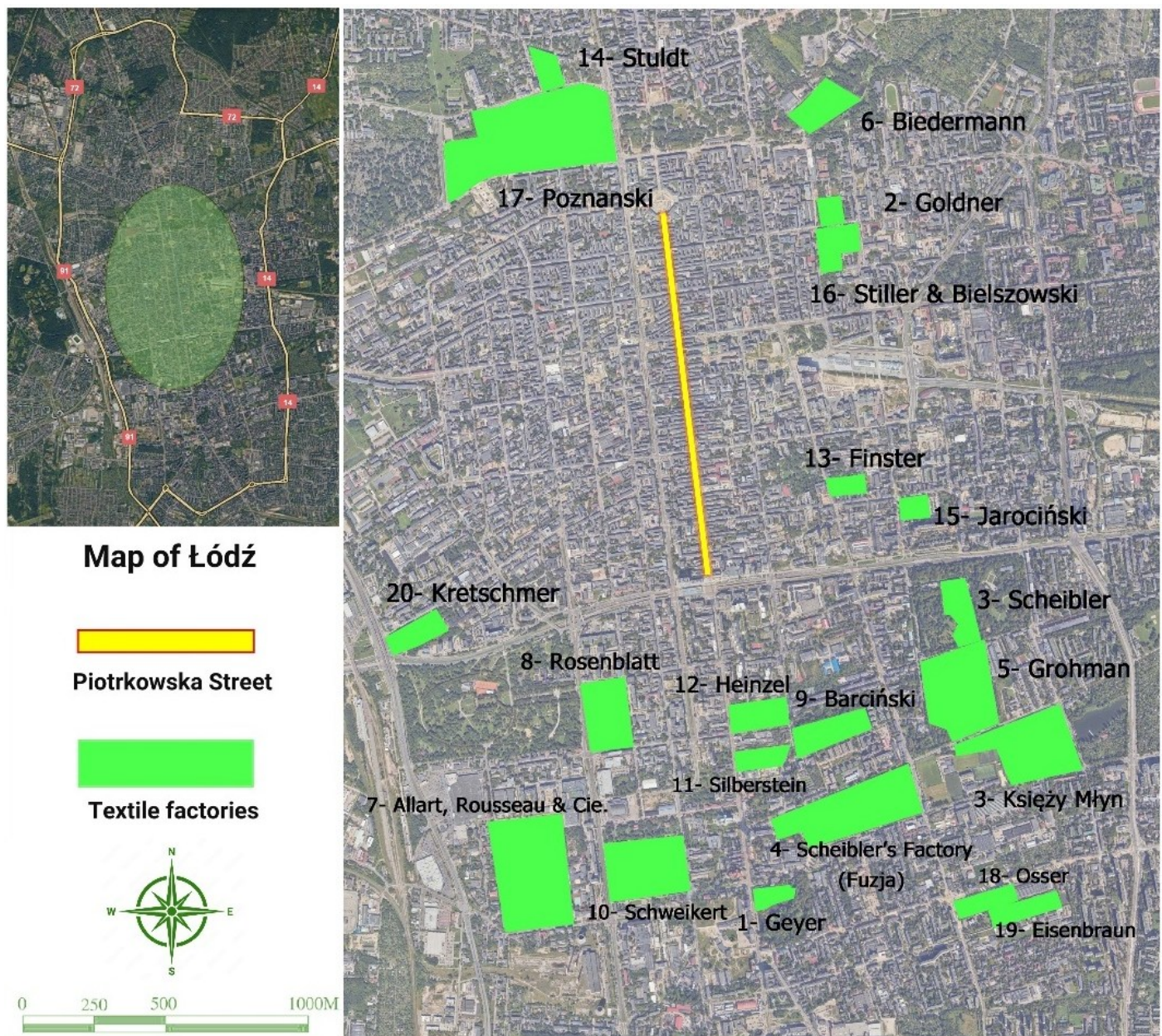


Figure 3. The distribution of textile factories in Łódź (Source: Authors).

3.2 Yazd

Yazd is in proximity to the Silk and Spice Roads on the Central Iranian plateau (Figure 4). The positioning illustrates the adaptation to and utilisation of limited resources for survival in a desert environment. The cultural heritage of Yazd has largely remained intact over the years. Consequently, the historic city of Yazd, encompassing an area of 195 hectares, was inscribed as a World Heritage Site during the 41st session of the UNESCO World Heritage Committee, convened in Kraków, Poland, from July 2 to July 12, 2017 (UNESCO, 2025). The rich history of Yazd in the textile industry, coupled with the presence of skilled artisans, significantly contributed to the establishment of modern industrial institutions within the city (Dehghan Pour Farashah & Pourzakarya, 2025). At the beginning of the 20th century, the importation of industrial machinery from Europe and the United States led to the predominance of industrial forms in the textile industry. Yazd emerged as a prominent centre for textile production in Iran following the establishment of large-scale factories, which contributed significantly to the city's economy for over fifty years (Ramazankhani, 2016). These factories (Table 4) were constructed as structures characterised by distinctive architectural patterns and designs reflective of their era (Dehghan Pour Farashah et al., 2019). Several factories have been closed as a result of urban development, environmental concerns, economic recessions, and shifts toward service-based and heavy manufacturing sectors in Yazd since the 1990s (Dehghan Pour Farashah & Pourzakarya, 2025; Esfahani & Pesaran, 2009). These buildings, owing to their substantial dimensions, advantageous urban locations (Figure 5), and the adaptability of their designs facilitated by a modular structure, possess significant potential for conversion into diverse uses, particularly for cultural purposes. However, insufficient efforts have been made to promote awareness of these sites among Iranians, who appear to have a limited understanding of this heritage (Samadzadehyazdi et al., 2020).

Table 4. List of textile factories of Yazd (Source: Authors).

Factory No	Name of Factory	Establishment Year	Year of Closure	Current Condition	Revitalisation Completion Date	Area (Hectare)
1	Eghbal	1931	1978	Reused (Yazd Science and Technology Park)	2006	3.65
2	Saadat Nasadjan	1934	2000s	Under revitalisation for hotel	2026	10
3	Dorakhshan and Herati	1935	1980s	Reused (Innovation Factory)	2022	4.1
4	Seyed Moahammad Agha	1948	2000s	Abandoned	Not applicable	8.47
5	Dastbafan	1948	1980s	Abandoned and school	1990s	1.16
6	Yazdbaf	1956	Not applicable	Active (in its original function)	Not applicable	14
7	Jonub	1959	2003	Reused as seasonal exhibitions and museum	2017	5.37
8	Afshar	1963	2010s	Abandoned	Not applicable	12.1



Figure 4. Location of Yazd province in Iran (Source: Authors).

4. Results

The analysis of the interviews facilitated the identification of five themes for the case studies. These themes reflect analogous content in both cities; however, they vary in specificity based on the expressions, phrases, and concepts employed by respondents throughout the research. It is noteworthy that during the analysis of the interviews, a diverse array of terms associated with the expansive notion of urban regeneration emerged, including regeneration, revitalisation, adaptive reuse, reconstruction, conservation, preservation, and demolition. The initial three identified themes pertain to the first research question, while the subsequent two identified themes are related to the second research question.

4.1. Theme 1: Accessibility, connectivity, and strategic location of industrial heritage sites

As for Łódź, the results obtained from the study indicate that, with regard to the physical aspects, attention was focused on the spatial location of districts undergoing urban regeneration. The nine most frequently occurring codes identified during the data analysis are illustrated in Figure 6. In the case of Łódź, the strategic positioning of numerous textile factories, frequently located in central or well-connected areas, enhances their potential for revitalisation (Figure 3). In this regard, one urban planner explained that *“In Łódź, textile factories are situated within the urban area, which facilitates greater accessibility to the industrial sector of the city. This spatial arrangement is significant, as it has various implications for the regeneration of the entire city. Notable sites such as Izrael Poznański, Fuzja, and Księży Młyn (see Table 3) exert a considerable influence on the overall development and revitalisation of Łódź.”* However, several other respondents believed that inadequate public transport, limited pedestrian infrastructure, and a high dependency on private vehicles are significant drawbacks for accessibility to industrial heritage sites. One interviewee declared *“The significant challenge facing the city of Łódź in enhancing its walkability and accessibility for pedestrians is the limited number of streets. When comparing the urban structure of Łódź to other cities globally, particularly in Europe, this issue becomes evident. For instance, Różgrodzka Street is located on the western side, while Piotrkowska Street and Sienkiewicza Street are situated at considerable distances from one another. Additionally, there is a new street currently under construction that will connect these areas in a north-south orientation.”* In addition, the virtual accessibility was also mentioned by some of the experts. One of the informants said *“The accessibility of these buildings is commendable, not only for individuals traveling to Łódź but also for those seeking to explore the city virtually. Currently, we have access to 3D projections, which provide a virtual opportunity to visit these sites.”*

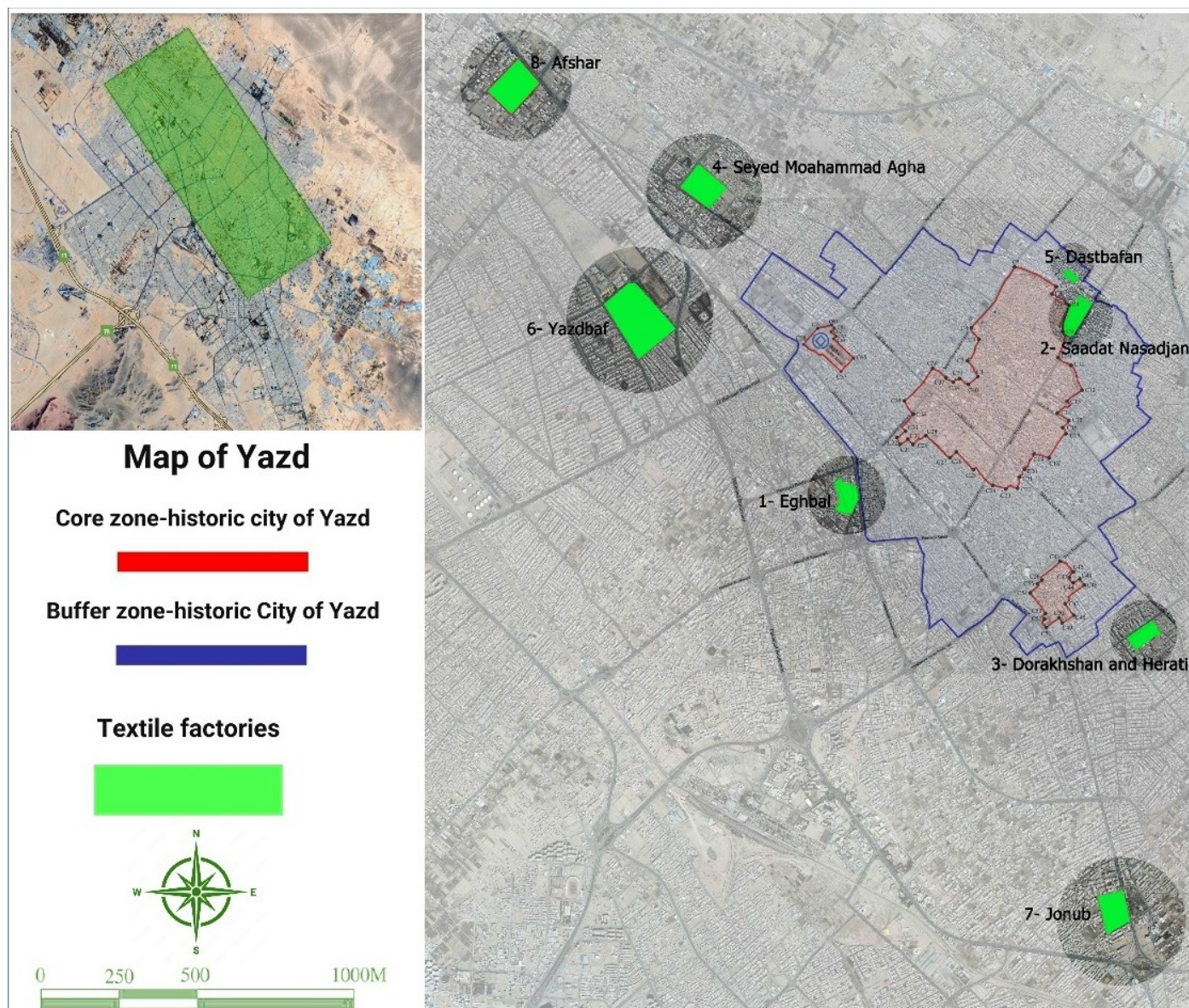


Figure 5. The distribution of textile factories in Yazd (Source: Authors).

Regarding Yazd, the 9 frequently occurring codes are illustrated in Figure 6. We can establish that the textile factories are evenly distributed across different parts of Yazd as socio-economic areas that lead to diverse opportunities for urban regeneration (Figure 5), unlike Łódź that textile

factories are heavily concentrated. The head of an engineering consulting firm currently involved in the process of revitalising one of the textile factories stated, *“There exists a variety of locations, and many of these factories under examination were constructed in alignment with the city's expansion. Each location holds significant potential and comprises expansive space within the urban context.”* The factories in Yazd were predominantly located within the historical city limits, though not in the core of the historical city itself. Despite concerns regarding their potential destruction, such an event did not occur. In this context, one architect claimed that *“proximity to the historic core facilitates potential connections with existing tourism infrastructure while simultaneously avoiding direct conflict with heritage conservation policies.”* Based on the interviews and observational analyses, accessibility emerges as a crucial and flexible factor in determining the potential for adaptive reuse. Certain factories benefit from their proximity to main streets and urban centres, whereas other factories encounter challenges related to traffic congestion. One of the municipal experts elucidated that *“the Seyed Moahammad Agha and Afshar factories (see Table 4) should be utilised at a local scale; the Jonub factory (see Table 4) is more advantageous for tourism, and the Saadat factory (see Table 4) could also be profitable if it is situated along the tourism route.”*

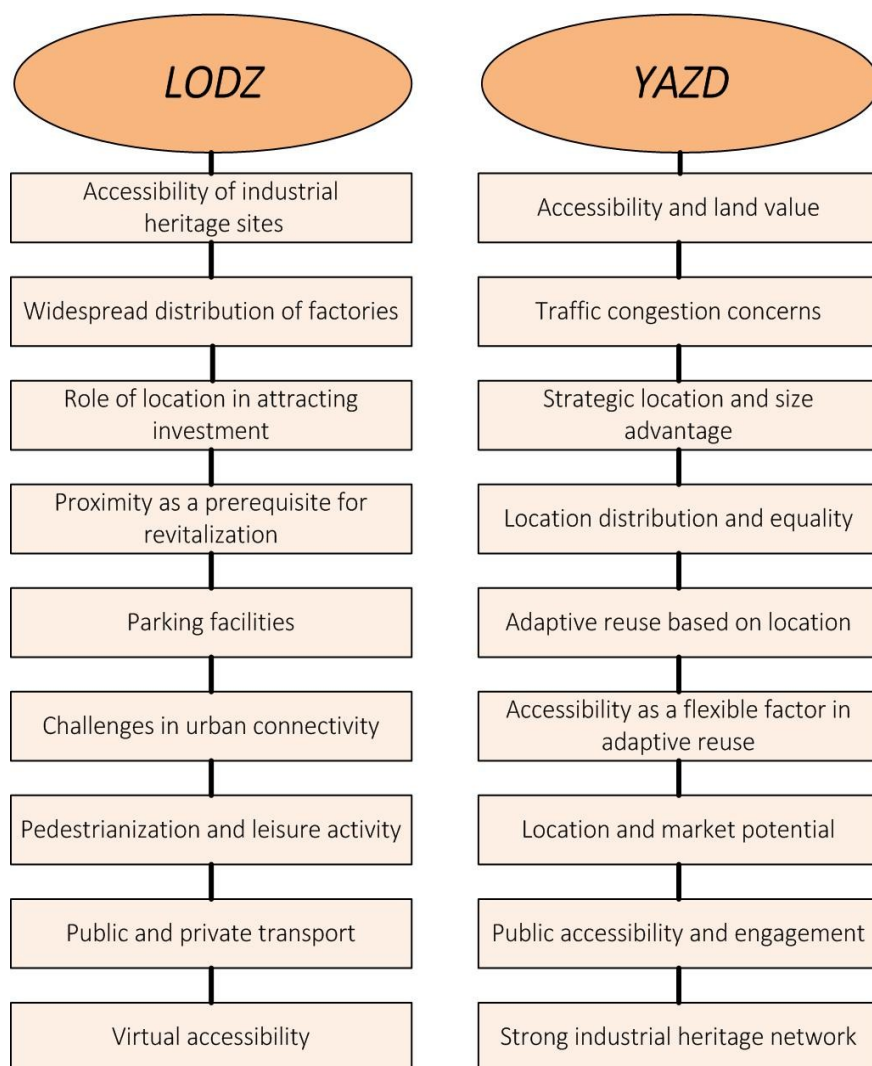


Figure 6. The most prevalent codes for the first theme (Source: Authors).

4.2. Theme 2: Economic drivers and investment challenges in industrial heritage revitalisation

This theme encompasses several codes, including elevated preservation costs, inconsistent investment patterns, and constrained municipal resources, which frequently impede large-scale revitalisation initiatives in Łódź. Figure 7 illustrates the most prevalent codes associated with Łódź. Some experts contend that, although Poland receives EU funding for urban regeneration activities and utilises public financing initiatives, selective revitalisation often prioritises profitability over social integration due to economic constraints. One economist stated, *“Following Poland's entry to the European Union, substantial European funding catalysed public investments in post-industrial sites. Municipalities began to utilise these resources to transform such areas, exemplified by the case of Science and Technology Centre, thereby demonstrating their active participation in regeneration initiatives.”* The participation of private investors in the revitalisation of public spaces exists; however, commercial competition occasionally overshadows local businesses. Another economist said *“Most of the public spaces were developed by private investors. In the context of Piotrkowska Street, for instance, this model has proven to be effective.”* The majority of respondents indicated that balancing financial feasibility with public-private partnerships presents a dilemma for local authorities in ensuring the long-term economic impact of these projects.

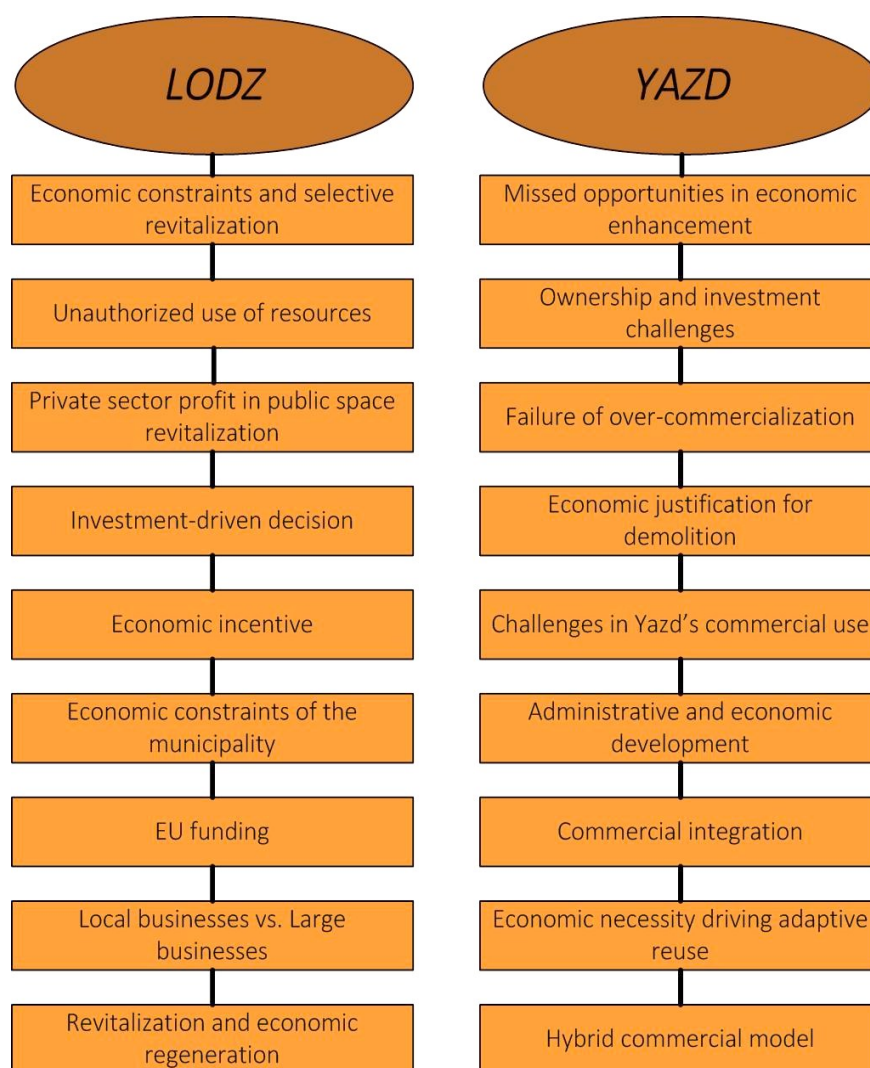


Figure 7. The most prevalent codes for the second theme (Source: Authors).

Concerning Yazd, this theme illustrates the economic factors that significantly influence the fate of industrial heritage sites. Figure 7 presents the most pertinent codes associated with this theme. According to expert opinions, the economic justification leads to the consideration of preservation, adaptive reuse, or demolition in Yazd. An urban planner within the municipality asserted that *“a portion of Dorakhshan (see Table 4) was lost due to the land's valuation. The rationale provided was to delineate the area in order to facilitate financial gains for certain stakeholders.”* Ownership and investment challenges constrain private investors and public initiatives in financing revitalisation projects. One of the experts involved in the preparation of the Agha factory (see Table 4) revitalisation plan, which ultimately failed, indicated that *“the ownership structure of factories plays a critical role in the revitalisation process. When a factory is subject to multiple ownership by both private entities and government, potential investors may be dissuaded from making substantial investments. This reluctance stems from the significant financial commitment required for such investments, thereby underscoring the importance of a clear and unified ownership structure for the factory.”* While there is potential for a hybrid commercial model encompassing retail, hospitality, and cultural spaces, excessive commercialisation presents a significant risk, ultimately resulting in a loss of authenticity. The director of an engineering consulting firm, who has experience in the transformation of the first factory in Yazd approximately two decades ago, elucidated that *“shopping malls in Iran, particularly in Yazd, have not succeeded due to the high commercial per capita in the region. However, it is noteworthy that mixed-use developments, which integrate commercial and other functions, have proven to be more effective.”*

4.3. Theme 3: Cultural sensitivity and community-driven regeneration

Regarding Łódź, Figure 8 illustrates the predominant codes associated with the cultural and social dimensions of urban regeneration within industrial heritage sites. The historical textile factories that once constituted the industrial identity of Łódź have been converted into cultural institutions and social spaces that align with contemporary community needs. One respondent indicated that *“there are numerous factories in the centre of the city, such as Scheibler's factory (see Table 3). Therefore, revitalisation efforts, including the establishment of restaurants, could attract individuals who reside in proximity to these buildings.”* However, respondents noted that the process of revitalisation has exhibited uneven community engagement, prioritising tourism and large-scale events over local needs. Additionally, the challenges of population decline, and youth retention significantly influence revitalisation efforts, necessitating the creation of spaces that address both cultural preservation and functional urban living. To support this, one respondent claimed *“There is a challenge associated with retaining young people in the area after they complete*

their studies. Furthermore, I believe that the utilisation of textile factories could be oriented more towards serving community purposes rather than solely focusing on market and entertainment objectives.” The collaborative efforts involving the public, private, and NGO sectors highlight the development of more socially integrated and community-driven urban spaces in Łódź.

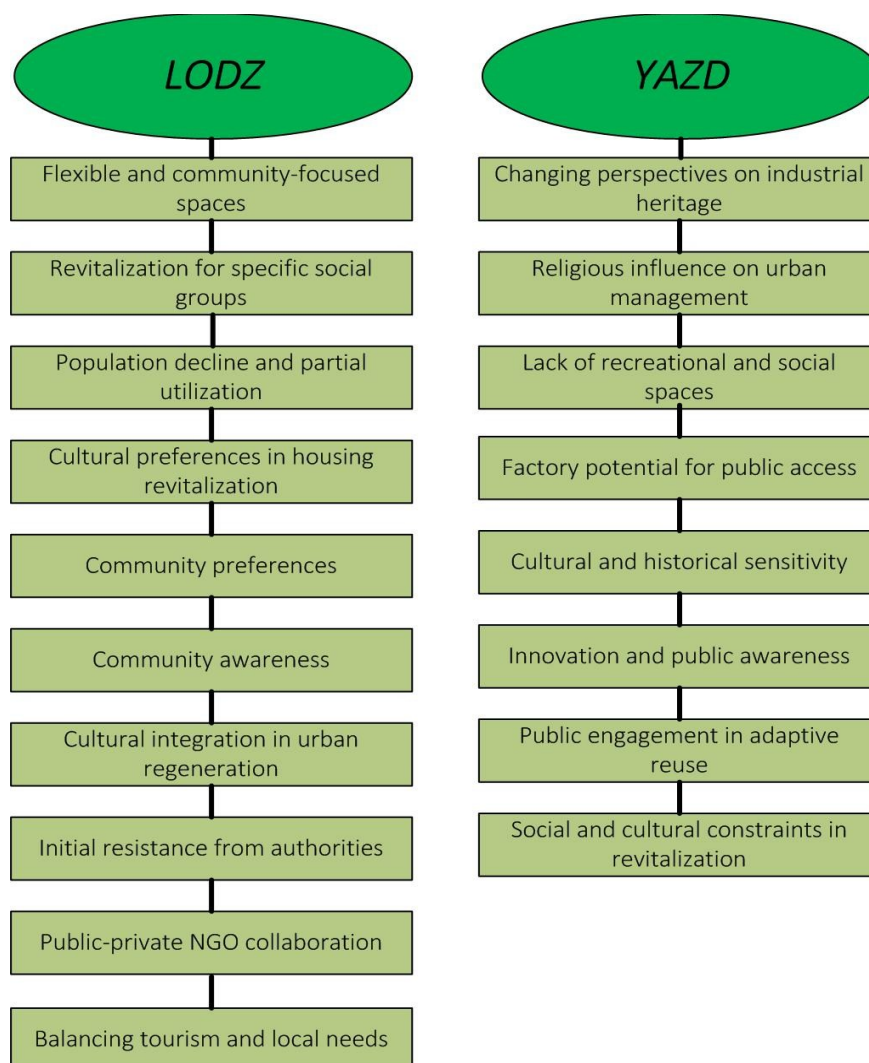


Figure 8. The most prevalent codes for the third theme (Source: Authors).

As for Yazd, this theme illustrates the social and cultural factors that influence the regeneration of industrial heritage in Yazd (Figure 8). The majority of respondents asserted that the limited involvement of local communities in the decision-making processes related to industrial heritage results in a deficiency of public engagement in revitalisation initiatives. In this regard, one respondent said *“The involvement of individuals in the transformation of factory utilisation has not been effectively harnessed. Furthermore, it is feasible to leverage the capital of former factory workers as a form of investment, given their sense of affiliation with these establishments. However, the success of such initiatives is contingent upon comprehensive preliminary studies.”* Another factor that plays a significant role in urban management is religious values, which influence the types of activities considered appropriate for industrial heritage sites. A former advisor to the city council explained *“The primary cultural and social spaces have been the mosque and Husayniyya. Furthermore, due to the predominance of religious backgrounds in urban management, there has not been an automatic transition towards creating a vibrant atmosphere. Instead, the focus has shifted towards administrative and economic activities.”* The same respondent added *“Recently, the Saadat factory is being repurposed as a resort and hotel, while the Herati factory (see Table 4) is also set to enhance its lively activities. This transformation represents a departure from the initial conception of these factories.”*

4.4 Theme 4: Balancing functional approaches in urban regeneration

The findings indicate that a complex interplay between heritage preservation and the demands of modern urban development has shaped urban regeneration in Łódź (Figure 9). Several respondents identified the Manufaktura (Poznański's factory) (see Table 3) as a landmark project resulting from revitalisation efforts; however, numerous sites continue to confront challenges stemming from economic constraints, fluctuating land values, and inconsistent preservation policies. The multifunctional urban vision has introduced a new strategy in Łódź, particularly for large-scale commercial projects. An experienced urban planner noted that *“the multifunctionality observed in the designated area extends beyond mixed-use developments to encompass the entirety of the downtown area, reflecting a collaboration between municipal authorities and private*

enterprises.” Respondents asserted that the demolition-driven strategies of the 1990s have evolved into more integrated regeneration efforts, which now incorporate green spaces, city zoning, and holistic urban planning, influenced by concepts such as the 15-minute city. One respondent from regional planning office explained, “Fuzja (see Table 3) is an inner city that provides essential amenities, such as grocery stores, in accordance with the concept of the 15-minute city design.” Some interviewees contended that the primary challenge for Łódź resides in ensuring the integration of historical and contemporary elements in revitalisation projects, while simultaneously preserving historical identity and promoting economic and social sustainability.

Figure 9 illustrates that the preservation of industrial heritage sites is critical for maintaining industrial identity in Yazd. Furthermore, adaptive reuse must extend beyond static conservation to guarantee long-term functionality and relevance. Based on the interviews and fieldwork, the revitalisation process necessitates a balance between heritage preservation, urban integration, and contemporary needs. Some of the interviewees believed that industrial heritage sites could serve as a platform for innovation in adaptive reuse and revitalisation. One conservation architect told us “In my assessment, although the number of converted factories is relatively limited, their quality is commendable. For instance, the Eghbal factory (see Table 4), identified as a technology centre, aligns well with the factory’s former function. Additionally, the establishment of startups and co-working spaces represents a significant innovation in the context of revitalisation and adaptive reuse.” The spatial value of industrial sites and novel concepts are additional themes identified by several experts. In this context, an individual affiliated with the civil and architecture commission of Yazd provided an explanation. “One proposed initiative for the Jonub factory (see Table 4) involved establishing a connection to the adjacent park through the construction of an overpass, thereby restoring the factory to its original configuration prior to the street developments in Yazd. However, this plan did not progress to the implementation stage.”

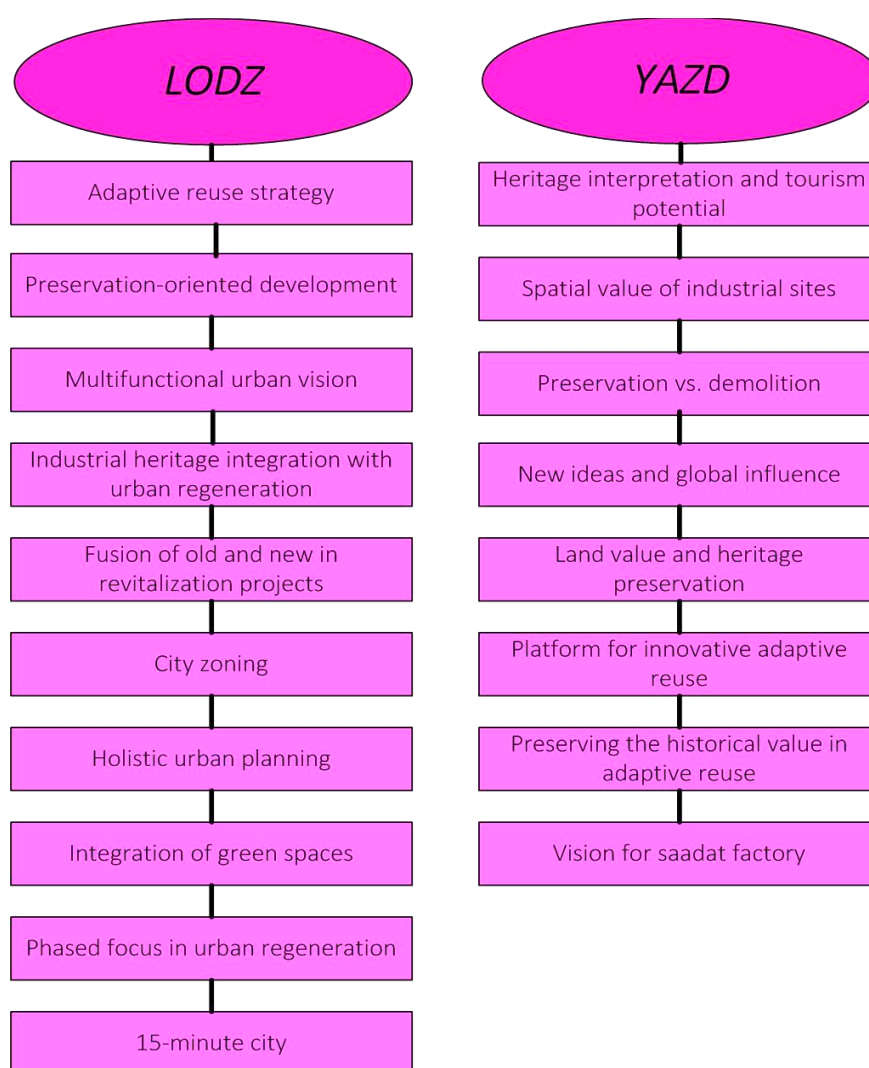


Figure 9. The most prevalent codes for the fourth theme (Source: Authors).

4.5 Theme 5: Success and challenges of industrial heritage in urban regeneration

The theme suggests that Łódź has been characterised by both significant successes and ongoing challenges in the revitalisation of its industrial heritage sites (Figure 10). Manufaktura (see Table 3) serves as a prominent example of how large-scale adaptive reuse can catalyse urban regeneration, attract investment, and enhance urban identity. A conservation architect from the city architect’s bureau asserted that “Manufaktura (see Table 3) was successful and that it fundamentally transformed the landscape. This approach, however, is markedly different in contemporary practice. It is my belief that we have already internalized this lesson.” However, some of the respondents provided a critical evaluation of

the success of the revitalisation efforts in comparison to other revitalisation projects. To substantiate this statement, one interviewee remarked “Not all revitalisation efforts have produced positive outcomes. Certain projects have encountered challenges due to unsuccessful attempts at heritage imitation, inadequate integration with surrounding areas, or excessive commercialisation that undermines historical value.” Thus, user-oriented success metrics and a multi-disciplinary approach to evaluation could comprehensively assess the full impact of revitalisation, ensuring that revitalisation efforts benefit both investors and local communities. The existence of large factories, coupled with the high costs associated with revitalised areas and the process of gentrification, has negatively impacted urban regeneration. This phenomenon can be attributed to the shortcomings of inauthentic revitalisation efforts.

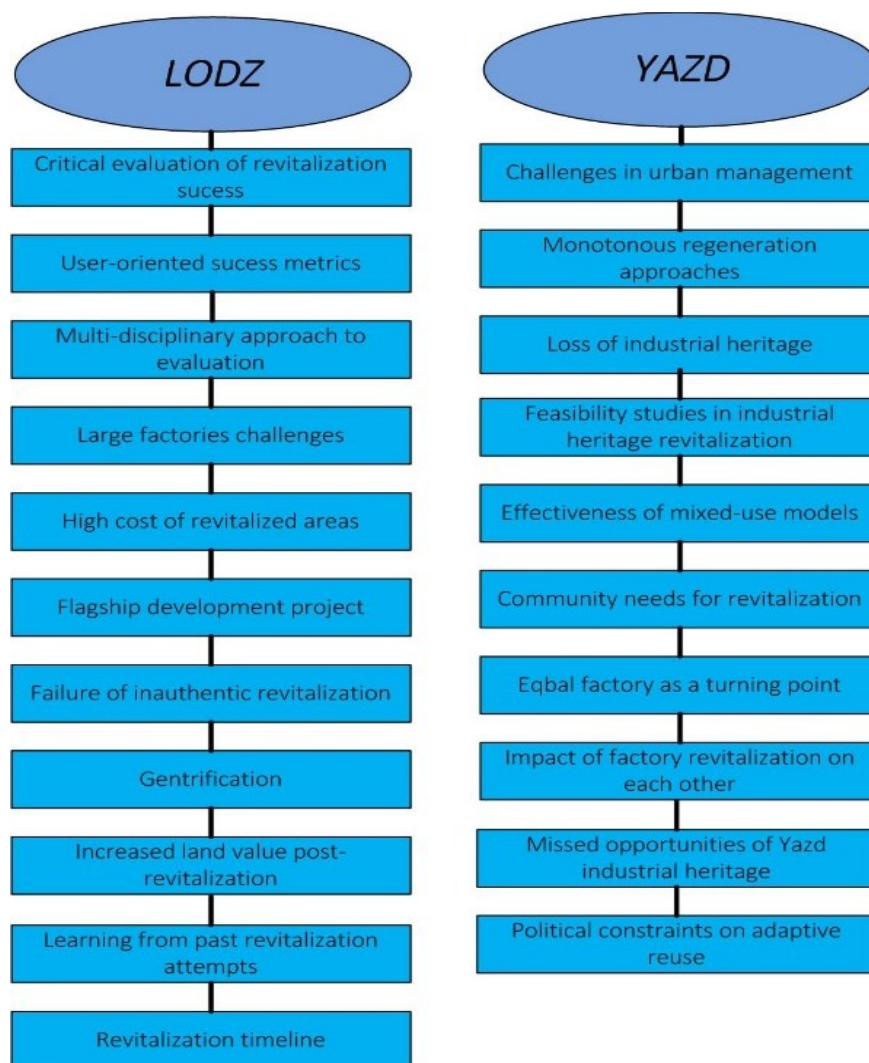


Figure 10. The most prevalent codes for the fifth theme (Source: Authors).

In alignment with this theme, the industrial heritage of Yazd possesses considerable potential for urban regeneration; however, its impact is constrained by a confluence of political limitations on adaptive reuse, homogeneous regeneration strategies, and an absence of comprehensive planning (Figure 10). Although certain revitalisation projects, such as the Eghbal Factory (see Table 4) and the Dorakhshan Factory (see Table 4), exemplify the potential for successful revitalisation, numerous other industrial heritage sites have either been neglected or revitalised without a coherent long-term vision. The head of the engineering consulting firm responsible for the revitalisation design of the Eghbal factory (see Table 4) asserted that “The Eghbal factory was initially slated for demolition, with plans for a shopping centre to be constructed in its stead. However, this demolition did not occur, leading to a change in use that has subsequently impacted the revitalisation of other factories in the area. Had the Eghbal factory (see Table 4) been demolished, it is likely that the other factories would have also faced demolition.” According to the majority of interviewees, there has been a notable deficiency in the feasibility studies conducted on the revitalisation of industrial heritage. This is particularly evident in the context following Yazd’s designation as a UNESCO World Heritage Site in 2017, which has resulted in missed opportunities for integrating industrial heritage into broader urban regeneration strategies.

5. Discussion

The research indicates that in two geographically and culturally distinct cases, various factors are perceived to influence the revitalisation of industrial heritage sites, and the concept of effective urban regeneration is defined differently. In the context of Łódź, several physical factors positively influence the revitalisation processes of the industrial heritage districts. These factors include a strategically advantageous location

characterised by well-connected areas, a compact distribution of facilities, initiatives aimed at enhancing access to key amenities, and proximity to primary roadways and urban centres. Factors that negatively influence revitalisation include inadequate pedestrian infrastructure and restricted spaces, which result in limited accessibility and contribute to the issue of gentrification. These elements are also discussed in the studies by Martinović and Ifko (2018) and Wrona (2020). In the case of Yazd, the spatial layout differs from that of Łódź. While numerous industrial sites are strategically located near the historic core, these facilities are generally evenly distributed across various socio-economic areas. This distribution is crucial for the planning of urban regeneration (Ren et al., 2018; Tang et al., 2019). There are also disparities in accessibility concerning proximity to primary thoroughfares and urban centres; however, certain areas experience traffic congestion and inadequate infrastructure. Numerous industrial sites remain under-utilised as a cohesive network, thereby limiting their collective impact on urban development. As indicated by Liu et al. (2023), these factors may be significant in the context of revitalisation modes and strategies for such districts. The identified physical factors in both Łódź and Yazd corroborate previous studies (Huang et al., 2020; Zheng et al., 2016) regarding the significance of these factors in revitalisation processes. Accordingly, the physical factors within this theme represent a preliminary consideration that can determine the feasibility of revitalizing industrial heritage sites, particularly in post-industrial cities.

Socio-economic factors exhibit significant variation between the two case studies. Considering the potential for financing urban regeneration projects that involve industrial heritage, Poland has the opportunity to access EU funds. However, this potential is often accompanied by negative factors that adversely affect the revitalisation processes, including financial challenges such as high maintenance costs, uneven investment patterns, and limited municipal resources. Economic constraints may lead to selective revitalisation that prioritises profitability (Walczak & Kępczyńska-Walczak, 2024) over social integration. Furthermore, the involvement of private investors may compromise the positive socio-economic outcomes associated with revitalisation processes (Ploegmakers & Beckers, 2014). In the context of Yazd, the tensions between economic necessity and heritage conservation have a substantial effect on the preservation of authenticity in heritage sites when evaluated from a purely economic standpoint. This may result in a reduction of the authenticity of industrial heritage sites (Szymgin, 2009; Szymański, 2017). In revitalisation processes, it is essential to delineate the procedures for sale and adaptive reuse to mitigate potential devastation or unfavorable transformations (Szymański, 2017). Favoring administrative and commercial development, while prioritising immediate economic returns and excessive commercialization, may diminish the potential for long-term cultural and tourism opportunities (Vardopoulos, 2023). This approach risks undermining Yazd's capacity to evolve into a compelling tourist destination and to serve as a foundation for new cultural activities (Baumgartner, 2025). The initial step of regeneration within industrial heritage sites is often driven by economic factors that compel the initiation of the project; however, the success of these projects may be largely influenced by social factors.

The positive social and cultural factors include the acknowledgment of cultural values derived from heritage as a significant social aspect. An implication of industrial values and the social and cultural outcomes resulting from the revitalisation of industrial heritage sites has also been indicated by Kuzior et al. (2022). In the case of Łódź, the transition from privately-led investments to collaborative efforts among diverse stakeholders may facilitate a community-driven vision for the urban future. In the case of Yazd, there is a significant indication of the role of cultural values in urban management, which influences the types of activities deemed appropriate for revitalised spaces. These factors are crucial to revitalisation processes, as they must encompass a socio-cultural dimension that reflects the social and cultural values inherent to a specific area and its context. Positive socio-cultural factors include the engagement of local communities in the planning processes of revitalisation activities and projects that promote not only economic profitability but also social inclusion. In both cities, a lack of such engagement was evident. The significance of public participation has also been highlighted by other researchers (Della Lucia & Pashkevich, 2023; Nocca et al., 2024; Zhao et al., 2023). As noted by several researchers, it is essential to consider the alignment of the revitalisation projects with both material and non-material values (Nocca et al., 2024). Such non-material values are deeply embedded in religious and cultural contexts, particularly regarding the cultural differences between the two cities. However, appropriate consideration of these values in revitalisation processes can yield positive outcomes. Within Iranian society, religious and cultural elements are more deeply ingrained in the collective consciousness than in Poland. Thus, religious and cultural conditions significantly influence the regeneration of industrial heritage by establishing a framework for community identity, promoting people-centered approaches to urban planning, and encouraging sustainable economic and social development. These elements contribute to the integration of heritage sites into local life, imbuing them with meaning and value that extends beyond mere economic utility, and facilitating community engagement in the decision-making process.

Effective urban regeneration in the case of Łódź is characterised by a shift in the city's strategy from a demolition-focused approach to more integrated regeneration efforts. This transformation incorporates green spaces, cultural hubs, and multifunctional urban planning. In both cases, the perception of industrial heritage value can significantly enhance the success of urban regeneration efforts (Martinović & Ifko, 2018; Vardopoulos, 2023). Other factors that should be considered in the context of effective urban regeneration include the balance between heritage protection and development. Adaptive reuse should ensure the preservation of heritage while also accounting for long-term economic and social impacts. The significance of high-quality design, multidisciplinary evaluation, and long-term planning in effective regeneration processes was also acknowledged (Dehghan Pour Farashah et al., 2019). It can be articulated that effective urban regeneration of districts characterised by industrial heritage entails the achievement of socio-economic outcomes through a balanced approach to public-private financing, while mitigating the excessive influence of private investments. Preferences should be given to projects that enhance accessibility and infrastructure, as well as promote the reuse of historical resources. Such initiatives not only generate financial income but also yield social benefits and contribute to the preservation of cultural heritage values. It is important to acknowledge that the reduction of negative factors significantly enhances the effectiveness of urban regeneration initiatives in districts characterised by industrial heritage. A summary of the explanations within the identified themes regarding urban regeneration in the context of industrial heritage sites, as articulated by the interviewees and informed by fieldwork, is presented in Figure 11. The findings of both case studies are indicative of the transition to post-industrial landscapes in Eastern European countries, as well as in other nations where the economic foundation of major cities was historically rooted in industrial manufacturing until the latter half of the twentieth century.

6. Conclusions

This study examined the various factors, both positive and negative, that influence the revitalisation of industrial heritage sites in Łódź and Yazd. Moreover, through a comparative analysis of Central Europe and West Asia with differing socio-economic, socio-cultural, and physical conditions, effective urban regeneration has been defined within the context of industrial heritage sites. Some of these factors existed, as illustrated by the physical factors such as the location of textile factories, as well as the socio-cultural contexts of Iran and Poland. However, other factors are

temporary, such as the legislative character and planning systems in both cities. Diagnosing these factors is crucial for the implementation and effectiveness of urban regeneration activities. Positive factors should be leveraged, while negative factors should be mitigated to the greatest extent possible.

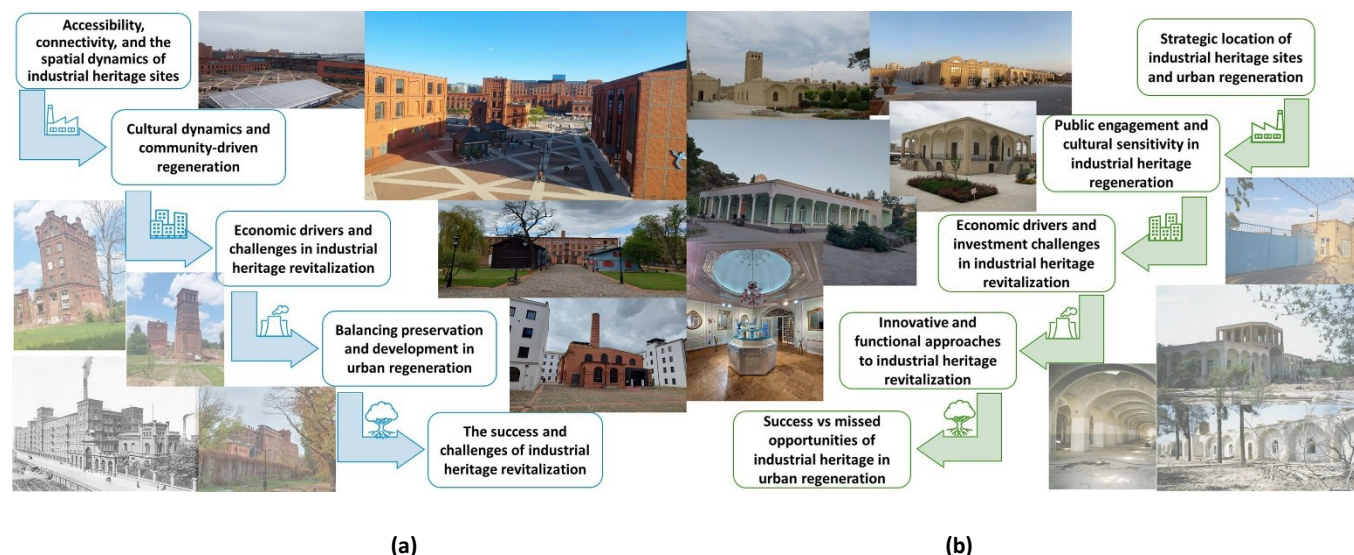


Figure 11. The identified themes pertaining to effective urban regeneration: **(a)** Łódź; **(b)** Yazd (Source: Authors).

This empirical study makes significant theoretical contributions by enhancing our understanding of industrial heritage revitalisation and promoting effective urban regeneration. Highlighting the role of location in attracting investment, adaptive reuse based on geographical context, spatial distribution, and equity, this study emphasizes the significance of the spatial dynamics of industrial heritage sites in the context of revitalisation. Additionally, it was defined that effective urban regeneration within industrial heritage sites should entail socio-economic outcomes that balance public and private financing while mitigating the excessive influence of private investments. Regarding urban planning literature, participatory planning, cultural sensitivity, and collaboration among public, private, and NGO create new concepts for community-driven regeneration.

The outcomes of this study offer significant practical implications. They underscore the importance of various categorical factors that should be considered during the urban regeneration planning stage involving industrial heritage. The results found that there is a correlation between multifunctional urban visions and large-scale commercial projects. The success of the 15-minute city depends on effective city zoning, holistic urban planning, and the integration of green spaces, particularly those connected to industrial sites. Therefore, the planning process should balance heritage preservation with contemporary urban needs, as it embraces this new concept of urban regeneration. Moreover, the spatial value of industrial sites facilitates the emergence of new ideas and platforms for innovative adaptive reuse within the context of urban regeneration planning. A large-scale adaptive reuse project that catalyses urban regeneration, attracts investment, and enhances urban identity can be considered a successful endeavor. To assess the effectiveness of urban regeneration, a multi-disciplinary approach and user-oriented success metrics should be employed to yield appropriate results. The significance of feasibility studies in the revitalisation of industrial heritage, particularly regarding the interrelated impacts of factory revitalisation, contributes to enhanced effective urban regeneration.

This study has several limitations that must be taken into account. Initially, the research predominantly utilises qualitative data obtained through a case study methodology, which includes semi-structured interviews with experts and professionals, supplemented by fieldwork and observational analyses. While this approach enables a comprehensive exploration of experts' perspectives, it restricts the generalisability of the findings to other contexts. Future research could incorporate quantitative spatial and non-spatial data to examine broader trends and validate findings related to urban regeneration within industrial heritage sites. Second, the study focuses on the perspectives of 54 experts, including academics, engineering consulting firms, and municipal institutions. While this provides a comprehensive examination of effective urban regeneration, it excludes other relevant stakeholders, such as users, investors, and national policymakers in Iran and Poland. Future research should investigate the perspectives of these groups to critically analyse the factors influencing the revitalisation of industrial heritage sites and the definition of effective urban regeneration. Third, future studies could undertake comparative analyses utilising data from cities across various country groups, considering their socio-economic and socio-cultural conditions.

Funding: This research was funded by the Polish National Agency for Academic Exchange [STER NAWA - Internationalisation of Doctoral Schools Programme; grant number BPI/STE/2023/1/00019/U/00001].

Conflicts of Interest: The authors declare no conflict of interest.

Appendix 1. Interview guidelines (Source: Authors).

- How do you think the use of textile factories should be organized so that it is of the best benefit to the local people?
- What is your view on the utilization of textile factories for urban regeneration?
- How do you evaluate the location and accessibility of the textile factories in relation to urban regeneration?
- What factors contribute to effective urban regeneration?

Appendix 2. Sample data from Atlas.ti (Source: Authors).

The figure displays two screenshots of the Atlas.ti software interface, showing text analysis of urban regeneration effectiveness. The interface includes a menu bar (Analyze, Import & Export, Tools & Support, Document, Tools, View) and a toolbar with various analysis tools (e.g., Auto Coding, Focus Group Coding, Rename, Delete, Unlink, Flip Link, Relation, Comment, Word Cloud, Word List, Search Document). The main window shows a document titled "Urban regeneration effectiveness - ATLAS.ti" with text excerpts and a list of codes on the right.

Top Screenshot:

Document: Urban regeneration effectiveness - ATLAS.ti

Text excerpts:

- the city, and it's absolutely closer to the eastern district of the city than it is to the center of the city.
- Our customers, we have the game about the transformation from the coal to the atomic energy. So it was a struggle sometimes for them. So they put, which is usually the way, so they put some creative industries there and they let them operate in the small locals there.
- And it was interesting, you know, because it had been building some attention, awareness of the place. Yes, it was some kind of promotional activity, but also it had, I think, enormously maintenance of the site. It wasn't abandoned.
- There were people inside doing their things. And after some time, after the success of Manufaktura, after EC1, after R&D Incubator, and after Monopolis, some investors were interested to put their money in that project, and they did. So what was the first thing that they've done? Demolished it.
- And they left just this frame, as I said, with the wall of bricks, and inside they are building something new. But it's still better than to, you know, completely abandon the idea and to leave these ruins. So I think that the localization is the vital thing.
- Accessibility in the meaning that you are able to get there, to cancel this communication adventure, is really important. I think that it's, you know, somehow more important, I think, in my opinion, than the architectural objectiveness. Thank you very much.

Codes (Listed on the right):

- 6:16 Our customers, we have t...
- 6:17 There...
- 6:18 So what was t...
- 6:19 So I think that the...

Bottom Screenshot:

Document: Urban regeneration effectiveness - ATLAS.ti

Text excerpts:

- and when you already allocate a function a new function You should already take into account all of the factors Especially regarding the Accessibility and location for example regarding the manufacturer.
- I think it has a really I guess because I'm not so tips Like you but because of the accessibility location parking lot anything it was a really Great factor that helped to success this project. Yes. Do you think how is there? Like if you look at this map, this is where we are basically looking for the historic urban core You can see that the factories are everywhere.
- Yes, so those factory centers some revitalized project they They can be accessed from any part of this very city center. You don't have to only go to see the Industrial heritage you can go here here. There is some small factories everywhere.
- So And those changes those changes from the architectural view make it accessible so with people of With some moving disability. So those people are easily accept I mean accessed by anyone and If we talking about a Bit different scale when the factory is working only employees going there, right? And then it's closed and that it and now everyone can go there everyone can see it and It's increasing accessibility and increasing the interest and I don't know Okay, so you think that and Just lost my point. Okay, do you think that? The location and accessibility is quite good from the point of the urban regeneration Yeah, and it has a really great appropriateness that You can allocate Different or multifunctional uses.

Codes (Listed on the right):

- 1:3 the manufa...
- 1:4 this is where we are ba...
- 1:5 So a...
- 1:6 If we talking...
- 1:7 the loca...

Appendix 3. Respondents' profiles of Łódź (Source: Authors).

Respondents	Gender	Age	Educational level	Occupation
R01	Male	45	Master of architecture and town planning	Urban planner
R02	Female	29	Master of architecture	City architect's bureau
R03	Male	40	Ph.D. in urban revitalization	University lecturer
R04	Male	50	Master of architecture and urban planning	Architect and urban planner/consulting firm
R05	Male	39	Master of architecture and urban planning	Architect/consulting firm
R06	Male	48	Ph.D. in economics	University lecturer
R07	Male	52	Ph.D. in city and regional management	University lecturer
R08	Male	45	Ph.D. in economics	University lecturer
R09	Male	41	Master of law and administration	Consulting expert
R10	Male	34	Ph.D. in urban and regional socio-economic planning	University lecturer
R11	Male	34	Ph.D. in architecture and urban planning	University lecturer/architect
R12	Female	39	Ph.D. in architecture and urban planning	Freelancer designer
R13	Male	42	Ph.D. in architecture and urban planning	University lecturer
R14	Male	40	Master of architecture and urban planning	Architect/consulting firm
R15	Female	60	Master of monument protection	Planer in the regional planning office
R16	Female	43	Master of geography	Regional planer in the regional planning office
R17	Male	54	Master of geography	Regional planer in the regional planning office
R18	Female	50	Ph.D. in architecture and urban planning	University lecturer/architect
R19	Male	67	Master of restoration and conservation of urban complexes	Architect
R20	Female	38	Ph.D. in architecture and urban planning	Freelancer designer
R21	Female	66	Ph.D. in architecture and urban planning	University lecturer
R22	Female	54	Master of monument protection	Architect
R23	Male	45	Master of history	CEO watch tourism organization
R24	Female	43	Master of marketing	Expert in heritage marketing
R25	Female	37	Master of culture studies	Freelancer
R26	Male	50	Master of culture studies	Tour guide
R27	Female	26	Master of history	Central museum of textile
R28	Male	54	Ph.D. in history	Central museum of textile
R29	Male	38	Ph.D. in history	University lecturer
R30	Male	50	Master of heritage studies	Director of cultural centre

Appendix 4. Respondents' profiles of Yazd (Source: Authors).

Respondents	Gender	Age	Educational level	Occupation
R01	Male	45	Master of architecture	Interior designer
R02	Female	40	Bachelor of architecture	Conservation architect
R03	Female	33	Master of architecture	Conservation architect
R04	Female	33	Master of architecture	Conservation architect
R05	Male	31	Ph.D. in conservation and restoration of urban heritage	Consulting firm
R06	Male	29	Master of architecture	Tour guide
R07	Male	57	Master of architecture and urban planning	Consulting firm
R08	Male	35	Master of conservation and restoration of urban heritage	University lecturer
R09	Female	32	Master of architecture	Architect
R10	Male	44	Ph.D. in conservation and restoration of urban heritage	University lecturer/ consulting firm
R11	Female	56	Ph.D. urban planning	Urban planner at municipality
R12	Male	53	Master of architecture and urban planning	Consulting firm
R13	Male	37	Master of architecture	Architect at consulting firm
R14	Female	39	Master of architecture	Architect at municipality
R15	Male	35	Master of history	Historian at Cultural Heritage, Handicrafts and Tourism Organization of Yazd province
R16	Female	54	Master of urban planning	Urban planner at municipality
R17	Female	42	Bachelor of conservation and restoration of historical buildings	Tour guide
R18	Male	67	Master of architecture and urban planning	Conservation architect
R19	Male	56	Ph.D. in architecture and urban planning	University lecturer
R20	Female	38	Master of economics	Expert at municipality
R21	Female	35	Bachelor of urban planning	Urban planner at consulting firm
R22	Male	46	Master of conservation and restoration of urban heritage	Conservation architect at Cultural Heritage, Handicrafts and Tourism Organization of Yazd province
R23	Male	57	Master of economics	Expert at Cultural Heritage, Handicrafts and Tourism Organization of Yazd province
R24	Female	34	Master of conservation and restoration of urban heritage	Tour guide

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