



## Article

# Revitalization of Mill Island Cultural Facilities as a Factor of the Region's Attractiveness and Competitiveness

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**Abstract:** In 2004, far-reaching changes in the appearance of Mill Island were triggered by the decisions of Bydgoszcz city authorities. The city authorities' decision to transform the area into a space of cultural significance has given it a new life. Mill Island has become the city's landmark. The article attempts to determine the significance of revitalization for the preservation of Mill Island's unique cultural heritage as well as identify the factors improving the region's competitiveness. To pursue the research objectives, the authors conducted a survey among the residents of the city of Bydgoszcz and its immediate surroundings. As the aim of the study, the authors indicated the importance of the revitalization of Mill Island for the preservation of cultural heritage and the improvement of the competitiveness of the place from the point of view of the inhabitants of Bydgoszcz. It was found that Bydgoszcz is most commonly associated with cultural tourism. The respondents pointed to the fact that the cultural heritage of Mill Island, which enhances the city's attractiveness and increases the region's competitiveness, has been preserved.

**Keywords:** cultural heritage; regional competitiveness; Bydgoszcz; Mill Island; revitalization



**Citation:** Józwiak, M.; Sieg, P.; Posadzińska, I. Revitalization of Mill Island Cultural Facilities as a Factor of the Region's Attractiveness and Competitiveness. *Sustainability* **2022**, *14*, 6997. <https://doi.org/10.3390/su14126997>

Academic Editors: Marc A. Rosen, Adam R. Szromek and Mateusz Naramski

Received: 26 April 2022

Accepted: 3 June 2022

Published: 8 June 2022

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## 1. Introduction

Revitalization processes currently constitute part of the changes in degraded cities. Revitalization leads, in a sustainable manner, to the creation of new or renovation of existing tourist and urban spaces, which become places for socialization and recreation, not only for tourists but for the local residents primarily.

The study was carried out among the residents of Bydgoszcz and its surroundings, because, as Cossons notes, industrial heritage, in addition to its historical and technical values, exerts a strong impact on the social and cultural aspects of the community life [1]. As indicated by the authors in their previous studies on the development of tourism in post-industrial Bydgoszcz sites, these facilities are closely linked to the city's history and identity. Access to attractive, interestingly developed post-industrial facilities, which are associated with the Bydgoszcz city space, turned out to be of significance for the residents. Former industrial activity has been relocated to the city center [2]. To exemplify activities supporting city competitiveness, a revitalization project implemented in a post-industrial area closely associated with community culture was selected.

The article aims to determine the Bydgoszcz residents' perspective on the significance of Mill Island's revitalization for cultural heritage preservation and improvement of the area's competitiveness. The authors decided to distinguish between the impact of two factors on the city's competitiveness—cultural heritage preservation and facility revitalization in accordance with the principles of sustainable development. The factors increasing the level of the region's competitiveness, as per the residents, have also been indicated.

## 2. Theoretical Aspects of Regional Competitiveness

Competition exists in all aspects of social, economic, and cultural life. Many researchers, representing different fields of science, have attempted to take up the issue of

competitiveness and indicate its impact on various aspects of social and economic life. The first works on this subject, authored by Michael E. Porter, were published in the early 1980s. The topic of competitiveness, raised by the author, initially referred to the functioning of enterprises [3–5].

Competitiveness nowadays has become an important aspect of regional or local development. Analysis of this phenomenon, in the context of regions, is directly related to the pursuit of local economies to increase their value and become more attractive. It is worth noting that competitiveness is primarily a relative feature. This results from achievement evaluation through the prism of the level of the results accomplished and requires additional comparison of a given facility/site with other facilities/sites [6,7].

Given its weight and importance, competitiveness is currently one of the more frequently discussed and studied subjects. Many definitions of this concept can be found in the literature on the subject. Only one aspect, namely regional competitiveness, is discussed in this article, however.

Competitiveness has been broadly described in both national and international literature. According to Prabawani et al. [8], it takes two forms: global, meaning a country's ability to sustain economic growth, and regional, which contributes to the development of a prosperous business environment. One important aspect raised by the authors is that regional competitiveness affects long-term economic growth, for each region creates value for the population living in its area. The fact that regional competitiveness initiates global competitiveness entails an important element in its development [9].

Kasztelan A. [10] emphasizes that one of the factors determining a region's competitiveness entails socio-economic attractiveness, which is conditional on clean space, inter alia. The conditioning factors also include the level of economic development.

In a study by Jabłońska-Karczmarczyk K., regional competitiveness has been defined as the ability to obtain capital funds. One additional aspect raised by the author entails the fact of maintaining production factors in the region, which can determine its competitiveness [11].

Regional competitiveness has also been defined by Storper, for whom it is “the ability of an [urban] economy to attract and maintain firms with stable or rising market shares in an activity while sustaining stable or increasing standards of living for those who participate in it” [12,13].

Regional competitiveness can take many forms. One of the most common dimensions entails easy access to new investors. From a long-term perspective, this is associated with economic development and improvement in the local residents' quality of life. One additional aspect of regional competitiveness entails the improvement of the regional environment, for the functioning of already existing enterprises, but also for enterprises that are just starting their activity [14,15].

Tourism constitutes one of the most important issues in the discussion of regional competitiveness. Its strong development in recent years has contributed to the growth of tourism in various regions, and consequently to increased income. Regions have therefore begun to compete with one another. The regional management's efforts aimed at attracting new tourists, but also at improving the conditions of the local community's functioning, thus constitute an important aspect. Tourism has become one of the regional development and competitiveness increase factors. The regions promoting cultural heritage and sustainable tourism activity have greater chances of gaining a competitive advantage [16–18].

### *2.1. Factors Affecting Regional Competitiveness*

It can be said that competitiveness constitutes a relative characteristic of a given region. It is commonly defined as a certain process or certain activities of people or groups of people, which significantly affect the determination of a given territory's competitiveness characteristics. Attempts to define these features can be found in the literature on the subject. Very often they are mentioned as factors of regional competitiveness [19,20].

Various factors determining a region's ability to compete have been indicated in the literature. Some of the most frequently mentioned factors of regional competitiveness include natural resource accessibility, the quality of transportation infrastructure, the quality of public administration, the business conditions, the level, and scope of services, the number of enterprises operating in the region, the prospects for attracting investors, availability of jobs, the number of higher education institutions and the university level/s, the region's historical, cultural conditions, etc. [19,21–26].

## 2.2. Regional Cultural Heritage and Facility/Site Revitalization

Historical and cultural conditions exert a significant impact on regional competitiveness. According to a definition developed by UNESCO, culture entails “a set of distinctive spiritual, material, intellectual, and emotional features of society or a social group, that encompasses, in not only art and literature, but lifestyles, ways of living together, value systems, traditions and beliefs” [27].

It is important to note the differences existing between the definitions of culture and cultural heritage, however. Cultural heritage is defined through places, things, or practices that a given society considers important and worth preserving. Currently, the concept of cultural heritage has expanded considerably, due to the increasing amount of scientific research on the impact of heritage on various aspects of human life. It should also be noted that cultural heritage encompasses, but is not limited to, customs, rituals, ceremonies, indigenous knowledge, social customs, traditions, arts, crafts, music, politics, history, environmental practices, etc. [28–30].

The link between culture and economic development should not be disregarded either. Every human economic activity is a social process occurring in a cultural environment. The aforementioned cultural environment can encompass, *inter alia*, the national cultures in which business entities have been formed and function. Moreover, these entities have a significant impact on the economic decisions of the residents and entrepreneurs [31].

In addition to the above-mentioned link between cultural heritage and economic development, it is worth mentioning that, from an economic perspective, both culture and cultural heritage are treated as regional resources. For this reason, the relationship between a given region's cultural heritage and its economic development can be considered on two planes: sources of revenue for the region and the rationale for generating revenue. It is worth keeping in mind that the revenues generated by displaying cultural heritage have a positive impact on the inhabitants of a given region. New jobs, improvement of transportation, catering or commercial infrastructure, etc., can serve as examples here [32–35].

Cultural heritage, and its protection in accordance with the principles of sustainable development especially, constitute one of the premises contributing to the improvement of local community functioning. It mainly affects the region's tourist and investment attractiveness as well as its brand. Displays of cultural heritage, which are a source of aesthetic, scientific, and historical values, contribute to the development of local societies and regions [36–38].

In Polish law, revitalization processes are regulated by the Act of 9 October 2015 (Journal of Laws 2015, item 1777). The Act, adopted by the Sejm of the Republic of Poland, explains what revitalization is, according to the regulations adopted. As per the Act, revitalization “constitutes a process of leading out of the crisis state of degraded areas, conducted in a comprehensive manner, through integrated activity for the benefit of the local community, space, and economy, territorially concentrated, carried out by revitalization stakeholders, on the basis of a communal revitalization program” (translated by M.J.). One important element of the revitalization process entails the fact that not only tourists, but the local residents of the revitalized area as well can use and enjoy the changed, developed infrastructure [39,40].

Attempts to define “revitalization” were made in the United States in the mid-19th century. Currently, this topic is addressed by many researchers from various disciplines, such as economics, management, architecture, and civil engineering [40].

Revitalization emerges in a response to physical, economic, cultural, and social degradation of urban space. It is very often referred to as a multifaceted, long-term, or staged-over-time activity. It concerns physically, socially, and economically degraded objects. It refers to physically, socially, and economically degraded sites/facilities. One important function of revitalization entails the integration of economic, ecological, and spatial objectives—with social objectives [41,42].

One of the main revitalization objectives which determine all the related activities is to change the economic basis of the area's functioning. These economic bases are inscribed in the functions of the area, and by that, in the change in the role the area plays in the entire city space. New spatial development must therefore correspond to the new functions of the area and bind it to the city into a coherent whole. The change in the functional structure also affects the economic activity in the area. New business activity, under different spatial conditions, should, first of all, bring income and create jobs [43].

One of the key revitalization process aspects entails its social impact. Over the years, researchers have focused on the link between revitalization and local development. The main objectives of local development include, *inter alia*, reduction of unemployment, raising the standard of living for local residents, rational spatial management, increasing the residents' sense of security, and above all, increasing the population's income and the local government's revenue. One additional element linking revitalization with local development is the increase in the inhabitants' activity in a given region. Revitalization affects service infrastructure development. As Małecka K. [44] has indicated in her study, revitalization exerts a positive impact on cultural heritage preservation, increasing the residents' identification with the area revitalized. The revitalization element crucial in the process of community building entails the development and preservation of culture and/or restoration of the environment and culture. Local residents thus are expected to become engaged in the works aimed at the preservation of local cultural and historical values [44–47].

Sustainable development goals are embedded in revitalization processes. The concept of sustainable development itself is oriented towards actions to reduce social interest issues in a given area. The concept is meant to increase the local community's quality of life. Reference to sustainable development as a process mainly aimed at a strive for full satisfaction of various needs, without reducing the potential for future generations, can be found in the literature on the subject. Future generations should at least have the same opportunities as previous generations. According to the principles of sustainable development, revitalization of given facilities or sites should involve the preservation of historical and cultural values and, above all, respect for the natural environment. Moreover, revitalization should be carried out in a way so as not to cause degradation or irreversible changes to the given place. The core message purported by the concept of sustainable development refers to the emphasis on finding a solution, so as to combine the intangible and tangible values that are important from the social perspective and could be lost if no action is taken in this regard [48–52].

The process of changes on Mill Island began in 2005 when the Resolution of the Bydgoszcz City Council No. XLIII/914/2005 of 23 February 2005 was passed. Mill Island's revitalization was divided into four stages. The first stage, "Revitalization for entrepreneurship development", involved the renovation of one of the buildings (Center for Work and Entrepreneurship), renovation of quays, and construction of three footbridges. The work was carried out at the turn of 2005 and 2006. The next stage of Mill Island's revitalization entailed "Renovation of cultural heritage objects". During this part of the revitalization process, the buildings on Mill Island (the Archaeological Museum, the Art Museum, the European Money Center, Wyczółkowski House) were renovated. This stage, as the only one in the entire process, was financed from the Norwegian fund and implemented in 2006–2008. The third stage entailed the "Construction of recreational infrastructure". This stage was implemented in the years 2008–2011 and involved, *inter alia*, renovation of the historic Mennica Street, construction of alleys and boulevards among the park vegetation,

construction of an amphitheater, a science garden, a children's game park, a city beach with sea sand, and construction of an Opera Nova panorama observation deck. The fourth stage, "Revitalization of degraded sporting areas", began in 2010 and was completed in 2012. Its scope included, inter alia, construction of a marina and repair of quays and fish passes. The final stage of the changes on Mill Island involved the renovation of the Rother Mills and the adaptation of these facilities for use. This stage was possible owing to the program "Culture Park. Revitalization of Rother Mills on Mill Island in Bydgoszcz—stage 1". Rother Mills revitalization began in 2017, and the work is scheduled to be completed in 2022 [53–57].

### 2.3. Revitalization as an Element of Sustainable Development

The concept of sustainable development was first used in a report published by the UN World Commission on Environment and Development in 1987 and then popularized in 1992 at the Rio de Janeiro Conference. The concept of sustainable development itself arose from the development of different spheres of the economy. Businesses, local communities, land use, and other elements have a significant impact on the environment. It was, therefore, crucial to propose changes that would have a positive impact on the ecosystem, but at the same time would involve changes in human behavior. It was the concept of sustainable development that became the answer to the changes taking place [58,59].

The concept of sustainable development itself, although a relatively new concept, has been numerously addressed both in the world literature as well as in Poland. Many scientists have attempted to define what sustainable development is. Sztumski W. [60], in his study, emphasized that sustainable development is a process which combines the needs of the present generation with the ability to meet the needs of future generations. According to Turner R.K. [61], sustainable development requires the maximization of the net benefits of economic growth in order to maintain access to services or preserve the quality of natural resources. Definitions of sustainable development can also be found in Polish legislation. The Act of 27 April 2001, Environmental Protection Law (Journal of Laws 2021, item 1973) defines what sustainable development is, by elaborating the concept as "social and economic development, which entails a process of political, economic, and social activity integration, while maintaining the natural balance and sustainability of basic natural processes, in order to ensure the satisfaction of the basic needs of particular communities or citizens, for both the present generation and future generations" (translated from the original wording in Polish) [62].

Revitalization processes have become an important aspect of sustainable development. The principles of sustainable development should constitute the basis of revitalization. The revitalization process itself, its nature, and the complexity of the various accompanying processes, often cause revitalization to be identified with construction work only, the cost and complexity of which significantly affect its economic assessment. Such an approach results in a depletion of revitalization processes, limitation, or, in some cases, complete elimination of positive aspects in the economic, social, and cultural dimensions, which should result from the entirety of revitalization in accordance with the principles of sustainable development. That is why, as noted by Williamson T.J. et al. [63], revitalization planning without taking the principles of sustainable development into account is not the right solution for local communities. Implementation of sustainability principles at the programming, planning, and preparation stages of the process constitutes an important element [64–66].

The process of neglected area revitalization is intended to improve the image and functionality of such sites/facilities, as it enables the reduction of poverty areas in the city and the creation of new jobs. The process of site revitalization and renewal increases the market value of gives facilities and their surroundings. Local companies create new jobs and gain inspiration to create new innovative products or services. Sustainable revitalization offers a possibility to strengthen intergenerational bonds and ensure social cohesion [67,68].



### 3. Object of Study and Methods

#### 3.1. Object of Study—Mill Island

Bydgoszcz is located in central Poland, in the Kuyavian-Pomeranian Voivodeship, on a bend of two rivers: Brda and Vistula. Owing to its architecture and post-industrial buildings, the city's central point—Mill Island—has become a cultural event hub as well as a strolling and entertainment venue for the inhabitants of Bydgoszcz. What is more, Mill Island has become the most recognizable spot on the tourist map of Bydgoszcz, and it most definitely can be deemed the city's landmark. For this to materialize, however, Mill Island had to undergo many changes. As a result of industrial restructuring, the original designation of many Mill Island buildings was changed. Mill Island had lost its industrial character in the 1970s, and since then, Mill Island fell into oblivion, while its surroundings began to undergo gradual degradation and devastation. It was not until 2004 that the Bydgoszcz city authorities decided to tend the immediate surroundings of Mill Island and transform the area into a recreational and touristic venue of cultural significance. Both entirely modernized facilities, as well as those whose revitalization has just begun or is in progress, can be found on Mill Island. The former include, among others: the District Museum buildings (the Leon Wyczółkowski House, the European Money Centre, the Miller House), the Nova Opera House, hydraulic engineering monuments, and Old Granaries. The second group of facilities includes, inter alia, post-industrial buildings (the Old Groats and Turbine Factory, Old Refinery, and the Old Dyeworks buildings) and the Rother Mills. In 2019, an institution was established—Culture Park, whose main task is to develop the Rother Mills for cultural activities. The Culture Park is additionally intended to promote the achievements of science and technology as well as create space for cultural development. Rother Mills is a facility still undergoing restoration works [53,54,69–71].

Post-industrial facility development in accordance with the principles of sustainable development has been an increasingly popular trend, also noticeable in Bydgoszcz. Revitalization of neglected sites, in order to preserve their cultural heritage, is becoming an increasingly popular activity. It enables creative impacts on the residents' lives and allows for protection and the assignation of new roles to monuments. One of the key elements discussed in the article is the cultural heritage of Mill Island, or more precisely, the blending of Mill Island's revitalization processes with cultural heritage preservation. With such a combination, opportunities open for the development of the tourist region's competitive advantage and entrepreneurship [72,73].

#### 3.2. Materials and Methods

As part of the research objective implementation, a desk study was conducted, along with a review of domestic and foreign literature on the subject. The first part of the study involved a survey developed using a free online questionnaire tool. The sampling process was divided into several stages. Initially, the study population (community) was defined. The subjects of the study were the residents of the city of Bydgoszcz and its immediate surroundings (Bydgoszcz County). The channels of questionnaire availability were then defined. In the next stage, the spatial scope of the study and the time of its implementation were determined. In the category of closed questions, multiple-choice questions and ordinal scales of certain phenomena were used. The questionnaire concerned the study of the impact of revitalization on the preservation of the cultural heritage of Mill Island facilities. The survey was conducted in February/March 2022, on a group of 275 respondents.

Out of the questionnaires collected, 37 needed to be excluded from the study. This was due to the fact that the authors indicated the residents of Bydgoszcz and the immediate vicinity (Bydgoszcz County) as the subjects of the study. The rejected questionnaires were received from respondents who indicated the Kuyavian-Pomeranian Voivodeship, excluding Bydgoszcz and the Bydgoszcz County, as well as the areas outside the Kuyavian-Pomeranian Voivodeship as their place of residence.

Table 1 presents the metrics contained in the questionnaire. The study involved 139 female respondents, constituting 58% of the total number of respondents. The most numerous group,

in terms of age, entails the range of 21–30 years of age. This group of respondents comprises 41% of women and 57% of men. The most commonly indicated respondent sample level of education was secondary education. A total of 43% of the respondents were students, and 32% were so-called white-collar (office/administration/non-manual) workers.

**Table 1.** Metrics—research sample structure.

		Female	Male	Total
% share		139	99	238
		58%	42%	
Age				
	≤20	30%	20%	26%
	21–30	41%	57%	47%
	31–40	14%	6%	11%
	41–50	6%	9%	8%
	51 and over	8%	8%	8%
Education				
	Primary	11%	3%	8%
	Secondary Vocational	10%	6%	8%
	Secondary General	44%	46%	45%
	College/University	35%	44%	39%
Profession				
	Office/Administration/ Non-manual	32%	31%	32%
	Manual labor	12%	18%	14%
	Student	48%	36%	43%
	Pension holder	5%	9%	7%
	Unemployed	3%	5%	4%
Place of residence				
	Bydgoszcz City	75%	74%	75%
	Bydgoszcz County	25%	26%	25%

Source: own calculation and elaboration.

The questionnaire was divided into five parts. The first part consisted of six questions. The respondents were asked about the type of tourism they associated the city of Bydgoszcz with. They were also asked to indicate which of the tourist attractions was most recognized. In the next question, respondents were asked to indicate the frequency of their visits to Mill Island, broken down into spring/summer and autumn/winter. The respondents were additionally asked about their motives for visiting Mill Island.

The questions in the second part of the questionnaire referred to the respondents' opinions about the cultural heritage of Mill Island, including an assessment of the attractiveness of its cultural heritage and the facilities that have retained it to the greatest extent (a maximum of four facilities could be indicated). If, answering the question concerning whether Mill Island's cultural heritage has been preserved, a respondent selected "definitely not", or "no opinion", he/she was redirected to the third part of the questionnaire, which was intended to survey the respondents' opinions regarding the revitalization of Mill Island's facilities.

In the third part of the questionnaire, the respondents were asked to rate, on a scale from 1 to 5 (where 1 means a negative and 5 means a very positive impact of revitalization on Mill Island facilities), the effects of Mill Island's revitalization. The respondents were then asked to indicate whether the revitalization of Mill Island had affected their assessment of the city's attractiveness.

In the next two questions, in part four of the questionnaire, the respondents were asked to rate the factors affecting the city's competitiveness. The factors mentioned included, among others: access to public transportation, development of accommodation facilities, access to jobs, facility revitalization, display of cultural heritage, etc. The last

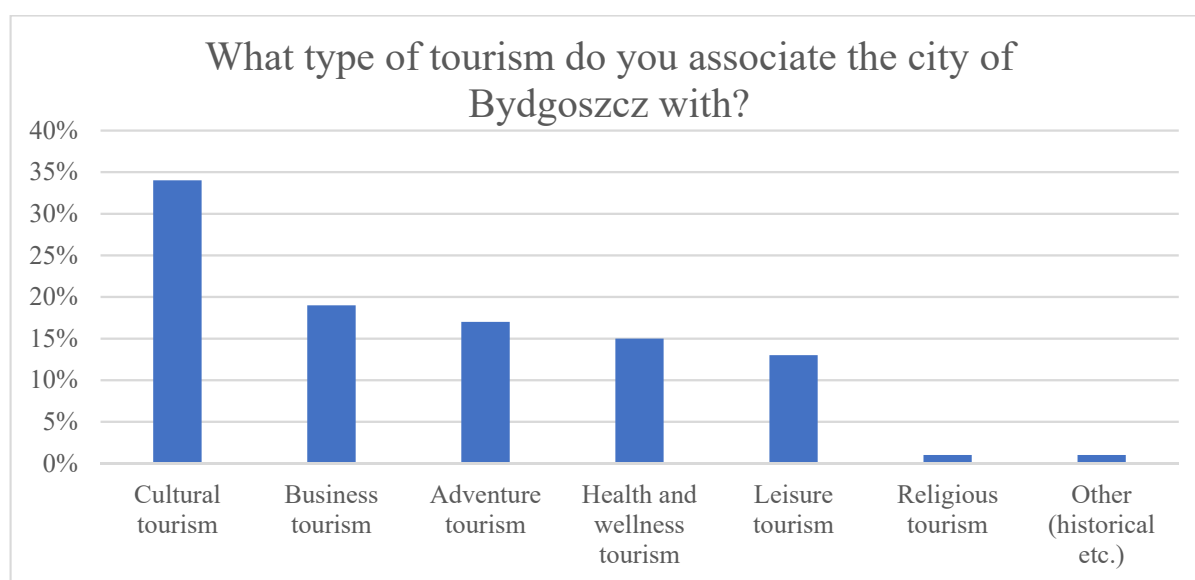
question referred to the respondents' opinion on the impact of Mill Island's revitalization on increasing the Bydgoszcz City's competitiveness.

The final part of the questionnaire presented a metric containing questions regarding the respondents' gender, age, education, type of occupation, and place of residence.

The Statistica package was used to analyze the correlation between the assessment of the impact of Mill Island's revitalization on the attractiveness of the city, and the assessment of that impact on the competitiveness of the city. The Spearman rank correlation coefficient was determined.

#### 4. Empirical Study Results

The type of tourism most commonly associated with the city of Bydgoszcz was cultural tourism—38% of the responses, followed by business tourism (19% of the responses). Slightly fewer respondents, i.e., 17% of the responses, indicated leisure tourism. The response distribution is shown in Figure 1.



**Figure 1.** Types of tourism associated with the city of Bydgoszcz. Source: own calculation and elaboration.

Table 2 presents the answers to the question regarding the most recognized tourist attractions of Bydgoszcz, in descending order. Mill Island received the most indications, followed by the Nova Opera House and the Old Town. The Bydgoszcz Autograph Walkway was deemed the least recognizable.

In the following questions, the authors aimed to identify how often the respondents visited the study facilities, depending on the season. During colder seasons, i.e., autumn and winter, the intensity of the time spent on Mill Island decreased significantly (Figure 2). A total of 25% of the respondents did not visit the island in fall and winter, while only 7% of the respondents did so in summer.

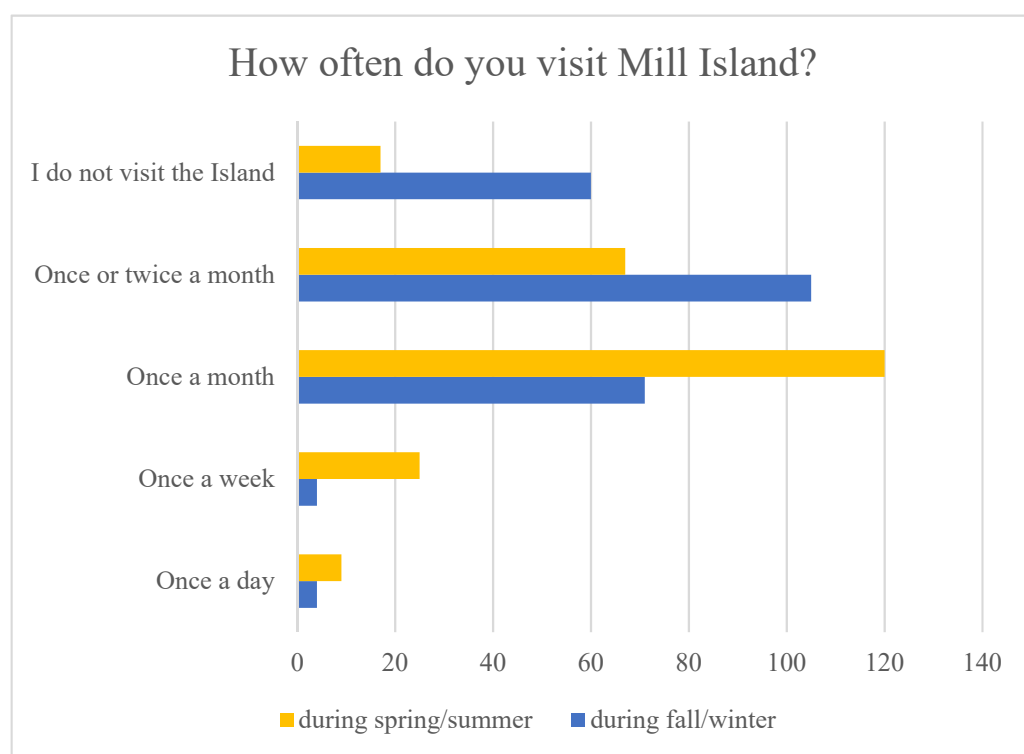
The most common motives for visiting Mill Island, as indicated by the respondents, included recreation (195 responses, i.e., 84%), followed by dining (64%) and participation in the cultural events held at the site (53%). Sporting events were much less commonly indicated as a reason for visiting the site, i.e., marked in only 12% of the responses. A total of 10% of the respondents claimed to pass Mill Island on their way to work or school. Only 10 persons selected the "I do not visit the Island" answer, which constituted 4%.



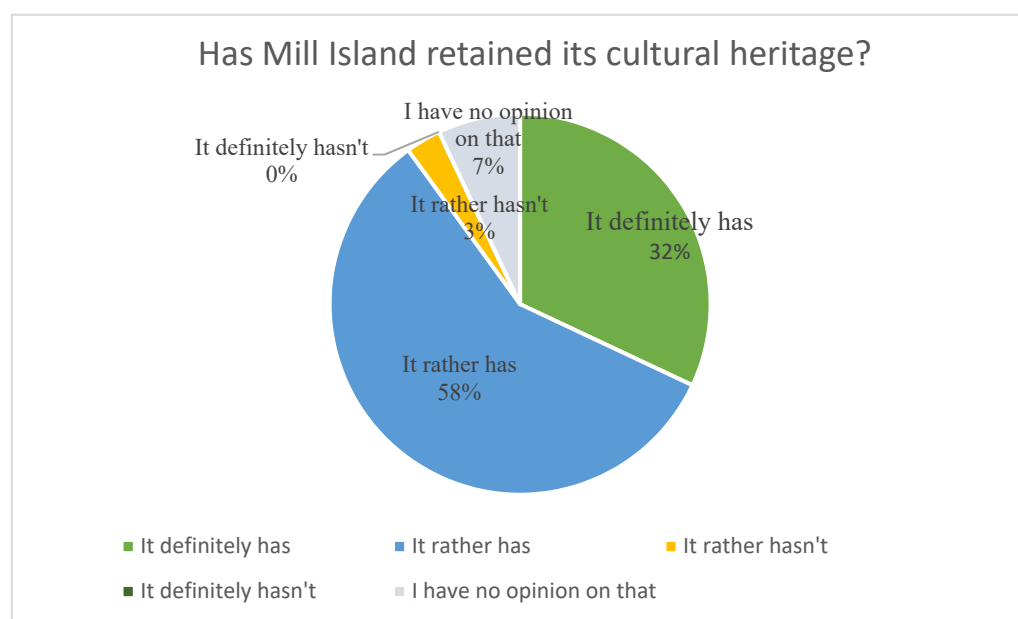
**Table 2.** Most recognizable tourist attractions of Bydgoszcz.

Which of the Bydgoszcz City's Tourist ATTRACTIONS Do You Consider Most Recognized?		
Tourist Attraction	Number of Answers	Share %
Mill Island	210	31
Nova Opera House	179	26
Bydgoszcz Old Town	110	16
Granaries on the Brda River	85	13
TeH2O Trail	34	5
Bydgoszcz Canal	32	
Other (Mysłecinek, Exploseum, the Archer Statue, Valley of Death, etc.)	19	3
Casimir the Great Park and the Deluge Fountain	5	1
Bydgoszcz Autograph Walkway	3	0

Source: own calculation and elaboration.

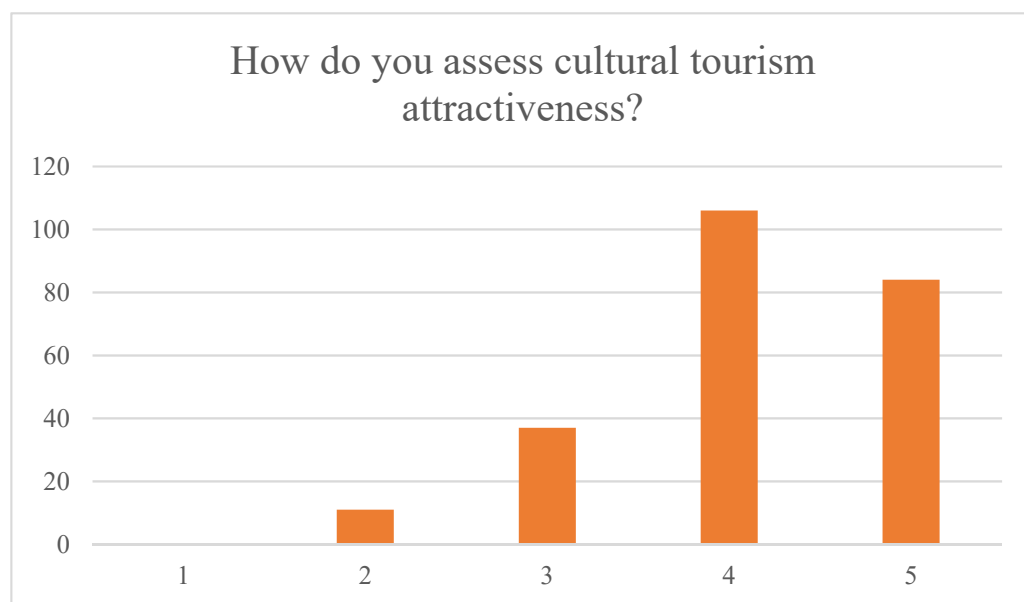
**Figure 2.** Frequency of Bydgoszcz and surrounding area residents' visits to Mill Island. Source: own calculation and elaboration.

The key survey issue was to determine whether Mill Island has retained its cultural heritage, as per the residents of Bydgoszcz and the Bydgoszcz County. The response distribution is presented in Figure 3.. Most of the respondents answered “It rather has”—62%. The answer “It definitely has” was selected by 35% of the respondents. There was no response indicating that the cultural heritage of Mill Island has definitely not been preserved, however.



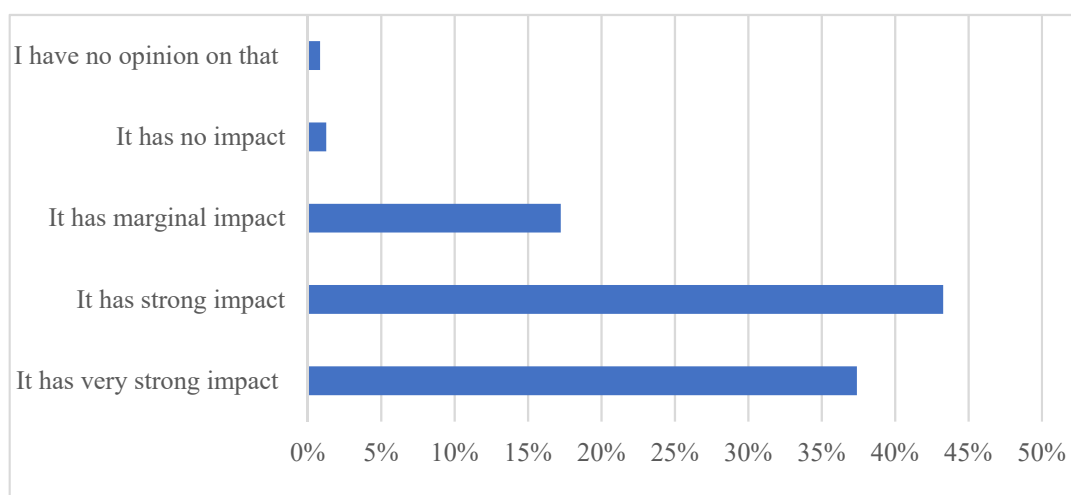
**Figure 3.** Opinions regarding the preservation of cultural heritage on Mill Island. Source: own calculation and elaboration.

The data in Figure 4 show that cultural tourism has been rated highly. Ratings 4 and 5 (on the 1–5 scale, 1 meant definitely unattractive and 5 a very attractive type of tourism) predominated.



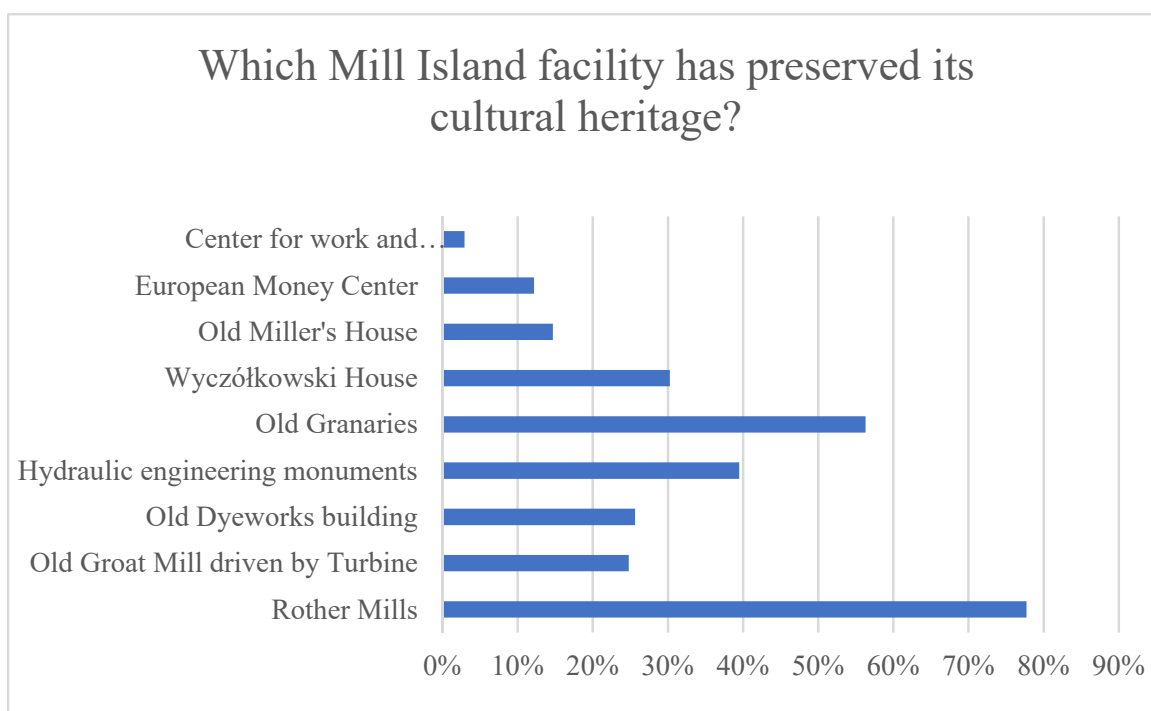
**Figure 4.** Cultural tourism attractiveness (own calculation and elaboration). Source: own calculation and elaboration.

Figure 5 shows the response distribution for the question regarding the preservation of cultural heritage and its possible impact on the attractiveness of Mill Island. A very strong impact was indicated by 37% of the respondents, while 43% believed it had a strong impact. Marginal dependence in this regard was indicated by 17% of the respondents. Only three persons, i.e., 1% of all the respondents, answered that cultural heritage had no impact on the study site's attractiveness.



**Figure 5.** Impact of cultural heritage and its current condition on the attractiveness of Mill Island. Source: own calculation and elaboration.

Next, the respondents were asked to rate the Mill Island facilities which have retained their cultural heritage (Figure 6). The respondents strongly indicated Rother Mills—78% of the responses. More than half of the surveyed (56%) considered the Old Granaries a facility that has retained its cultural heritage. The hydraulic engineering monuments (39%) and the Wycółkowski House (30%) followed in the ranking.



**Figure 6.** Assessment of Mill Island facilities' cultural heritage preservation. Source: own calculation and elaboration.

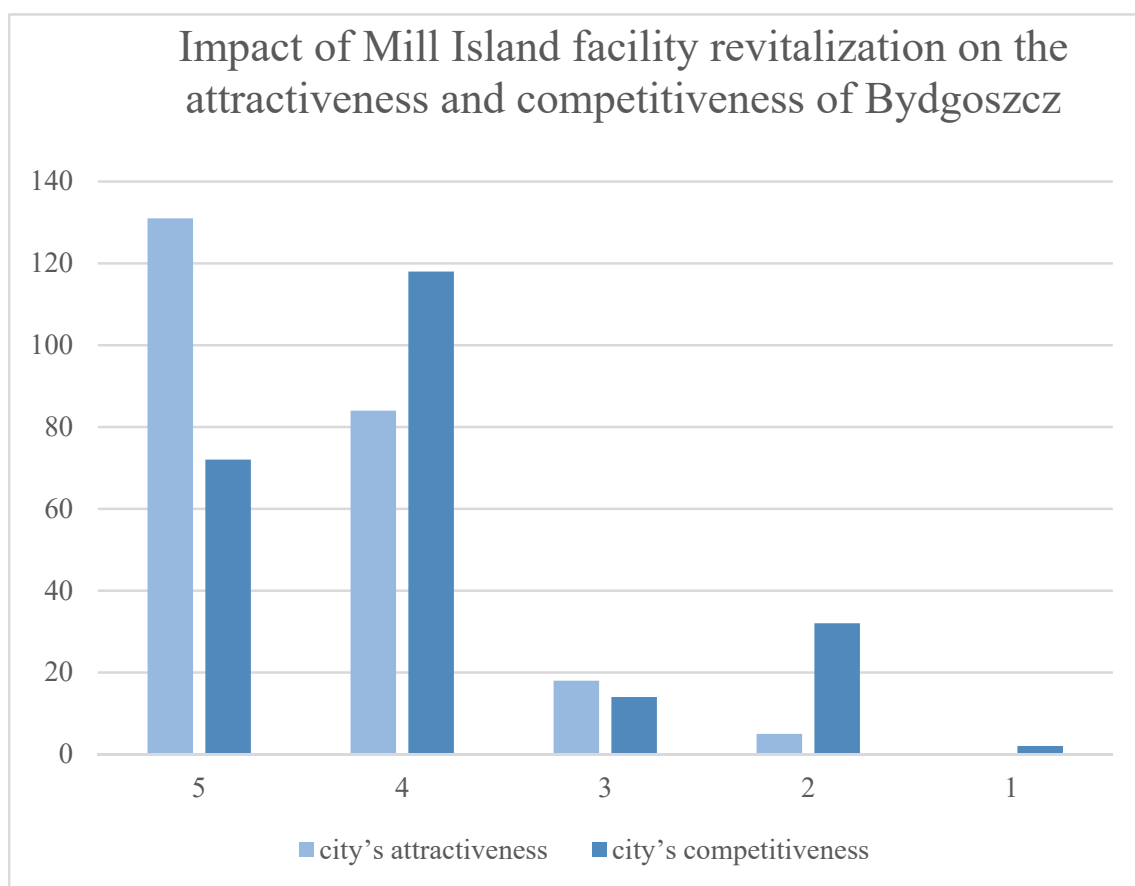
The respondents rated the facilities located on Mill Island. Table 3 shows these facilities, and the scale (from 1 to 5) values selected most frequently for each.

**Table 3.** Assessment of Mill Island facility revitalization.

Assessment of Mill Island Facility Revitalization	
Facility	Dominant
Rother Mills	5
Old Groat Mill driven by Turbine	4
Old Dyeworks building	3
Old Refinery	3
Hydraulic and engineering monuments (City Sluice, Farny Weir, Ulgowy Weir)	4
Old Granaries (White Granary, Mill Tavern, Red Granary)	5
Wyczółkowski House	4
European Money Center	4
Center for Work and Entrepreneurship	4

Source: own calculation and elaboration.

The authors of the study attempted to determine the impact of Mill Island facility revitalization on the attractiveness and competitiveness of Bydgoszcz (Figure 7). After analyzing the responses obtained, the Spearman rank correlation coefficient was employed to determine the strength of the variable correlation. Using the Statistica package,  $r_d = 0.48$  was determined, signifying medium correlation.

**Figure 7.** Impact of Mill Island facility revitalization on the attractiveness and competitiveness of Bydgoszcz. Source: own elaboration.

In order to examine the response distribution in detail, a table of counts was generated using the Statistica package (Table 4).

**Table 4.** Impact of Mill Island’s revitalization on city attractiveness.

Impact of Mill Island’s Revitalization’ on the City’s Attractiveness	Has Mill Island Facility Revitalization Contributed to Making Bydgoszcz More Competitive?					Total
	No, It Has Not	Yes, It Has Had Marginal Impact	I Have No Opinion on That	It Has Had Strong Impact	It Has Had Very Strong Impact	
2	1	0	1	1	0	3
3	0	9	5	3	0	17
4	2	18	1	54	12	87
5	1	9	0	59	62	131
Total	4	36	7	117	74	238

Source: own elaboration.

Table 5 presents an analysis of the factors affecting Bydgoszcz city’s competitiveness, as per the respondents’ answers. The highest values attributable to each of the intensities selectable in the research questionnaire are marked in bold.

**Table 5.** Factors affecting the competitiveness assessment of Bydgoszcz.

Which Factor, In Your Opinion, Affects Assessment Of Bydgoszcz City’s Competitiveness?					
Factor	Very Strong Impact	Strong Impact	Marginal Impact	Very Low Impact	No Impact
Facility revitalization	<b>107</b>	98	24	6	3
Display of cultural heritage	<u>92</u>	88	45	7	6
New tourist attractions	<u>101</u>	99	25	10	3
Outdoor events	<u>88</u>	82	38	18	12
Development of accommodation facilities	42	<u>83</u>	64	33	16
Catering infrastructure	71	<b>105</b>	45	12	5
Access to jobs	68	<u>88</u>	50	23	9
Access to public transportation	<u>85</u>	75	46	21	11
Point-of-sale infrastructure	37	<u>77</u>	<b>71</b>	35	18
Airport accessibility	55	<u>58</u>	49	<b>43</b>	<b>33</b>

Source: own calculation and elaboration.

In the last survey question, the respondents were asked to indicate what impact various factors have exerted on the competitiveness of Bydgoszcz. Mill Island facility revitalization received the most points, followed by new tourist attractions and the display of cultural heritage.

All the factors surveyed are presented in Table 6. The number of points was calculated based on the number of the respondents’ selections, which were then multiplied by the weights assigned: very strong impact weight 5, strong impact weight 4, low (marginal) impact weight 3, very low impact weight 2, no impact weight 1. Average values were also determined for comparison purposes. All the factors exerted a significant impact on competitiveness. The lowest impact, according to the respondents, was attributed to airport accessibility

**Table 6.** Factors affecting the competitiveness of Bydgoszcz.

Competitiveness Factors	Number of Points	Average Rating
Facility revitalization	1014	4.26
New tourist attractions	999	4.20
Display of cultural heritage	967	4.06
Catering infrastructure	939	3.95
Outdoor events	930	3.91
Access to public transportation	916	3.85
Availability of jobs	897	3.77
Accommodation facilities	816	3.43
Point-of-sale infrastructure	794	3.34
Airport accessibility	773	3.25

Source: own calculation and elaboration.

## 5. Discussion and Conclusions

In light of recent research, as reported by Palazzo et al., a rapid transformation from globalization to regionalization has been taking place. This most definitely changes the nature of international business, but also the nature of tourism. Tourism and the concepts of its sustainable development have been affecting businesses increasingly, through environmental requirements, *inter alia* [74]. It is thus important to conduct research on the impact of tourism on regional competitiveness.

As Konior et al., noted, “Revitalization and cultural heritage are linked to sustainable development”. Researchers point to culture as one of the essential dimensions of sustainable development, which has also been highlighted in the sphere of international documents [67].

Other researchers also indicate that despite the fact that the indicators measuring sustainable tourism development have been identified in the literature, they are not yet widely recognized, due to complications with their universality. The significance of the residents’ subjective opinion regarding the industrial heritage sites analyzed, rather than objective indicators exclusively, is often indicated, however [75].

As Yuan et al., note, city dwellers are able to understand urban change more precisely than tourists. This is due to their frequent interaction with the changes taking place in cities. What is more, Yuan et al. stress that urban residents’ support for the processes associated with the development of balanced tourism, which is based on the care for industrial heritage, is a sign of the success of a given implementation. If residents do not accept the effects of revitalization, by assessing the process negatively, they will not support future sustainable tourism efforts, and vice versa. Researchers have also shown a relationship between place attachment and the residents’ perception of tourism in a given city [76].

It, therefore, seems important to broaden the research gap linked to the relationship between urban inhabitants and city competitiveness, through revitalization and sustainable development. As a result of the analysis carried out, it has been found that the inhabitants of Bydgoszcz and its immediate surroundings mostly identify the city with cultural tourism, as indicated by as many as 38% of the respondents, followed by business tourism—indicated by 19% of the responses. This is an observation of importance for the city authorities and entrepreneurs, among others, showing the inhabitants’ perspective on the nature of the city. The site selected for the study—Mill Island—is considered one of the city’s most beautiful landscapes and a monument to the symbiosis between Bydgoszcz and its rivers, canals, and industry. The island was indicated by the respondents as the city’s most recognized attraction. Most commonly the site is visited for recreation purposes (84% of the responses) and catering services (64%). More than half of the respondents (53%) also selected the cultural events held on the island. In spring and summer, the frequency of visits increases significantly, which is closely related to recreational and cultural motives. During the warmer months, people are more prone to spend time in parks and relax outdoors. Various events are organized more frequently as well. The number of the respondents not visiting



the study site at all more than triples during fall and winter. Only 24 of the 238 persons taking the survey claimed to pass Mill Island on their way to work or school. It can therefore be concluded that the residents mainly associate this site with relaxation, social life, cultural development, and the desire to experience new things.

As Wiśniewska indicated in her research, Mill Island's revitalization has highlighted its historical and cultural attributes, providing the residents with aesthetic, recreational, tourist, and environmental values. The care for the industrial heritage of the Mill Island facilities has brought its public space (which was lost after the industrial plants operating there had been closed) back to the residents [77].

The respondents agreeably indicated that Mill Island has preserved its cultural heritage; there were no negative answers in this regard. A total of 32% and respectively as many as 62% of the surveyed responded that the site's cultural heritage has been definitely and rather preserved. What is more, the respondents were almost unanimous in their opinion that it affects the island's attractiveness—80% of the surveyed selected the "very strong impact" or the "strong impact" answers. Rother Mills was indicated as a facility that has retained its cultural heritage the most. According to the respondents, the facility also serves as the best example of revitalization. Rother Mills consists of a mill and two large granaries: a flour granary and a grain granary. The building complex has been classified as an architectural monument representing 19th-century technical thought. It entails the most recent revitalization project implemented on Mill Island; furnishing works are still in progress. The designers decided to preserve the characteristic low-ceilinged construction of the mills [78]. The interior has been furnished with culture and science artifacts, equipped with meeting venues, and filled with business and gastronomy. It is worth mentioning that the facility encompasses the island's largest building [79]. The other facilities have also been rated fairly well by the respondents. Only the Old Refinery and the Old Dyeworks building received a dominant rating of 3, with a slight difference for the ratings of 4.

Analysis of the survey results revealed a slight discrepancy between the respondents' rated impact of Mill Island facility revitalization on the attractiveness of Bydgoszcz and the impact of that revitalization on the city's competitiveness. Attractiveness has been rated higher than competitiveness. On a 1–5 scale, where 1 signifies zero and 5 signifies a very strong impact on attractiveness, 55% of the respondents selected 5, and 35% selected 4. The average score was 4.4. There was no rank 1 selection. As such, it can be concluded that all the respondents agreeably stated that the revitalization of Mill Island affected the city's attractiveness, 90% of whom believed that it had a strong impact and 10% that it had a low or very low impact.

Only 30% of the respondents felt that the site's revitalization has had a strong impact on the competitiveness of Bydgoszcz, while 50% agreed on a strong impact, 13% had no opinion on the issue, and 2%, i.e., four persons, stated it has had no impact at all. After assigning weights, the average competitive impact score was 4.0.

The Spearman's rank correlation coefficient used to test any monotonic relationship between the data obtained for comparison of the above two questions regarding the impact on attractiveness and competitiveness, was 0.48, which entails an average dependence, according to the methodology [80]. In view of this, the respondents recognizing certain impacts of revitalization on the city's attractiveness, e.g., positive impact, did not always express the same opinions regarding competitiveness. Clearly, the respondents distinguished between these concepts. In order to assess the responses to these two questions in detail, a table of counts was created (Table 3).

The first column of the table shows the answers to the question regarding revitalization, i.e., ratings from 2 to 5, as there was no rating of 1. The next five columns show the number of indications of the options given, according to the prior revitalization assessment. This means that those who rated the impact of revitalization on the city's attractiveness at 5, mostly rated the impact on competitiveness as very strong. Only three persons rated the impact as strong. Conversely, nine persons who rated the impact of revitalization on attractiveness at 5 considered the impact on competitiveness as marginal. One person

indicated no such impact at all. The response distribution, according to attractiveness assessment at level 4, is as follows: 2 persons indicated that revitalization had no impact on the city's competitiveness, 18—marginal impact, 1—no opinion, 54—strong impact, and 12—very strong impact. Most of the respondents who indicated a low impact on the city's attractiveness also selected a marginal impact on competitiveness. It can thus be concluded that in the eyes of the inhabitants, the revitalization activities affected the city's attractiveness to a large extent, making Bydgoszcz competitive to a lesser extent, however. The issue of how to implement revitalization processes for greater impact on the region's competitiveness poses a possible direction for future research.

As Konior et al. note, both revitalization and heritage management are continuous processes that should be constantly monitored and supervised. Irrespective of the investment scale and the size of the projects, revitalized areas should be constantly monitored and protected, to avoid degradation thereof [67]. Revitalized sites/facilities must be adapted to changes taking place in the surroundings and provided with prospects to fulfill their functions. This is also important for the competitiveness of regions subjected to dynamic influences. Moreno-Mendorza et al. [81] define cultural heritage management as a “dynamic process of interaction”, which involves the establishment of the functions, processes, and responsibilities in the pursuit of goals.

Based on the research and literature review, it seems important to link revitalization with tourist attractions, including an appropriate display of cultural heritage and promotion of such places as the Mill Island of Bydgoszcz. The high assessment of the Rother Mills allows a conclusion that the form of cultural heritage preservation presented in the example thereof serves as an attractive and competitive solution. Such places, which strongly refer to their history (through appearance, architecture, and construction), but at the same time are modern and combine many prospects for provision of a wide offer to both the residents and tourists, should indeed be created and developed.

The authors of this article are aware of certain limitations to the study carried out, which result from the non-representative sample. The specific time of collecting the questionnaire, i.e., the period after the pandemic crisis, proved to be a difficulty. It is important to extend the research on the impact of revitalization on region competitiveness and the research on revitalized facility assessment, in order to develop and improve the model of action for post-industrial and cultural heritage. As Szromek et al. [82] note, the degree of competitiveness of a given post-industrial site in tourism is dependent on the innovations applied and the entrepreneurial scale of the actions taken.

**Author Contributions:** Conceptualization, M.J. and P.S.; methodology, M.J. and P.S.; formal analysis, M.J. and I.P.; investigation, M.J., P.S. and I.P.; resources, M.J. and P.S.; data curation, M.J., P.S. and I.P.; writing—original draft preparation, M.J. and P.S.; writing—review and editing, M.J.; visualization, M.J. and P.S.; supervision, I.P.; funding acquisition, M.J. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data are available in a publicly accessible repository that does not issue DOIs.

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

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