

Article

Assessment of the Cultural Heritage Potential in Poland

Karol Król 

Digital Cultural Heritage Laboratory, Department of Land Management and Landscape Architecture, Faculty of Environmental Engineering and Land Surveying, University of Agriculture in Kraków, Balicka 253c, 30-149 Kraków, Poland; k.krol@onet.com.pl

Abstract: Cultural heritage is a complex and multi-faceted concept, thus eluding a definition. Consequently, it is a daunting task to assess the cultural heritage potential of a country, region, or community unambiguously. The paper defines “cultural heritage potential” and presents an example of a synthetic assessment of the potential with Poland as an example. The assessment involved several normalised diagnostic variables grouped into four thematic fields. This way, cultural heritage potential could be represented by a “synthetic quality index”. The analysis yielded a ranked list of voivodeships (third-tier subdivision units) and their classification (typology) regarding cultural heritage potential. An in-depth analysis demonstrated that the cultural heritage potential rank of a voivodeship could be determined by values of selected diagnostic variables, such as the number of heritage objects, number of food products of documented quality and particular cultural significance, and extensive cultural infrastructure. The typology can be a background for decision-making with the consequences of voivodeship classification depending on the context of a specific analysis. The proposed method for assessing cultural heritage potential is not related to the territorial extent of the area. Any quantifiable attribute of cultural heritage can be used in the assessment regardless of the unit of measure. Such an assessment can be useful for the identification of trouble areas, areas of concern, and model areas.



Citation: Król, K. Assessment of the Cultural Heritage Potential in Poland. *Sustainability* **2021**, *13*, 6637. <https://doi.org/10.3390/su13126637>

Academic Editors: Miguel Jesús Medina-Viruel and Jesús Claudio Pérez-Gálvez

Received: 26 May 2021
Accepted: 9 June 2021
Published: 10 June 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords: cultural heritage; cultural potential; cultural resources; sustainable development; index-based assessment

1. Introduction

Cultural heritage is a complex concept, thus eluding a clear-cut definition. Cultural heritage objects bear witness to how past generations lived. It is what was “chosen to be brought to the future” and accompanies humankind in its journey through the ages. It shapes the identity of local communities as tangible evidence of a past reality that survived in pieces and can be experienced only from a temporal perspective. This characteristic can make it valuable. It bears witness to the flow of time, past events, actions of individuals or communities. Cultural heritage can be spectacular and monumental or fragile, brittle, and ephemeral like whispered folk tales or lullabies. It can be set in stone, put down on paper, or digital. Its constant characteristic is that it always describes human activities set in a specific place and time. It can be interpreted and reinterpreted, promoted, and looked after, but also disrespected and doomed to oblivion and destruction [1]. Perceptions of cultural heritage components vary and can be very controversial. What is cultural heritage for one group (generation, community) can be a mere “episode” of no value and importance for others or should even be erased and forgotten [2].

Cultural heritage objects are highly diversified, even more than human activities and human life. Therefore, it is a daunting task to assess the cultural heritage potential of a country, place, or community unambiguously. Hence a research gap with a relevant research question: is a synthetic, methodical assessment of cultural heritage potential possible? If so, how can it be conducted and to what extent is it reliable and exhaustive?

For the purpose of the paper, cultural heritage potential means a potential to generate sustainable socioeconomic development based on cultural resources. The potential extracts, exposes, and appreciates cultural heritage components, emphasising their cultural (and social) value and economic significance. Local communities do not always appreciate cultural heritage assets because of restrictions they entail (development expansion, land use, projects, spatial, access, etc.). Emphasis on the economic benefits of cultural heritage can be crucial for its acceptance and preservation. Therefore, cultural heritage potential is a well-balanced combination of cultural (social) potential, cultural components (resources, a potential to build and improve social bonds, regional integration, shaping of regional identity, etc.), economic potential related to economic benefits (including promotion), a potential to generate jobs, tourist activity, image, and regional brand. Cultural heritage potential provides an environment for sustainable socioeconomic development that respects natural environment conditions and cultural diversity. The present paper addresses a research gap and responds to the need for dedicated analyses and assessments of cultural heritage potential as exhibited during the implementation phase of the National Monument Protection and Conservation Scheme 2014–2017 in Poland [3]. It is further compatible with the goals of the National Monument Protection and Conservation Scheme 2019–2022 [4]. Assessment of cultural heritage potential facilitates effective protection and promotion of cultural heritage in the rapidly-changing world. It is indispensable for effective cultural heritage asset management, which may yield tangible socioeconomic benefits. The paper's objective is to assess the potential of cultural heritage in Poland synthetically and represent the results in spatial terms.

This paper is organised as follows. Section 2 is a literature review, focusing on monument protection and conservation in Poland and matters related to the preservation and promotion of cultural heritage and its impact on the material, spiritual, and cultural development of the society. It emphasises the complex and multidimensional nature of cultural heritage potential and indicated unitarisation methods as tools for assessing the potential. Section 3 presents methodological arrangements, including the selection of diagnostic variables based on their content value, methods for cultural heritage potential assessment, and the method for visualising results in space. Section 4 presents research results, including the assessment of the cultural heritage potential of individual voivodeships in Poland together with ranking lists and types of the voivodeships depending on the cultural heritage potential. The results are discussed in Section 5. The final section is conclusions, limitations, and further research.

2. Literature Review

2.1. Monument Protection and Conservation in Poland

The National Monument Protection and Conservation Scheme 2014–2017 was adopted with the resolution No. 125/2014 of the Council of Ministers of 24 June 2014 on the National Monument Protection and Conservation Scheme, or the Scheme 2014–2017 [3]. The primary goal of the Scheme 2014–2017 was to improve the role of cultural heritage and monument protection in the growth of the cultural and creative potential of the Poles. The goal was pursued through (1) the support for systemic solutions to protect monuments in Poland; (2) the improvement of the operational synergy of monument protection agencies; and (3) the provision of conditions for active participation in culture and education for cultural heritage, its promotion, and reinterpretation. It further included numerous bottom-level operations, such as revision of the immovable monuments register, preparation to sign the UNESCO Convention on the Protection of the Underwater Cultural Heritage, standardisation of conservation operations regarding selected types and categories of immovable monuments, reinforcement of instruments for cultural landscape protection, legal diagnosis of movable monuments protection, and completion of a comprehensive report on the condition of listed immovable monuments. Other bottom-level actions were taken by monument protection bodies and included the improvement of the efficiency of management and protection of monuments through the deployment of spatial information infrastructure,

development of standards to improve the flow of information between monument protection bodies and local communities, improvement of the quality of decision-making in monument protection bodies, and subject-matter support for local government regarding monument protection. Educational efforts regarding cultural heritage and its promotion included reinforcing the perception of cultural heritage as the foundation of national and local identities, promoting heritage online, and easier access to and public commune with heritage [3] [Resolution No. 125]. As a consequence, the Scheme 2014–2017 commenced central strategic planning for monument protection and conservation. The pursuit of these goals and actions taken in this regard exhibited the need for dedicated analyses and assessments of cultural heritage potential.

In light of conclusions of the completion and evaluation of the Scheme 2014–2017 and the change in the monument protection system introduced with the Act of 22 June 2017 on the amendment to the act on monument protection and conservation and certain other acts, the primary goal of the Scheme 2019–2022 is: “To provide conditions for more effective monument protection and conservation”. The goal is pursued through three objectives: (1) to optimise the cultural heritage protection system at the local and central level (including the building of cultural heritage protection knowledge resources at the local, regional, and central levels); (2) support for actions relevant to monument conservation; and (3) development of public awareness of the value of cultural heritage through the dissemination of relevant knowledge; and 4) to conduct an in-depth assessment of cultural heritage potential at various administrative levels.

2.2. Cultural Heritage Potential

Trends in monument protection and conservation demonstrate a growing interest in uncovering historical and cultural heritage. It is of particular importance not only for the preservation and promotion of the heritage but also for the spiritual and material development of societies. Culture and cultural heritage are often covered in general debates regarding the development of social capital and its impact on socioeconomic growth [5]. It is not only individual heritage objects that are protected and preserved. Many phenomena and cultural heritage components are noteworthy, including the idea to establish protected historical–cultural sites. The sites are spatial units, for example, specific administrative/territorial subdivisions. In some cases, they determine the region’s economic focus and improve its development potential [6,7].

Cultural heritage potential is multidimensional. Some of the dimensions are the economic or tourist potential of cultural heritage. It also has a cultural potential, reflecting the degree of preservation (as opposed to destruction and oblivion) and promoting specific components of the heritage to some extent [8,9]. Consequently, cultural heritage is sometimes perceived as a “product” and described in terms of economic gains. From this point of view, cultural heritage potential is the capability to generate statistics, costs, profits, and turnover. Such an economic perspective can be necessary to preserve cultural heritage [10].

Cultural heritage has a marketing potential as well. It can be measured with its ability to attract tourists, the number of tickets sold, or interest of the media (commercialisation and, in a way, consumption of the past). Conservation of cultural heritage components and protection from oblivion can contribute to socioeconomic and cultural development [11–14].

The protection of cultural heritage is just as important as human and citizen rights, freedoms, security, and environmental protection. The protection and conservation of monuments are not only the key elements of the heritage related to socioeconomic policy but also goals in and of themselves with the value exceeding purely economic categories [4]. Sustainable use of cultural resources stimulates local development. Note, however, that environmental and cultural values are often contradicted by economic and social expectations, which causes conflicts. To prevent this, cultural heritage is sometimes presented as a catalyst of positive socioeconomic changes, particularly underscoring the benefits it may yield for local communities [12,15].

Investments in protecting cultural heritage that respect the sustainable development of local communities may provide new jobs and stimulate business. It can improve the tourist and investor allure, prestige, recognisability, and brand of the region. Cultural heritage has a historical and archaeological potential, a potential to describe and reflect the past. Thus, it has a scientific, educational, and culture-stimulating potential. It is a source of aesthetic values and spiritual, existential experience. It contributes to the growth of arts and societies.

Furthermore, cultural heritage potential has recently been augmented by new technologies. Digitalisation has improved the accessibility to fragile artefacts, releasing the huge potential of cultural heritage hidden due to the brittleness or scarcity [16]. Digitalisation opened the opportunity to present collections from museum storage and preserve their digital versions. The same possibilities came with virtual reality, terrestrial laser scanning, or photogrammetric and tachymetric data [17,18].

Effective protection and promotion of cultural heritage require analysis and assessment of its potential. They improve the effectiveness of cultural heritage asset management, which may yield tangible socioeconomic benefits for the region. Successful examples can be found in various countries where heritage components are made available through cultural tourism, thus aiding sustainable economic development and promotion of cultural heritage. Research shows that there is a link between cultural heritage tourism and regional development. The potential of cultural resources and the tourism industry may be the driver of sustainable development [19]. Assessment of tourism potential of heritage assets, including cultural, material, product, and empirical values, may be of key importance to the perseverance of tourist attractions [20]. Cultural heritage tourism creates jobs and new business opportunities and reinforces the local economy. It furthermore helps protect cultural heritage and improve the quality of life of both residents and visitors [21,22]. Note that cultural tourism potential depends on numerous factors and may vary across rural areas, cities, or historic sites [23]. On the other hand, while several heritage sites are mandated to provide optimum visitor satisfaction with increasing competition in the market, managers of heritage sites face growing challenges in striking a balance between consumption and conservation. This calls for promoting more sustainable behaviour among consumers of heritage [24]. Moreover, cultural heritage potential may change in time due to various factors. New archaeological discoveries may create impact and boost the potential. On the other hand, many phenomena diminish, restrict, or even destroy the potential. Some of them are anthropogenic [25], but others are caused by environmental and climate threats [26].

Cultural heritage potential also covers intangible and environmental heritage potential. Cultural heritage components can be perceived as part of a broader concept of cultural landscapes and intangible values as outstanding examples of uninterrupted nourishing of tradition and history. From this point of view, monuments are elements of a broader cultural landscape pattern in which they are inherent. However, quantification of such intangible heritage potential can be much more challenging, which makes it harder to assess it [6].

Cultural heritage components can be more or less spectacular. The top is the UNESCO World Heritage List with wayside shrines and local customs closing ranking lists [27]. Cultural heritage potential is built by cultural facilities such as museums, culture centres, community centres, clubs, or similar institutions, activities in performing arts, exhibitions, and culture and cultural heritage protection spendings. Cultural heritage potential also includes products on the European Commission's Protected Designation of Origin list, Protected Geographical Indication list, or Traditional Speciality Guaranteed list. The involvement and interest of local communities, number of tourists or visitors, as well as the number of spectators and audience size in theatres and music venues, visitors to museums and their branches, participants in events in cultural centres, community centres, and visitors to exhibitions reflect the potential of cultural heritage. It is a complex phenomenon, which renders a categorical assessment difficult.

2.3. Assessment of Complex Phenomena

Unitarisation methods are used to assess phenomena and objects both. Their most common application is to assess the socioeconomic growth at different levels of administrative or territorial subdivision. They are also used in the assessments of the intensity of socioeconomic phenomena in selected, homogeneous areas. The normalisation of variables is successfully employed in the assessments of the sustainability of development in rural and urban municipalities, the development of infrastructure for shaping and protecting the environment, land use, technical infrastructure conditions [28], the innovation potential of countries [29], tourism potential [30], competitive advantage [31] or assessment of the spatial diversification of the development of the culture sector [32].

Normalisation methods are often employed for their versatility. They can assess complex phenomena and describe them using a single syntactic score, which can be used to build ranking lists. Moreover, they can assess both objects and phenomena if they can be described with quantitative attributes (diagnostic variables). Normalisation of variables can represent complex phenomena (including socioeconomic, environmental, and cultural ones) with simplified models and numbers (matrices). Such a model is a limited and simplified reflection of the complexity of events or objects and interdependencies among them. Normalisation aggregates figures that describe the complexity of a phenomenon into a single, synthetic, final score, a quality index. It is an accumulation of the complexity of the investigated relationships; its value represents the degree of intensity of the phenomenon or quality of the object. Normalisation transforms diagnostic (initial) variables into normalised variables (dimensionless) while retaining relationships among objects inherent in the diagnostic variables and their initial values.

The selection of diagnostic variables is one of the crucial and most challenging stages of the research process. The quality of the variables determines the reliability of results, and consequently, the decisions taken using the results. The classification (typology) procedure should consider only those variables that describe the phenomenon the best, but it is unreasonable to consider excessive numbers of variables. The variables are selected through strict content-value selection or mixed content-value and formal (statistical) selection [33].

A content-value selection is mostly subjective. When drafting a list of variables, one needs to take into account the economic side of research (cost of acquisition of variable values) as well as the availability and reliability of statistical data. Such a preliminary list of variables emerges from expert knowledge and statistical traditions. Results of adequately conducted comparative studies are a source of useful information for decision-making.

3. Materials and Methods

The paper investigates the cultural heritage potential of Poland per voivodeship. On 1 January 2020, there were 16 voivodeships, 314 districts, 66 cities with district status, and 2477 municipalities in Poland: 302 urban municipalities (including 66 municipalities with district status), 1533 rural, and 642 mixed urban–rural municipalities [34].

The research was divided into three stages: (1) content-value-based selection of diagnostic variables and acquisition of their values, (2) Normalisation of the variables and aggregation of results, and (3) ordering of objects and visualisation of results. The values of the diagnostic variables were acquired from five sources:

- NID—National Institute of Cultural Heritage [35],
- CRFNP—Central Register of Nature Protection Measures, General Directorate for Environmental Protection [36],
- MriRW—Ministry of Agriculture and Rural Development [37],
- PIPRL—Polish Chamber of Regional and Local Products [38],
- BDL—Local Data Bank, Central Statistical Office, Statistics Poland [39].

The National Institute of Cultural Heritage (NID) is a governmental cultural institution that provides expert and opinion support to the Minister of Culture, National Heritage, and Sports. The mission of NID is to provide foundations for sustainable protection of

cultural heritage to preserve it for future generations through the determination and dissemination of monument protection and conservation standards, building public awareness regarding the value and preservation of cultural heritage, and accumulation and dissemination of knowledge about heritage. National Institute of Cultural Heritage provides information on Polish monuments, such as descriptions, photographs, and multimedia (3D models, point clouds, spherical panoramas, and videos) on its websites [35].

The General Directorate keeps the central Register of the Nature Protection Measures (CRFNP) [36] for Environmental Protection in Poland. Data provided on CRFNP websites come from legislation on environmental protection measures and are obtained pursuant to the legislation [40].

The system for the protection and promotion of regional and traditional products is one of the key drivers of sustainable development of rural areas and implementation of the common agricultural policy. The Ministry of Agriculture and Rural Development certifies and records regional and traditional products in Poland [37]. The Polish Chamber of Regional and Local Products administers the “Quality Tradition” quality system for distinguishing high-quality food products, including traditional ones. The certification preconditions include documented 50 years of production following a traditional recipe, with traditional materials, and using traditional technologies.

Cultural heritage potential consists of infinite components. Therefore, their selection for research purposes must be arbitrary. In such cases, the following can be useful when deciding which variables to use: desk research, a clearly defined research gap and goal, and requirements of cost-effectiveness (costs of obtaining variable information), availability, and reliability of statistical data. Therefore, the work employed numerical data that facilitate explicit results on which conclusions can be founded. Values of the selected variables were obtained from the Local Data Bank (BDL). The BDL is the largest Polish economy, population, and environment database with over 40 thousand statistical variables in thematic groups [39].

Having reviewed the literature and analysed the investigated phenomenon, I selected 21 diagnostic variables (Table 1). When researching complex phenomena, it is often necessary to determine the nature of variables, which can be higher-the-better (HTB, with a positive correlation between variables), lower-the-better (LTB, with a negative correlation between variables), or nominant (with a positive correlation up to a certain value followed by a negative correlation). High values of HTB variables mean the investigated phenomenon intensifies. High values of LTB variables mean that the phenomenon decreases. Nominant variables should assume normal (mean) values [28]. According to the analysis, all the diagnostic variables were considered HTB variables.

The variables were classified into four thematic groups: (1) cultural heritage, monuments, and cultural assets (variables X_1 – X_{11}), (2) cultural infrastructure (variables X_{12} – X_{14}), (3) cultural events and activities (variables X_{15} – X_{19}), (4), and culture funding (variables X_{20} – X_{21}). Tangible cultural heritage encompasses material artefacts created, maintained, and handed down through generations by members of various communities. This heritage category includes works of art, buildings, statues, and other material or tangible products of human creativity that are culturally relevant [41]. A monument is an immovable property or movable object, its parts, or systems created by people or related to human activity and bear witness to a past period or event. Their preservation is a public interest because of their historical, artistic, or scientific value [42]. Modern culture assets are culture assets that are not monuments, such as statues, memorials, buildings with their interiors and details, building complexes, and urban and landscape complexes that are recognised achievements of modern generations if they have a high artistic or historical value [43]. Cultural infrastructure improves access to culture and its attractiveness. It contributes to the competitive capabilities of cultural facilities and organisations providing cultural education but is also reinforces superregional activities.

Table 1. The diagnostic variables used to assess the cultural heritage potential of Poland.

Variable Code	Description of Diagnostic Variable	Source of Data *
X ₁	The number of objects on the UNESCO World Heritage List	NID
X ₂	The number of historic monuments	NID
X ₃	The number of immovable monuments	NID
X ₄	The number of archaeological monuments	NID
X ₅	The number of nature monuments	CRFNP
X ₆	The number of products on the List of Traditional Products	MRiRW
X ₇	The number of products with Protected Designation of Origin	MRiRW
X ₈	The number of products with Protected Geographical Indications	MRiRW
X ₉	The number of products registered as Traditional Speciality Guaranteed	MRiRW
X ₁₀	The number of products registered in the National Quality System—Quality Tradition	PIPRL
X ₁₁	The number of producers registered in the National Quality System—Quality Tradition	PIPRL
X ₁₂	The number of museums and their branches	BDL
X ₁₃	The number of cultural centres, community centres, clubs and similar institutions per ten thousand residents	BDL
X ₁₄	The number of public libraries per ten thousand residents	BDL
X ₁₅	The number of readers registered with public libraries (per year)	BDL
X ₁₆	The performing arts and exhibition index (residents per 1 seat in theatres and music venues)	BDL
X ₁₇	The performing arts and exhibition index—audience in theatres and music venues, visitors to museums and their branches, participants in events in cultural centres, community centres, and visitors to exhibitions per thousand residents	BDL
X ₁₈	Residents per 1 seat in permanent cinemas	BDL
X ₁₉	The number of mass gatherings—shows and plays	BDL
X ₂₀	Total revenues by public budgeting divisions—Culture and protection of national heritage	BDL
X ₂₁	Voivodeship spendings—Culture and protection of national heritage	BDL

* NID—National Heritage Institute [35]; CRFNP—Central Register of Nature Protection Measures, General Directorate for Environmental Protection [36]; MRiRW—Ministry of Agriculture and Rural Development [37]; PIPRL—Polish Chamber of Regional and Local Products [38]; BDL—Local Data Bank, Central Statistical Office, Statistics Poland [39].

3.1. Statistical Analysis

A multivariate statistical analysis was conducted to assess the complex phenomenon that is cultural heritage potential. This analysis can build a ranking list of objects by ordering them from the best to the worst based on a synthetic quality index. When building a ranking list of objects using quantitative features, one should normalise their values and remove the dimension (unit) [44]. One method for juxtaposing multiple objects described with a diversified set of variables is the zero unitarisation method. It normalises ranges of diagnostic variables. Normalised diagnostic variables lie in the range of 0 to 1 <0,1>. Therefore, it conforms to the postulate of addition and constancy of extreme values [45]. As all the variables were HTB, their values were normalised with Equation (1).

$$z_{ij} = \frac{x_{ij} - \min_i \{x_{ij}\}}{\max_i \{x_{ij}\} - \min_i \{x_{ij}\}} \quad (1)$$

where:

$i = 1, 2, \dots, n$; $j = 1, 2, \dots, m$,

z_{ij} —normalised diagnostic variable,

x_{ij} —unnormalised diagnostic variable,

$\min_i \{x_{ij}\}$ —the minimum value of the unnormalised diagnostic variable,

$\max_i\{x_{ij}\}$ —the maximum value of the unnormalised diagnostic variable.

The research employed 21 diagnostic variables in four thematic categories. The normalisation facilitated aggregation of the normalised values that did not exceed one. Consequently, the maximum cultural heritage potential score for each voivodeship was 21.

After each voivodeship was assigned an aggregate quality index (AI), they could be ranked. The result was a cultural heritage potential ranking list of voivodeships. The results were verified with standardisation (ST index; 2) [46].

$$z_{ij} = \frac{x_{ij} - \bar{x}_j}{S_j} \quad (2)$$

where:

z_{ij} —standardised variable,

x_{ij} —unstandardised variable,

$\bar{x}_j$ arithmetic mean for population,

S_j —standard deviation for the population.

Standardisation is a conversion of a raw score into a standard score (postulate of comparability), which helps identify outliers following aggregation. Most normalised values lie in $<-3,3>$ [47].

3.2. Spatial Presentation of Data

Classification (typology) of objects according to selected attributes is important for information transfer, from research to conclusions (i.e., from researcher/analyst to the audience/user). The process can yield a thematic (quality) map representing the intensity of phenomena.

The results of the statistical analysis were presented in spatial terms. Spatial analyses can exhibit trends emerging from numbers in relation to specific spatial locations. The basic tool for spatial analyses is a spatial (geographic) information system (GIS), which has components that can be useful in reaching the research goal [48].

The aggregate cultural heritage potential index values were assigned to voivodeships in a GIS database. Next, the objects were clustered using the Jenks [49] optimisation method. Methods for optimising classification interval selection are employed to ensure the minimum within-class variance and maximum differences between classes. The Jenks optimisation method is one of the most commonly employed methods in geographical information system suites. The Jenks method conforms to two requirements: data with similar values are assigned to the same class (value range), each class has a specific size, each object is assigned to a single class, and no class is an empty set. The method is founded on natural breaks and is a balanced classification method.

The results are presented on a choropleth map, which is a thematic map with values of a selected attribute of 2D (surface) objects resulting from a division of an area. Boundaries of the objects are administrative boundaries. Values of the cultural heritage potential index and its ranges are represented by a colour.

4. Results

The research yielded two ranking lists of cultural heritage potential in Poland. The mean of the AI was approximately 7 (the median was 6.18). Note that the maximum score for each voivodeship was 21. The total for all the voivodeships (entire Poland) was about 112.4 (33.44%) of the maximum 336 (under the employed research design). Hence, there is still a significant cultural heritage potential to be harnessed due to such factors as substantial differences between voivodeships and untapped potential in certain investigated domains (Table 2).

The potential values of individual diagnostic variables were assessed using normalised values. Following normalisation, the “theoretical potential” of each variable was 16 (100%). It could only be fully realised had all the voivodeship scored the maximum (the maximum values of the diagnostic variable). This is unlikely but plausible. The most significant

available potential (under the employed research design) was identified for variables X_1 (the number of objects on the UNESCO World Heritage List), X_2 (historical monuments), and X_{20} (total revenues by public budgeting divisions—Culture and protection of national heritage). The main reason is that most of the objects on the UNESCO World Heritage List in Poland are found in four voivodeships, Małopolskie (15), Podkarpackie (6), Świętokrzyskie (4), and Dolnośląskie (3). Furthermore, these voivodeships have disproportionately more historical monuments than the others. These variables varied relatively significantly among the voivodeships.

Table 2. Cultural heritage potential performance per diagnostic variables.

Diagnostic Variable	X_1	X_2	X_3	X_4	X_5	X_6	X_7
Sum of normalised values	2.400	2.683	6.757	4.127	7.200	5.195	6.176
Per cent	15.000	16.768	42.232	25.795	44.998	32.470	38.599
Diagnostic variable	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
Sum of normalised values	4.877	5.370	7.763	4.444	7.263	4.706	6.569
Per cent	30.481	33.565	48.517	27.777	45.395	29.411	41.054
Diagnostic variable	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}
Sum of normalised values	4.318	5.202	3.697	12.600	4.000	2.333	4.691
Per cent	26.989	32.514	23.103	78.750	25.000	14.583	29.321

Source: original research.

The best cultural heritage potential performance (45% and more) was identified for variables X_5 (the number of nature monuments), X_{10} (the number of products registered in the National Quality System—Quality Tradition), and X_{12} (the number of museums and their branches). These variables did not differ significantly among the voivodeships.

The ranking lists drafted with the two statistical methods were identical (Table 3). The top ranking voivodeships were Małopolskie, Mazowieckie, and Podkarpackie, the worst-scored were Podlaskie, Świętokrzyskie, and Lubuskie. An in-depth analysis suggested that high ranks could be determined by selected diagnostic variables, including: X_1 (the number of objects on the UNESCO World Heritage List), X_2 (the number of historic monuments), X_{12} (the number of museums and their branches), X_{13} (the number of cultural centres, community centres, clubs and similar institutions per ten thousand residents), X_{17} (the performing arts and exhibition index—audience in theatres and music venues, visitors to museums and their branches, participants in events in cultural centres, community centres, and visitors to exhibitions per thousand residents), and X_{19} (the number of mass gatherings—shows and plays). High values of the diagnostic variables correlate with populations of the voivodeships. Pearson's correlation coefficient r was high (in Guilford's scale $-0.5 < |r| \leq 0.7$ means a high correlation; $\alpha \leq 0.05$). It reached 0.697 and 0.677 respectively for AI and ST indices of cultural heritage potential and voivodeship populations.

Values of the aggregate indices exposed disproportions in cultural heritage potential among the voivodeships. They are relatively substantial, which is evident in the range of the values of the indices. Lubuskie and Świętokrzyskie voivodeships had a significantly lower cultural heritage potential than Mazowieckie and Małopolskie in 2019.

Typology of Voivodeships Regarding Cultural Heritage Potential

The voivodeships were classified into three types depending on the cultural heritage potential index values. Type I covered Mazowieckie and Małopolskie voivodeships. The voivodeships of type I have high cultural heritage potentials (under the employed research design). These voivodeships have numerous heritage sites, including those listed on the UNESCO World Heritage List and historical monuments. Furthermore, these voivodeships have many food products with documented quality and particular cultural importance (for preserving traditions) accompanied by a well-developed cultural infrastructure. In addition, Mazowieckie Voivodeship is the location of the capital of Poland, Warsaw, which affects the cultural heritage potential, also in terms of its population. Note that most

capitals host numerous cultural events and recognised cultural institutions, not to mention a well-developed socioeconomic environment, and access to infrastructure and tourist facilities. All this can improve the cultural standing of the region. In light of this advantage, one should appreciate Małopolskie Voivodeship, which was ranked first in terms of cultural heritage potential. The possible primary reason for this can be extraordinary environmental and cultural conditions. Małopolskie Voivodeship is situated in mountainous southern Poland with the Beskid Sądecki, the Tatras, and beautiful natural environment, but most of all, rich cultural heritage, which is reflected in its score.

Table 3. Cultural heritage potential ranking lists of voivodeships.

Rank	Voivodeship	Cultural Heritage Potential AI	Cultural Heritage Potential ST	Population *
1	Małopolskie	13.1713158	21.92000519	3,410,901
2	Mazowieckie	11.3112070	15.06676148	5,423,168
3	Podkarpackie	9.7895145	10.26446884	2,127,164
4	Wielkopolskie	9.1276507	7.699738633	3,498,733
5	Dolnośląskie	8.5641316	5.089155545	2,900,163
6	Lubelskie	7.3111501	1.179882265	2,108,270
7	Pomorskie	7.1667594	−0.220268448	2,343,928
8	Łódzkie	6.4160522	−1.933342186	2,454,779
9	Śląskie	5.9489512	−4.736941736	4,517,635
10	Kujawsko-Pomorskie	5.3778104	−6.019256378	2,072,373
11	Zachodniopomorskie	5.2231312	−6.372984176	1,696,193
12	Opolskie	4.9199822	−7.120963088	982,626
13	Warmińsko-Mazurskie	4.8485128	−7.528951511	1,422,737
14	Podlaskie	4.7717880	−7.720062789	1,178,353
15	Świętokrzyskie	4.3824129	−9.055139431	1,233,961
16	Lubuskie	4.0409788	−10.51210221	1,011,592

* Statistics Poland [34], as of 31.12.2019 converted for 01.01.2020. Source: original research.

Type III included voivodeships with the lowest values of the AI cultural heritage potential index (Figure 1). These were Zachodniopomorskie, Lubuskie, Warmińsko-Mazurskie, and Podlaskie.

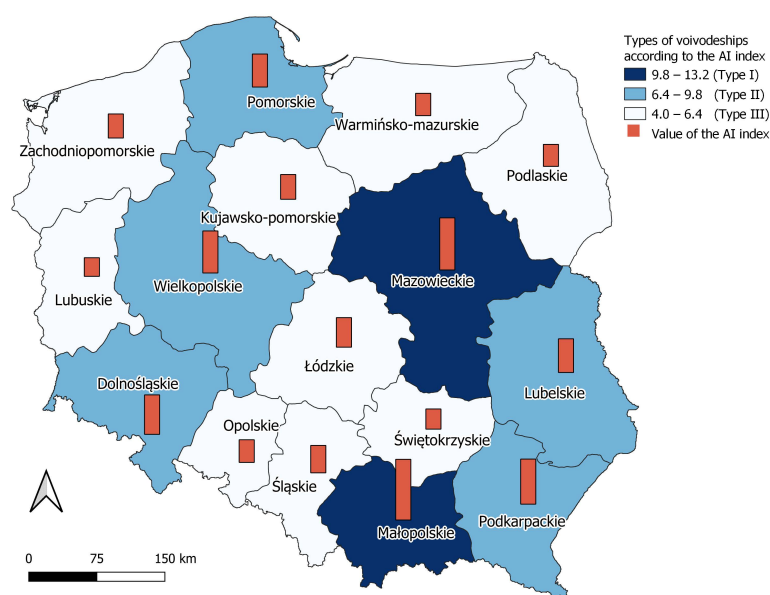


Figure 1. Spatial distribution of cultural heritage potential of voivodeships in Poland (the AI index). Source: original work.

The typologies based on the aggregate indices diverge at one point only. In both the ranking lists, all the voivodeships are classified into the same types (categories) except for Łódzkie Voivodeship (Figure 2).

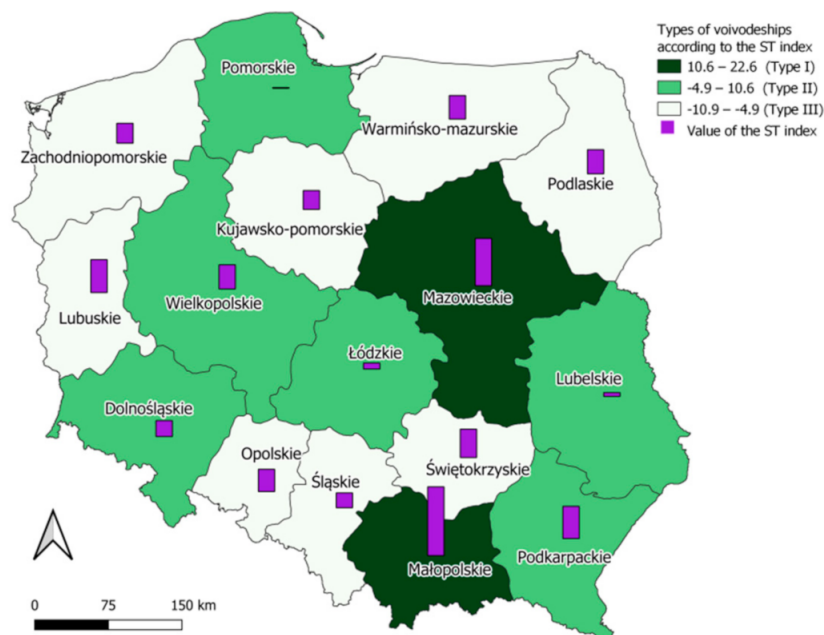


Figure 2. Spatial distribution of cultural heritage potential of voivodeships in Poland (the ST index). Source: original work.

According to the typology based on the ST index, Łódzkie Voivodeship belongs to type II (greater cultural heritage potential). This fact may affect decision-making, but its impact depends on the context of a particular analysis. For instance, if an analysis aims to determine voivodeships with a lower cultural heritage potential in need of public aid, such as additional funding for cultural organisations, Łódzkie Voivodeship may not be classified for funding. If an assessment of cultural heritage potential is intended to identify model units, the change in the classification can be beneficial.

5. Discussion

Research on cultural heritage and its socio-economic potential can be used to develop universal guidelines for sustainable development in the rapidly-changing world [50]. A cultural heritage potential assessment can be useful for managing regions and their images. A good example is Valletta (Malta), a fortified historic city that overlooks the Grand Harbour, where culture and heritage were promoted through proper guidance of asset management and regional policy; public and private projects have changed the city, which became a cultural and tourism capital [51]. The image and presentation of a destination can affect tourist purchase decisions to a significant degree [52]. The authenticity of cultural heritage and accurate representation of its qualities (phenomena, objects, places, regions) leads to the discovery of the past and historical truth and is important for socioeconomics [53]. In light of the above, a credible and exhaustive assessment of the cultural heritage potential of places, regions, and countries can determine choices regarding tourist destinations.

Cultural heritage potential can be limited by numerous factors. They cannot be enumerated as specific limitations depend on the nature of the cultural heritage in most cases. The cultural heritage potential of a single object will face different limitations (for instance, related to its physical fragility) than that of places, regions, or countries. Typical limitations to the tourist potential of cultural assets and heritage of museums, historic sites, and

temples in Hong Kong included remoteness, isolation from other attractions, small scale, a lack of uniqueness, and poor setting, among others [54].

Numerous researchers have assessed the cultural heritage potential and its impact on socioeconomic growth of regions or countries, for example, in the context of cultural tourism. Research by Egusquiza et al. [55] confirmed the significant contribution of cultural assets and cultural and environmental heritage to economic growth, social inclusion, and environmental sustainability in rural areas, indicating culture as the fourth pillar of sustainable development. The primary goal of the research by Šťastná et al. [56] was to determine whether cultural tourism could be a driving force of rural growth. The study covered three districts (Znojmo, Břeclav, and Hodonín) at the Austrian-Slovak border in the South-Moravian Region. The authors assessed the attractiveness of the area intended to be used for cultural tourism and then evaluated factors affecting the cultural tourism potential regarding rural development. They concluded that cultural tourism could be the primary driver of growth in rural areas as it yielded both economic and sociocultural benefits. Krogmann et al. [57] characterised examples of localities with strong Church presence and its cultural heritage in Nitra, Slovakia. They demonstrated the cultural heritage potential of Nitra to be sufficient for the city to become an important cultural tourism hub in the region. Research by Škrabić Perić [58] showed that the number of UNESCO heritage sites does not significantly affect the growth of accommodation facilities' capacity but significantly contributes to the size of the tourism job market and income from international tourism. Moreover, other characteristics of the culture sector that were investigated, i.e., government spendings on culture and employment in culture, turned out to have a significant positive influence on the growth of cultural tourism. Similar indicators were employed in the present study, but qualitative relationships between them were not investigated. The indicators, such as those related to employment in the culture sector (variables X_{12} , X_{13} , X_{14} , and X_{16}) or spendings on culture and protection of national heritage (variable X_{21}) are positively correlated with cultural heritage potential. An increase in these indicators contributes to a greater regional cultural heritage potential, which may affect socioeconomic growth.

Gabryjończyk and Gabryjończyk [32] compared the level of culture sector development in districts of Świętokrzyskie Voivodeship in 2015 and 2018. They used linear ordering methods to estimate a synthetic measure of the phenomenon (using selected diagnostic variables). They concluded that the districts had diversified culture sector levels in 2015 and 2018, but the overall level of culture sector development in the region deteriorated. Drabarczyk [59] compared voivodeships in Poland in terms of sustainable development. The research employed four linear ordering methods, including zero unitarisation. The author investigated 15 diagnostic variables in three categories: economy, society, and environment. According to the research, Mazowieckie Voivodeship was the most developed one, while Warmińsko-Mazurskie came in last. Paluch and Zuzek [60] assessed the development of infrastructure for environmental engineering and protection in Polish voivodeships. Their research showed that the largest group was that with voivodeship scoring average in terms of environmental infrastructure development, including Mazowieckie, Śląskie Wielkopolskie, and Małopolskie Voivodeships. The authors have demonstrated that the condition and type of infrastructure could determine the attractiveness of an area regarding new projects as well as reflect the quality of life and the current level of development.

Gabryjończyk and Gabryjończyk [32], Drabarczyk [59], and Paluch and Zuzek [60] successfully applied zero unitarisation and a set of diagnostic variables in comparative research. The present study employed a similar approach expanded with spatial analysis and algorithmic typology. Another distinguishing feature is the diversity of sources of data (databases) for retrieving diagnostic variables. Here, the approach was applied to assess the cultural heritage potential with original diagnostic variables. Such a study design can be a solid starting point for a scientific discussion on the set of variables and the selection of statistical methods.

Provision and improvement of business environment and support are considered basic preconditions for socioeconomic growth. It is not only a regional policy goal for the national level but also an important factor for the competitiveness of regions and local communities. This fact is particularly important for countries struggling to close the developmental gap. Hence, comparative research on socioeconomic, environmental, and cultural conditions can prove useful for decision-making. The primary goal of the research by Rogalska [61] was to analyse business conditions in Poland at a regional level in 2010 and 2015. She employed taxonomic methods. The final taxonomic index allowed her to order regions from the most business-friendly to ones with the poorest conditions and to identify disproportions between regions in the analysed time frame. The research exhibited significant differences in terms of business growth potential among regions.

The present research offers similar conclusions. The disproportions regarding cultural heritage potential among Polish voivodeships in 2019 (under the employed research design) may result in some of them requiring aid in this regard (organisational, political, and financial). The analysis identified key points of cultural heritage potential, which can be improved through an effort to develop further cultural infrastructure, cultural events, and culture funding.

6. Conclusions

Cultural heritage potential can be assessed in a synthetic and methodical way. The assessment can be based on a set of diagnostic variables and statistical analysis. Such assessments are inherently limited and bound by the employed research design. The latter will always be a simplification of expected socioeconomic, environmental, cultural, and political relationships that form the environment for cultural heritage. Therefore, when devising a research model, the analyst needs to select such diagnostic variables to facilitate the best assessment of heritage potential. Nevertheless, analyses of complex (multivariate) phenomena are difficult to conduct. More precise results could, perhaps, be obtained with targeted analyses, such as an assessment of the cultural heritage potential of immovable monuments or traditional products.

The paper presents an original, multivariate, index-based assessment of the cultural heritage potential in Poland. The proposed analysis is an example of a dedicated, targeted, and subjective assessment of a complex phenomenon. The statistical analysis yielded a ranking list of Polish voivodeships, which were then categorised into three types depending on their cultural heritage potential. It can inspire cultural heritage researchers. It contributes to the analytical, synthetic, and statistical approach to cultural heritage and provides new arguments for the discussion on the assessment, protection, preservation, and promotion of cultural heritage. The assessment of the potential can, in and of itself, be useful for decision-making but it also has an awareness-building, educational, and promotional value. It can offer arguments when selecting tourist destinations. Moreover, such analyses can be and are employed to fuel the discussion on sustainable regional development with a particular focus on cultural resources. Aggregate analyses stimulate the exchange of views, uncover new arguments, and offer a new outlook on cultural heritage.

Limitations and Further Research

The proposed cultural heritage potential assessment was based on selected diagnostic variables. The selection of attributes to describe cultural heritage potential was cross-sectional but subjective and arbitrary as well. The free choice of diagnostic variables has its advantages and problems. On the one hand, it helps adjust the scope of the assessment to the researcher's expectations, research goal, gap, etc. to target the analysis better. On the other hand, this approach can lead to the exclusion of variables that may be important (from a specific perspective). Consequently, the stage of diagnostic variables selection becomes crucial, demanding sufficient consideration.

The research was a "snapshot of the existing state". It is an example of a point analysis. This research approach does not facilitate trend analysis and provides fewer data for

forecasting. The way the analysis was conducted is due to the nature of the diagnostic variables. Even though data from the Central Statistical Office (related to cultural heritage) are available as annual summaries, so that phenomena can be investigated at five-year intervals, for example, values of many other variables are provided at a time-point basis, which makes summaries harder to acquire.

Values of the diagnostic variables make up a matrix, which is a reflection of the complexity of actual socioeconomic, environmental, and cultural relationships. The normalisation of variables does not disturb the relationships (between individual objects, meaning voivodeships in this case) but helps characterise them with a single index. This way, they can be linearly ordered. Such an analysis leads to general conclusions. For it to be useful for decision-making, the lowest-scoring trouble areas require an in-depth analysis. The in-depth analysis directs the researcher towards the initial variables once again. Hence, the selection of diagnostic variables truly is of crucial importance. Moreover, if an analysis is to provide input for a decision, such as public intervention, financial aid, infrastructure projects, or amended legislation, the sponsoring organisation should have at least an indirect impact on the evaluated phenomenon. This can be particularly important for the identification of trouble areas in need of support.

Funding: This study was financed by the Ministry of Science and Higher Education of the Republic of Poland under the project ‘Cultural heritage of small homelands’ No. PPI/APM/2018/1/00010/U/001 financed by the Polish National Agency for Academic Exchange as part of the International Academic Partnerships.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Acknowledgments: The paper was written at the Digital Cultural Heritage Laboratory (<https://culturalheritage.urk.edu.pl>, accessed on 8 June 2021), part of the Department of Land Management and Landscape Architecture at the Faculty of Environmental Engineering and Land Surveying of the University of Agriculture in Krakow, Poland. The author wishes to express his gratitude to the reviewers for their constructive criticism, which contributed to the final content of the paper.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Manfrian, C.; Gualdani, G.; Goli, G.; Carlson, B.; Certo, A.; Mazzanti, P.; Fioravanti, M. The Contribution of IoT to the Implementation of Preventive Conservation According to European Standards: The Case Study of the “Cannone” Violin and Its Historical Copy. *Sustainability* **2021**, *13*, 1900. [CrossRef]
2. Jaafar, M.; Noor, S.M.; Rasoolimanesh, S.M. Perception of young local residents toward sustainable conservation programmes: A case study of the Lenggong World Cultural Heritage Site. *Tour. Manag.* **2015**, *48*, 154–163. [CrossRef]
3. Uchwała Nr 125 Rady Ministrów z dnia 24 czerwca 2014 r. W Sprawie Krajowego Programu Ochrony Zabytków i Opieki Nad Zabytkami; Ministry of Culture National Heritage and Sport of the Republic of Poland (Ministerstwo Kultury, Dziedzictwa Narodowego i Sportu): Warsaw, Poland, 2014; p. 733. Available online: <https://bip.mkdnis.gov.pl/pages/legislacja/programy-wieloletnie/krajowy-program-ochrony-zabytkow-i-opieki-nad-zabytkami.php> (accessed on 8 June 2021).
4. Uchwała Nr 82 Rady Ministrów z dnia 13 sierpnia 2019 r. W Sprawie Krajowego Programu Ochrony Zabytków i Opieki Nad Zabytkami na Lata 2019–2022; Ministry of Culture National Heritage and Sport of the Republic of Poland (Ministerstwo Kultury, Dziedzictwa Narodowego i Sportu): Warsaw, Poland, 2019; p. 808. Available online: <http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WMP20190000808> (accessed on 8 June 2021).
5. Murzyn-Kupisz, M.; Działek, J. Cultural heritage in building and enhancing social capital. *J. Cult. Herit. Manag. Sustain. Dev.* **2013**, *3*, 35–54. [CrossRef]
6. Taylor, K.; Altenburg, K. Cultural Landscapes in Asia-Pacific: Potential for Filling World Heritage Gaps. *Int. J. Heritage Stud.* **2006**, *12*, 267–282. [CrossRef]
7. Safiullin, L.N.; Gafurov, I.R.; Shaidullin, R.N.; Safiullin, N.Z. Socio-economic development of the region and its historical and cultural heritage. *Life Sci. J.* **2014**, *11*, 400–404.
8. Hausmann, A. Cultural Tourism: Marketing Challenges and Opportunities for German Cultural Heritage. *Int. J. Herit. Stud.* **2007**, *13*, 170–184. [CrossRef]

9. Holtorf, C. The Changing Contribution of Cultural Heritage to Society. *Mus. Int.* **2011**, *63*, 8–16. [CrossRef]
10. Park, S.; Chung, N.; Lee, W. Preserving the Culture of Jeju Haenyeo (Women Divers) as a Sustainable Tourism Resource. *Sustainability* **2020**, *12*, 10564. [CrossRef]
11. Snowball, J.D.; Courtney, S. Cultural heritage routes in South Africa: Effective tools for heritage conservation and local economic development? *Dev. South. Afr.* **2010**, *27*, 563–576. [CrossRef]
12. Roders, A.A.P.; Van Oers, R. Bridging cultural heritage and sustainable development. *J. Cult. Herit. Manag. Sustain. Dev.* **2011**, *1*, 5–14. [CrossRef]
13. Ismagilova, G.; Safiullin, L.; Gafurov, I. Using Historical Heritage as a Factor in Tourism Development. *Procedia Soc. Behav. Sci.* **2015**, *188*, 157–162. [CrossRef]
14. Lak, A.; Gheitas, M.; Timothy, D.J. Urban regeneration through heritage tourism: Cultural policies and strategic management. *J. Tour. Cult. Chang.* **2019**, *18*, 386–403. [CrossRef]
15. Helpa-Liszkowska, K. Dziedzictwo kulturowe jako czynnik rozwoju lokalnego. *Studia Oeconomica Posnaniensia* **2013**, *1*, 255.
16. Santos, P.; Serna, S.P.; Stork, A.; Fellner, D. The Potential of 3D Internet in the Cultural Heritage Domain. In *Transactions on Petri Nets and Other Models of Concurrency XV*; Springer: Berlin/Heidelberg, Germany, 2014; Volume 8355, pp. 1–17, ISBN 9783662446300.
17. Remondino, F. Heritage Recording and 3D Modeling with Photogrammetry and 3D Scanning. *Remote. Sens.* **2011**, *3*, 1104–1138. [CrossRef]
18. Cerra, D.; Plank, S.; Lysandrou, V.; Tian, J. Cultural Heritage Sites in Danger—Towards Automatic Damage Detection from Space. *Remote. Sens.* **2016**, *8*, 781. [CrossRef]
19. Abankina, T. Regional development models using cultural heritage resources. *Int. J. Cult. Tour. Hosp. Res.* **2013**, *7*, 3–10. [CrossRef]
20. Günlü, E.; Pirnar, I.; Yağcı, K. Preserving cultural heritage and possible impacts on regional development: Case of İzmir. *Int. J. Emerg. Transit. Econ.* **2009**, *2*, 213–229.
21. Lusetyowati, T. Preservation and Conservation through Cultural Heritage Tourism. Case Study: Musi Riverside Palembang. *Procedia Soc. Behav. Sci.* **2015**, *184*, 401–406. [CrossRef]
22. Megeirhi, H.A.; Woosnam, K.M.; Ribeiro, M.A.; Ramkissoon, H.R.; Denley, T.J. Employing a value-belief-norm framework to gauge Carthage residents' intentions to support sustainable cultural heritage tourism. *J. Sustain. Tour.* **2020**, *28*, 1351–1370. [CrossRef]
23. Al-Hagla, K.S. Sustainable urban development in historical areas using the tourist trail approach: A case study of the Cultural Heritage and Urban Development (CHUD) project in Saida, Lebanon. *Cities* **2010**, *27*, 234–248. [CrossRef]
24. Buonincontri, P.; Marasco, A.; Ramkissoon, H. Visitors' Experience, Place Attachment and Sustainable Behaviour at Cultural Heritage Sites: A Conceptual Framework. *Sustainability* **2017**, *9*, 1112. [CrossRef]
25. Lenzerini, F. Terrorism, Conflicts and the Responsibility to Protect Cultural Heritage. *Int. Spect.* **2016**, *51*, 70–85. [CrossRef]
26. Marzeion, B.; Levermann, A. Loss of cultural world heritage and currently inhabited places to sea-level rise. *Environ. Res. Lett.* **2014**, *9*, 034001. [CrossRef]
27. Prus, B.; Wilkosz-Mamcarczyk, M.; Salata, T. Landmarks as Cultural Heritage Assets Affecting the Distribution of Settlements in Rural Areas—An Analysis Based on LIDAR DTM, Digital Photographs, and Historical Maps. *Remote. Sens.* **2020**, *12*, 1778. [CrossRef]
28. Wójcik-Leń, J.; Leń, P.; Mika, M.; Kryszk, H.; Kotlarz, P. Studies regarding correct selection of statistical methods for the needs of increasing the efficiency of identification of land for consolidation—A case study in Poland. *Land Use Policy* **2019**, *87*, 104064. [CrossRef]
29. Kościółek, M. Wykorzystanie analizy wielowymiarowej do badania zróżnicowania potencjału innowacyjnego Polski. *Metod. Ilościowe Bad. Ekon.* **2015**, *16*, 194–201.
30. Król, K. Forgotten agritourism: Abandoned websites in the promotion of rural tourism in Poland. *J. Hosp. Tour. Technol.* **2019**, *10*, 431–442. [CrossRef]
31. Śledzik, K. Wykorzystanie unitaryzacji zerowanej do analizy porównawczej przewagi konkurencyjnej spółek z sektora „High-Tech” i „Medium High-Tech”. *Zarządzanie Finans.* **2014**, *2*, 255–274.
32. Gabryjończyk, K.; Gabryjończyk, P. Zróżnicowanie rozwoju sektora kultury w województwie świętokrzyskim. *Tur. Rozw. Reg.* **2020**, *14*, 101–114. [CrossRef]
33. Walesiak, M. Problemy decyzyjne w procesie klasyfikacji zbioru obiektów. *Pr. Nauk. Akad. Ekon. Wrocławiu* **2004**, *13*, 52–71.
34. Statistics Poland. *Area and Population in the Territorial Profile in 2020*; Standards and Registers Department: Warsaw, Poland, 2020. Available online: <http://bit.ly/GUS-stat> (accessed on 8 June 2021).
35. NID—National Heritage Institute, National Heritage Board of Poland. Available online: <https://mapy.zabytek.gov.pl/nid> (accessed on 8 June 2021).
36. CRFNP—Central Register Nature Protection Measures, General Directorate for Environmental Protection. Available online: <http://crfop.gdos.gov.pl/CRFOP/search.jsf> (accessed on 8 June 2021).
37. MriRW—Ministry of Agriculture and Rural Development. Available online: <https://www.gov.pl/web/rolnictwo/lista-produktow-tradycyjnych12> (accessed on 8 June 2021).
38. PIPRL—Polish Chamber of Regional and Local Products (Polska Izba Produktu Regionalnego i Lokalnego). Available online: <http://www.produktyregionalne.pl/jakosc.php?body=article&name=produkty-posiadajace-znak&lang=pl> (accessed on 8 June 2021).
39. Local Data Bank, Central Statistical Office, Statistics Poland. Available online: <https://bdl.stat.gov.pl> (accessed on 8 June 2021).
40. The Act of 16 April 2004 on the Nature Conservation (Ustawa z Dnia 16 Kwietnia 2004 r. o Ochronie Przyrody). 2020, Item 55, as Amended. Available online: <http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200000055> (accessed on 8 June 2021).
41. UNESCO. *Convention for the Safeguarding of the Intangible Cultural Heritage*; UNESCO: Paris, France, 2003. Available online: <https://ich.unesco.org/en/convention> (accessed on 8 June 2021).

42. The Act of 23 July 2003 on the on the Protection and the Care of Monuments (Ustawa z Dnia 23 Lipca 2003 r. o Ochronie Zabytków i Opiece nad Zabytkami). 2021, Item 710, as Amended. Available online: <http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20031621568> (accessed on 8 June 2021).
43. The Act of 27 March 2003 on Spatial Planning and Development (Ustawa z Dnia 27 Marca 2003 r. o Planowaniu i Zagospodarowaniu Przestrzennym). 2021, Item 741, as Amended. Available online: <http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDu20030800717> (accessed on 8 June 2021).
44. Król, K. Digital cultural heritage of rural tourism facilities in Poland. *J. Cult. Herit. Manag. Sustain. Dev.* **2020**. Unpublished work. [[CrossRef](#)]
45. Kukula, K.; Bogocz, D. Zero unitarisation method and its application in ranking research in agriculture. *Econ. Reg. Stud. (Studia Ekonomiczne i Regionalne)* **2014**, *7*, 5–13.
46. Spiegel, M.R.; Stephens, L.J. *Schaum's Outline on Theory and Practice of Statistics*, 3rd ed.; McGraw-Hill: New York, NY, USA, 1999.
47. Jajuga, K.; Walesiak, M. Standardisation of Data Set under Different Measurement Scales. In *Classification and Information Processing at the Turn of the Millennium*; Decker, R., Gaul, W., Eds.; Springer: Berlin/Heidelberg, Germany, 2000; pp. 105–112.
48. Prus, B.; Król, K.; Gawroński, K.; Sankowski, E.; Hernik, J. From Classic (Analogue) to Digital Forms of Cultural Heritage Protection in Poland. In *Digital Cultural Heritage*; Kremers, H., Ed.; Springer: Berlin/Heidelberg, Germany, 2019; pp. 255–278.
49. Jenks, G.F. The data model concept in statistical mapping. *Int. Yearb. Cartogr.* **1967**, *7*, 186–190.
50. Amit-Cohen, I.; Sofer, M. Cultural heritage and its economic potential in rural society: The case of the kibbutzim in Israel. *Land Use Policy* **2016**, *57*, 368–376. [[CrossRef](#)]
51. Ebejer, J. Urban heritage and cultural tourism development: A case study of Valletta's role in Malta's tourism. *J. Tour. Cult. Chang.* **2019**, *17*, 306–320. [[CrossRef](#)]
52. Ramkissoon, H.; Uysal, M.S. The effects of perceived authenticity, information search behaviour, motivation and destination imagery on cultural behavioural intentions of tourists. *Curr. Issues Tour.* **2011**, *14*, 537–562. [[CrossRef](#)]
53. Ramkissoon, H. Authenticity, satisfaction, and place attachment: A conceptual framework for cultural tourism in African island economies. *Dev. South. Afr.* **2015**, *32*, 292–302. [[CrossRef](#)]
54. McKercher, B.; Ho, P.S. Assessing the tourism potential of smaller cultural and heritage attractions. *J. Sustain. Tour.* **2006**, *14*, 473–488. [[CrossRef](#)]
55. Egusquiza, A.; Zubiaga, M.; Gandini, A.; de Luca, C.; Tondelli, S. Systemic Innovation Areas for Heritage-Led Rural Regeneration: A Multilevel Repository of Best Practices. *Sustainability* **2021**, *13*, 5069. [[CrossRef](#)]
56. Šťastná, M.; Vaishar, A.; Brychta, J.; Tuzová, K.; Zloch, J.; Stodolová, V. Cultural Tourism as a Driver of Rural Development. Case Study: Southern Moravia. *Sustainability* **2020**, *12*, 9064. [[CrossRef](#)]
57. Krogmann, A.; Ivanič, P.; Kramáreková, H.; Petrikovičová, L.; Petrovič, F.; Grežo, H. Cultural Tourism in Nitra, Slovakia: Overview of Current and Future Trends. *Sustainability* **2021**, *13*, 5181. [[CrossRef](#)]
58. Perić, B.Š.; Šimundić, B.; Muštra, V.; Vugdelija, M. The Role of UNESCO Cultural Heritage and Cultural Sector in Tourism Development: The Case of EU Countries. *Sustainability* **2021**, *13*, 5473. [[CrossRef](#)]
59. Drabarczyk, K. Zrównoważony rozwój województw—Analiza porównawcza. *Zesz. Nauk. Politech. Częstochowskiej Zarządzanie* **2017**, *25*, 23–34. [[CrossRef](#)]
60. Paluch, Ł.; Zuzek, D. Ocena poziomu rozwoju infrastruktury służącej kształtowaniu i ochronie środowiska w województwach Polski. *Studia Ekon.* **2017**, *334*, 120–130.
61. Rogalska, E. Multiple-criteria analysis of regional entrepreneurship conditions in Poland. *Equilib. Q. J. Econ. Econ. Policy* **2018**, *13*, 707–723. [[CrossRef](#)]