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The Evaluation of Sustainable Development Projects in Marginal Areas: An A'WOT Approach

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Abstract: The increasing urbanization trend, projected to reach 70% of the global population residing in cities by 2050, underscores the pivotal role of cities in achieving the Sustainable Development Goals (SDGs) set by the 2030 Agenda for Sustainable Development (UN, 2015) and combating climate change. Nonetheless, the 2023 report by the United Nations Human Settlements Programme (UN Habitat) reveals an alarming gap in achieving SDG 11 "Sustainable cities and communities" by 2030. This gap highlights the urgent need for transformative shifts in urban policies and investments to prevent cities from becoming centers of global disparities, including socio-economic inequalities, digital divide, and spatial fragmentation, particularly in marginal areas. Marginal areas suffer indeed from conditions of sub-optimality in planning capacity, valuable decision-making, and project implementation. The inadequate planning, management, and governance of marginal areas, coupled with suboptimal investments, can severely compromise their socioeconomic condition. Planning efforts frequently fall short in achieving long-term sustainability goals due to localized and short-sighted decision-making processes, particularly evident in marginal areas. It is crucial, though, to support their public administrations in the achievement of the SDG 11 targets and in their responsive participation in the calls for the allocation of public funding. In this paper, we provide a theoretical and methodological approach to evaluate urban regeneration projects in marginal areas. In detail, we develop an A'WOT approach, which combines a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis to the Analytic Hierarchy Process (AHP), to rank alternative urban development projects.

Keywords: urban development projects; A'WOT; sustainability; marginal areas

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1. Introduction

According to 2022 estimates by the United Nations Human Settlements Programme (UN Habitat), by 2050, 70% of the world population will live in cities [1]. As a result, cities and urban areas play a fundamental role in implementing the Sustainable Development Goals set by the 2030 Agenda for Sustainable Development [2] and fighting climate change. Nonetheless, the 2023 UN Habitat report reveals that the world is far from achieving SDG 11 "Sustainable cities and communities" by 2030 [3–5]. Significant shifts in current urban policies and investments are needed to prevent cities from becoming grounds for global divides, which include ever-growing socio-economic inequalities, digital divide, and spatial fragmentation. These divides risk being exacerbated in marginal areas, which are regions characterized by limited access to economic opportunities, essential services, and social infrastructure, often leading to socio-economic disparities and exclusion from mainstream development processes.

The inadequate planning, management, and governance of many urban areas coupled with poor investments can greatly diminish the quality of life of local populations. Despite the numerous advantages stemming from economies of scale, due to urban areas' high population density that allows for more efficient provision of public services, which lower

costs per capita, policy-makers and urban planners are at the forefront in addressing the challenges posed by environmental degradation, inequalities and social segregation, service provision, and urban health and aging. In addition, the COVID-19 pandemic provides an austere reminder that cities must enhance their resilience to get prepared for unpredictable events.

Despite the concept of sustainability and sustainable development, expressed in the Brundtland report in 1987 [6], the conceptualizations of sustainability principles remain rather limited in Governments' policies. Urban development projects entail actions aimed at transforming or/and improving a specific area within a city border and encompass the construction of new buildings and infrastructures, as well as the redevelopment or revitalization of existing structures and public spaces [7]. These projects indeed affect the three pillars of sustainability: economics, environment, and society [8–12]. Nonetheless, planning efforts have often proven to be unsuccessful in the long term due to a lack of global sustainability. Local projects are frequently developed and undertaken under the driver of contingent needs, which are in turn constrained by tight deadlines and a below-strength project team. These challenges, which lead to an inefficient and sometimes myopic identification of interventions to be undertaken [13,14], become harsher the smaller the project territorial scale. Marginal areas indeed suffer from conditions of sub-optimality in planning capacity, valuable decision-making, and project implementation. On top of that, the assessment of project sustainability in urban contexts has always represented a critical issue in planning and public decision-making, due to the vagueness of the concept of sustainability and the complexity of the valuation of urban development by its very nature [15].

It is crucial, though, to support marginal areas both in their pathway towards the achievement of the SDG 11 targets and in their responsive participation to the calls for the allocation of public funding.

The objective of this paper is to provide a valuation framework to support public administrations operating in marginal areas in the ranking of urban development projects, which potentially can participate in the calls for the allocation of financial resources at the national or EU level. The aim of public administrations is indeed to finance projects that generate positive impacts locally and are sustainable in the long run, according to the three pillars on which the sustainability paradigm is grounded.

In detail, we develop an A'WOT approach, which combines a Strengths, Weak-nesses, Opportunities, and Threats (SWOT) analysis to the Analytic Hierarchy Process (AHP), to rank alternative urban development projects to be undertaken in a marginal area located in Central Italy.

The remainder of the paper is organized as follows: Section 2 includes the methodological background focusing on the A'WOT approach. It also delves into case studies, detailing the SWOT analysis conducted for each project. Additionally, it outlines the decision-making framework through the SWOT matrix and elucidates the evaluation process employed to select A'WOT criteria. Section 3 illustrates the main findings and discusses the alternatives' final ranking. Finally, Section 4 summarizes the findings and discloses limitations and possible future directions of the research.

2. Urban Sustainable Development Projects in Marginal Areas

The concept of marginal areas is complex and multifaceted within the realm of urban studies and sustainable development. In contrast to urban areas, which are known for their dense population, extensive infrastructure, commercial vigor, and residential expansion, marginal areas are often characterized by a combination of physical, social, and economic challenges that render them less desirable or functional compared to more central or prosperous parts of a city or region. The connection between urban and marginal areas lies in their spatial proximity and interdependence. Marginal areas serve as buffers between urban centers and rural landscapes, providing essential services, such as food production, natural resource management, and recreational spaces. Additionally, they often experience

spillover effects from urban development. Understanding the intrinsic nature of marginal areas is crucial for devising effective strategies for urban sustainable development. These areas indeed are often challenged by accentuated vulnerabilities (e.g., limited access to essential services, poor infrastructure, digital divide, and social inequalities) and require targeted interventions to improve their livability and resilience.

The concept of marginality encompasses an intricate phenomenon, influenced by various interconnected environmental and socio-economic factors. As such, the definition and utilization of marginal land can vary significantly depending on the geographical region, national context, and organizational perspective [16–18].

Marginal areas, also called Inner Peripheries, are defined as national territories facing challenges of access to basic services of general interest [19]. They are characterized as multidimensional phenomena that exacerbate the impacts of various socio-economic processes leading to detachment from external territories and networks. Marginal areas are distinguished by their level of disconnection, rather than their geographical proximity to the central region of Europe. Shared among marginal areas is the fact that their overall performance, development levels, access to services, or quality of life of the population tend to be relatively lower compared to neighboring territories. According to ESPON, a European Union funded program, the three conditions that can result in marginal areas are as follows: (i) existing as an "enclave" with restricted access to economic activity centers; (ii) facing insufficient access to vital services, stemming from factors like geographic isolation, shifts in service delivery methods, or austerity measures; (iii) facing the absence of "relational proximity", resulting in exclusion from the economic mainstream due to limited engagement with wider networks. These circumstances are defined by social and institutional dynamics within individuals, groups, businesses, or organizations, rather than purely by geographic factors.

According to the Italian National Strategy for Inner Areas (SNAI), marginal areas are characterized by notable remoteness from primary and advanced service centers (e.g., health, education, mobility, etc.), yet they boast abundant environmental resources (e.g., water, agricultural systems, forests, natural and human landscapes, etc.) and cultural assets (e.g., archaeological sites, historical settlements, abbeys, small museums, craft centers, etc.) [20]. These areas typically lack adequate access to essential services, infrastructures, and economic opportunities, which in turn leads to disparities in living conditions and quality of life compared to more privileged parts of the city [16]. Marginalization in urban contexts can manifest in various forms, including the following: (i) physical degradation, (ii) lack of services and infrastructures, (iii) social exclusion and inequality, (iv) economic deprivation due to depopulation, a high unemployment rate, and poverty, and (v) environmental vulnerability [21–25].

Italy, like many other countries in Europe and worldwide, grapples with the challenges posed by marginal areas within its urban and rural landscapes. In Italy, marginal areas are often affected by a combination of economic stagnation, social exclusion, and environmental degradation, particularly in southern regions, in which the population density is low. The development of these regions is crucial for achieving balanced territorial growth and fostering sustainable development across the country. The SNAI 2014–2020 constitutes one of the strategic intervention lines of the European Structural Funds for the programming cycle 2014–2020. It is supported both by European funds for the co-financing of local development projects and by national resources [20]. The aim of the SNAI strategy is to mitigate, over the medium term, the demographic decline observed in specific regions of the country. These regions are identified by SNAI as those situated farthest from primary and advanced essential service hubs. SNAI's primary goal is to generate fresh income prospects and enhance accessibility to crucial services for residents, with a primary focus on local public transport, education, social and health services, economic diversification, and social inclusion.

Efforts to promote urban sustainable development in marginal areas encompass a range of interventions aimed at addressing the root causes of marginalization while

enhancing the resilience and well-being of local communities. These projects often adopt a holistic approach that integrates environmental, social, and economic dimensions of sustainability. The Italian National Recovery and Resilience Plan (NRRP), also supported by the fund for marginal areas, established in 2021 by the Territorial Cohesion Agency, aims to support and finance marginal areas by promoting sustainable development, social inclusion, and economic growth. Key priorities for NRRP fund allocation in marginal areas include the following: (i) infrastructure development to improve transportation networks, access to water and sanitation facilities, energy systems, and digital connectivity; (ii) citizens' empowerment and economic support for initiatives aimed at promoting entrepreneurship, innovation, and job creation, including access to financing skills development programs and local industries and businesses; (iii) social inclusion and territorial cohesion to address social inequalities, promote access to education, healthcare, and social services, and empower marginalized communities to participate in decision-making processes; (iv) environmental sustainability to promote environmental conservation, sustainable land management, and climate resilience actions (e.g., reforestation, ecosystem restoration, and mitigation of climate change effects) [26].

Marginal areas represent complex urban spaces facing a combination of physical, social, and economic challenges. Understanding the dynamics of marginalization is essential for formulating effective strategies for urban sustainable development. Supporting public administrations in their decision-making process in ranking urban development projects can enhance the sustainability and effectiveness of investments in these areas.

3. Materials and Methods

Based on the decision-maker's (i.e., the municipality) objective, in the structuring phase of the decision-aiding process, the decision problem was formulated as a ranking problem. Any decision problem is indeed a partition of a set of actions A (e.g., the projects under investigation) under some properties and is reduced in aggregating some ordering relations applied to set A [27–29]. Nonetheless, within the proposed valuation framework, the set A was partitioned into ordered classes via pairwise comparisons, where the primitive is the binary relation ("at least as good as"):

$$\succcurlyeq \subseteq A \times A \tag{1}$$

which results in a partitioning of A in $[A_1]$,. . .$[A_n]$, such that

$$[A_j] \geq [A_i] \Leftrightarrow j \geq i \; and \; \forall \mathrm{x} \in [A_j], \; y \in [A_i] : x \succcurlyeq' y \tag{2}$$

To solve the ranking problem, we implemented an A'WOT model to aggregate preferences and obtain a global preference structure with respect to any alternative (i.e., a global value judgment based on each alternative), which in utility/value functions in which preference structures are weak orders [30–32].

The A'WOT analysis represents the fusion of two decision-making approaches widely adopted in decision-making and strategic planning: the Analytic Hierarchy Process (AHP) and the SWOT analysis. The AHP, initially introduced by Saaty in the 1980s [33,34], is renowned for its structured approach to complex decision-making and provides a systematic method for evaluating and prioritizing criteria based on pairwise comparisons. Saaty and Kearns emphasize the utility of multicriteria methodologies in facilitating analytical planning processes. They underline the intricate nature of systems, hierarchies, and prioritization within planning endeavors, characterizing planning as a distinctive mode of decision-making. They also review conventional planning methods, delineating their limitations, and propose how these can be mitigated through the adoption of a systems-oriented, multicriteria perspective [35].

On the other hand, SWOT analysis is based on internal and external evaluation criteria, also defined as SWOT categories, and offers a comprehensive assessment of SWOT categories: namely, internal Strengths and Weaknesses, which can contribute to achieving

objectives, and external Opportunities and Threats, which can prevent objectives from being achieved [36–38]. SWOT analysis is extensively utilized as a tool for analyzing both internal and external environments, providing a systematic approach to support strategic decision-making in various contexts. SWOT analysis excels in identifying key factors for analysis to support the decision-making. However, it primarily provides qualitative assessments [39]. To rectify this limitation and enhance the quantitative foundation of strategic planning processes, the A'WOT method has been proposed in the early XXI [40]. A'WOT is a hybrid approach that integrates SWOT analysis with the Analytic Hierarchy Process.

In the realm of strategic management and decision support systems, the merger of AHP and SWOT analysis combines the strengths of both methodologies. By integrating the rigor of AHP's quantitative analysis with the qualitative insights of SWOT analysis, the A'WOT method offers a robust framework for strategic decision-making and a priority setting. This synergy enables decision-makers to leverage the depth of the SWOT analysis while incorporating the analytical rigor and prioritization capabilities of the AHP. We opted to employ an A'WOT model due to the synergistic benefits derived from combining these two distinct features. The AHP method facilitates a clear and efficient ranking of the proposed alternatives. However, identifying criteria and sub-criteria can prove complex, particularly when involving diverse groups of experts. Conversely, SWOT analysis assists in this process by establishing criterion levels and enhancing the identification of sub-criteria, aligned with its four factors. This is especially advantageous in urban design contexts, where decision-makers consistently apply SWOT logic to plan programmatic decisions.

The integration of the AHP within a SWOT framework aims to assess, systematically, SWOT categories and factors and render them comparable in terms of their relative importance [40]. The SWOT framework establishes the fundamental structure for analyzing a decision-making scenario, while the AHP supplements the SWOT analysis with a robust analytical decision-making tool [41]. Through the assessment of SWOT categories and factors, it becomes possible to discern, for instance, whether particular weaknesses demand primary attention or threats may surpass future cumulative opportunities [41–43].

Once the significance of various SWOT categories is established, alternatives can be ranked according to the overall strategic decision-making problem setting.

The A'WOT is therefore a hybrid method that unfolds according to the following steps (Figure 1):

- Phase I: Problem structuring.
- Phase II: SWOT analysis.
- Phase III: Construction and validation of the hierarchy.
- Phase IV: Pairwise Comparisons and aggregation of experts' judgments and consistency index calculation.
- Phase V: Final ranking of alternatives and sensitivity analysis.

In this study, we implement an A'WOT approach to rank, from best to worst, urban development projects. This tool holds potential value for public administrations in their decision-making processes to select strategic projects for potential candidacy in public funding allocation. In detail, we develop and implement an A'WOT model to rank three alternative projects to be undertaken in a marginal area, defined by the National Strategy for Marginal Areas [20], and located in Central Italy [15].The three projects consist of an Urban Digital Innovation Center (Project#1), the implementation of a Renewable Energy Community District (Project#2), and a Center for Active Ageing (Project#3). The three projects encompass three distinct potential alternative projects that the municipality may undertake in coherence with NRRP funds in the marginal area under investigation (Table 1). The first alternative (Project#1) consists of a vacant building to be redeveloped into an Urban Digital Innovation Center. This project involves demolishing a section of the current structure and constructing an Innovation-Lab dedicated to art, photography, and digital media, as well as co-studying and co-working spaces. Additionally, the complex will feature a performance hall, a library, a cafeteria, and a restaurant. The second alternative (Project#2) consisting of the implementation of a Renewable energy community district, aims to install

photovoltaic panels on around 21 public buildings, such as schools, libraries, cultural centers, and municipal offices, engaging additional private residential users. Finally, the last alternative (Project#3) plans to redevelop a currently vacant building into a Center for Active Ageing. This project intends to undertake significant renovations and repurposing of the building. This will include enhancements to seismic resilience, facility upgrades, and energy efficiency improvements. The refurbished structure will accommodate an elderly center, senior housing services, a primary health care facility, a library, and a recreational center. Each project has an initial investment cost of approximately four million euros, to be completed in less than two years to match the NRRP spending horizon [15]. Table 1 outlines a summary description of the alternatives, the assets that are subject to renovation (i.e., existing improvements), and a concise demographic statistical overview of the municipality area in which the three alternative projects might be undertaken. As to area, Table 1 reports its Density (inhabitants/km^2), Population Trend (%), Age Index (%), Average Age (Yrs), share of inhabitants who are not Italian citizens, i.e., Foreigners Percentage (%), Unemployment rate (%), and average number of the economically dependent population per 100 economically productive population, i.e., the Dependency ratio (%), Mortality index (%), and Vacant buildings index (%).

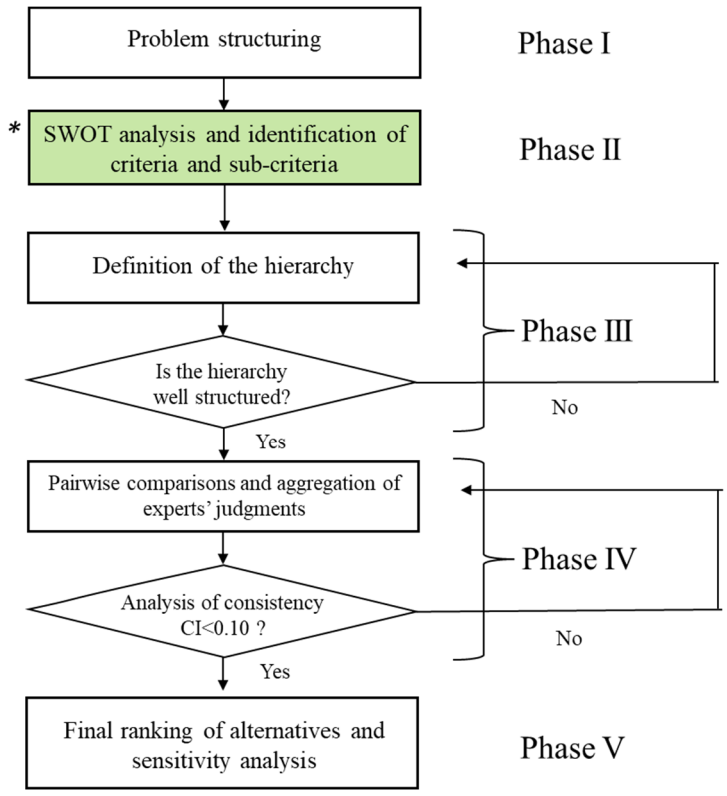

Figure 1. A'WOT flowchart. Authors' elaboration from De Felice et al. [44].

As outlined previously, the evaluation process is articulated into five stages. The initial stage involves the implementation of the SWOT analysis and the construction of the SWOT matrix to delineate the decision problem. Specifically, SWOT categories were disaggregated into distinct factors, representing pivotal facets for the evaluation of urban development projects. To ascertain these SWOT factors, we conducted an extensive literature review on the main drivers of urban development projects and urban quality [15,45]. Additionally, we identified and interviewed a panel of experts comprising local authorities, academics, and technical stakeholders engaged in redevelopment projects. Figure 2 details the SWOT factors identified:

- S1—Energy Performance: it relates to the capability of the project to improve the energy efficiency of existing buildings.
- S2—Cohesion, Equal Opportunities, and Education: it relates to the capability of the project to increase education, training, and qualified work levels and promote social cohesion or engagement.
- S3—Digitalization: it relates to the capability of the project to raise digital skills or digital connectivity.
- W1—Project Operation and Maintenance Costs: it relates to the operation and maintenance costs of the project.
- W2—Funding Constraints: it relates to the opportunity of applying for public funding to cover initial investment costs.
- W3—Investment Timing: it relates to the project timing and duration.
- O1—Job Creation: it relates to the capability of the project to increase local employment rates throughout the project life cycle.
- O2—Neighborhood Urban Quality: it considers the capability of the project to improve urban quality and quality of life in the surrounding neighborhood.
- O3—Circular Economy: it relates to the capability of the project to use large shares of local or circular products out of the total materials used.
- T1—Demographic Decline: it relates to whether the local demographic decline can affect the project's successful implementation.
- T2—Absence of Complementary Services: it relates to the lack of public services complementary to the project (e.g., public transport, elderly care services, public spaces, etc.), which can affect the project's cost-effectiveness.
- T3—Regulatory Risks: it relates to possible changes in regulation, which can affect business or property use in the project area.

Table 1. Alternatives and marginal area characterization.

	Description	Asset	Asset Size	Target Population	Costs
Project#1	Urban Digital Innovation Center	Former school building requalification	2000 m^2 of gross floor area (GFA)	Youth, young families, young entrepreneurs, youth not in employment, education or training (NEET), adolescents, and young individuals facing challenges	EUR 4,200,000
Project#2	Renewable Energy Community-PV plants	Private and Public buildings requalification	20,000 m^2 of roof area	Private citizens, private enterprises, and municipal public facilities.	EUR 3,500,000
Project#3	Center for Active Ageing	Former school building requalification	2600 m^2 of GFA	Seniors, young families, children, and youth experiencing difficult circumstances.	EUR 4,100,000
				Marginal area characterization	
				Density (inhabitants/km^2)	12.95
				Population trend 2023/2022, variation over the previous year (%)	−3.34%
				Age index *	166
				Average Age (Yrs)	60.6
				Foreigners Index **	4.40%
				Unemployment rate	9.2%
				Dependency ratio ***	110
				Mortality index	34
				Vacant buildings index ****	11.5

* Age index = number of elderly population (≥65 years) per 100 individuals younger than 14 years old. ** Foreigners Index = (number of non-Italian citizens)/(total population). *** Dependency Ratio = 100 × [young population (0–14 yrs) + elderly population (≥65 yrs)]/population (15–64 yrs). **** Vacant buildings index = number of vacant and abandoned buildings/total existing buildings.

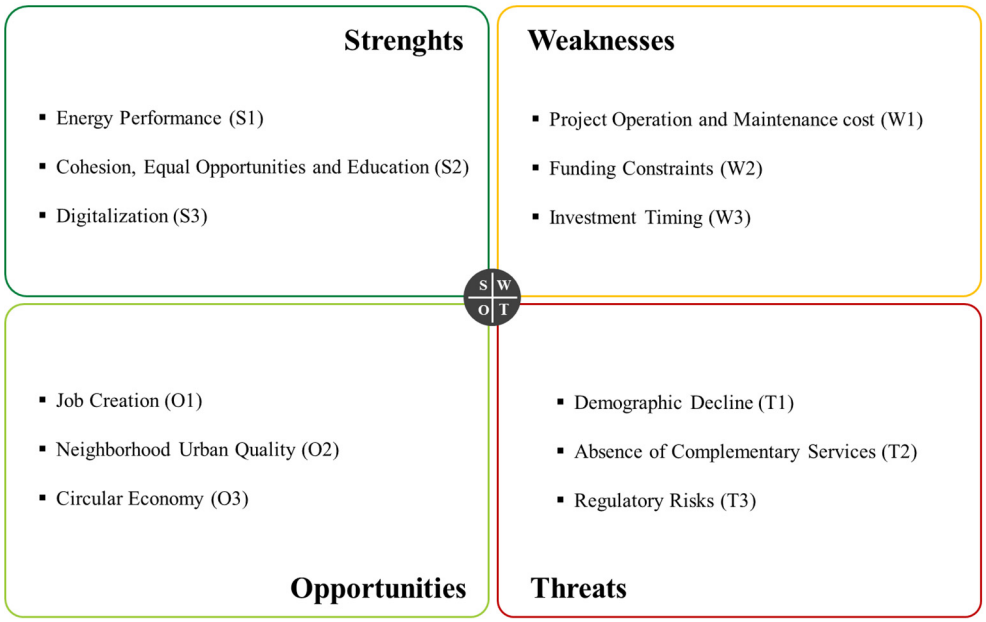

Figure 2. SWOT factors identified for the projects under investigation. Authors' elaboration.

According to the proposed framework (Figure 1), in Phase I, the decision problem was structured by defining the problem statement (i.e., ranking problem) and identifying actors, stakeholders, objectives, points of view, and alternatives.

In Phase II, a SWOT analysis was performed for the three alternative urban development projects and Strengths, Weaknesses, Threats, and Opportunities were identified (Figure 2). In Phase III, SWOT categories and factors were structured into a hierarchy (Figure 3).

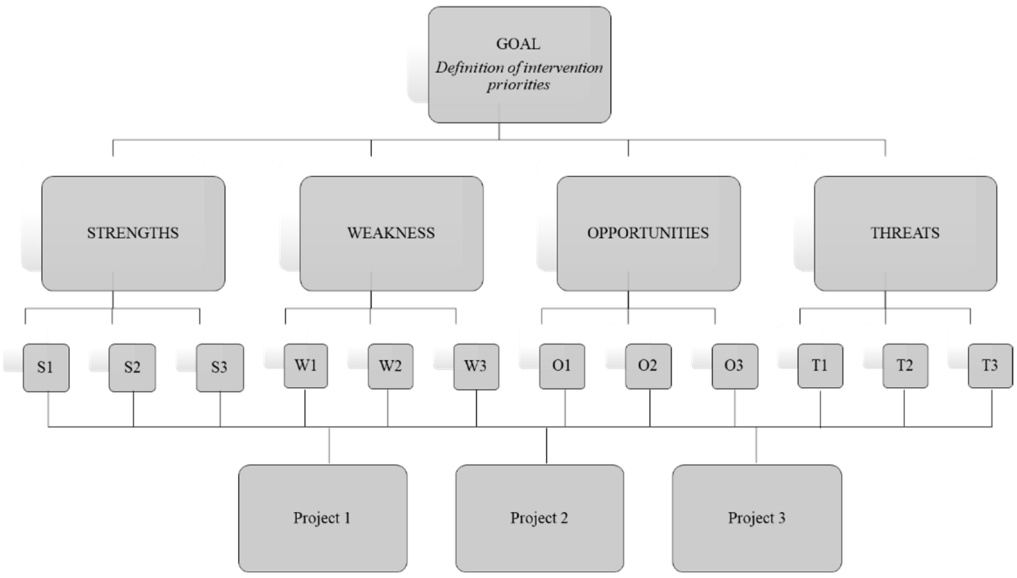

Figure 3. Hierarchy. Authors' elaboration.

The uppermost tier of this hierarchy represents the overarching goal namely, the ranking of urban development projects based on their potential for implementing successful and sustainable valorization strategies in the marginal area of interest. Subsequently, at lower hierarchical levels, criteria (SWOT categories) and sub-criteria (SWOT factors) are delineated. Finally, at the base of the hierarchical structure, the alternatives under investigation (i.e., the three urban development projects) are located. The hierarchy was validated

by the decision-maker and the panel of experts. Once the hierarchy was structured, in Phase IV and Phase V, the AHP was implemented. In detail, relations within the hierarchical structure and the relative importance of criteria, sub-criteria, and alternatives are determined through pairwise comparisons. Elements at each hierarchical level are pairwise comparisons with respect to their control criterion or sub-criterion (i.e., their parent node). In other words, alternatives are pairwise-compared against each SWOT factor, each SWOT factor is pairwise-compared against its parent SWOT category, and finally, SWOT categories are pairwise-compared against the goal (see example in Figure 4).

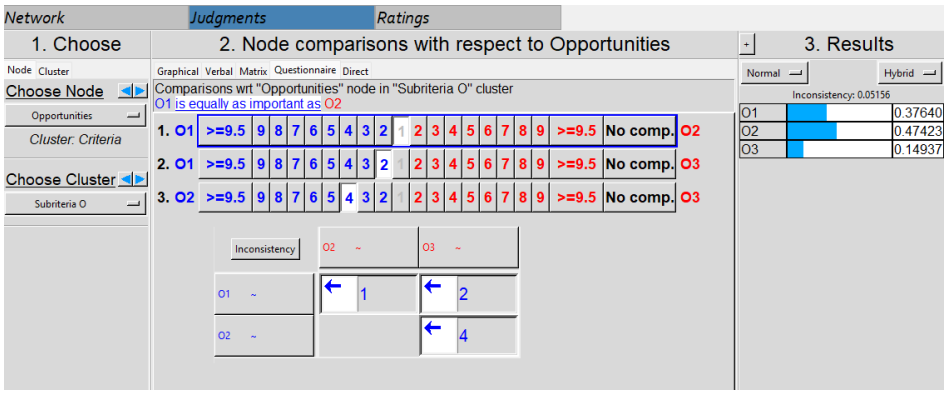

Figure 4. Example of pairwise-comparison questions for the evaluation of sub-criteria O1, O2, and O3 with respect to criterion "Opportunities". Source: SuperDecision Software V-3.2.

In pairwise comparisons, the relative importance of hierarchical elements is expressed via sematic judgments, which are converted into value judgments according to the Saaty's fundamental scale (Table 2).

Table 2. Saaty's fundamental scale. Source: Saaty, 1980.

Intensity of Importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Moderate importance	Experience and judgment strongly favor one activity over another
5	Strong importance	Experience and judgment strongly favor one activity over another
7	Very strong or demonstrated importance	An activity is strongly favored, and its dominance demonstrated in practice
9	Extreme importance	The evidence favoring one activity over another is of the highest possible order of affirmation
2, 4, 6, 8	Intermediate values between the two adjacent judgments	When compromise is needed
Reciprocals	If activity has one of the above numbers assigned to it, when compared with another activity, then this latter has the reciprocal value when compared with the former	A reasonable assumption

Pairwise comparisons are used to fill pairwise-comparison matrices of rank n (1), namely square matrices of preferences, in which the dominance coefficient a_{ij} represents the relative importance of the element on row i against the element on column j [34,46]. To clarify, the value of a_{ij} corresponds to the relative importance of a specific criterion,

sub-criterion, or action A_i when compared to another criterion, sub-criterion, or action A_j. A score of 1 denotes equal importance between the two components, while a score of 9 indicates the extreme importance of component i over component j. Pairwise comparison matrices take the form of square $n \times n$ positive reciprocal matrices of preferences (Figure 5). The comparisons along the main diagonal are set to 1 due to the reflexive nature of the binary preference relation, while the elements within the lower part of the sub-matrix are reciprocals of the elements within the upper triangle (i.e., $a_{ji} = \frac{1}{a_{ij}}$):

$$A = a_{ij} = \begin{matrix} \\ A_1 \\ A_2 \\ \dots \\ A_n \end{matrix} \begin{vmatrix} A_1 & A_2 & \dots & A_n \\ 1 & a_{12} & \dots & a_{1n} \\ 1/a_{12} & 1 & \dots & a_{2n} \\ \dots & \dots & \dots & \dots \\ 1/a_{1n} & 1/a_{2n} & \dots & 1 \end{vmatrix}$$

Figure 5. Pairwise-comparison matrix.

The principal eigenvector à la Perron-Frobenius of each pairwise-comparison matrix represents the node priorities (i.e., weights). To test the consistency of judgements, the consistency index CI is calculated [33,34,47]:

$$\mathrm{CI} = \frac{(\lambda_{max} - n)}{(n-1)} \quad (3)$$

where λ_{max} is the maximum eigenvalue and n is the rank of the pairwise-comparison matrix, respectively. For consistency to be satisfied, CI < 0.1.

Finally, the ranking of alternatives, based on global priorities (i.e., global weights), is obtained by implementing a weighted-sum aggregation procedure throughout the hierarchical levels [34].

4. Results and Discussion

Conducting Phases IV and V, as previously mentioned, we facilitated a focus group session, led by a moderator, to validate the hierarchy and local and global priorities through dynamic and collaborative discussions. The focus group involved experts with diverse expertise to include as many varieties of thinking as possible. Brainstorming sessions aided in the consensus-building process based on the final set of weights, which were derived by calculating experts' judgment geometrical means according to group decision-making theory [48,49]. Specifically, as above mentioned, local priorities were determined using the eigenvalue approach to pairwise comparisons and calculating the geometric mean, which permits a synthesis of experts' judgements to be made and represents, consequently, the representative judgement of the entire panel of experts. Finally, group local priorities were then aggregated within the hierarchy to establish global priorities among criteria and sub-criteria [50–52]. Table 3 displays criteria and sub-criteria priority vectors. The weighted geometric mean aggregation method was employed to compute global priorities, effectively capturing preference information embedded within the local pairwise comparison matrices of alternatives. The A'WOT model within SuperDecision V3.2 Software was employed to obtain priority vectors and finalize the ranking. As shown in Table 3, Strengths and Threats Criteria play a major role, with priorities of 0.4515 and 0.3072, respectively, followed by Opportunities and Weaknesses Criteria, at 0.1366 and 0.1047. It is important to highlight that when evaluating Strengths and Opportunities, attributing a higher priority to one alternative over another is equivalent to its potential based on these two factors. Conversely, when evaluating Weaknesses and Threats, attributing a higher priority to an alternative over another is equivalent to maximizing its potential in mitigating these two factors.

Table 3. Criteria and sub-criteria priority vectors.

Criteria	Criteria Priorities	Sub-Criteria	Sub-Criteria Priorities
Strengths	0.4515	S1—Energy Performance	0.2797
		S2—Cohesion, Equal Opportunities, and Education	0.6267
		S3—Digitalization	0.0936
Weaknesses	0.1047	W1—Project Operation and Maintenance Costs	0.4054
		W2—Funding Constraints	0.4806
		W3—Investment Timing	0.1140
Opportunities	0.1366	O1—Job Creation	0.3764
		O2—Neighborhood Urban Quality	0.4742
		O3—Circular Economy	0.1494
Threats	0.3072	T1—Demographic Decline	0.1998
		T2—Absence of Complementary Services	0.6833
		T3—Regulatory Risks	0.1169

This ranking of criteria is rather intuitive for urban development processes, wherein the public administration relies on the project's Strengths and Opportunities to ensure cost-effective public spending. Additionally, it reveals the intention of the public administration to minimize the project's potential negative impacts on the surrounding neighborhood, by preferring intervention strategies that mitigate Threats and Weaknesses. Based on the direct inspection of Table 3, it emerges that a high relative importance has been attributed to Cohesion, Equal Opportunities, and Education (S2) and to Complementary Services Absence (T2), with an overall priority (i.e., global weight) of 0.2829 and 0.2099, respectively. Energy Performance (S1) follows closely behind with a global weight of 0.1263. Finally, in Table 4 we reported the priority vectors of alternatives with respect to each sub-criterion, along with the final ranking of the projects, calculated based on both normal and ideal global priorities.

Table 4. Alternatives' priority vector and final ranking.

Sub-Criteria	Alternatives		
	Project#1	Project#2	Project#3
S1	0.1667	0.6667	0.1667
S2	0.5278	0.1396	0.3325
S3	0.5714	0.1429	0.2857
W1	0.2000	0.6000	0.2000
W2	0.4444	0.1111	0.4444
W3	0.5584	0.1220	0.3196
O1	0.5584	0.1220	0.3196
O2	0.6250	0.1365	0.2385
O3	0.2000	0.6000	0.2000
T1	0.1692	0.4434	0.3874
T2	0.4721	0.4443	0.0836
T3	0.2000	0.6000	0.2000
Overall Priority (Normals)	0.4220	0.3316	0.2464
Overall Priority (Ideals)	1.0000	0.4220	0.1407

According to the results obtained from the implementation of the proposed A'WOT model, Project#1 exhibits the highest potential for a successful implementation of the public administration's urban development and public-assets valorization strategies. This is primarily attributable to the project's involvement in the redevelopment of a currently abandoned and vacant asset that is undergoing degradation, which in turn results in negative externalities affecting the surrounding neighborhood. Additionally, this project is

characterized by its swift intervention, offering employment opportunities and fostering cohesion within the local population. Furthermore, it addresses the provision of complementary and digitalization services, which are crucial for the cohesive and comprehensive development of marginal areas. Project#2 is ranked second. This project is appealing for its capacity to improve the energy performance of existing buildings, while also providing an opportunity for social aggregation. However, it faces challenges related to timing and the opportunity to raise the employment rate. Project#3 is last in the ranking due to its susceptibility to the high rates of local depopulation prevalent in the marginal areas of the country, posing a significant threat to its success and effectiveness.

5. Conclusions

The ranking of urban development projects is a complex process, which requires a profound knowledge of their peculiarities and involves multiple decision criteria, actors, and stakeholders whose objectives are often conflicting and competing. In this paper, we provided an A'WOT model for ranking urban development projects in marginal areas. A'WOT provides a reliable tool to support policy-makers in identifying priorities through a multi-criteria approach. The A'WOT approach indeed couples the SWOT analysis with the AHP, thus benefitting from a strategic planning and management perspective provided by the former and the analytically determined priorities of the SWOT factors that in turn become commensurable thanks to the latter.

In detail, we considered three alternative projects: Project#1, Project#2, and Project#3. Project#1 consists of the redevelopment of a vacant building into an Urban Digital Innovation Center, whereas Project#2 involves the implementation of a renewable energy community district, and, finally, Project#3 aims to redevelop a currently vacant building into a Center for Active Ageing. Our findings show that, according to experts' judgement, Project#1 is ranked as first, due to its potential for a successful implementation of the public administration's urban development strategy and public-assets valorization strategy. By contrast, Project#3 is final in the ranking as it is more exposed to the threats of local depopulation compared to the other alternatives. Indeed, the projects' Strengths and Threats are valued as the more important criteria. Although our results are grounded in experts' judgements, they can have interesting policy implications and contribute to clarify the accountability, transparency, and legitimacy of the underlying public decision process.

The proposed multicriteria approach has been applied to assist a municipality located in a marginal area in ranking alternative projects to apply for PNRR funds. We opted for adopting an A'WOT approach, which is acknowledged in the literature to be effective in ranking projects by addressing their strengths and weaknesses simultaneously based on their impacts on the territory, both positive (opportunities) and negative (threats). Although the A'WOT method implements complex evaluation techniques, through a set of actions meant to engage stakeholders, its results are indeed transparent and easy to understand by decision-makers and stakeholders and, consequently, it favors the co-construction of valorization strategies and fosters quality governance processes. These processes are instrumental in enhancing the efficiency of administrative programmatic choices while aligning with the conscious needs of the territory. With the aid of integrated evaluation methodologies, like SWOT and AHP, collaborative actions can be formulated and comprehended by stakeholders engaged in the territory's valorization process. This facilitates more effective public decision-making, thereby advancing the collective goals of enhancing the territory. Despite its positive aspects, the implementation of the model revealed certain weaknesses. Utilizing AWOT necessitates a comprehensive grasp of both AHP and SWOT methodologies. This complexity can present challenges for stakeholders who are unfamiliar with these techniques, resulting in extended evaluation and discussion times within focus groups.

Further research will include the development of a first-hand list of SWOT categories and factors, which match NRRP requirements, to be adopted in the valuation of urban development projects in marginal areas.

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