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A NEW MODEL FOR DEVELOPING PUBLIC PROJECTS CONDITIONED BY REGIONAL RESILIENCE AND SUSTAINABLE DEVELOPMENT STRATEGIES

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Purpose: The purpose of the article is to develop a model of public projects co-financed from external sources that integrates the paradigms of resilience, sustainable development, and demographic conditions resulting from regional strategies.
Design/methodology/approach: The study applies a desk research method, including a qualitative analysis of academic literature as well as strategic documents at the European Union, national, and regional levels. The analysis has an exploratory–comparative character and is aimed at identifying and synthesising approaches to integrating resilience, sustainability, and demographic factors in public policies.
Findings: The findings indicate the key role of regional self-government authorities in reducing demographic disparities and reveal gaps in policy integration and in the assessment of project resilience. The proposed DRS Model is based on three pillars: demographic planning, an adaptive project structure, and institutional coordination.
Research limitations/implications: The limitations result from the conceptual nature of the study and the availability of data. Further comparative analyses, the development of forecasting modules, and research on the costs and effectiveness of adaptive solutions are recommended. Practical implications: The model constitutes a tool supporting the effectiveness and durability of public projects under conditions of uncertainty and demographic pressure.
Social implications: The approach fosters the development of inclusive and long-term regional development.
Originality/value: The originality lies in integrating resilience, sustainable development, and demography within an operational model of public project management.
Keywords: public projects, resilience and sustainable development paradigms, demographic change.
Category of the paper: Research paper.

1. Introduction

Under conditions of increasing macroeconomic uncertainty, demographic pressure, and the growing dependence of local and regional authorities on external sources of public funding, a significant research problem emerges, consisting in the limited capacity of existing public project planning systems to integrate the paradigms of sustainable development, resilience, and demographic conditions. In particular, an insufficient linkage between project processes and demographic diagnoses is observed, as well as a lack of operationalisation of adaptive mechanisms under conditions of high uncertainty (Kerzner, 2006; Podgórska, Pichlak, 2019; Zaskórski et al., 2015; Zespół ds. Polityki Regionalnej PWEiKPP, 2025).

In response to the identified research problem, the aim of the article is to develop a model of public projects co-financed from external sources that integrates the paradigms of resilience, sustainable development, and demographic conditions resulting from regional strategies, oriented towards increasing implementation effectiveness and the durability of public intervention outcomes. The achievement of this objective requires addressing the following research questions:

Q1: How, and through which mechanisms, does the integration of the paradigms of sustainable development and resilience influence the effectiveness, efficiency, and durability of public projects financed from external sources?

Q2: What systemic barriers (institutional, informational, and methodological) limit the linkage of project processes with demographic diagnoses and social forecasts?

Q3: What institutional and planning mechanisms can enhance the adaptability of public projects financed from external sources under conditions of crises and demographic pressure?

Based on the formulated research problem and research questions, the following research hypotheses were proposed:

H1: The integration of the paradigms of sustainable development and resilience at the regional level leads to a significant increase in the effectiveness, efficiency, and durability of public projects financed from external sources.

H2: Public projects based on demographic diagnoses and risk management mechanisms are characterised by higher adaptive capacity and greater implementation effectiveness compared to projects that do not take these factors into account.

2. Theoretical framework

2.1. Sustainable development and resilience as complementary paradigms of regional development under conditions of demographic change

The paradigm of sustainable development has been present in economic sciences and public policies for several decades, with its contemporary interpretation deriving both from the Brundtland Report (World Commission on Environment and Development, 1987) and from earlier analyses of the Club of Rome (Meadows et al., 1972, 1992, 2004). This concept was institutionally consolidated during the Earth Summit in Rio de Janeiro in 1992 and refers to a model of development that enables the needs of the present generation to be met without compromising the ability of future generations to meet their own needs, taking into account both intergenerational and intragenerational equity.

From an economic perspective, sustainable development has evolved towards sustainability economics, emphasising the efficiency of managing scarce resources under conditions of uncertainty, as well as the need to balance development capitals: economic, social, human, and natural (Baumgärtner, Quaas, 2010; Malik, 2011). This approach has a normative character and implies an active role of the state and local governments in correcting market failures, in particular through regional development policies, strategies, and instruments of public intervention. As indicated by Jastrzębska and Legutko-Kobus (2010) as well as Bedrunka and Malik (2014), the key challenge is maintaining a long-term balance between development capitals, which determines the sustainability of socio-economic processes.

In parallel, the resilience paradigm has developed, with its origins in ecological research on system stability (Holling, 1973), and subsequently expanded in psychology, sociology, and management sciences as the capacity of systems to adapt, absorb shocks, and transform (Bonanno, 2004; Bourbeau, 2013, 2015). In recent years, the concept of resilience has been adapted to public policies and regional governance (including, among others, the EU Strategy on Adaptation to Climate Change 2021+ and National Recovery Plans under the Recovery and Resilience Facility) (European Commission, 2024; EU Strategy on Adaptation, 2021), gaining particular importance in the context of economic, climatic, and geopolitical crises (Davoudi et al., 2013; Folke, 2016; OECD, 2025). Recent empirical studies further develop methods for assessing and applying resilience in territorial policies—from multidimensional approaches (governance, infrastructure, social capital) to indicator-based assessment tools at the regional and metropolitan levels—as reflected, among others, in the works of Bedrunka-Gudaniec (2023), Kapucu (2024), and Suárez et al. (2024).

The literature emphasises that the paradigm of sustainable development has a long-term and integrative character, whereas resilience focuses on the short-term adaptive capacity of systems under conditions of uncertainty (Meerow et al., 2016). As indicated by Czaja (2017) and Bedrunka and Malik (2014), these approaches are complementary but operate according to

different decision-making logics and time horizons. Contemporary research additionally highlights the growing importance of demographic processes-population ageing, migration, and depopulation—as key determinants of the resilience of socio-economic systems and the design of public services (Lv et al., 2024; European Commission, 2024; Śleszyński, 2025; Dolińska et al., 2023). Moreover, the results of recent empirical studies indicate an increasing scale of demographic and social pressure in Poland, manifested, inter alia, in high levels of stress among young people (approx. 60%), increasing social isolation (38-42%), instability of youth employment (58%), and delays in achieving independence (over 50% of individuals aged 25-34 remain in their parents' households), which points to an accumulation of developmental risks and the growing social and economic costs of these processes in the long term, thereby reinforcing the need for a systemic and integrated approach to the design of public policies (Polish Social Policy Association, 2026).

Despite the growing body of research on both sustainable development and resilience, an analysis of the literature and strategic documents indicates a significant research gap consisting in the limited integration of these paradigms with the demographic dimension at the operational level, particularly in the management of public projects. In the practice of regional policies, it is observed that although development strategies increasingly refer to resilience and sustainability, the mechanisms of their implementation within the project life cycle remain fragmented and inconsistent.

In particular, there is a lack of operationalisation of such categories as adaptive capacity, resilience to shocks, and long-term changes in population structure within the procedures of selection, monitoring, and evaluation of public projects. This is confirmed both by academic literature indicating difficulties in the practical application of the resilience concept (Meerow, Newell, Stults, 2016) and by institutional analyses highlighting implementation limitations of regional policies (OECD, 2025). Evaluation studies further indicate that the inclusion of sustainable development criteria in the project selection process increases the durability of their outcomes; however, the integration of these criteria with other dimensions of development remains limited (Instytucja Zarządzająca PO IR & CEAPR, 2017; Ministerstwo Rozwoju, 2017). At the same time, intensifying demographic challenges—including population ageing and depopulation of peripheral regions—affect the ability of regions to effectively absorb public funds and deliver public services (GUS, 2024; Rada Ministrów, 2021).

The identified research gap justifies the need to develop an integrated approach to public projects that would combine the paradigms of sustainable development, resilience, and demographic conditions within a coherent operational model. The integration of these dimensions may contribute to increasing the effectiveness and durability of public projects by better aligning interventions with long-term development objectives and enhancing the capacity of territorial systems to respond to uncertainty and shocks. At the same time, it can be expected that projects based on demographic diagnoses and risk management mechanisms will exhibit higher adaptive capacity and greater implementation effectiveness.

2.2. The EU budget for 2028-2034 and new directions for public projects in Poland

In the context of growing geopolitical, climatic, and demographic challenges, the European Union is preparing new Multiannual Financial Framework (MFF) for the period 2028-2034. Poland, as the largest beneficiary of cohesion policy, is expected to receive approximately EUR 123 billion, which means that the future architecture of public projects will largely depend on EU priorities and their implementation at the national and regional levels (European Commission, 2025 COM(2025) 558; European Commission, 2025 COM(2025) 558/1).

Table 1.
Proposed EU budget for 2028-2034 by areas of support and amounts (current prices)

No.	Area of financing	Amount [EUR bn]	Share of budget [%]	Remarks
1.	National and Regional Partnership Plans	865	44%	Main part of the budget: cohesion policy, ERDF, Cohesion Fund, ESF+
2.	European Competitiveness Fund[1]	409	21%	Including digital technologies, green technologies, biotechnology, and defence
3.	Global Europe	200	10%	Global partnerships, security, support for Ukraine
4.	Other[2]	293	15%	CEF, public health, internal market, Euratom, CFSP, "Pericles IV" programme
5.	Repayment of NextGenerationEU	168	8%	Debt servicing of the NGEU instrument
6.	Erasmus+ and AgoraEU	49	2%	Education, mobility, social innovation
	Total	**2000**	**100%**	–

Note. Table 1 presents the proposed allocation of the European Union budget for 2028-2034 in current prices, based on the draft presented by the European Commission in July 2025. The total budget amounts to EUR 2000 billion (EUR 2 trillion) over a seven-year period, representing approximately 1.26% of the EU's average gross national income (GNI) during that period.

Source: Author's own elaboration based on data from the European Commission.

The new financial perspective focuses on six strategic priorities: cohesion policy; investments in competitiveness, innovation, and the digital and energy transition; socio-economic resilience; security and defence; global partnerships; and the rule of law (European Commission, 2025). For Poland, this implies the need to adjust the project programming system not only to EU objectives but also to the actual demographic and economic challenges faced by regions.

From Poland's perspective, three areas will be of particular importance. First, cohesion policy and demographic transformation: the European Regional Development Fund (ERDF), the Cohesion Fund, and the European Social Fund Plus (ESF+) remain the core

[1] This includes Horizon Europe and the Innovation Fund (EUR 41 billion), which are not included in the above breakdown.

[2] It includes the Connecting Europe Facility (CEF), civil protection and public health, the Single Market Programme, the Euratom research and training programme, the Common Foreign and Security Policy (CFSP), justice, the decommissioning of nuclear facilities, overseas countries and territories (OCTs), and the "Pericles IV" programme.

of the budget. However, projects must better incorporate demographic diagnoses, such as adapting healthcare and care services to an ageing population or investing in education and internal migration. Second, socio-economic resilience and security: the European Union will allocate nearly EUR 400 billion to strengthening crisis preparedness (European Commission, 2025). Projects in this area should include early warning systems, critical infrastructure, energy transition initiatives, and local climate adaptation programmes. Third, competitiveness and innovation: the European Competitiveness Fund will support digital, green, and biotechnological technologies. Polish regions must align their smart specialisation strategies (RIS3) with EU objectives in order to compete effectively (Draghi, 2024) and ensure sustainable economic growth, while simultaneously strengthening their position within European value chains.

Based on previous experience in implementing projects financed from European funds, it can be concluded that future public projects in Poland should be demographically sensitive, taking into account depopulation forecasts, including population ageing; integrate sustainable development and resilience within a single operational model of project design and evaluation; link national and regional objectives with EU priorities in order to meet conditionality and efficiency requirements; and apply hybrid indicators (resilience × sustainability) as a basis for monitoring project effectiveness. Such an approach may enhance Poland's capacity to absorb EU funds effectively and to meet increasing conditionality and performance requirements, while simultaneously strengthening regional resilience to future crises and social transformations.

3. Methods

The study was conducted using a qualitative analytical–conceptual approach, combining a review of academic literature, an analysis of strategic documents, and comparative synthesis (Figure 1). The methodological objective was to identify conceptual and operational gaps in existing approaches to public projects and to develop a framework for a new model integrating demographic, resilience, and sustainable development dimensions.

A comparative policy document analysis was applied to selected strategic documents at the European Union, national, and regional levels. The analysis covered, inter alia, regional development strategies, draft programming documents for European Union funds for the period 2028-2034, the Demographic Strategy 2040, as well as regional demographic analyses and forecasts. It also included resilience and adaptation frameworks, encompassing the EU Strategy on Adaptation to Climate Change, the National Recovery Plan, and selected documents related to risk management and territorial resilience, including national and regional crisis management plans, risk assessment documents prepared for crisis management purposes, and strategies and

programmes concerning critical infrastructure security and the continuity of public service provision.

A key methodological component was a matrix-based analytical framework, involving the construction of a matrix integrating three dimensions: development resilience (DR), sustainable development (DS), and demographic conditions (D). This matrix was used to systematically assess the coherence of strategic objectives, financial instruments, and project logic, enabling the identification of areas of complementarity, tension, and implementation gaps.

Based on the results of the comparative and matrix analyses, a conceptual synthesis was conducted, resulting in the development of an original model for public projects. The modelling process was iterative and involved the step-by-step identification and refinement of project principles, governance levels, decision-making mechanisms, and evaluation indicators, ultimately leading to the formulation of the Demography–DR×DS (DRS Model).

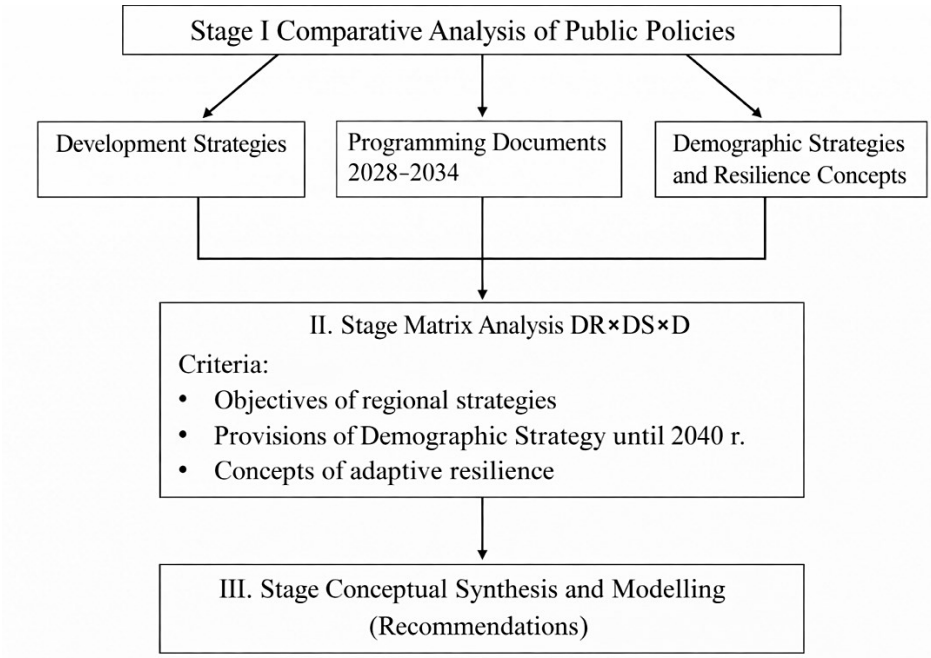

Figure 1. Research methodology.

Source: Author's own elaboration.

4. Results

The proposed model of a new approach to public projects, referred to as the Demography–DR×DS Model, constitutes a conceptual framework for the design, implementation, and evaluation of projects co-financed from external sources at the regional level. The DRS Model is a direct outcome of the analysis of the DR×DS×D matrix (Table 2).

It is characterised by three constitutive features: (1) the prioritisation of demographic diagnoses as the starting point for planning public interventions; (2) the integration of the paradigms of development resilience (DR) and sustainable development (DS) within project logic; and (3) the linkage of national and regional objectives with the priorities and conditionality of European Union policy.

The analysis of the DR×DS×D matrix demonstrated the necessity of simultaneously incorporating all three dimensions into project logic, which provided the direct basis for the construction of the DRS Model and the formulation of six guiding principles (6P).

Table 2.
The DR×DS×D analytical matrix underlying the construction of the DRS Model

Dimensions DS \ DR	Shock absorption capacity	Adaptive capacity	Transformative capacity
DS – social dimension	Ensuring the continuity and accessibility of basic public services under crisis conditions (age structure, depopulation)	Adjusting the scope and forms of social service provision to demographic changes	Transforming models of public service provision in response to long-term changes in population structure (migration, changes in demand)
DS – economic dimension	Maintaining the continuity of the local economy and labour market under shock conditions (labour resources)	Diversification of the regional economic structure and adjustment of competencies to demographic changes (labour mobility)	Transformation of the regional economic development model in response to demographic and technological trends
DS – environmental dimension	Resilience of environmental and municipal infrastructure to disruptions and crises (population concentration)	Adaptation of energy, transport, and spatial systems to changing demographic needs (population density)	Long-term environmental transformation towards climate neutrality and efficient resource management under changing population structures

Note. Table 2 presents the DR×DS×D analytical matrix forming the basis for the construction of the DRS Model. The matrix was developed through a comparative synthesis of strategic documents at the European Union, national, and regional levels, as well as findings from the relevant literature, and identifies the dominant patterns of integration between sustainable development objectives, development resilience, and demographic conditions.

Source: Author's own elaboration based on an analysis of European Union and Polish strategic documents and the relevant literature.

The model is based on six principles (6P), which function as meta-principles organising the entire life cycle of a public project:

1. Priority of population and demographic structure – demographic diagnoses, encompassing population ageing, depopulation, and migration processes, constitute the starting point for the planning and design of public interventions.
2. Project portfolio-level management – strategic decisions are taken at the level of the project portfolio, enabling the coordination of interventions, allocation of resources, and maximisation of development effects at the regional scale rather than at the level of individual projects.

3. Parity between resilience and sustainable development – the resilience of territorial systems and sustainable development are treated as complementary and equally important objectives in the planning and implementation of public projects.
4. Territorially differentiated (place-based) approach – project interventions are designed with due regard to the territorial specificity of regions and functional areas, including smart specialisations (RIS3), peripheral areas, and urban agglomerations.
5. Evidence- and impact-based evaluation – project effectiveness and durability are assessed using hybrid sets of indicators combining economic, social, environmental, and resilience-related measures.
6. Coherence of public policies and project interventions – project activities remain aligned with the strategic priorities of the European Union, national development documents, and the principles of financial conditionality.

The architecture of the proposed model is based on three interrelated levels, forming a multidimensional conceptual framework for the design and implementation of public actions aimed at achieving a regional development strategy grounded in the principles of resilience (DR) and sustainable development (DS):

- Strategic (regional) level – includes the mapping of demographic risks, the construction of the DR×DS matrix, and the contracting of objectives in relation to EU priorities.
- Programmatic (operational) level – involves the development of portfolios of public projects grouped into three clusters: (i) cohesion and demography, (ii) resilience and security, and (iii) competitiveness and innovation; this level employs conditionality matrices and financing maps.
- Project (implementation) level – assumes the use of a standardised project fiche with modules covering, inter alia, demography, energy transition risks, digitalisation, social inclusion, and finance.

The life cycle of public projects within the DRS Model is structured around decision gates. These include the following stages:

- G0-G1: concept and selection – preparation of a demographic diagnosis and an DR×DS analysis.
- G1-G2: conceptual design – definition of the intervention logic and theory of change.
- G2-G3: financing – construction of the financial model and assessment of project life-cycle costs.
- G3-G4: implementation – execution of the adaptive plan and monitoring of project indicators.
- G4-G5: closure – resilience audit, assessment of demographic impact, and preparation of the project sustainability plan.

A novel feature of the proposed model is the application of a hybrid project evaluation system based on key performance indicators (KPI DRS – Key Performance Indicators: Demography–Resilience–Sustainability), built around three criteria:

- resilience (R) – measured by service recovery time, the level of redundancy, and crisis preparedness,
- sustainability (S) – assessed through energy efficiency, environmental impact, and quality of life,
- demography (D) – indicators of service accessibility for the population aged 65+, migration balance, and educational dependency.

The integrated KPI DRS index enables continuous monitoring and the automatic activation of adaptive mechanisms when indicator values fall below predefined thresholds.

The model assumes the establishment of specialised governance structures, including a Project Portfolio Committee responsible for strategic decisions and indicator weighting, a Public Projects Office responsible for methodology, monitoring, and audit, and thematic leaders acting as custodians of project portfolios. In addition, the model provides for the establishment of citizens' panels within consultation processes. These institutional solutions constitute mechanisms that enhance the adaptability of public projects to crises and demographic pressures and are implemented in practice by regional self-government authorities as key actors in regional policy.

An integral component of the model is a risk register encompassing demographic, climatic, geopolitical, and economic scenarios. Each project undergoes resilience testing ex ante, mid-term, and ex post. Furthermore, the model assumes an adaptive reserve of up to 5% of project value to support actions undertaken under crisis conditions.

The proposed model enables the integration of the long-term logic of sustainable development with short-term adaptive capacity, while simultaneously incorporating the demographic dimension. As a result, it becomes a tool for enhancing the effectiveness, durability, and coherence of public projects co-financed from external sources, in relation to regional development strategies constructed on the paradigms of resilience and sustainable development. The adoption of this approach should contribute to strengthening the capacity of regions to respond to future economic, climatic, and social crises, as well as to building competitive advantages under conditions of intensifying competition for capital, innovation, and human resources.

The effectiveness of the proposed model is subject to several limiting factors. First, the implementation of hybrid solutions requires a high level of institutional coordination, which under conditions of multi-level governance may generate the risk of decision-making fragmentation. The analysis confirms that regional self-government authorities play a significant role in mitigating regional demographic disparities through the implementation of instruments aimed at strengthening local social, economic, and environmental resilience. As such, they constitute a key link between the strategic priorities of the European Union and regional development practice. Second, dependence on external funding sources, including European Union funds, renders the long-term stability of the model sensitive to changes in EU policy priorities. Third, the strong embedding of the model's logic in demographic

diagnoses requires reliable prognostic data, which are themselves subject to uncertainty, particularly in the context of increasing migration mobility and global shocks. While the model has the potential to enhance regional competitiveness by better aligning interventions with local resources and needs, it may also lead to the deepening of development asymmetries if appropriate mechanisms of redistribution and interregional solidarity are not implemented.

5. Discussion

The conducted research, encompassing a review of the literature as well as an analysis of Polish and European strategic documents at the national and regional levels, together with matrix analysis and conceptual synthesis, made it possible to demonstrate that the proposed DRS Model constitutes a coherent framework for integrating the paradigms of resilient development and sustainable development with a demographic sensitivity perspective across the project life cycle. From the perspective of public sector economics and institutional economics, the model provides mechanisms for reducing coordination failures and information asymmetries through the standardisation of decision-making stages in the form of decision gates (Gates), the introduction of a hybrid project evaluation system based on key performance indicators, and the institutionalisation of multi-level governance arrangements.

The obtained results should be situated more broadly within the existing body of research on territorial resilience, sustainable development, and public management. First, they are consistent with the findings of Davoudi, Brooks, and Mehmood (2013), who indicate that resilience should not be understood solely as the ability to return to a pre-crisis state, but rather as the capacity of territorial systems to adapt and transform. In this sense, the DRS Model develops this perspective by transferring the logic of resilience from the level of general adaptive strategies to the level of operational management of public projects, equipping it with concrete decision-making mechanisms, indicators, and management gates.

Second, the proposed approach corresponds with the conclusions of Meerow, Newell, and Stults (2016), who emphasise that one of the fundamental weaknesses of resilience research remains definitional ambiguity and the difficulty of operationalising this concept in planning practice. The results of this study confirm this diagnosis, demonstrating that in the procedures of selection, monitoring, and evaluation of public projects, resilience-related categories are still addressed in a fragmented manner. At the same time, the DRS Model constitutes an attempt to overcome this gap by linking resilience with measurable project components, namely the demographic diagnosis, the KPI DRS system, resilience testing, and the adaptive reserve.

Third, the results are consistent with the recommendations of the OECD (2025), according to which effective regional policy should adopt a place-based approach, integrate development objectives with resilience, and consider the differentiated institutional capacities of regions.

In this respect, the proposed model strengthens the existing approach, as it does not limit itself to indicating the need for territorial differentiation of interventions, but embeds it within the structure of project portfolios, conditionality mechanisms, and resource allocation rules. This means that the contribution of the article lies not only in confirming the importance of the territorial approach, but also in its operationalisation at the project level.

Fourth, the obtained results remain consistent with recent studies on the multidimensional assessment of territorial resilience. Kapucu (2024) emphasises the importance of integrating governance, infrastructure, and social capital, while Suárez et al. (2024) point to the growing role of indicator-based tools for assessing resilience at the regional and metropolitan levels. Compared to these approaches, the DRS Model adds value by incorporating the demographic dimension into the evaluation architecture, as well as by linking indicators to the life cycle of public projects rather than solely to the diagnosis of the regional condition.

Fifth, the results of this study are situated within the stream of research indicating the complementarity of the paradigms of sustainable development and resilience, while at the same time demonstrating that their real integration requires institutional mechanisms rather than merely strategic declarations. This is consistent with the findings of Bedrunka and Malik (2014) as well as the more recent approach to integrated resilience at the regional level (Malik, Szewczuk-Stępień, Bębenek, 2024); however, the article extends these findings by shifting the focus from the level of development policy to the level of public projects and programmes. Thus, the proposed model may be treated as an intermediate link between the strategic logic of regional development and the practical implementation of interventions financed from external sources.

In this context, it is important to relate the research results to the formulated research objective and hypotheses. Regarding hypothesis H1, which assumes that the integration of sustainable development and resilient development objectives increases the effectiveness, efficiency, and durability of public projects, the obtained results indicate its conditionally positive verification. The analysis demonstrated that the integration of both paradigms strengthens the internal coherence of intervention logic and supports the maintenance of the economic value of projects in the long term, particularly when projects are linked with risk matrices and adaptive mechanisms. At the same time, the effectiveness of this approach remains strongly dependent on the quality of institutional coordination and the stability of financing frameworks, which limits the possibility of unconditionally confirming hypothesis H1 across all regional contexts.

Stronger confirmation was obtained with respect to hypothesis H2, concerning the role of demographic diagnoses and risk management in shaping the adaptability and implementation effectiveness of projects. The inclusion of a demographic module and the application of resilience testing at the ex-ante, mid-term, and ex-post stages improve the alignment of public service supply with the changing demand structure resulting from population ageing, migration, and depopulation processes. Integrated KPI DRS performance indicators, combining resilience,

sustainability, and demographic components, support more targeted resource allocation and institutional learning processes. At the same time, significant risks were identified related to the quality and timeliness of prognostic data and the capacity of public administration to effectively operationalise such data at the project level.

The analysis also makes it possible to formulate several institutional and economic implications. First, it confirms the key role of regional self-government authorities in translating European Union priorities into regional policy. These entities act as intermediaries between EU and national strategic frameworks and the operational implementation of public interventions, contributing to the reduction of demographic disparities through instruments aimed at strengthening social, economic, and environmental resilience. Second, the 6P mechanisms enable a shift in the decision-making perspective from the level of individual projects to the programmatic and portfolio levels, strengthening the coherence of public interventions and reducing the risk of fragmentation of actions. Third, the economic rationale of the DRS Model is reflected in improvements in dynamic efficiency: the application of decision gates and an adaptive reserve reduce the costs of delays and decision-making errors, while simultaneously creating space for the reallocation of resources towards actions generating higher net social value.

At the same time, the analysis reveals significant limitations and implementation risks. First, the DRS Model is sensitive to the political and institutional cycle and to the variability of European Union funding priorities. Second, under conditions of low institutional maturity, there is a risk of decision-making fragmentation and a formal rather than real integration of resilience and sustainability objectives. Third, the implementation of the model may deepen territorial inequalities if it is not supported by mechanisms for equalising the absorptive and institutional capacities of regions. Finally, the effectiveness of the demographic and risk management components remains strongly dependent on data quality and the accuracy of forecasting models. This means that the proposed model has high potential utility; however, its effects depend on institutional conditions, data quality, and the stability of financing frameworks.

6. Summary

The article makes a theoretical and applied contribution by designing a coherent operational model integrating the components of resilience, sustainability, and demography at the level of public projects. The conducted analyses indicate that the proposed solution may constitute a useful tool for enhancing dynamic efficiency, the durability of benefits, and the adaptive capacity of public interventions, provided that appropriate institutional capacities and stable financing frameworks are ensured.

In light of the obtained results, hypothesis H2, relating to the importance of demographic diagnoses and risk management for the adaptability and implementation effectiveness of public projects, received stronger confirmation than hypothesis H1. Hypothesis H1, which assumed a positive impact of integrating the objectives of resilient and sustainable development on the effectiveness, efficiency, and durability of projects, was confirmed conditionally, with the quality of institutional coordination and the stability of financing mechanisms identified as key moderating factors.

However, the study has certain limitations. First, it is of a conceptual–analytical nature and is based primarily on the analysis of literature and strategic documents, without direct verification of the model on a large sample of implemented public projects. Second, the proposed model is embedded primarily in the conditions of the Polish institutional system, which limits the possibility of directly transferring its assumptions to other public management systems. Third, an important limitation remains the dependence on the quality of prognostic data, particularly regarding migration processes and demographic changes characterised by a high level of uncertainty.

Consequently, the following directions for further research are justified. First, comparative quantitative and qualitative analyses of the effects of implementing the DRS Model in an interregional context are needed, based on evaluation data, benchmarking, and limited counterfactual analyses. Second, it is advisable to test and periodically update the demographic module using forecasting scenarios applied in national and regional practice, with particular emphasis on migration and changes in age structure. Third, cost–benefit analyses of the use of the adaptive reserve in public projects within ex ante and ex post evaluations are warranted. Fourth, in-depth institutional studies on the functioning of multi-level governance in the management of projects and programmes are needed, aimed at identifying mechanisms for reducing decision-making fragmentation and disparities in absorptive capacity between regions.

In conclusion, the DRS Model provides economically grounded and methodologically coherent tools for strengthening the resilience of the public-sector project system. However, its effective implementation requires conscious management of institutional risk, stable financing frameworks, and an active policy aimed at equalising absorptive capacities between regions. Therefore, the model should be treated not as a closed normative solution, but as an open analytical and implementation framework requiring further empirical verification.

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