

## A Data Driven Methodological Approach to Economic Pre-Evaluation of Reuse Projects of Ancient Urban Centers

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**Abstract :** The upgrading of the architectural and urban heritage of the urban historic centers almost always involves the planning for the reuse and refunctionalization of the structures. Such interventions have complexities linked to the need to take into account the urban and social context in which the structure and its intrinsic characteristics such as historical and artistic value are inserted. To these, of course, we have to add the need to make a preliminary estimate of recovery costs and more generally to assess the economic and financial sustainability of the whole project of re-socialization. Particular difficulties are encountered during the pre-assessment of costs since it is often impossible to perform analytical surveys and structural tests for both structural conditions and obvious cost and time constraints. The methodology proposed in this work, based on a multidisciplinary and data-driven approach, is aimed at obtaining, at very low cost, reasonably priced economic evaluations of the interventions to be carried out. In addition, the specific features of the approach used, derived from the predictive analysis techniques typically applied in complex IT domains (big data analytics), allow to obtain as a result indirectly the evaluation process of a shared database that can be used on a generalized basis to estimate such other projects. This makes the methodology particularly indicated in those cases where it is expected to intervene massively across entire areas of historical city centers. The methodology has been partially tested during a study aimed at assessing the feasibility of a project for the reuse of the monumental complex of San Massimo, located in the historic center of Salerno, and is being further investigated.

**Keywords :** evaluation, methodology, restoration, reuse

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