

Optimising Barcelona's Participatory Budget — Decidim's Knapsack Algorithm Outperforms Rank-and-Select

AI in the Public Sector · Good practice · Spain

Quality score: 53/100

Evidence strength: Observational / pre–post

Summary

IIIA-CSIC researchers applied a knapsack-optimisation algorithm to real Barcelona participatory-budget votes from the Eixample and Gràcia pilots, showing it selects up to 92% more citizen-backed proposals per euro than the city's standard rank-and-select method, at equal cost.

Key dimensions

Dimension	Score
Evidence of impact / measured public value	2/3
Transparency, fairness & accountability	2/3
Transferability / demonstrated replication	2/3
Scalability beyond pilot	1/3
Governance, capability & sustainability	1/3

Evaluated by C-NAPSE

Data sources

[C-NAPSE web research](#) — accessed 2026-08-15

[Ajuntament de Barcelona / IIIA-CSIC](#) — accessed 2026-08-15

[IIIA-CSIC paper \(PDF\)](#) — accessed 2026-08-15

[Barcelona official Eixample pilot record](#) — accessed 2026-08-15

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