What Works for SMEs in Circular Transition? A Multi-Country Comparative Analysis of Development Tool Effectiveness

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Abstract

This paper presents a multi-criteria comparative analysis of six categories of development tools deployed within the Circular Innovation Hub project (CI-Hub), an Interreg Danube initiative engaging 13 implementing partners and 74 small and medium-sized enterprises (SMEs) across 13 countries. Drawing on empirical data from the program's piloting phase, we evaluate solution providers, B2GreenHub/Green Path Academy tools, free online tools, in-house/advisory approaches, grants and funding support mechanisms, and software tools across five performance dimensions: adoption speed, real and perceived productivity, cost-benefit ratio, ease of use, and scalability. Our findings reveal that no single tool dominates across all dimensions, but that a phased, precision-matched deployment strategy – beginning with free digital tools for universal engagement and advancing toward targeted expert interventions and software solutions for higher-maturity SMEs – consistently outperforms generic or multi-tool approaches. Free online tools achieve the highest composite score when cost is factored in, while B2GreenHub/GPA tools deliver the most consistent program-wide productivity and the broadest sectoral coverage. Software tools generate the highest individual KPI gains when precisely matched to a specific operational gap. A strong positive correlation ($r = 0.74$) between ease of use and KPI improvement is identified, reinforcing the centrality of facilitator skill in tool deployment. Sector-specific patterns are documented across seven industrial sectors, and three partner typologies are shown to systematically favor different tool strategies. Recommendations for future large-scale circular transition project design are provided.

Index Terms

Circular Economy, SME Support Tools, Multi-Country Study, Development Tool Effectiveness