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## **CONTROLLING AND EXTREME PROJECT MANAGEMENT: SYNERGY IN CRISIS INVESTMENT PROJECTS**

The article develops theoretical and methodological foundations of investment project controlling in crisis economies by exploring the synergistic potential of controlling tools integrated with the Extreme Project Management (XPM) methodology. It is substantiated that under conditions of high uncertainty, macroeconomic instability, and increased project risks, traditional management approaches based on rigid long-term planning lose their effectiveness and require transformation toward adaptive and flexible models.

The study systematizes key controlling tools, including budgeting, variance analysis (Earned Value Management), cash-flow analysis, KPI monitoring, scenario analysis, risk controlling, rolling planning, and dashboard monitoring, and reveals their functional role in supporting adaptive project management. Particular attention is paid to the integration of controlling instruments with XPM principles such as flexible planning, short management cycles, value orientation, and uncertainty management, which together form a dynamic decision-support system.

A synergy matrix of controlling tools and XPM principles is proposed, enabling the assessment of the degree of interaction between specific tools and management principles and identifying the most effective combinations for managing investment projects in highly volatile environments. The study demonstrates a shift from ex-post control to continuous monitoring and real-time adjustment of project parameters.

The approach is validated through a case study of investment projects in the restoration of Ukraine's energy infrastructure in 2023–2025. The results confirm that integrating financial controlling with XPM principles significantly improves investment efficiency, enhances transparency, and strengthens project resilience. The practical value of the research lies in the development of an adaptive management model applicable across various sectors of crisis and transitional economies, including policy-level applications.

**Keywords:** investment controlling, crisis economy, investment projects, Extreme Project Management, adaptive management, synergy matrix, energy infrastructure, sectoral finance.