IMECONF
International Conference on Research in MANAGEMENT AND ECONOMICS

27 - 29 November 2026 Vienna , Austria

Organizational Context and Persistence in Gamified Innovation-Skills Systems: Evidence from Colombian SMEs

Yerlymar Castellanos , Juan Carlos Morales Piñero

Universidad Militar Nueva Granada, Colombia

Abstract

Research on gamification outcomes has largely explained user responses through individual attributes such as age, gender, and education, while employment-related characteristics, including tenure, hierarchical position, and economic sector, remain comparatively underexamined. Evidence from Latin American workplaces is also scarce. This study examines whether sociodemographic characteristics of employees in Colombian small and medium-sized enterprises predict performance and persistence in a gamified innovation system. We analyze automatically captured behavioral log data from Innocraft, a gamified platform measuring five innovation discovery skills identified by Dyer and colleagues: observing, questioning, experimenting, idea networking, and associating. Employees from multiple firms and economic sectors participated in an eight-mission program. Analyses combine linear mixed-effects growth models, logistic regression with cluster-robust standard errors, generalized linear mixed models with firm-level random intercepts, and Ward hierarchical clustering of skill profiles. Attrition is steep and concentrated during onboarding, with only a minority advancing beyond the opening mission. The five skills exhibit divergent trajectories: questioning, experimenting, and observing improve significantly across sessions, associating declines, and idea networking remains stable. The three skills showing improvement also distinguish employees who persist from those who abandon the system. Demographic differences observed in unadjusted comparisons do not persist after accounting for firm-level clustering, suggesting that organizational context explains substantial variation in persistence. Despite limitations from the non-probabilistic sample and limited sector representation, these preliminary findings provide longitudinal behavioral evidence from a Latin American workplace and suggest that deployment context may condition gamification engagement more strongly than individual player characteristics.

Keywords: Colombia; Employee Engagement; Gamification; Multilevel Analysis; Workplace Learning