

**EVALUATING THE EFFECTIVENESS OF
GAMIFICATION SUPPORTED BY AI AND ML
TECHNOLOGIES IN EMPLOYEE TRAINING
PROGRAMS OF THE IT SECTOR IN SRI LANKA**

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Sri Lanka

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DECLARATION

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ABSTRACT

The employee training programs are being revolutionized, especially in the IT industry, by the incorporation of gamification supported by Artificial Intelligence (AI) and Machine Learning (ML) technology. This study aims to assess the effectiveness of these gamified training models in Sri Lanka's IT industry. Leveraging the Technology Acceptance Model (TAM), the research investigates how subjective norm (SN), perceived usefulness (PU), and perceived ease of use (PEOU) impact behavioral intention (BI) to engage with gamified training programs.

Quantitative analysis approach was adopted, beginning with a comprehensive literature review to identify key factors affecting employee engagement in gamified training. These factors include rewards and recognition, competition, autonomy, progress tracking, interactive content, real-time feedback, personalized learning paths, and social influences. Following this, empirical data were collected from a diverse sample of IT professionals in Sri Lanka through surveys. The hypotheses are tested using Pearson's correlation and regression analyses techniques.

According to the results, a significant positive relationship between independent variables (PU, PEOU & SN) and dependent variable (BI) is identified. Specifically, the analysis shows that perceived usefulness and ease of use significantly enhance behavioral intention to engage with gamified training programs. At the same time, social influence also plays a major role in shaping these intentions. The regression models explain a significant proportion of the variance in behavioral intention, confirming the applicability of TAM in this context.

The study concludes that to optimize training effectiveness, organizations should focus on designing gamified training programs that are perceived as useful and easy to use and foster a supportive social environment. These insights are particularly relevant for the IT sector in Sri Lanka, providing a framework for implementing more engaging and effective training strategies.

Keywords: Gamification, Artificial Intelligence, Machine Learning, Technology Acceptance Model, Employee Training

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LIST OF ABBREVIATIONS

AI	Artificial Intelligence
ANOVA	Analysis of variance
AR	Augmented Reality
BI	Behavioral Intention
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
HRM	Human Resource management
ICT	Information and Communication Technology
IT	Information Technology
ML	Machine Learning
PEOU	Perceived Ease of Use
PU	Perceived Usefulness
RMSEA	Root Mean Square Error of Approximation
SEM	Structural Equation Modeling
SN	Subjective Norm
SRMR	Standardized Root Mean Square Residual
TAM	Technology Acceptance Model
TLI	Tucker-Lewis Index
VIF	Variance Inflation Factor
VR	Virtual Reality