

## INTISARI

Erupsi vulkanik gunung berapi, salah satu bencana alam yang menimbulkan kerugian besar, baik dari segi keselamatan jiwa, material, maupun non-material. Indonesia menempati urutan kedua secara global dengan risiko bencana tertinggi, memiliki 127 gunung api aktif yang berpotensi meletus dan menimbulkan dampak kerusakan. Efek yang ditimbulkan dari bencana diperparah dengan kondisi masyarakat yang tidak memahami potensi risiko, enggan taat pada aturan pemerintah untuk segera melakukan evakuasi. Dalam hal Pengurangan Risiko Bencana, peningkatan *community resilience* menjadi agenda yang krusial. Berbagai upaya dilakukan, mulai dari pendekatan konvensional hingga berbasis teknologi terkini. Gamifikasi, sebagai teknologi terkini yang mentransfer fitur *game* ke dalam konteks *non-game* menjadi solusi yang menarik sebagai intervensi untuk meningkatkan *community resilience* terhadap erupsi vulkanik gunung berapi. Dalam hal penerapan intervensi gamifikasi diperlukan evaluasi untuk mengetahui tingkat efektivitas solusi tersebut. Penelitian ini bertujuan untuk menganalisis pengaruh pengalaman erupsi dan kebiasaan bermain *game* terhadap peningkatan *community resilience* bencana letusan gunung berapi serta peningkatan *behavioral intention* yang berfokus pada *intention to evacuate*.

Untuk meneliti tingkat *perceived community resilience* dilakukan melalui tahapan *pretest* dan *posttest* dengan item-item pertanyaan berdasarkan *Sendai for Disaster Risk Reduction* dan *Resilience related capacity*. serta skor *game* yang terdiri dari skor *safety and health resilience*, *social resilience*, dan *economic resilience*. *Behavioral Intention* diteliti dengan adaptasi konstruk kerangka teori *Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)*. Sebagai analisis tambahan, penelitian ini mengukur pengaruh gamifikasi terhadap *intrinsic needs satisfaction* yang mendorong peningkatan *community resilience*. Jumlah data sampel yang terlibat mencakup 110 responden mahasiswa yang berusia 19 - 27 tahun. Para responden memainkan *game* Sigap Merapi secara *1-on-1*.

Melalui penelitian ini, intervensi gamifikasi berbasis aplikasi android memiliki luaran pengalaman erupsi dan kebiasaan bermain *game* memberikan pengaruh yang signifikan terhadap peningkatan *perceived community resilience* dan pembentukan *behavioral intention* (intensi evakuasi), namun tidak signifikan pada peningkatan skor *game* terkait *community resilience*. Pengaruh elemen gamifikasi terhadap *perceived community resilience* diperkuat dengan variabel mediasi *intrinsic needs*. Adapun faktor yang mempengaruhi *behavioral intention* adalah *Habit* dan *Performance Expectancy*.

**Kata kunci:** Erupsi Vulkanik, Gamifikasi, *Community Resilience*, *Behavioral Intention*, UTAUT2, *Sendai Framework for Disaster Risk Reduction*, Evakuasi

## ABSTRACT

*Volcanic eruptions, one of the most devastating natural disasters, cause significant losses in terms of lives, property, and intangible assets. Indonesia ranks second globally in terms of disaster risk, with 127 active volcanoes that have the potential to erupt and cause widespread damage. The impacts of these disasters are exacerbated by a lack of public understanding of the risks involved and a reluctance to heed government evacuation orders. In the context of disaster risk reduction, enhancing community resilience has become a critical agenda. Various efforts, ranging from conventional to cutting-edge technological approaches, have been undertaken. Gamification, a recent technology that transfers game elements into non-game contexts, offers a promising intervention to improve community resilience against volcanic eruptions. To evaluate the effectiveness of this gamification intervention, this study aims to analyze the influence of eruption experience and gaming habits on increasing community resilience to volcanic eruptions and enhancing behavioral intentions, particularly the intention to evacuate.*

*Perceived community resilience was measured through pre- and post-tests using items based on the Sendai Framework for Disaster Risk Reduction and Resilience-related Capacity, as well as game scores comprising safety and health resilience, social resilience, and economic resilience. Behavioral intentions were examined by adapting constructs from the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) framework. As an additional analysis, this study measured the impact of gamification on intrinsic needs satisfaction, which is believed to drive increased community resilience. The sample consisted of 110 university students aged 19-27 who played the "Sigap Merapi" game on a one-on-one basis.*

*Results indicated that the Android-based gamification intervention, combined with eruption experience and gaming habits, significantly influenced perceived community resilience and the formation of behavioral intentions. However, the impact on community resilience scores based on game scores was not significant. The effect of gamification elements on perceived community resilience was reinforced by the intervening variable of intrinsic needs. Habit and performance expectancy were found to be the factors influencing behavioral intention.*

**Keywords:** *Volcano eruption, Gamification, Community Resilience, Behavioral Intention, UTAUT2, Sendai Framework for Disaster Risk Reduction, Evacuation*