

## INTISARI

Rendahnya kesadaran terhadap isu keberlanjutan di Indonesia menunjukkan perlunya metode edukasi yang inovatif. Penelitian ini bertujuan untuk menguji pengaruh gamifikasi melalui permainan papan *The Settlers of Catan: Oil Springs Scenario* dalam meningkatkan *sustainability awareness* (yang mencakup *sustainability knowledge* dan *sustainability attitude*) serta *sustainability behavior*. Selain itu, penelitian ini juga menganalisis peran *risk attitude* dalam pengambilan keputusan terkait sumber daya terbatas selama permainan berlangsung.

Dilakukan eksperimen dengan memainkan *The Settlers of Catan: Oil Springs Scenario* kepada 44 orang responden. Kuesioner *pre-test*, *post-test*, dan *risk attitude* diberikan kepada pemain. Data kemudian dianalisis secara statistik untuk membandingkan hasil *pre-test* dan *post-test* untuk melihat pengaruh permainan, serta mengidentifikasi *risk attitude* responden berdasarkan kuesioner yang diisi.

Hasil penelitian menunjukkan bahwa intervensi gamifikasi memberikan pengaruh positif yang signifikan secara statistik terhadap seluruh variabel: *sustainability knowledge* ( $p = 0,001$ ), *sustainability attitude* ( $p = 0,002$ ), dan *sustainability behavior* ( $p < 0,001$ ). Peningkatan skor rata-rata terjadi pada ketiga variabel tersebut, dengan korelasi tertinggi pada *sustainability attitude* ( $\rho = 0,659$ ), diikuti oleh *sustainability behavior* ( $r = 0,423$ ), dan *sustainability knowledge* ( $\rho = 0,382$ ). Hasil eksperimen juga menunjukkan bahwa perilaku dalam permainan dipengaruhi oleh *risk attitude* masing-masing pemain. Pemain dengan karakter *risk seeking* menggunakan sumber daya minyak paling banyak (rata-rata 6-7 token), diikuti oleh *risk neutral* (rata-rata 2-3 token), dan *risk averse* paling sedikit (rata-rata 1-2 token). Penelitian ini menyimpulkan bahwa gamifikasi efektif dalam meningkatkan pengetahuan dan membentuk sikap melalui mekanisme permainan yang mendorong perilaku keberlanjutan. Selain itu, pentingnya mempertimbangkan profil risiko dalam perancangan intervensi edukatif, serta perlunya heterogenitas dalam pembentukan kelompok untuk menciptakan dinamika tim yang lebih baik.

Kata kunci: *The Settlers of Catan: Oil Springs Scenario*, Keberlanjutan, Sikap terhadap Risiko

## ABSTRACT

*The low awareness of sustainability issues in Indonesia highlights the need for innovative educational methods. This study aims to examine the effect of gamification through the board game The Settlers of Catan: Oil Springs Scenario on increasing sustainability awareness (which includes sustainability knowledge and attitude) and sustainability behavior. Furthermore, this study analyses the role of risk attitude in decision-making related to limited resources during the game.*

*An experiment was conducted by playing The Settlers of Catan: Oil Springs Scenario with 44 respondents. A pre-test, post-test, and risk attitude questionnaire were administered to players. The data were then statistically analysed to compare the pre-test and post-test results to determine the game's effect and to identify respondents' risk attitudes based on the completed questionnaires.*

*The results showed that the gamification intervention had a statistically significant positive effect on all variables: sustainability knowledge ( $p = 0.001$ ), sustainability attitude ( $p = 0.002$ ), and sustainability behavior ( $p < 0.001$ ). Average scores increased across all three variables, with the highest correlation for sustainability attitude ( $\rho = 0.659$ ), followed by sustainability behavior ( $r = 0.423$ ), and sustainability knowledge ( $\rho = 0.382$ ). The experimental results also showed that in-game behavior was influenced by each player's risk attitude. Risk seeking players used the most oil resources (an average of 6-7 tokens), followed by risk neutral players (an average of 2-3 tokens), and risk averse players the least (an average of 1-2 tokens). This study concludes that gamification is effective in increasing knowledge and shaping attitudes through game mechanics that encourage sustainable behavior. Furthermore, it highlights the importance of considering risk profiles in designing educational interventions, as well as the need for heterogeneity in group formation to create better team dynamics.*

*Keyword: The Settlers of Catan: Oil Springs Scenario, sustainability, risk attitude*