Gamification as a talent management tool in public sector education – a case study of cyber security simulation game [1][2]

Abstract

The latest techno-economic paradigm shift has brought the age of information and telecommunications. The tendency of growing digitalization implies related security risks. According to the latest predictions, there will be approximately 3,5 million unfilled cybersecurity jobs worldwide by 2021. These open possibilities in the labor market have appeared not just in the technical but also in the strategic and public policy area.

The Triple Helix Model, which presents innovation as a non-linear process, can present this technology development-based lack of human capacities as a network and collaboration possibility of universities, state, and industry. On one hand this is based on the nature of relevant knowledge of the given field and the constantly changing need from the industry; on the other hand, higher education entering requirements and secondary education orientation, belong to the state.

This paper examines a simulation game organized in cooperation of all three actors and to which motivated students – besides university studies – can apply to gain extra knowledge and to take part in a competition. Developing from wargames, these simulation games help students gain not only professional knowledge but also develop soft skills.

The methodology is based on a literature summary, questioners, and interviews, conducted among students from the University of Public Service (Hungary) who took part in the Cyber Security Simulation Challenge 2019.

Results show that the conscious carrier orientation of most students were strengthened. Satisfaction of both individual and group performance was clear, although many highlighted group work as the weakest point of their accomplishment, which must be developed further in the future. Students also emphasized that they gained professional knowledge, learned about decision-making tools, and developed soft skills such as quick reaction or crisis communication. On one hand, participants highlighted that these skills are important in their development, therefore stronger implementation of them could be a good path for university education. On the other hand, simulation games are a good challenge opportunity for the most motivated students outside of formal education to experience the flow.

Keywords

gamification, cyber security, talent management, education, simulation game

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[2] Translation of a Hungarian language published paper (April 2021), as "Only abstract" application was sent to the Nispacee Conference.