

Thesis Title:	Assessment of the Human Aspects of Information Security Awareness for Higher Education Universities
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Abstract

With the rising cyber threats faced by Higher Education Institutes (HEIs), Information Security Awareness (ISA) has become critical in safeguarding sensitive academic and personal data. Effectively measuring ISA is essential for HEIs to identify awareness levels, address vulnerabilities, and build a resilient security environment. Therefore, we *first* developed a measurement scale called the Academia InfoSec Awareness Scale (AIAS), a comprehensive tool designed to assess user ISA. Employing standard scale development procedures, we conducted five user studies involving qualitative and quantitative methodologies to identify ISA dimensions, measurement items, and establish the reliability and construct validity of the AIAS. As a result, the final AIAS scale containing 16 items across five dimensions: knowledge, attitude, behavior, individual responsibility, and social influence. This thesis targets key stakeholders of HEIs: students, academic staff, and non-academic staff. *Second*, Multigroup Analysis (MGA) was conducted to determine significant differences among the three stakeholder groups, followed by Importance Performance Map Analysis (IPMA), which highlighted critical ISA dimensions for each group. These findings offer valuable insights for policymakers and HEIs to implement strategies effectively and design security awareness interventions accordingly. *Third*, an additional confirmatory study (experiment) was conducted using a different methodology: an intervention application featuring 48 expert-validated cybersecurity scenarios (16 per stakeholder group). Fresh data was collected through the application, and further reliability and validity checks were performed, and confirmed the suitability and robustness of the AIAS. *Finally*, we developed a scoring system with adjective ratings to enable clear and meaningful interpretation of AIAS scores and ISA levels based on users' raw scores (ratings).

Keywords: Adjective Ratings/ Cybersecurity/ Factor Analysis/ Higher Education/ Information Security Awareness/ Importance Performance Analysis/ Intervention Application/ Multigroup Analysis/ Scale Development