

Quantifying Human Error via Operational Risk Analysis: Ecological Disposition

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ABSTRACT The objective of the paper was to demonstrate the methods and process of Quantitative Risk Analysis (QRA) through likelihood of occurrence of risk. This case study stratified the sampled respondents of hundred (100) risk analysts. The analysis of likelihood of occurrence of risk by logistic regression and percentages were used to investigate whether there was a significant difference or not between groups (analyst) in respect of QRA. The Hosmer and Lemeshow test was non-significant with a chi-square ($X^2=8.181$; $p = 0.300$), which indicated that there was a good model fit, since the data did not significantly deviate from the model. The study concluded that to derive an overall likelihood rating the following governing factors must be considered: (1) threat-source motivation and capability (2) nature of the vulnerability (3) existence and effectiveness of current controls (methods and process). It is recommended however that steps in measuring likelihood of risk should determine the adverse impact of risks.