general catalogues both for all and good groups. However, Mann-Whitney test shows that this difference is not statistically significant in case of all groups ($Z = -0.74$, p-value = 0.56, r = -0.24) and good groups ($Z = -1.15$, p-value = 0.34, r = -0.41).

We also compared the quality of threats and controls identified with the two types of catalogues. The quality of threats identified with domain-specific catalogue is higher than the one of threats identified with domain-general catalogue. In contrast, the quality of security controls identified with the support of domain-specific catalogue is lower than the one of controls identified with domain-general catalogue. However, Mann-Whitney test shows that the difference in the quality of identified threats ($Z=-0.74$, $p=0.24$, $r=0.42$) and security controls ($Z=0.77$, $p=0.52$, $r=0.26$) is not statistically significant.
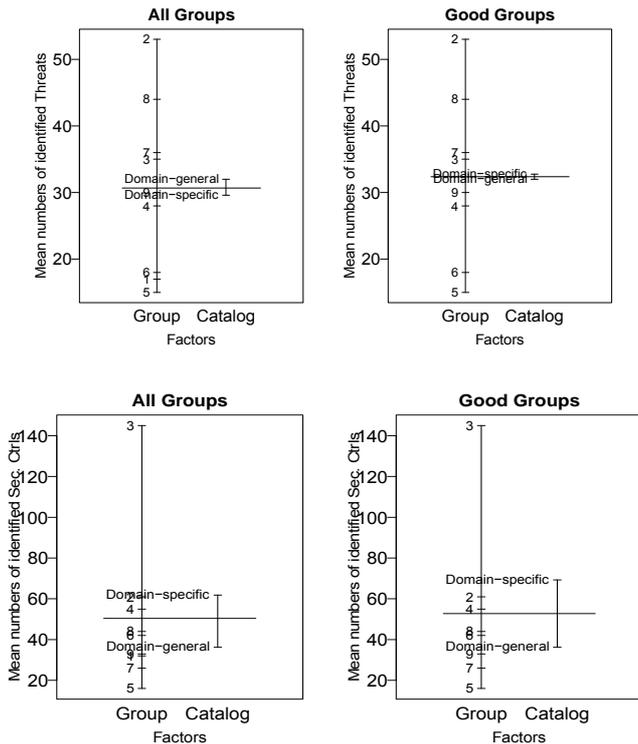

Figure 6: Actual effectiveness

Method's Perception. The overall perception of the method is higher for the participants that applied domain-specific catalogues with statistical significance for both all (Mann-Whitney (MW) test returned: $Z = -3.97$, $p = 7 * 10{-5}$, es = 0.17) and good participants (MW returned: $Z = -2.31$, $p = 0.02$, es = 0.10). The same results hold for perceived usefulness of the method: we have a statistically significant difference (MW returned: $Z = -2.57$, p-value = $7.3 * 10^{-3}$, es = 0.61) for all participants and good participants (MW returned: $Z = -2.31$, p-value = 0.02, es = 0.10). For perceived ease of use and intention to use the MW test did not reveal any statistically significant difference both for all and good participants.

In summary, results indicate that both types of catalogues have no significant effect on the effectiveness of the method. In particular, there are no statistically significant differences in the number and quality of threats and security controls identified with the two types of catalogues. However, the overall perception and perceived usefulness of the method is higher when used with the domain-specific catalogues, which are considered easier to use than the domain-general ones.

II. CONCLUSIONS

In this document we have presented the first version of the EMFASE empirical evaluation framework and summarized the results obtained from the empirical studies conducted so far in. The studies indicate that visual methods for security risk assessment are better perceived than textual ones, and that the perceived usefulness of security risk assessment methods is higher when used with domain-specific catalogues

The EMFASE consortium is designing and organizing new studies to enrich and complement the ones already carried out, and to further validate the framework itself. We will conduct an experiment where we investigate comprehensibility of graphical versus tabular notations to represent risk models. We are also designing and preparing direct observations of professionals applying SRA methods in their daily work.

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