

As already discussed, the CVSS framework is a remarkable tool that associates a severity score to known IT vulnerabilities. It has certain limitations due to the approach to calculating the scores being intransparent and subjective (Gallon, L., 2011).

My initial suggestion towards improving the use of CVSS by applying action points (Spring, J. et al. 2021) in addition to the CVSS score might not be enough after hearing second opinions from my peers. In the discussion, Stella indicated that just using action points would still make the decision subjective, and the single use of this method will not change the limitations of subjectivity by a more significant factor. I agree with her on this statement that another solution must be used.

As a possible solution, (Bolívar, H et al. 2019) shows for ranking the vulnerabilities calculated using CVSS 3.1 with the help of the multi-criteria decision-making (MCDM) technique, i.e. TOPSIS. Utilising TOPSIS, the vulnerabilities get the best and worst case and the corresponding weights that can be used for the decision matrix ranking the most critical vulnerabilities. This method will allow us to prioritise which vulnerabilities are more essential in the organisation and overcome the subjective limitations of using CVSS alone. Therefore, a quantitative analysis of the vulnerabilities can be done to get an objective result to make a better decision.

In conclusion, CVSS is an excellent tool for understanding vulnerability, but its limitations and lack of contextual factors can lead to inaccurate judgments. Hence, it is crucial to consider an alternative framework or complement the CVSS framework with quantitative analysis techniques like MCDM or any other framework to analyse the system comprehensively.

## References

Bolívar, H., Parada, H.D.J., Roa, O. and Velandia, J., 2019, October. Multi-criteria decision making model for vulnerabilities assessment in cloud computing regarding common vulnerability scoring system. In *2019 Congreso Internacional de Innovación y Tendencias en Ingeniería (CONIITI)* (pp. 1-6). IEEE.

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Spring, J., Hatleback, E., Householder, A., Manion, A., and Shick, D., 2021. Time to Change the CVSS? IEEE Security & Privacy, 19(2), pp.74-78.