<u>Unit 3 - Research Proposal Review</u>
<u>James Hines</u>

Potential Topic
Looking towards unit 10, the project that I will consider for the research proposal is based on the topic of cyber risk quantification. I think that this topic is challenging due to the strong focus around statistical mathematics and the importance of being able to analyse the correct data.

Which methods would suit my purpose?
As I envision the process of what I would like to carry out and why, then it is possible that the mixed methods research could be a good starting point due to the planned combination of data collection and analysis. The current model of cyber risk analysis tends to draw its conclusion from a subjective approach, such as a risk matrix table. If we want to move towards a more probabilistic model which highlights the actual financial impact to a particular department or business unit as a result of a cyber attack, then the mixed research model of qualitative and quantitative analysis could be the next step.

Which data collection methods that I may consider using?
An interesting piece was written in a book titled "Research methods for business students" which has brought to my attention a design called "sequential multi-phase design". According to Saunders et al (2019), sequential multi-phase design is a process of collecting qualitative data and then analyzing it with a quantitative approach.
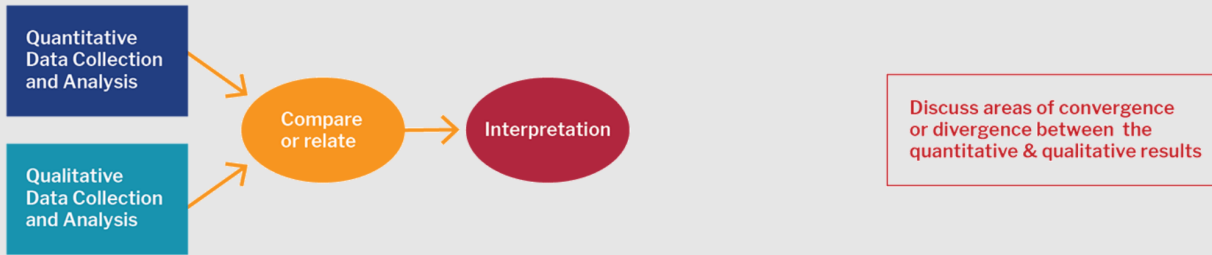
Explanatory sequential design
But going one step further, to observe the outcome of my planned concept of cyber risk quantification, I may utilize the "Explanatory sequential design" in the second phase (Figure 1.). This should allow the analysis to focus on the effect and outcome of implementing a cyber risk analysis on a small business.

Exploratory sequential design
This may be useful for the first phase of the project which may focus on collecting primary data via a questionnaire and then moving towards a quantitative analysis. According to Harvard-Catalyst (2023) and visible in Figure 1, exploratory sequential design is used to develop a new instrument for a quantitative taxonomy, and may be the method to use before switching to the explanatory sequential design method.

Figure 1. Basic mixed methods research design. Source (Harvard Catalyst, 2023)

References

Harvard Catalyst. (2023) Basic mixed methods research design. Available from: https://catalyst.harvard.edu/wp-content/uploads/2021/05/HCAT_MMR_sm.png [Accessed on 27th June 2023]

Saunders, M., Lewis, P. & Thornhill, A. (2019) Research methods for business students. Pearson education ltd. Available from: https://ebookcentral.proquest.com/lib/universityofessexebooks/reader.action?docID=5774742&ppg=205 [Accessed on 27th June 2023]