After looking through the code book for the mars study. I have decided that I am interested in mars age research. In details, I am particularly interested in the relationships between mars ages and the sizes & density of craters. Because of this, variables DIAM\_CIRCLE\_IMAGE, DEPTH\_RIMFLOOR\_TOPOG, LONGITUDE\_CIRCLE\_IMAGE, LATITUDE\_CIRCLE\_IMAGE are added to my code book.

In addition, I decide to explore how reliable the results(mars age) are based on current condition and what further research can be done in the future as my second topic. Based on the literature review[1], a hypothesis can be made that the density of craters is proportional to the age of a surface. However this method can only be used to estimate the relative age instead of absolute age.

In details of the literature review, the content of the research was about to estimate the relative age of mars upon moon in terms of the density and sizes of craters on mars. In addition, the absolute age of moon can be calculated based on chemical analysis. Therefore, the absolute age of mars can be estimated.

**Reference:**

1. ***Werner, S. C., & Tanaka, K. L. (2011, August 3). Redefinition of the crater-density and absolute-age boundaries for the chronostratigraphic system of Mars. Retrieved from https://www.sciencedirect.com/science/article/pii/S001910351100296X***