# CONCLUSION

Topic models have an important role in many fields and in such case of safety and risk management in the railway stations for texts mining. In Topic modeling, a topic is a list of words that occur in statistically significant methods. A text can be voice records investigation reports, or reviews risk documents and so on.

This research displays various cases for the power of unsupervised machine learning topic modeling in promoting risk management, safety accidents investigation and restructuring accidents recording and documentation on the industry based level. The description of the root causes accident, the suggested model, it has been showing that the platforms are the hot point in the stations. The outcomes reveal the station’s accidents to be occurring owing to four main causes: falls, struck by trains, electric shock. Moreover, the night time and days of the week seems to contact to the risks are significant.

With increased safety text mining, knowledge is gained on a wide scale and different periods resulting in greater efficiency RAMS and providing the creation of a holistic perspective for all stakeholders.

Application of the unsupervised machine learning technique is useful for safety since, which is solving, exploring hidden patterns and deal with many challenges such as:

• Text data from many perspectives and in unstructured forms

• Power for discovery, dealing with missing values, and spot safety and risk kyes from data

• Smart labeling, clustering, centroids, sampling, and associated coordinates

• Capture the relationships, causations, more for ranking risks and related information

• Prioritization risks and measures implementations

• Aid the process of safety review and learning from the long and massive experience.

• Can be used the scale and weighted as configuration options which can be used for assessing risks.

Although this paper highlights the innovative of unsupervised machine learning in accidents classification of railway accidents and root cause analyses, it is a necessity to focus on expanded research on the huge data topics concerning the diversity of the station’s locations, size and safety cultures and other factors with further techniques of unsupervised machine learning algorithms in the future. Finally, this research enhances safety, but it raises the importance of data in text form and suggests redesigning the way of gathering data to be more comprehensive.