**CONCLUSION**

In this research, we applied the data mining classification techniques for the purpose of detecting customers’ with fraud behaviour in water consumption. We used SVM and KNN classifiers to build classification models for detecting suspicious fraud customers. The models were built using the customers’ historical metered consumption data; the Cross Industry Standard Process for Data Mining (CRISP-DM). The data used in this research study the data was collected from Yarmouk Water Company (YWC) for Qasabat Irbid ROU customers, the data covers five years customers’ water consumptions with 1.5 million customer historical records for 90 thousand customers. This phase took a considerable effort and time to pre-process and format the data to fit the SVM and KNN data mining classifiers.

**FUTUREWORK**

The conducted experiments showed that a good performance of Support Vector Machines (SVM) and had been achieved with overall accuracy around 70% for both. In Future accuracy of the same can be improved with the help of improved techniques. The model hit rate is 60%-70% which is apparently better than random manual inspections held by YWC teams with hit rate around 1% in identifying fraud customers. This model introduces an intelligent tool that can be used by YWC to detect fraud customers and reduce their profit losses. The suggested model helps saving time and effort of employees of Yarmouk water by identifying billing errors and corrupted meters. With the use of the proposed model, the water utilities can increase cost recovery by reducing administrative Non-Technical Losses (NTL’s) and increasing the productivity of inspection staff by onsite inspections of suspicious fraud customers.