

“ATM CASH REPLENISHMENT PREDICTION”

**ANALYZING AND PREDICTING CASH FOR ATMS IN
ORDER TO OPTIMISE THE CASH REPLENISHMENT
PROCESS**

A Dissertation by

Ms. Lushani Abeygunawardene

Supervised By

Ms. Sapna Kumarapathirage

Submitted in partial fulfilment of the requirements for the
BSc (Hons) Computer Science Degree

**Department of Computing
Informatics Institute of Technology**

**In Collaboration with
University of Westminster, UK**

May 2020

© The copyright for this project and all its associated products resides with Informatics
Institute of Technology

Abstract

Using an Automatic Teller machine in banks has facilitated the work of the customers who have been using the banks frequently for cash deposits and cash withdrawals. Waiting along in the bank counter queues, which were the manual ways of depositing and withdrawing money, has consumed away a lot of time of the customers, in addition, it has made the bank officials in the counters work restlessly to serve their customers with great satisfaction. With the technological innovation, ATMs got risen up that made both customers and bank officials' tasks relieve by automating the cash withdrawal and cash deposit process. The interior of the ATM concept was up to mark but the backend process was not so simple. Each bank ATM was filled with cash notes every 3 days at a time by an authorized official who has the access to unlock the ATM. This task needs to be closely monitored by the bank, as most of the days in the week the ATM will run out of cash where it cannot perform the daily transactions that are requested by the customers. In that case, the Bank will be fully responsible for not serving their customers accurately. The main challenge that has been discovered by this process is, how to get to know about the cash note counts that will be needed to replenish in the ATM in order to process the daily ATM transactions without any hindrance. In that case, currently, there has been no valid research that has addressed this issue which has clearly made a research gap. By the consideration of the problem, a way better solution has been proposed by the research with the combination of a system that is lined up to classify and solve the issue.

The proposed system provides a real-time solution for banks to perform their ATM cash replenishment process more accurately than before. This system will analyze the cash withdrawal behavior of each ATM and predict the number of cash notes that are needed to be replenished in the ATM, which will help banks to reduce the amount of interest that is needed to be paid for the Central bank. The solution will be beneficial for all the third