

SPECIAL COLLECTION  
LIBRARY USE ONLY



**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF APPLIED SCIENCES**

Department of Computer Science

**TOPIC:**

An Investigation into the use of Artificial Intelligence on the Stock Exchange ( A Case of Zimbabwe Stock Exchange)

Betty Gandawa

Student ID Number: N0166042G

Supervisor

---

Mr K Mzelikahle

Dissertation submitted in partial fulfillment of the requirements for the Degree of Masters in Information Systems.

(July, 2018)

LIBRARY NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY P.O. BOX 346 BULAWAYO ZIMBABWE		
DATE	ACCESSION	CLASS No
17/12/18	SC 18/1053	



## 0.2 Abstract

Predicting stock market accurately has always intrigued the market analysts. During the past few decades various machine learning techniques have been applied to study the highly stochastic nature of stock market by capturing and using repetitive patterns. Different companies use different analysis tools for forecasting and the main aim is the accuracy with which they predict which set of stocks would yield the maximum amount of profit. This dissertation gives various techniques used for prediction so that buyer and seller can use neural network prediction methods to buy or sell their stock on the Zimbabwe Stock Exchange. Use of neural networks will make it easy for both the trader and the stock broker as it will be able to pick up trends on the Zimbabwe Stock Exchange and make accurate predictions. Neural networks can predict class better than a quantitative value as in function approximation since Artificial Neural Networks occasionally learn more about the noise in the input data.

Even though Zimbabwe Stock Exchange has not adopted the use of artificial intelligence yet the researcher feels that there is need for it to be adopted and be used even though the brokers feels that it is only them that need artificial intelligence this study focused on both the stock brokers, the investing public and the Zimbabwe Stock Exchange and it is ideal for Zimbabwe Stock Exchange to adopt it. There are numerous benefits that can be derived if Zimbabwe Stock Exchange adopt artificial intelligence , the benefits will be mostly to the investing public, as it will reduce the broker fee and broker bias and will make investing on the less risky.