A STUDY ON USE OF BUSINESS INTELLIGENCE TO IMPROVE MACROECONOMIC FORECASTING IN SRI LANKA.

Kruwitage Dona Uththara Harshani

(159109K)

Thesis submitted in partial fulfillment of the requirements for the degree of Master of Business Administration in Information Technology

Department of Computer Science and Engineering

University of Moratuwa

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Declaration

I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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K. D. Uththara Harshani Date:

The above candidate has carried out research for the master's thesis under my supervision.

Dr. Amal Shehan Perera Date:

Abstract

This research discusses the use of Business Intelligence in macroeconomic forecasting and how the improved forecasting will assist better monetary policy decision making in Sri Lanka. Various macroeconomic factors are analyzed and forecasted in order to make accurate policy decisions. Forecasting is usually done over diverse statistical models and techniques. The effective policy decision making will help the government for maintaining price stability, for making right decisions over perceiving future of the economy and for futuristic planning.

The research was based on qualitative case study methodology. A case study was conducted at the Central Bank of Sri Lanka and data was collected through personal interviews by using semi structured questionnaire. The main focus is to understand the process of monetary policy decision making, how macroeconomic forecasting has been done, limitations of the existing forecasting process and the possibility of using Business Intelligence in forecasting to improve policy decision making.

Interviews were carried out with experts in Department of Economic Research, Department of statistics, Central Bank of Sri Lanka, Institute of Policy Studies and with other experts in field of econometrics and economic modeling. The research further discussed how limitations of current approaches could be addressed over today's emerging concepts like business intelligence, neural networks. This study would provide guidance in developing a better forecasting model for Sri Lanka in the future.

Keywords: Business Intelligence (BI), Macroeconomic forecasting**,** monetary policy decision making

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List of Abbreviations

ANN	Artificial Neural Networks
CBSL	Central Bank of Sri Lanka
BI	Business Intelligence
GDP	Gross Domestic Product
ARMA	Auto regressive and moving average
ARIMA	Autoregressive integrated moving average
VAR	Vector Auto Regression
DSGE	Dynamic Stochastic General Equilibrium
VECM	Vector Error Corrections Model
GA	Genetic Algorithms
CCPI	Colombo Consumer Price Index