

VRIJE UNIVERSITEIT AMSTERDAM

MSc. BUSINESS ANALYTICS

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# Sales forecasting at Ace & Tate

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August 2016

## **Abstract**

It is important for businesses to forecast their sales accurately and at different product levels. Forecasts enable efficient supply chain planning and equip businesses with information on which to base strategic decisions. Through the study of literature we discuss several popular forecasting techniques and through empirical research we explore the differences between a traditional time series technique and a machine learning technique. Primarily, this thesis investigates the application of the ARIMA model and the ESN for forecasting sales at Ace & Tate at an overall level, per product category, and per individual frame level.

## Preface

This thesis was completed alongside an internship at Ace & Tate and is the final stage of the Master programme Business Analytics at the Vrije Universiteit, Amsterdam. Business Analytics is a multidisciplinary programme that focuses on the application of mathematics and computer science in a business setting.

Hereby, I would like to thank all of my colleagues at Ace & Tate for their guidance and support throughout the internship. Special thanks to Milan van Eeden and Roderick Kasteel for their invaluable guidance, ideas and feedback.

Furthermore, I would like to thank Mark Hoogendoorn for his supervision throughout this research project, and Rob van der Mei for being the second reader.

Niamh Bermingham-McDonogh

August 2016

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