

Interactive Forecasting

UNIVARIATE and MULTIVARIATE METHODS
Second Edition

TECHNISCHE HOCHSCHULE DARMSTADT	
Fachbereich 1	
<u>Gesamtbibliothek</u>	
<u>Betriebswirtschaftslehre</u>	
Inventar-Nr. :	17.471
Abstell-Nr. :	A 131 274
Sachgebiete:	1.4.53

Spyros Makridakis

*Professor of Management Science
INSEAD, Fontainebleau, France*

Steven C. Wheelwright

*Associate Professor of Business Administration
Harvard Business School, Boston, Mass.*



HOLDEN-DAY, Inc. · San Francisco
Düsseldorf · Johannesburg · London
Panama · Singapore · Sidney

Contents

CASES FOR INTERACTIVE FORECASTING

CHAPTER 1	Introduction: Interactive Forecasting System	1
CHAPTER 2	Introduction: Time Series Analysis and Forecasting	13
CHAPTER 3	Autocorrelation Analysis	23
CHAPTER 4	Moving Averages	44
CHAPTER 5	Single Exponential Smoothing	58
CHAPTER 6	Adaptive Response Rate Exponential Smoothing	67
CASES	Exercises on Simple Exponential Smoothing	73
CHAPTER 7	Brown's One Parameter Linear Exponential Smoothing	79
CHAPTER 8	Holt's Two Parameters Linear Exponential Smoothing	85

CHAPTER 9	Brown's One Parameter Quadratic Exponential Smoothing	91
CHAPTER 10	Winters' Three Parameter Linear and Seasonal Exponential Smoothing	98
CHAPTER 11	Single and Linear Moving Averages	106
CHAPTER 12	Trend Analysis	120
CASES	Utah Industrial Promotion Board, Arizona Security Bank, Phoenix City Council, Eagle Airlines, Ferric Processing, and Lenex Corporation	129
CHAPTER 13	S-Curve and Exponential Growth Models	169
CHAPTER 14	Harrison's Harmonic Smoothing (HHS)	184
CHAPTER 15	The Classical Decomposition Method	198
CHAPTER 16	Census II Decomposition Method	210
CHAPTER 17	Generalized Adaptive Filtering	226
CHAPTER 18	The Box-Jenkins Methodology	245
CASES	Kook Kamp, INSEAD's Restaurant and Jackson Hole Airport	273
CHAPTER 19	Choosing a Forecasting Method (SIBYL)	283
CHAPTER 20	Predicting the Cycle	296
CHAPTER 21	Predicting the Longer Term Trend-Cycle Growth	324
CHAPTER 22	Tracking Trend-Cycle and Budget Movements	338
CASES	Perrin Freres, Basic Metals and CFE Specialty Writing Papers	347
CHAPTER 23	Multiple Regression	363
CHAPTER 24	Introduction: Multivariate Time Series Analysis and Forecasting	383

CHAPTER 25	Cross Autocorrelation Analysis	394
CHAPTER 26	Multivariate Box-Jenkins Methodology (Transfer Functions)	420
CHAPTER 27	Multivariate Generalized Adaptive Filtering	448
CASES	Lyon Plate Glass, Alpha Concrete Products, Harmon Foods, Valley Litho, and Forecasting IBM Stock Prices – Paris Exchange	455
CHAPTER 28	Preparing the Executive Forecast	501
CHAPTER 29	Data Management	513
CASES	Gruner and Jahr, Atwood Appliance (A), Shasta Timber, Tempo, Inc. and Perkin Elmer Instrument Division	527
	References for Further Study	561
APPENDIX	Glossary of Forecasting Terms	567
INDEX		643