

The Study on the Tendency of Sales Volumes for World's Major Mobile Phone Manufacturers

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ABSTRACT

The development of mobile phone industry has to deal with growing competition. Mobile phone manufacturers are vying for the big pie of mobile phone products with putting in abundant resources. As the result, the trend of mobile development has great influence on the entire supply chain. To understand the increase and decrease in sales volumes of the world mobile phones and future trends, the study put emphasis on the two major mobile phone manufacturers, Nokia and Samsung in order to analyze sale volumes of them. This study analyzed Nokia and Samsungs' sales volumes per quarter in the 2001 to 2010 period and utilized those data with SARIMA mode. The results revealed that the seasonal cycles of both manufacturers were four which indicated the significant difference between sales volumes per quarter this year and those of last year. Interestingly, sales volumes of two manufacturers decreased significantly in the first quarter. On the other hand, in terms of largest increase in sale volumes, Nokia manufactures' sales volumes in the fourth quarter were superior to those of other three quarters. However, Samsung manufacture increased the largest sales volumes in its third quarter.

Keywords : sales volumes of mobile phone manufacturers、 SARIMA model

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REFERENCES

- 一、中文部分 林怡綠(2005)，行動電話產業之發展與我國手機製造商之發展策略分析，碩士論文，國立成功大學，電信管理研究所。林柏齊(2011)，Samsung行動電話事業動態與策略分析，MIC產業情報研究所。林彩梅、陳怡伶(2009)，台灣電子資訊業對大陸投資與貿易關係之研究---ARIMA 移轉函數模式分析，多國籍企業管理評論，3(2)，45-65。林楓淳(2007)，結合ARIMA 與支援向量迴歸於財務時間序列預測模式之建構---以新加坡交易所日經225 指數期貨為例，碩士論文，輔仁大學，管理學研究所。陳仁惠、周麗芳、徐偉初(2003)，我國全民健康保險藥品費用預測模式之探討，保險專刊，19(2)，157-176。陳柚蓁(2010)，IPv4位址配發與亞太地區網路位址枯竭之預測，碩士論文，國立中正大學，通訊資訊數位學習碩士在職專班。張家維(2011)，Nokia行動電話事業動態與發展策略分析，MIC產業情報研究所。連偉志(2011)，臺灣股價指數時間序列研究，碩士論文，國立交通大學，管理學院碩士在職專班財務金融組。曹銳勤(2004)，股票投資規劃與分析—以上市銀行股票為例，玄奘管理學報，1(2)，1-16。黃育亨(2005)，DRAM產業市場需求預測之研究-運用ARIMA預測模型與類神經網路，碩士論文，長庚大學，企業管理研究所。黃信源(2002)，台灣地區行動電話需求預測模式之建構與評估--時間序列之應用，碩士論文，台北大學，企業管理學系。黃翠蓮(2011)，散裝海運運費與主要原物料價格之互動關係研究，碩士論文，大葉大學，管理學院碩士班。賈繼德(2009)，台灣電力需求預測模型之探討—ARIMA模型及回歸模型，碩士論文，東吳大學，經濟學系。葉小藁(1998)，時間數列分析與應用，葉小藁，臺北，1-2、46-47、54-55。葉怡成、楊耀華與張萬鈞(2009)，ARIMA-BPN 時間數列神經網路，技術學刊，2009年，24(1)，77-86。楊奕農(2009)，時間序列分析，雙葉書廊，臺北。鍾惠民、周寶鳳與孫而音(2011)，財務計量，新陸書局，臺北。二、英文部分 Box, G. E. P. & G. M. Jenkins (1976), " Time Series Analysis:Forecasting

and Control, " Wiley, 17-19. Bianchi, L., J. Jarrett & R. C. Hanumara (1998), " Improving Forecast-ing for Telemarketing Centers by ARIMA Modeling with Inter-vention, " International Journal of Forecasting, 14, 497-504. Dickey, D. A. & W. A. Fuller (1979), " Distribution of the Estimates for Autoregressive Time Series with Unit Root, " Journal of the American Statistical Association, 71(366), 427-431. Ediger, V. S. & S. Akar (2007), " ARIMA Forecasting of Primary En-ergy Demand by Fuel in Turkey, " Energy Policy, 35, 1701-1708. Funk, J. L. (1998), " Competition between Regional Standards and the Success and Failure of Firms in the World-Wide Mobile Commu-nication Market, " Telecommunication Policy, 22, 419-441. Law, R. & N. Au (1999), " A Neural Network Model to Forecast Japa-nese Demand for Travel to Hong Kong, " Tourism Management, 20(1), 89-97. Law, R. (2000), " Back-Propagation Learning in Improving the Accu-racy of Neural Network-Based Tourism Demand Forecasting. " Tourism Management, 21(4), 331-340. Lewis, C. D. (1982), " Industrial and Business Forecasting Methods, " London: Btterworths. Ljung, G. M. & G. E. P. Box (1978), " On a Measure of Lack of Fit in Time Series Models, " Biometrika, 65, 297-303. Oh, K. J. & K. J. Kim (2002), " Analyzing Stock Market Tick Data Us-ing Piecewise Nonlinear Model, " Expert Systems with Applica-tions, 17(4), 295-301. Pagan, A. R. & M. R. Wickens (1989), " A Survey of Some Recent Econometric Methods, " Economics Journal, 99, 962-1025. Pankratz, A. (1983), " Forecasting with Univariate Box-Jenkins Models: Concepts and Cases, " John Wiley, NY, USA. Phillips, P. C. B. & P. Perron (1988), " Testing for a Unit Root in Time Series Regression, " Biometrika, 75 (2), 335-346. Said, S. & D. Dickey (1984), " Testing for Unit Roots in Autoregres-sive-Moving Average Model of Unknown Order " , Biometrika, 71, 599-607. Schwarz, G., (1978), " Estimating the Dimension of a Model, " Annals of Statistics, 6, 461-464. Wu, F. S. & W. L. Chu (2010), " Diffusion Models of Mobile Teleph-ony, " Journal of Business Research, 63, 497-501. 三、網路資源 MIC產業情報研究所 <http://mic.iii.org.tw> IEK產業情報網 <http://ieknet.iek.org.tw> 科技產業資訊室 <http://cdnet.stpi.org.tw> 高德納公司 <http://www.gartner.com/technology/home.jsp> 資策會網站 <http://www.find.org.tw/find/home.aspx> 國際數據資訊IDC <http://www.idc.com.tw> 電子工程專輯 <http://forum.eettaiwan.com> 維基百科 <http://zh.wikipedia.org/zh-tw/%E5%A4%A7%E5%93%A5%E5%A4%A7#.E6.89.8B.E6.A9.9F.E6.BB.B2.E9.80.8F.E7.8E.87>