# AN EMPIRICAL STUDY OF THE USE OF COST ACCOUNTING SYSTEMS IN LIBYAN AGRICULTURAL FIRMS

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DOCTOR OF PHILOSOPHY UNIVERSITI UTARA MALAYSIA July 2013

# AN EMPIRICAL STUDY OF THE USE OF COST ACCOUNTING SYSTEMS IN LIBYAN AGRICULTURAL FIRMS

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## **ABSTRACT**

The agricultural sector is one of the important contributors to Libyan economy. Most of the agricultural firms in Libya are government-owned and recently compelled to compete with foreign companies. Available literature shows that one of the challenges faced by the government-owned agricultural firms in Libya is the ever-increasing production costs. This results in the reduction of the country's wheat production as the market price decreases. The importance of understanding the impact of the increasing costs motivates the thesis to investigate the nature of cost accounting systems in the agricultural firms which receives less attention than the manufacturing sector.

The main objective of the thesis is to examine and understand the current practice of cost accounting systems in Libyan agricultural firms. Using a mixed-method explanatory design, three instruments were used to collect the data, namely a questionnaire-based survey, interviews and documentation analysis. A total of 57 questionnaires were distributed to government-owned agricultural firms in Libya. In addition, interviews with management accountants and documentation analysis were conducted to support the findings.

A framework was developed based on the survey findings, which includes the influence of six contingent factors on the use of cost accounting systems. This study found that the firm size, cost structure, importance of cost information and legal obligation positively and significantly influence Libyan agricultural firms to use cost accounting systems. The influence of both competition and product diversity, on the other hand are not significant. The results of the study are expected to have implications for Libyan agricultural firms regarding the importance of using cost accounting systems in managing their production costs.

**Keywords**: Libya, traditional costing, cost accounting systems, agricultural firms.

## **ABSTRAK**

Sektor pertanian merupakan salah satu penyumbang utama kepada ekonomi Libya. Kebanyakan firma berasaskan tani di Libya adalah milik kerajaan, tetapi sejak akhirakhir ini telahmemaksa firma tempatanuntukbersaing dengan firma-firma asing. Kajian terdahulu menunjukkan salah satu cabaran yang dihadapi oleh syarikat berasaskan tani milik kerajaan di Libya adalah kos pengeluaran yang semakin meningkat setiap tahun. Hal ini memberikan kesan terhadap pengeluaran gandum dalam negara kerana nilai pasaran yang menyusut disamping kos pengeluaran yang semakinmeningkat. Kepentingan dalam memahami kesan peningkatan kos pengeluaran telah mendorong tesis ini untuk mengkaji sistem perakaunan kos dalam firma berasaskan tani di Libya yang kurang mendapat perhatian berbanding dengan sektor perkilangan.

Objektif utama kajianini adalah untuk meneliti dan memahami amalan semasa sistem perakaunan kos dalam firma berasaskan tani di Libya. Dengan menggunakan reka bentuk penjelasan, tiga kaedah telah digunakan untuk mengumpul data, iaitu soal selidik, temu bual, dan analisis dokumentasi. Sebanyak 57 borang soal selidik telah dihantar kepada firma berasaskan tani milik kerajaan di Libya. Di samping itu, kaedah temubual dan analisis dokumentasi juga dijalankan untuk menyokong dapatan kajian.

Satu kerangka kerja telah dibentuk berdasarkan dapatan kajian, termasuk pengaruh enam faktor penentu ke atas penggunaan sistem perakaunan kos. Kajianini mendapati saiz firma, struktur kos, kepentingan maklumat kos dan kewajipan mematuhi undangundang adalah positif dan signifikan dalam mempengaruhi amalan sistem perakaunan kos bagi firma berasaskan tani di Libya. Tahap persaingan dan kepelbagaian produk didapati tidak signifikan. Hasil dapatan kajianini dijangka akan memberikan implikasi positif terhadap firma berasaskan tani di Libya tentang kepentingan menggunakan sistem perakaunan kos terutama dalam pengurusan kos pengeluaran.

**Kata kunci**: Libya, pengekosan tradisional, sistem perakaunan kos, firma berasaskan tani.

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# **List of Abbreviations**

ABC Activity-Based Costing

AIAEE Association of International Agricultural Extension Education

CAS Cost Accounting System

CASB American Cost Accounting Standard Board

FA Factory Automation

FAO Food and Agricultural Organization

FMS Flexible Manufacturing Systems

GAO Government Accountability Office

GDP Gross Margin Product

ICWA Institute of Cost and Works Accountants

IMF International Monetary Fund

JIT Just In Time

JOC Job Order Costing

LCC Life Cycle Costing

MAPs Management Accounting Practices

MAS Management Accounting System

MOH Manufacturing Overhead Costs

PC Process Costing

SC Standard Costing

SMEs Small and Medium Enterprises

SPSS Statistical Package for the Social Sciences

TC Target Costing

# CHAPTER ONE INTRODUCTION

## 1.1 Introduction

This chapter aims to provide a general introduction to this thesis and includes seven sections. The first section briefly explains the importance of cost accounting systems. The second section explains the problem statement. The third and fourth sections present the research objectives and research questions, respectively. The last three sections discuss the significance of the study, the scope of the study, and finally the structure of the thesis.

# 1.2 Background of the Study

Accounting researchers have argued that the development of cost accounting systems is associated with the development of the industrial sector. Earlier researchers argued that the Industrial Revolution, which happened in the eighteenth century, was the starting point for cost accounting systems (Garner, 1947; Mepham, 1988; Fleischman & Parker, 1991; Fleischman & Tyson, 1993; Ning, 2005). Connecting the development of cost accounting systems with the Industrial Revolution led to most earlier researchers concentrating on the manufacturing sector's cost accounting systems (Karmarkar, Lederer, & Zemmerman, 1989; Fleischman & Tyson, 1993; Cropper & Drury, 1996; Brierley, Cowton, & Drury, 2001a; Fullerton & Mcwatters, 2004). A few researchers, such as Ittner and Larcker (2002) and Hume-Schwarz (2007), have claimed that cost accounting should be named manufacturing accounting because it serves manufacturing businesses and the production of commodities. Ittner and Larcker (2002) supported the assertion that cost accounting systems are widely used in manufacturing organizations,

# The contents of the thesis is for internal user only

### References

- Abd-Almajeed, A. (2007). *Industrial river*. Retrieved from http://www.alarab.co.uk/pre-viouspages/Alarab%20Daily/2007/08/08-20/p06.pdf
- Abdel-Al, S. F., & Mclellan, J. D. (2011). Management accounting practices in Egypt –

  A transitional economy country. *Management Accounting Business* & *Management*, 18(2), 105–120.
- Abdel-Kader, M., & Luther, R. (2008). The impact of firm characteristics on management accounting practices: A UK based empirical analysis. *British Accounting Review*, 40, 2–27.
- Abernethy, M. A., Lillis, A. M., Brownell, P., & Carter, P. (2001). Product diversity and costing system design choice: Field study evidence. *Management Accounting Research*, 12, 261–279.
- Abidar, A., & Laytimi, A. (2005). National Agriculture Policy Tripoli, Libya. 2005.
- Abrahamson, E. (1991). Managerial fads and fashions: The diffusion and rejection of innovations. *Academy of Management Review*, *16*(3), 566–612.
- Agribank. (2010). *Establishment of Agribank*. Retrieved from http://www.agribank-ly.org/page.php?id=1
- Ahmad, F. (2010). *The stolen head from exhibition Dutch*. Retrieved from http://arabic-media.com/newspapers/saudi/alwatan.htm
- Albyati, M. M. (2005). *Statistical data analysis using SPSS*. Unpublished manuscript, Oman.
- Aljazawe, A. (2006). *Evaluation of cost accounting in farming*. Bangaze: Academy of High Studies.

- Alleyne, P., & Weekes-Marshall, D. (2011). An exploratory study of management accounting practices in manufacturing companies in Barbados. *International Journal of Business and Social Science*, 2(9), 49–58.
- Al-Masri, M. (1997). *Libya country paper*. Retrieved from http://www.ilri.org/InfoSer-v/Webpub/fulldocs/wana/libya.htm
- Al-Omiri, M., & Drury, C. (2007). A survey of factors influencing the choice of product costing systems in UK organizations. *Management Accounting Research*, 18, 399–424.
- Alsabbag, A. A., & Alseheri, A. M. (1992). *Studies in agricultural accounting*. Gharyan: Faculty of Accounting in Gharyan.
- Altahir, S. A. M. (2008). *Project Deeseh productive*. Retrieved from http://www.prame-g.com/vb/t135327.html
- Amara, M., Kalefa, M., & Alsaheeri, A. H. (1992). *Modern studies in actual cost accounting* (1st ed.). Garyan: Garyan University.
- Anderson, S. W. (1995). A framework for assessing cost management system changes:

  The case of activity based costing implementation at General Motors, 1986–1993.

  Retrieved from http://miha.ef.uni-lj.si/\_dokumenti3plus2/196128/ Anderson-1995Aframework....pdf
- Argilés, J. M., & Slof, E. J. (2001). *New opportunities for farm accounting*. Retrieved from http://dx.doi.org/10.1080/09638180126640
- Argilés, J. M., & Slof, E. J. (2003). The use of financial accounting information and firm performance: An empirical quantification for farms. *Accounting and Business Research*, 33(4), 251–273.

- Arnaboldi, M., & Lapsley, I. (2005). Activity based costing in healthcare: A UK case study. *Research Healthcare Financial Management*, 10(1), 61–75.
- Athanasios, V., Stergios, A., & Laskaridou, E. C. (2010). The importance of information through accounting practice in agricultural sector European Data Network. *Journal of Social Sciences*, 6(2), 221–228.
- Awal, M. F. N. M., Bakar, A. A., & Osman, A. (2011). Determining factors for mobile commerce adoption among postgraduate part time students from graduate business students (GBS) in Universiti Teknologi Mara (UiTM) Shah Alam. Retrieved from http://www.scribd.com/doc/86661624/48/Kaiser-Meyer-Olkin-and-Bartletts%E2%80%99s-Validity-Test
- Baird, K. M., Harrison, G. L., & Reeve, R. C. (2004). Adoption of activity management practices: A note on the extent of adoption and the influence of organizational and cultural factors. *Management Accounting Research*, *15*, 383–399.
- Bartlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43–50.
- Baykasoglu, A., & Kaplanoglu, V. (2008). Application of activity-based costing to a land transportation company: A case study. *International Journal of Production Economics*, 116, 308–324.
- Bjørnenak, T. (1997). Diffusion and accounting: The case of ABC in Norway. *Management Accounting Research*, 8, 3–17.
- Blocher, E. J., Stout, D. E., Juras, P. E., & Cokins, G. (2013). *Cost management: A strategic emphasis* (6th ed.). New York: McGraw-Hill Companies, Inc.

- Blocker, J. G., & Weltmer, W. K. (1954). *Cost accounting* (3rd ed.). Tokyo: Tosho Printing Co.
- Bose, J. (2001). Nonresponse bias analyses at the National Center for Education Statistics. Paper presented at *Achieving Data Quality in a Statistical Agency: A Methodological Perspective*, Canada.
- Brierley, J. A. (2011). A comparison of the product costing practices of large and small-to medium-sized enterprises: A survey of British manufacturing firms. *International Journal of Management*, 28(4, Part 1), 184–193.
- Brierley, J. A., Cowton, C. J., & Drury, C. (2001a). How product costs are calculated and used in decision making: A pilot study. *Managerial Auditing Journal*, 16(4), 202–206.
- Brierley, J. A., Cowton, C. J., & Drury, C. (2001b). Research into product costing practice: A European perspective. *European Accounting Review*, *10*(2), 215–256.
- Brignall, T. J., Fitzgerald, L., Johnston, R., & Silvertro, R. (1991). Product costing in service organizations. *Management Accounting Research*, 2, 227–248.
- Cadez, S., & Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, 33, 836–863.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.
- Carenys, J., & Sales, X. (2008). Costing the banking services: A management accounting approach. *Journal of Money, Investment and Banking*, 6, 1–20.

- Carli, G., & Canavari, M. (2013). *Introducing direct costing and activity based costing in a farm management system: A conceptual model*. Paper presented at the 6th International Conference on Information and Communication Technologies in Agriculture, Food and Environment (HAICTA 2013), Bologna, Italy. Retrieved from http://www.sciencedirect.com/science/article/pii/S221201731300114X
- Cavana, R., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research:*Qualitative and quantitative methods. Singapore: Markono Print Media Ltd.
- Cervantes-Godoy, D., & Dewbre, J. (2010). *Economic importance of agriculture for poverty reduction*. OECD Food, Agriculture and Fisheries Working Papers, No. 23.
- Chatfield, M. (1971). The origins of cost accounting. *Management Accounting*, 11–14.
- Chenhall, R. H. (2003). Management control systems design within its organizational context: Findings from contingency-based research and directions for the future.

  \*\*Accounting, Organizations and Society, 28, 127–168.
- Chenhall, R. H., & Langfield-Smith, K. (1998a). The relationship between strategic priorities, management techniques and management accounting: An empirical investigation using a systems approach. *Accounting, Organizations and Society*, 23(3), 243–264.
- Chenhall, R. H., & Langfield-Smith, K. (1998b). Adoption and benefits of management accounting practices: An Australian study. *Management Accounting Research*, 9, 1–19.
- Clarke, P. J., Thorley Hill, N., & Stevens, K. (1999). Activity-based costing in Ireland:

  Barriers to, and opportunities for, change. *Critical Perspective in Accounting*, 10, 443–468.

- Coakes, S. J., & Ong, C. (2011). SPSS: Analysis without anguish: Version 18 for Windows. Milton: John Wiley & Sons Australia, Ltd.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.).

  Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Collis, J., & Hussey, R. (2009). Business research: A practical guide for undergraduate and postgraduate students. New York: Palgrave MacMillan.
- Control Ministry. (2011). *The task of ministry control*. Retrieved from http://www.raqa-aba.org.ly/index.php/about
- Cooper, R., & Kaplan, R. S. (1988). How cost accounting distorts product costs.

  Management Accounting Research, 69(10), 20.
- Creswell, J. D. (2006). *Collecting data in mixed methods research*. Retrieved from http://www.sagepub.com/upm-data/10983\_Chapter\_6.pdf
- Creswell, J. D. (2008). *Controversies in mixed method research*. Retrieved from http://www.sagepub.com/upm-data/40426\_Chapter15.pdf
- Creswell, J. W., & Clark, V. L. P. (2010). *Designing and conducting mixed method research* (2nd ed.). Thousand Oaks, California: SAGE.
- Cropper, P., & Drury, C. (1996). Management accounting practices in universities.

  \*Management Accounting, 74(2), 28–30.
- Dalci, Ý., & Tanis, V. N. (2006). The effect and implementation of just-in-time system from a cost accounting perspective. *Review of Social, Economic & Business Studies*, 3(4), 31–50.
- Daw, A. F. (2010). *Libyan agricultural firms*. Retrieved from http://www.aljamahiria.-com/printd.php?&news\_id=4315&id\_pages=4&count=140

- Deakin, E. B., & Maher, M. W. (1984). *Cost accounting*. Tokyo; Homewood, Illinois: Richard D. Irwin, Inc.
- Dearnley, C. (2005). A reflection on the use of semi-structured interviews. *Nurse Research*, 13(1), 19–28.
- Dekkera, H., & Smidt, P. (2003). A survey of the adoption and use of target costing in Dutch firms. *International Journal of Production Economics*, 84, 293–305.
- Drury, C. (1999). Standard costing: A technique at variance with modern management?

  Management Accounting, 77(10), 56–58.
- Dutta, M. (2004). Cost accounting principles and practice. Delhi: Pearson Education.
- Easterby-Smith, M., Thorpe, R., & Lowe, A. (2002). *Management research* (2nd ed.). London: Sage Publications.
- Edwards, J. R., & Newell, E. (1991). The development of industrial cost and management accounting before 1850: A survey of the evidence. In J. R. Edwards (Ed.), *The history of accounting*, (3), 48–71.
- Elhamma, A. (2012). The relationship between firm size, activity based costing and performance: An application on Moroccan enterprises. *Journal of Accounting Business & Management*, 19(1), 90–102.
- Emmanuel, C., Otley, D., & Merchant, K. (1990). Accounting for management control (2nd ed.) London: Chapman & Hall.
- Emmett, D., & Forget, R. (2005). *The utilization of activity based cost accounting in hospitals*. Retrieved from http://dx.doi.org/10.1300/J375v15n02\_06

- EC. (2009). Trade sustainability impact assessment (SIA) of the EU-Libya Free Trade

  Agreement. Retrieved from http://trade.ec.europa.eu/doclib/docs/2009/july/tradoc\_143960.pdf
- Fei, Z. Y., & Isa, C. R. (2010). Factors influencing activity-based costing success: A research framework. *International Journal of Trade, Economics and Finance, 1*(2), 114–150.
- Field, A. (2005). Discovering statistics using SPSS (2nd ed.). London: Saga.
- Fleischman, R. K., & Parker, L. D. (1991). British entrepreneurs and pre Industrial Revolution evidence of cost management. *Accounting Review*, 66(2), 361–375.
- Fleischman, R. K., & Parker, L. D. (1997). What is past is prologue: Cost accounting in the British Industrial Revolution. New York: Garland Publishing.
- Fleischman, R. K., & Tyson, T. N. (1993). Cost accounting during the Industrial Revolution: The present state of historical knowledge. *Economic History Review*, 46(3), 503–517.
- Foong, S.-Y., & Teruki, N. A. (2009). Cost-system functionality and the performance of the Malaysian palm oil industry. *Asian Review of Accounting*, 17(3), 212–225.
- Fullerton, R. R., & Mcwatters, C. S. (2004). An empirical examination of cost accounting practices used in advanced manufacturing environments. *Advances in Management Accounting*, 12, 85–113.
- Gandeel, A. R. A. (1978). *Agriculture and its elements in Libya* (1st ed.). Cairo, Egypt, Al Dar Al Arabia for Books.
- Garner, S. P. (1947). Historical development of cost accounting. *Accounting Review*, 22(4), 385–389.

- Geense, I. M. (2005). *Activity based costing*. Retrieved from http://www.managerial-accounting.org/Activity%20Based%20Costing.htm
- Geiger, D., & Ittner, C. D. (1996). The influence of funding source and legislative requirements on government cost accounting practices. *Accounting Organizations* and Society, 21(6), 549–567.
- General People's Committee. (2006). *Encouragement of investment decision*. (*Decision number 5*). Retrieved from http://www.bcd.ly/arabic/index.aspx?
- General People's Committee for Agriculture, Livestock and Marine. (2009). Work done during the years 2006 to 2009 and targeted actions for the year 2010–2012. Tripoli.
- General People's Committee for Agriculture, Livestock and Marine. (2012). *Cereal production programme*. Tripoli.
- Glaser, B. G. (1965). *The constant comparative method of qualitative analysis*. Retrieved from http://www.jstor.org/pss/798843
- Gong, M.Z., & Tse, M.S. (2009). Pick, Mix or Match? A Discussion of Theories for Management Accounting Research. *Journal of Accounting Business & Management*, 16(2), 54–66.
- Guilding, C., Cravens, K. S., & Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research*, 11, 113–135.
- Guilding, C., Drury, C., & Tayles, M. (2005). An empirical investigation of the importance of cost-plus pricing. *Managerial Auditing Journal*, 20(2), 125–137.
- Gupta, S. P., Sharma, A., & Ahuja, S. (2006). *Cost accounting*. New Delhi: Rahul Jain V.K. (India) Enterprises.

- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. G. (1998). *Multivariate data analysis* (4th ed.). Upper Saddle River, New Jersey: Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Haldma, T., & Lääts, K. (2002). Contingencies influencing the management accounting practices of Estonian manufacturing companies. *Management Accounting Research*, 13, 379–400.
- Hallett, D. (2002). *Petroleum geology of Libya*. Retrieved from http://books.google.com.my/books?id=g-QXQ\_UH884C&dq=oil+history+in+libya&printsec=frontcover&source=in&hl=en&ei=8yGnTIK0O4f8vQPZbjsDA&sa=X&oi=book\_result&ct=result&resnum=14&ved=0CE8Q6AEwDQ#v=onepage&q=oil%20history%20in%20libya&f=false
- Hannan, A. (2008). *Cost accounting*. Retrieved from http://www.wherincity.com/article-s/finance/7054.html
- Hanson, W. E., Creswell, J. W., Creswell, J. D., Clark, V. L. P., & Petska, K. S. (2005).
  Mixed methods research designs in counseling psychology. *Journal of Counseling Psychology*, 52(2), 224–235.
- Harris, L. R., & Brown, G. T. L. (2010). Mixing interview and questionnaire methods: Practical problems in aligning data. *Practical Assessment, Research & Evaluation,* 15(1), 1–19.
- Haynes, S. N., Richard, D. C. S., & Kubany, E. S. (1995). Content validity in psychological assessment: A functional approach to concepts and methods. *American Psychological Association*, 7(3), 238–247.

- Helen, C. M. (1987). *Libya: A country study*. Retrieved from http://countrystudies.us/libya/62.htm
- Hill, N. T. (2000). Adoption of costing systems in US hospitals: An event history analysis 1980–1990. *Journal of Accounting and Public Policy*, 19, 41–71.
- Hopper, T., Koga, T., & Goto, J. (1999). Cost accounting in small and medium sized Japanese companies: An exploratory study. *Accounting and Business Research*, 30(1), 73–86.
- Horngren, C. T., Datar, S. M., & Foster, G. (2006). *Cost accounting: A management emphasis* (12th ed.). Upper Saddle River, New Jersey: Pearson Education, Inc.
- Horngren, C. T., Datar, S. M., Foster, G., Raja, M., & Ittner, C. (2009). *Cost accounting: A managerial emphasis* (13th ed.). Upper Saddle River, New Jersey: Pearson Education, Inc.
- Hume-Schwarz, J. A. (2007). Cost accounting: A historical perspective. *Academy of Accounting and Financial Studies*, 12(2), 53–59.
- IMF. (2006). *Staff report for the 2005 article iv consultation* (No. 06/136). Washington, D.C.: International Monetary Fund.
- Inderwasin, I. (2008). *Brief history of Libya before and after the Islamic Arab invasion*. Retrieved from http://www.coptichistory.org/new\_page\_597.htm
- Innes, J., Mitchell, F., & Sinclair, D. (2000). Activity-based costing in the U.K.'s largest companies: A comparison of 1994 and 1999 survey results. *Management Accounting Research*, 11, 349–362.

- Isa, C. R., Saleh, Z., et al. (2007). Financial and management accounting practices among small and medium enterprises in Malaysia. *International Management Accounting Conference*. Kuala Lumpur: Universiti Kebangsaan Malaysia.
- Ismail, A., Simeh, M., & Noor, M. (2003). The production cost of oil palm fresh fruit bunches: The case of independent smallholders in Johor. *Oil Palm Industry Economic Journal*, 3(1), 1–7.
- Ittner, C. D., & Larcker, D. E. (2002). Empirical managerial accounting research: Are we just describing management consulting practice? *European Accounting Review*, 11(4), 787–794.
- Jack, L. (2008). Towards collaborative target cost management in agriculture and food.

  Retrieved from http://www.cimaglobal.com/Documents/thought\_leadership\_doc/c-id\_dispap\_from\_gate\_to\_plate\_oct2008.pdf
- Jack, L., & Jones, J. V. H. (2007). Facing up to new realities: The case for using relevant cost and target cost approaches in agriculture. *Journal of Applied Accounting Research*, 8(iii), 116–145.
- Jackson, D. (2000). The school improvement journey: perspectives on leadership, School Leadership & Management, 20(1), 61–78.
- Janet, M., & Gus, G. (1996). Developing a cost accounting system for a physician group practice in healthcare. *Healthcare Financial Management*, 50(10), 73–83.
- Jekayinfa, S. O., Adebiyi, K. A., Waheed, M. A., & Owolabi, O. O. (2005). Application and case studies: Appraisal of farm tractor maintenance practices and costs in Nigeria. *Journal of Quality in Maintenance Engineering*, 11(2), 152–168.

- Johnson, T. H., & Kaplan, R. S. (1987). Relevence lost: The rise and fall of management accounting. Boston: Harvard Business School Press.
- Josh, B. (2010). Tripoli Libya. Bride of the Mediterranean. State Magazine, 28.
- Juchau, R. H. (1986). Accounting development and implications for farm business.
  Retrieved from http://researcharchive.lincoln.ac.nz/dspace/bitstream/10182/799/1/aeru\_dp\_100.pdf
- Juchau, R. H. (2000). *Agricultural accounting: Perspectives and issues* (2nd ed.). Wye: University of London, Wye College.
- Juchau, R. (2002). Early cost accounting ideas in agriculture: The contributions of Arthur Young. *Accounting, Business and Financial History, November*, 369–386.
- Kachalay, V. (2012). Modern techniques of product costing at industrial enterprises. Scentific Journal, 34(5), 66–73.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 1–6.
- Kaplan, R. S., & Cooper, R. (1997). Cost and effect: Using integrated systems to drive profitability and performance. Retrieved from http://books.google.com.my/books?id=SP4ziJkv3yQC&printsec=frontcover&dq=Cost+and+effect:+Using+integrated +systems+to&source=bl&ots=vdtX6Ly8Zu&sig=yjajq1q0wzj4vcwLRCSxOGoBR8 k&hl=en&ei=BER9TMW2K4eGvAPWhKS7Ag&sa=X&oi=book\_result&ct=result &resnum=1&ved=0CBQQ6AEwAA#v=onepage&q&f=false
- Kaplan, R. S., & Cooper, R. (1998). *Cost and effect: Using integrated cost systems to drive profitability and performance*. Retrieved from http://books.google.com.-my/books?id=SP4ziJkv3yQC&printsec=frontcover&dq=Kaplan+%26+Cooper,+199

- 8&source=bl&ots=vduWdGz32s&sig=q7QB1qcC0RkjdQ\_O5-6AEwBA#v=onepage&q=Kaplan%20%26%20Cooper%2C%201998&f=fals
- Karakaya, M. (2009). An overview to accounting applications on agricultural activities in Turkey within historical progress. *African Journal of Business Management*, 3(7), 294–304.
- Karmarkar, U. S., Lederer, P. J., & Zemmerman, J. L. (1989). *Choosing manufacturing production control and cost accounting systems*. Retrieved from http://www.simon.rochester.edu/fac/lederer/SimonFacultyWeb/LedererPapers/ChoosingManufacturingProductionControlandCostAccountingSystems.pdf
- Karyanto, P. (2010). Factors affecting the adoption of sustainable upland agriculture at Lawu mountain, Indonesia (Unpublished PhD thesis). University Utara Malaysia, Sintok.
- Khandwalla, P. N. (1972). The effect of different types of competition on the use of management controls. *Jornal of Accounting Research*, 275–285.
- Kirakowski, J. (2000). Questionnaires in usability engineering: A list of frequently asked questions. Retrieved from http://www.ucc.ie/hfrg/resource/qfaq1.htm1#whatisaquestionnaire
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607–610.
- Kroll, J. C. (1987). The new accounting: The lost opportunity. *Rural Econ*, 180: 20–25.
- Kuwairi, A. (2006). Water mining the Great Man-Made River. Libya. *ICE Civil Engineering*, 159(5), 39–43.

- Lee, T.-R., & Kao, J.-S. (2000). Application of simulation technique to activity based costing of agricultural system: A case study. *Agricultural System Elsevier*, 71–82.
- Lorenz, G., & Brehm, K.-P. (1989). Cost accounting in refrigerated warehouses: Direct costing versus full cost accounting. *International Journal of Refrigeration*, 12(3), 125–136.
- Lukka, K., & Granlund, M. (1996). Cost accounting in Finland: Current practice and trends of development. *European Accounting Review*, 5(1), 1–28.
- Maelah, R., & Ibrahim, D. N. (2006). Activity based costing (ABC) adoption among manufacturing organizations The case of Malaysia. *International Journal of Busines and Society*, 7(1), 70–101.
- Mahmod, M. I. A. (1997). *Agricultural geography*. Alexandri: Library of Anglo-Egyptian.
- Majid, J. A., & Sulaiman, M. (2008). Implementation of activity based costing in Malaysia: A case study of two companies. *Asian Review of Accounting*, 16(1), 39–55.
- Malmi, T. (1999). Activity-based costing diffusion across organizations: An exploratory empirical analysis of Finnish. *Accounting, Organizations and Society*, 24, 649–672.
- Manalo, M. (2005). An exploratory research on the implementation of activity based costing (ABC) techniques in selected firms in the Philippines. Retrieved from http://www.researchsea.com/html/article.php/aid/86/cid/4/research/activity\_based\_costing
- Manoj, P. K. (2009). Targeting operational excellence through cost management: Some firm level evidence. *International Bulletin of Business Administration*, *5*, 6–15.

- Mattingly, D. J. (1996). *Map 36 Garama*. Retrieved from http://mail.nysoclib.org/Barrington\_Atlas/BATL036\_.PDF
- McBride, W. D. (2003). *Production costs critical to farming decisions*. Retrieved from http://www.ers.usda.gov/AmberWaves/September03
- McLean, T. (2008). The measurement and management of human performance in seventeenth century English farming: The case of Henry Best. Retrieved from http://www.ncl.ac.uk/nubs/assets/documents/dis\_paper-mclean.pdf
- Meier, K. J., Brudney, J. L., & Bohte, J. (2009). *Applied statistics for public and nonprofit administration*. Wadsworth: Michael Rosenberg.
- Mepham, M. J. (1988). The eighteenth-century origins of cost accounting. *ABACUS*, 24(1), 55–69.
- Mia, L., & Clarke, B. (1999). Market competition, management accounting systems and business unit performance. *Management Accounting Research*, 10, 137–158.
- Michael, P. (2009). *North Africa: The Roman coast*. Guilford: The Globe Pequot Press Inc.
- Migiro, S., & Magangi, B. A. (2011). Mixed methods: A review of literature and the future of the new research paradigm. *African Journal of Business Management*, 5(10), 3757–3764.
- Mills, A. J., Durepod, G., & Wiebe, E. (2010). *Case study research*. Thousand Oaks, California: SAGE.
- Modell, S. (2005). Triangulation between case study and survey methods in management accounting research: An assessment of validity implications. *Management Accounting Research*, 16, 231–254.

- Mohamed, E. A. (1991). *Agricultural history in Libya during Ottoman rule*. Mosrata: Dar Al-Jamahiriya for Publishing and Distribution and Advertising.
- Mohamed, M. F., & Gassem, A. M. F. (2009). An economic study of the most important determinants of total and agricultural investment in Libya. *Journal of Agricultural research Kafer El Sheikh University*, 35(3), 210–228.
- Mohamed, O. A. (1996). Agricultural productivity. Alexandria: Knowledge of Institution.
- Mostaque, H., Gunasekaran, A., & Erkki, K. L. (1998). Management accounting systems in Finnish service firms. *Technovation*, *18*(1), 57–67.
- Mostfa, A. (1979). Agricultural development in the Arab countries and their relationship to the industrial development strategy. Riyadh: University of Riyadh.
- Narsis, I. (2009). *Theory in cost accounting*. New Delhi: Atlantic.
- Ning, Y. (2005). The development of costing systems: A historical perspective. *Journal of Modern Accounting and Auditing*, 1(2), 16–29.
- Noltemeyer, V. E. (1986). Cost accounting practices in the wood conversion industry. *Management Accounting*, 52(5), 45–48.
- Nor, A., & Abdulmagsood, A. (1989). *Cost accounting principles*. Alexandria: Foundation Young University.
- Nunnally, J. D. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Obara, L. C., & Ukpai, N. A. (2001). *Cost accounting practice in informal sector in Nigeria*. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/ca-frad/unpan017691.pdf

- Odysseas, P., & Ioannis, P. (2007). Cost accounting in Greek hotel enterprises: An empirical approach. *An International Multidisciplinary Journal of Tourism*, 2(2), 39–59.
- Oliver, A. (2006). *Validity and reliabiliy: Soundings in data testing*. Retrieved from http://www.biblicalstudies.org.uk/pdf/cjet/10\_113.pdf
- Otley, D. T. (1980). The contingency theory of management accounting: Achievement and prognosis. *Accounting, Organizations and Society*, 5(4), 413–428.
- Owler, L. W. J., & Brown, J. L. (1965). *Wheldon's cost accounting* (15th ed.). London: Pitman Publishing.
- Pallant, J. (2007). A step by step guide to data analysis using SPSS for windows (3rd ed.).

  New York: The McGraw Hill Companies.
- Pallant, J. (2010). A step by step guide to data analysis using the SPSS program (4th ed.). England: Allen & Unwin Book Publishers.
- Pavlatos, O., & Paggios, L. (2009). A survey of factors influencing the cost system design in hotels. *International Journal of Hospitality Management*, 28, 263–271.
- Perone, J., & Tucker, L. (2003). An exploration of triangulation of methodologies:

  Quantitative and qualitative methodology fusion in an investigation of perceptions of transit safety. Tampa: University of South Florida.
- Pines, J. M., Fager, S. S., & Milzman, D. P. (2002). A review of costing methodologies in critical care studies. *Journal of Critical Care*, 17(3), 181–187.
- Pizzini, M. J. (2006). The relation between cost-system design, managers' evaluations of the relevance and usefulness of cost data, and financial performance: An empirical study of US hospitals. *Accounting, Organizations and Society, 31*, 179–210.

- Porter, M. E., & Yergin, D. (2006). An assessment of competitiveness of the Libyan Arab Jamahiriya. Tripoli: The General Planning Council of Libya.
- Prickett, A. L. (1944). General principles of cost accounting. *Accounting Review*, 19(2), 169–180.
- Purcell, B. (2004). *Libya cereal production*. Retrieved fromhttp://www.fas.usda.gov/-pecad/highlights/2004/05/libya/
- Quesada-Pineda, H. (2010). The ABCs of cost allocation in the wood products industry:

  Application in the furniture, communications and marketing. Virginia: College of Agriculture and Life Science.
- Raykov, T., & Marcoulides, G. A. (2006). An introduction to applied multivariate analysis. New York: Taylor & Francis Group, LLC.
- Renner, M. (2003). *Analyzing qualitative data*. Retrieved from http://learningstore.uwe-x.edu/assets/pdfs/g3658-12.pdf
- Roztocki, N., & Schaltz, S. M. (2003,). *Adoption and implementation of activity-based costing: A web-based survey*. Paper presented at the Proceedings of the 12th Annual Industrial Engineering Research Conference (IERC 2003), Portland, 18–20 May 2003.
- Sakurai, M. (1989). *Target costing and how to use it*. Retrieved from http://meew.info/articleSummaries/ArtSumSakurai89.htm
- Salleh, K., Aziz, R. A., & Baker, Y. N. A. (2012). Fund accounting for federal government: Is it still relevant? *IPN Journal of Research and Practice in Public Sector Accounting Management*, 2, 1–11.

- Scapens, R. W. (2006). Understanding management accounting practices: A personal journey. *British Accounting Review*, *38*, 1–30.
- Schoute, M. (2009). The relationship between cost system complexity, purposes of use, and cost system effectiveness. *British Accounting Review*, 41, 208–226.
- Schoute, M. (2011). The relationship between product diversity, usage of advanced manufacturing technologies and activity-based costing adoption. *British Accounting Review*, 43, 120–134.
- Sekaran, U., & Bougie, R. (2013). *Research methods for business*. West. Sussex, United Kingdom: John Wiley & Sons LTD.
- Shook, C. L., Ketchen, D. J., Hult, G. T. M., & Kacmar, K. M. (2004). An assessment of the use of structural equation modeling in strategic management research. *Strategic Management Journal*, 25, 397–404.
- Sulaiman, M. B., Ahmad, N. N. N., & Alwi, N. (2004). Management accounting practices in selected Asian countries: A review of the literature. *Managerial Auditing Journal*, 19(4), 493–508.
- Swenson, D. (1995). The benefits of activity-based cost management to the manufacturing industry. *Journal of Management Accounting Research*, Fall, 167–180.
- Swenson, D. W., & Cassidy, J. (1993). The effect of JIT on management accounting. *Journal of Cost Management*, 39–47.
- Szychta, A. (2002). The scope of application of management accounting methods in Polish enterprises. *Management Accounting Research*, 13, 401–418.

- Tahir, A. M., Ali, A., Jamil, C. Z. B. M., Salleh, D., Muhammad, F. B., Alwi, K., ... Abdullah, Z. (2004). *Costing for specialized industries*. Singapore: Thompson.
- Talha, M. (2010). A new look at management accounting. *Journal of Applied Business Research*, 26(4), 83–96.
- Tani, T. (1995). Interactive control in target costing management. *Management Accounting Research*, 6, 399–414.
- Tani, T., Okano, H., Shimizu, N., Cooray, S., Fukuda, J., & Iwabuchi, Y. (1994). Target cost management of Japanese companies: Current state of the art. *Management Accounting Research*, *5*, 67–81.
- Tawer, M. E. (1991). *Agriculture history in Libya during the Ottoman rule*. Tripoli: Dar Al-Jamahiriya for Publishing and Distribution and Advertising.
- Tayles, M., & Drury, C. (2003). *Explicating the design of cost systems*. Retrieved from http://www.brad.ac.uk/acad/management/external/pdf/workin gpapers/2003/Booklet\_03-01.pdf
- Taylor-Powell, E., & Renner, M. (2003). *Analyzing qualitative data*. Retrieved from http://learningstore.uwex.edu/assets/pdfs/g3658-12.pdf
- Toluyemi, T. (1999). The role of accounting information system in the sustainability of agricultural development projects in Nigeria. *Information Technology for Development*, 8(4), 209–220.
- Tsai, W.-H., & Kuo, L. (2004). Operating costs and capacity in the airline industry. *Journal of Air Transport Management, 10*, 271–277.
- U.S. Government Accountability Office (GAO). (2006). Managerial cost accounting practices: department of agriculture and the department of housing and urban

- development (Report Number GAO-06-1002R). Retrieved from http://www.gao.g-ov/assets/100/94446.pdf
- Uyar, A. (2010). Cost and management accounting practices: A survey of manufacturing companies. *Eurasian Journal of Business and Economics*, *3*(6), 113–125.
- VanDerbeck, E. J. (2010). *Principles of cost accounting*. Mason: South-Western, Cengage Learning.
- Viana, R. C., & Rodrigues, L. L. (2004). A special accounting treatment for special industries. Evidence from port wine industry accounting practices. Retrieved from http://www.fep.up.pt/docentes/coutoviana/SATPWIBarc.pdf
- Walonick, D. S. (2010). *A selection from survival statistics*. Retrieved from http://www.statpac.com/surveys/surveys.pdf
- Webster, M. (2012). Webster's ninth new collegiate dictionary. Retrieved from http://www.merriam-webster.com/dictionary/sample
- Whiting, L. S. (2008). Semi-structured interviews: Guidance for novice researchers.

  Nursing Standard, 22(23), 35–40.
- Wijewardena, H., & Zoysa, A. D. (1999). A comparative analysis of management accounting practices in Australia and Japan: An empirical investigation. *International Journal of Accounting*, 34(1), 49–70.
- Williams, C. (2007). Research methods. *Journal of Business & Economic Research*, 5(3), 65–72.
- Wong, L. C. Y. (2007). *Development of Malaysia's agricultural sector: Agriculture as an engine of growth?*. Paper presented at the Conference on the Malaysian Economy: Development and Challenges, Singapore, 25–26 January.

- Wood, D., & Lenne, J. M. (1999). *Agrobiodiversity: Characterization, utilization, and management* (illustrated ed.). New York: CABI Pub.
- Yusoff, M. S. B. (2010). The construct validity and internal consistency of the adult learning inventory (AL-i) among medical students. *WebmedCentral Medical Education*, *1*(19), 1–12.
- Zaki, H. (2004). Agricultural cost accounting (2nd ed.). Aman: Dar Zahran.
- Zentani, A. (2005). *Status of food barley in the Libyan Arab Jamahiriah*. Paper presented at Food barley: Importance, uses and local knowledge: Proceedings of the International Workshop on Food Barley Improvement, Hammamet, Tunisia.
- Zillin, Y., Xuehua, W., & Chenting, S. (2006). A review of research methodologies in international business. *International Business Review*, 15, 601–617.
- Zin, R. M. (2006). A case study of management control of a construction project: Issue of transaction costs and trust (Unpublished PhD thesis). University of Manchester, Manchester.