

**THE USE OF MANAGEMENT ACCOUNTING PRACTICES IN
MALAYSIAN SMES**

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**to the
University of Exeter
as a thesis for the degree of**

Doctor of Philosophy in Accountancy

May 2012



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ABSTRACT

There have been the recent calls for additional research in order to enhance the understanding of the adoption of management accounting practices (MAPs) in small and medium sized enterprises (SMEs). This, allied to an increasing importance of SMEs around the world especially in developing countries, is the motivation for this research. This research explores the uptake of a broad range of MAPs in Malaysian SMEs; identifies the roles of MAPs in the management of SMEs; determines factors that affect the extent of use of MAPs in SMEs and lastly examines the relationship between the use of MAPs and organizational performance of SMEs. A postal questionnaire was conducted to 1,000 Malaysian SMEs in manufacturing sector which elicited 160 useable responses.

The results show that the majority of respondents have used the five management accounting areas identified. Use of the costing system, budgeting system and performance evaluation system are significantly higher than for the decision support system and strategic management accounting, which indicates that the uptake of traditional MAPs is greater than for sophisticated MAPs. The results indicate that medium sized firms make greater use of all MAPs as opposed to small sized enterprises. The most significant differences relate to the use of decision support system and strategic management accounting. The increased uptake of sophisticated MAPs by larger firms is in line with size being a contingent variable explaining the use of such practices.

The results also suggest that MAPs were perceived as playing very important roles in the management of Malaysian SMEs. Performance evaluation and controlling activities were the major roles of MAPs in the management of SMEs. Overall the study suggests

that MAPs are perceived by SMEs as relevant and useful in their management processes.

Further, the study found that four out of five contingent factors; size of the firm, intensity of market competition; participation of the owner/manager in the development of MAPs in firm and advanced manufacturing technology have a positive and statistically significant relationship with the use of certain MAPs. The research however found weak support for the positive relationship between the use of MAPs and organizational performance of SMEs.

This study enriches the existing body of knowledge of management accounting by providing information as to the use of MAPs in SMEs in Malaysia. The findings can be specifically informative for policy makers intent on developing management accounting skills among Malaysian SMEs. This research will provide valuable insights into the nature of MAPs in SMEs in a developing country and will promote interest among Malaysian researchers as well as researchers of other countries to make the SME sector a focus of interest in management accounting research.

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ABBREVIATIONS

ABC	Activity-based Costing
ABCMA	Activity-based Costing and Management
ABMA	Activity-based Management Accounting
AIS	Accounting Information System
AMT	Advanced Manufacturing Technology
ARR	Accounting Rate of Return
BBRT	Beyond Budgeting Round Table
BSC	Balanced Scorecard
CAM-I	Consortium for Advanced Manufacturing International
CBM	Central Bank of Malaysia
CIMA	The Chartered Institute of Management Accountants
CSFs	Critical Success Factors
CVP	Cost-Volume-Profit
DOS	The Department of Statistics
DSS	Decision Support System
FDI	Foreign Direct Investment
FMAC	Financial Management and Management Accounting Committee
GDP	Gross Domestic Product
IRR	Internal Rate of Return
IFAC	International Federation of Accountants
IMA	Institute of Management Accountants
IMP	Industrial Master Plan
IT	Information Technology
JIT	Just-In-Time
KM	Knowledge Management
KPIs	Key Performance Indicators
MA	Management Accounting
MAP	Management Accounting Practice
MAS	Management Accounting Systems
MAT	Management Accounting Technique
MCS	Management Control System
MOA	Ministry of Agriculture and Agro-based Industries
MP	Malaysia Plan
NPC	National Productivity Corporation (Malaysia)
NPV	Net Present Value
NSDC	Malaysian National SMEs Development Council
NZ	New Zealand
OC	Organizational Controls
PMS	Performance Measurement System
ROI	Return on Investment
ROE	Return on Equity

ROA	Return on Asset
ROS	Return on Sales
SMEs	Small and Medium sized Enterprises
SMIDEC	Small and Medium Industries Development Corporation
SMA	Strategic Management Accounting
TQC	Total Quality Control
TPM	Total Productive Maintenance
TQM	Total Quality Management
UNDP	The United Nations Development Program
UK	United Kingdom
US	United States
VBM	Value-based Management
VE	Value Engineering
ZBB	Zero-Based Budgeting



Acknowledgement

This thesis would not have been possible without the support and guidance of my supervisors, Professors Paul Collier and David Gwilliam of University of Exeter. To them goes my greatest thanks. I would also like to acknowledge my examiners Professor John Burns and Professor Robert Luther for their constructive feedback and opinion.

I am also grateful to all the many other members of staff at Exeter Business School who have helped me in various ways over the past three years. Special thanks to Helen Bell, the postgraduate administrator of University of Exeter Business School for her professional advice towards completing my study. Finally, I wish to thank my beloved husband, Shafie, my children Irshad and Safia Zarin, the rest of the family and friends for their continued love, support and companionship.



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Chapter 1

Introduction

1.1 Introduction

This chapter is organized into five sections. The first section describes briefly the background to small and medium sized enterprises (SMEs) and the role of management accounting practices (MAPs) in the management of all organizations. Section two discusses the problem statement followed by the identification of research objectives, research questions, and hypotheses. Next the rationale and importance of this study is explained. The section ends with the development of a methodology and the specification of the organisation of the thesis.

1.2 Background

Small and medium-sized enterprises (SMEs) make up the vast majority of the business population in most countries in the world therefore they constitute a vital force in modern information-based economies (Mitchell and Reid, 2000). In Malaysia the SMEs population comprises approximately 99 per cent of all Malaysian businesses (The Department of Statistics, 2005). Therefore this sector plays a crucial role in the economy as an engine to generate economic growth in Malaysia. SMEs also contribute to the economy in other ways. Cook (2001) highlighted some of those which includes;

- the encouragement of entrepreneurship;
- the greater likelihood that SMEs will utilize labor intensive technologies and thus have immediate impact on employment generation;
- the fact that they can usually be established rapidly and put into operation to produce quick returns;

- the ability of SME development to encourage the process of both inter-and intra-regional decentralization; and
- the notion that they may become a countervailing force against the economic power of larger enterprises. More generally, the development of SMEs is seen as accelerating the achievement of wider economic and socio-objectives, including poverty alleviation.

In addition to the advantages stated above, Mitchell and Reid (2000) argued that part of the reason for stressing the importance of small firms or SMEs is that their flexibility makes them well suited to the niche opportunities which are so characteristic of the 'new' economy. Thus SMEs play a key role in stimulating economic expansion. In light of both their significant contributions and potentials, there is a growing focus on this sector by policy makers in most countries. In Malaysia, the role of SMEs became more important after the 1990s especially after the Asian Crisis in 1997-1998. The country learnt not to be overly dependent on foreign direct investment (FDI) in stimulating its economy and used SMEs as a new mechanism for generating the growth of its economy (Aris, 2007). The government has been called upon to put up clear policies, strategies and implementation matrixes to develop this sector through an integrated approach (Aris, 2007). For example in the 9th Malaysia Plan (2006 – 2010), the principal SMEs policy strives for the development of a competitive, innovative and technologically strong SME sector, capable of meeting the increasing demands of globalization and intensifying competition (NSDC, 2007). In consequence various initiatives have been set in motion to build the capacity and capability of SMEs. For example, there have been efforts to improve the management and business methods in production, quality improvement, marketing and accounting skill (SME Annual Report, 2007). However there is concern about a lack of exposure to management accounting among Malaysian SMEs since there is no specific reference to the use of MAPs. Previous research has

suggested that MAPs are an important tool through which management can promote efficiency, and potentially have an important influence on performance (see Ghosh and Chan, 1997; Lybaert, 1998; and Mitchell and Reid, 2000). In particular, within small firms, MAPs act as the key information system that plays a vital role as an efficient information-processing (Reid and Smith, 2002). Apart from that, the availability of financial and non-financial information provided by MAPs permits firms to effectively face competition in the market, coping with change, surviving and thereby improves performance (Mia and Clarke 1999 and Reid and Smith, 2002). Although good MAPs may not by themselves guarantee success, an absence of them or poorly implemented practices may significantly reduce the firm's competitive advantages (Folk et al., 2002). Therefore, given these advantages from MAP use, it is important to promote knowledge and awareness of MAPs among small business in Malaysia so that the firms may benefit advantages that have been highlighted above.

1.3 Problem statement

Much has been written about small business and in particular about small business failure rates (Watson and Everett, 1996). Richard (2000) stated that there are many reasons for the failure rate of start-up businesses, including lack of adequate working capital, poor market selection, and rapidly changing external market conditions. However, the most significant reason for this high failure rate is the inability of SMEs to make adequate use of essential business and management practices. Many small firms fail to develop an initial plan, and those that do establish a plan fail to continually adjust and use it as a benchmarking tool. Similarly, Wichmann (1983) argued that one of the reasons for business failure is poor management ability which includes accounting problem-solving. Further, Hopper et al. (1999) using data based on the results from Japanese companies' concluded that a failure to adopt MAPs (i.e. cost

management systems) in a similar way to their larger counterparts and, at the margins, to experiment with new forms of control that are more profit oriented may be a factor in the currently high failure rate of SMEs. Based on these argument it can be suggested that MAPs are important for SMEs if they are to avoid failing.

Another driver of this thesis is the paucity of research into the use of MAPs among SMEs. Despite the increasing amount of research in management accounting in the past decade, little is known of its form and effectiveness within SMEs (McChlery et al., 2004). This lack of research based knowledge may have been based on a belief that the discipline in management accounting is best served by studying the most innovative and successful examples of practice that can be found in the leading western and Japanese firms (Mitchell et al., 1998). Consequently larger enterprises have been preferred for empirical management accounting research as expertise and a capacity to innovate and develop management accounting is more likely to exist in such enterprises (Mitchell and Reid, 2000). This situation creates a challenge into the study of MAPs in SMEs. However, Mitchell et al. (1998) contended that research into management accounting in SMEs provides possibilities of a different type which are nonetheless of great importance to the fundamental explanation and understanding of the discipline. Indeed, many of the research opportunities inherent in SMEs derive directly from the contrasts which they provide with large organisations. Mitchell et al. (1998) added that in the SME research setting all of the following advantages accrue.

1. The small size of the SME provides a less complex research setting than that provided by a large scale organisation. In the SME the nature, role and development of management accounting are more visible to the researcher and due to their smaller scale, more accessible. This enhanced visibility, combined with the

susceptibility of the SME to key contingencies such as phase of the business cycle and extreme financial and competitive pressures, provides an environment in which the effects of fundamental forces are marked and can therefore be studied more easily.

2. Prior research, e.g. Holmes and Nicholls (1989) in an Australian context, indicates that management accounting information (and its absence) is associated with success (and failure) in SMEs and is therefore potentially an important influence on performance within this economic sector. This, in combination with the relative importance of SMEs as generators of economic well-being reinforces the significance of this area of research.
3. In new and young SMEs the birth and early years of management accounting systems are observable. The existing research focusing on these formative stages concentrates mostly on the development of management control systems (MCS) in which only a few control systems are associated with management accounting (see for example Sweeting, 1991; Davila, 2005; Davila and Foster, 2007; Wisbaden and Sandino, 2007; and Hutzschenreuter, 2009). Hence there is a dearth of research material that specifically focuses on management accounting at these stages have been undertaken.
4. The absence, in many instances, of professional accounting support in the SMEs results in information provision which is derived purely from managerial demand. The 'producer' driven influence of the accountant is absent from the subject of study and consequently the SME setting provides a unique and pure insight into managerial information needs.

For these reasons SMEs offer a potentially rewarding location for investigating MAPs and exploring the factors underlying their development. At present in Malaysia there is a dearth of information on the extent of use of MAPs among SMEs. Given their small

size especially in the context of developing country, there is a possibility that SMEs do not use MAPs and fail to take full advantage of the opportunities that better accounting information might create. Also despite the claims of an association by many researchers, there is little information on whether or not there is any association between the use or extent of use of MAPs and the performance of firms, especially for Malaysian SMEs. The absence of data on MAPs in SMEs has perhaps prevented the Malaysian regulators/policy makers from taking actions that might improve the functioning of Malaysian SMEs. Consequently, there are significant gaps in the knowledge base relating to MAP usage in SMEs in Malaysia, which should be filled on the grounds that the information provided may underpin government policy towards the sector.

Therefore given the significant economic importance of SMEs and the gap in the literature, this research aims to obtain a broad overview of the use of MAPs within Malaysian SMEs, their roles in the management of SMEs, and to examine both the factors that lead to their use as well as their impact on performance. Following are the research objectives, research questions and research hypotheses developed for this study.

1.4 Research objectives

Based on the issues and problems discussed above, this study identifies four main objectives

1. To investigate the extent to which MAPs are employed by Malaysian SMEs.
2. To identify the roles played by MAPs in Malaysian SMEs' management.
3. To determine the factors that affect the extent of use of MAPs among Malaysian SMEs.

4. To seek to demonstrate a positive relationship between MAP use and the performance of SMEs.

1.5 Research questions

These objectives can be expressed in the following research questions:

1. What is the extent of the use of MAPs by Malaysian SMEs?
2. What are the roles of management accounting in Malaysian SMEs' management?
3. What factors affect the extent of the use of MAPs by Malaysian SMEs?
4. Is there a positive relationship between the use of MAPs and the performance of Malaysian SMEs?

1.6 Hypotheses

Research questions 3 and 4 can be expressed in terms of the following two general hypotheses for empirical testing:

H1: There are significant and positive relationships between selected contingent factors and the use of MAPs.

H2: There is a significant and positive relationship between the use of MAPs and organizational performance.

1.7 Importance of the study

This study will have useful implications for theory and practice. Regarding the potential implications for theory, the study will expand the existing management accounting literature in two main ways. First the study will provide new empirical evidence on the use of MAPs. Second, the study will contribute an additional study in the new context of Malaysian SMEs regarding what contingent factors affect the extent of MAP use.

Finally, the research will test for a relationship between the use of MAPs and the performance in the context of Malaysian SMEs. The focus on Malaysia is especially important because research on MAPs and SMEs is very limited in this country and developing countries more generally. Benefits for practice will include the following:

- the creation of an awareness among SME managers of the importance of management accounting as a means of improving performance and maintaining competitiveness in the marketplace.
- the provision of results that may assist policymakers, such as the level of use of MAPs among SMEs and factors that affect the use of MAPs, that may ensure that future policy decisions made by the Malaysian government, financial institutions, and other groups with an interest in SMEs are evidence based.

1.8 Research methodology

The quantitative data for descriptive purposes and empirical testing will be collected by a postal questionnaire. The questionnaire will examine and explore the state of MAPs within Malaysian SMEs in the manufacturing sector. The research concentrates only on one sector in order to avoid inappropriate distractions arising out of variations between sectors. Besides that the manufacturing sector in Malaysia plays a significant role in the Malaysian economy and therefore it is worthwhile to focus on this sector as a target population for this study. In addition the questionnaire will also explore the roles of MAPs as well as the factors that influence their use among SMEs. Lastly questions on the level of performance of SMEs and details of the profile of the firms will also be included. A postal questionnaire approach has been widely used in management accounting research (see for example, Drury et al., 1993; Firth, 1996; Chenhall and Langfield-Smith, 1998; Haldma and Laats, 2002; and Al-Omiri, 2003).

The information on the membership of the population will be derived from the directory of the Federation of Malaysian Manufacturers (FMM). This source, although not comprehensive, provides detailed information about SMEs in the manufacturing sector. This directory consists of comprehensive profiles of over 2,200 manufacturers from SMEs to large enterprises. For the sampling purposes, this research will focus on the small and medium category as the sampling unit. Thus in order to ensure every sub-sample gets an appropriate representation, a stratified random sampling procedure is used. This research will expect to receive between 120 to 150 responses from the 1,000 sample. This is based on past response rates in Malaysian studies. A detailed specification of the methodology is provided in Chapter 5.

1.8.1 Research process

Figure 1.1 shows the steps that will be employed in addressing the research problems.

Figure 1.1 Overview of research process

STEP 1	Literature review
STEP 2	Identification of possible variables Development of survey questionnaire
STEP 3	Pilot testing - Postal questionnaire Approximately 2 months
STEP 4	Actual survey- postal questionnaire Approximately 4 months
STEP 5	Data analysis

The first step in the research process will be a literature search to ascertain the current state of knowledge in the field and ultimately to identify the relevant research design

and methodology to help address the research questions as well as to identify relevant factors to be considered in this study. In the second step, a list of possible variables for identifying MAPs, possible contingent factors and indicators of performance will be drawn up based on the literature review. Next, a pilot test will be conducted to acquire feedback from the respondents on the questionnaire as well as to test the response rate assumption and the timing of responses. On the basis of this information, the questionnaire form will be reviewed and enhanced and a specific approach for follow-up procedures will be determined. In the fourth step, the postal survey will be conducted in order to collect descriptive data needed to answer the four research questions posed. Finally the data collected from the survey will be analysed using the descriptive statistics, bivariate association analysis and logit regression analysis.

1.9 Organisation of the thesis

This thesis is organized into nine chapters.

Chapter 1: Introduction

This chapter establishes the importance of SMEs in today's modern economy and the importance of management accounting in the management of all organizations. The problem statement for this research discusses the failure of the SMEs and the importance of adopting proper MAPs to reduce the failure rate. The existence of a research gap in the MAP literature especially in the SME context is also outlined. The chapter also states the research objectives, research questions and hypotheses for this study followed by a statement of the contribution generated by the study both in theory and in practice. This chapter specifies the intended research methodology which briefly explains how the data will be collected and the sampling method. The chapter ends with a description of the structure of the thesis.

References

Abdel-Kader, M. and Luther, R. (2006). Management accounting practices in the British food and drinks industry. *British Food Journal*, vol. 108, no.5, pp. 336-357.

Abdel-Kader, M. and Luther, R. (2008). The impact of firm characteristics on management accounting practices: A UK-based empirical analysis. *The British Accounting Review*, vol. 40, pp. 2-27.

Abdel-Maksoud, A. (2004). Manufacturing in the UK: contemporary characteristics and performance indicators. *Journal of Manufacturing Technology Management*, vol. 15, no. 2, pp. 155-171.

Abdel-Maksoud, A., Dugdale, D. and Luther, R. (2005). Non-financial performance measurement in manufacturing companies. *The British Accounting Review*, vol. 37, pp. 261-297.

Abdel-Maksoud, A., Asada, T. and Nakagawa, M. (2008). Performance measures, managerial practices and manufacturing technologies in Japanese manufacturing firms: state-of-the-art. *International Journal Business Performance Management*, vol. 10, no. 1.

Abdul Ghani, Z. (2007). The SME sector in Malaysia. Bank for International Settlement (BIS) Review. Retrieved from <http://www.bis.org/review/r070704e.pdf?frames=0>

Abdullah, M.A., Latif, A.A., Bakar, M.I. and Nor, N.M. (2000). The outreach of support programmes for bumiputra's entrepreneurs in SMEs: Evidence from Malaysia. The 46th 18 International Conference on Small Business (46th ICSB), 17-19th June 2001, Small Business Development Corporation, Taiwan.

Abernethy, M.A. and Lillis, A.M. (1995). The impact of manufacturing flexibility on management control system design. *Accounting, Organizations and Society*, vol. 20, no.4, pp. 241-258.

Adler, R., Everett, A.M. and Waldron, M. (2000). Advanced management accounting techniques in manufacturing: utilization, benefits, and barriers to implementation. *Accounting Forum*, vol. 24, no. 2, pp. 131-150.

Abs, G., Grimstad, C., Hay, R., Howe, W.A., La Place, W., McGurr, F.J. and Serraino, W. (1954). Historical Dates in Accounting. *The Accounting Review*, vol. 29, no. 3, pp. 486-493.

Agresti, A. (1990). *Categorical Data analysis*. New York: Jon Wiley.

Ahmed, S., Hassan, M.H. and Taha, Z. (2004). State of implementation of TPM in SMIs: a survey study in Malaysia. *Journal of Quality in Maintenance Engineering*, vol. 10, no. 2, pp. 93-106.

Alam, S.S. and Ahsan N. (2007). ICT adoption in Malaysian SMEs from services sectors: preliminary findings. *Journal of Internet Banking and Commerce*, vol. 12, no.3.

Alasadi, R. and Abdelrahim, A. (2008). Analysis of Small Business Performance in Syria. *Education, Business and Society: Contemporary Middle Eastern Issues*, vol.1, pp. 50-62.

Alawattage, C., Hopper, T. and Wickramasinghe, D. (2007). Introduction to management accounting in less developed countries. *Journal of Accounting & Organizational Change*, vol. 3, no. 3, pp. 183-191.

Alnamri, M.J. (1993). *Management accounting in Saudi Arabia: A comparative analysis and western approaches*. Ph.D Thesis, University of Newcastle Upon Tyne, United Kingdom.

Allot, A., Weymouth, P. and Claret, J. (2000). Transforming the profession management accounting is changing. *The Chartered Institute of Management Accountant (CIMA)*. pp. 127-147.

Allot, A. (2000). Management Accounting Change. *The Chartered Institute of Management Accountant (CIMA)*.

Al-Omiri, M. and Drury, C. (2007). A survey of factors influencing the choice of product costing systems in UK organizations. *Management Accounting Research*, vol. 18, pp. 399-424.

Al-Omiri, M. (2003). *The diffusion of management accounting innovations: a study of the factors influencing the adoption, implementation levels and success of ABC in UK companies*. Ph.D Thesis, University of Huddersfield, United Kingdom.

Amat, J., Carmona, S. and Roberts, H. (1994). Context and change in management accounting systems: A Spanish case study. *Management Accounting Research*, vol. 5, no. 2, pp. 107-122.

Anderson, W.E., Fornell, C. and Lehmann, D. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing* (July): pp. 53-66.

Andersen, M. and Rohde, C. (1994). Empirical Study of the Design of Management Accounting in Danish Companies. *The 17th Annual Congress of the European Accounting Association. Collected Abstracts, Venice*, pp. 103.

Anderson, S.W. and Lanen, W. (1999). Economic transition, strategy and the evolution of management accounting practices: The case of India. *Accounting, Organizations and Society*, vol. 24, no. 5-6, pp. 379-412.

Ansari, S.L. (1977). An Integrated Approach to Control System Design. *Accounting, Organizations and Society*, pp. 101-112.

Anthony, R.N. (1965). *Planning and Control Systems: A Framework for Analysis*. Boston: Division of Research. Graduate School of Business Administration, Harvard University.

Aris, M.N. (2006). SMEs: Building Blocks for economic growth. *National statistics conference*. Department of Statistics, Malaysia.

Aris, N.M. (2007). SMEs: Building Blocks for Economic Growth. *Journal of Department of Statistics, Malaysia*, vol. 1.

Armitage, H.M. and Nicholson, R. (1993). Activity based costing: a survey of Canadian practice. Issue paper no. 3, Mississauga, Ontario, Canada: Society of Management Accountants of Canada.

Armitage P. and Berry, G. (1994). *Statistical Methods in Medical Research*. 3rd ed. Blackwell.

Armstrong, J.S. and Overton, T.S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, vol.14, pp. 396-402.

Armstrong, P., Marginson, P., Edwards, P. and Purcell, J. (1996). Budgetary control and the labor force: findings from a survey of large British companies. *Management Accounting Research*, vol.7, pp.1-23.

Arnold, H.L. (1902). *The factory manager and accountant: some examples of the latest American factory practice*. University of California Libraries.

Ask, U., Ax, C. and Jonsson, S. (1996). Cost management in Sweden: from modern to post-modern, in Bhimani, A. (ed). *Management Accounting: European Perspectives*, Oxford, Oxford University Press, pp. 199-217.

Atkinson, A.A., Banker, R.D., Kaplan, R.S. and Young, S.M. (2001). *Management Accounting*, 3rd ed., New Jersey: Prentice Hall.

Azen, R. and Walker, C.M. (2011). *Categorical Data Analysis for the Behavioral and Social Sciences*. USA: Taylor and Francis Group.

Banker, R.D., Potter, G. and Srinivasan, D. (2000). An empirical investigation of an incentive plan that includes non-financial performance measures. *The Accounting Review*, vol. 75, pp. 65-92.

Berry, T., Sweeting, B., Goto, J. and Taylor, M. (2002). Financial Management practice amongst SMEs. *Working paper series*, Manchester Metropolitan University.

Bhimani, A. (1996). *Management Accounting, European Perspectives*. Oxford University Press, Oxford.

Bhimani, A. (2002). *Management Accounting and Organizational Excellence*, Management Press International LTD, United Kingdom.

Bjørnenak, T. (1997). Diffusion and accounting: the case of ABC in Norway. *Management Accounting Research*, vol. 8, pp. 3-17.

Blau, Peter M. (1970). A formal theory of differentiation in organizations. *American Sociological Review*, vol. 35, pp. 201-218.

Boocock, G. and Shariff M.N.M. (2005). Measuring effectiveness of credit guarantee schemes: Evidence from Malaysia. *International Small Business Journal*, vol. 23, pp 427.

Bourne, M. (2004). Driving value through strategic planning and budgeting. A report on the Better Budgeting forum from CIMA and ICAEW. CIMA.

Bose, J. (2001). Nonresponse bias analyses at the national center for education statistics. *Proceedings of statistics Canada symposium, Achieving data quality in statistical agency: A methodological perspective*. Canada.

Botsch, R.E. (2011). Significance and measures of association. Retrieved from <http://www.usca.edu/polisci/apls301/Text/Chapter%2012.%20Significance%20and%20Measures%20of%20Association.htm>

Bright, J., Davies, R.E., Downes, C.A. and Sweeting, R.C. (1992). The deployment of costing techniques and practices: a UK study. *A Management Accounting*, vol. 3, no. 3, pp. 201-212.

Bromwich, M. (1990). The case for strategic management accounting: The role of accounting information for strategy in competitive markets. *Accounting, Organizations and Society*, vol. 15, pp. 27-46.

Brown, A., Booth, P. and Giacobbe, F. (2004). Technological and Organizational Influences on the Adoption of activity-based costing in Australia. *Accounting and Finance*, vol. 44, no. 3, pp. 329-356.

Bruggeman, W., Slagmulder, R. and Waeytens, D. (1996). Management accounting changes: the Belgium experience, in Bhimani, A. (ed.). *Management Accounting: European Perspectives*. Oxford: Oxford University Press, pp. 1-30.

Bruns, W.J. and Waterhouse, J.H. (1975). Budgetary control and organization structure. *Journal of Accounting Research* vol. 13, pp.177-203.

Bruns Jr., W.J. and Kaplan, R.S. (1987). *Accounting and Management: Field Study Perspectives*. Harvard Business School Press, Boston, pp. 97–118.

Bryant, L., Jones, D.A. and Widener, S.K. (2004). Managing value creation within the firm: An examination of multiple performance measures. *Journal of Management Accounting Research*, vol. 16, pp. 107-131.

Bryman, A. (2008). *Social Research Methods*, 3rd ed. New York: Oxford.

Bryman, A. and Cramer, D. (2008). *Quantitative data analysis with SPSS 14, 15 and 16: A guide for social scientists*. London: Routledge.

Burns, J., Ezzamel, M. and Scapens, R.S. (1999). Management accounting change in the U.K. *Management Accounting*, vol. 77, no. 3, pp. 28-30.

Burns, J. and Scapens, R. (2000). The Changing Nature of Management Accounting and the Emergence of 'Hybrid' Accountants. *Financial and Management Accounting*.

Burns, T. and Stalker, G.M. (1961). *The Management of Innovation*. London Tavistock.

Cadez, S. and Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, vol. 33, pp. 836-863.

Caplan, D. (2006). *Management Accounting Concepts and Techniques*. University at Albany (State University of New York). Retrieved from <http://denniscaplan.fatcow.com/Chapter02.htm>

Cassell, M. (2003). *Can we budge it? (beyond budgeting)*. Financial Management, November.

Central Bank of Malaysia (CBM) (2003). *A comprehensive framework for the development of Small and Medium enterprises in Malaysia*. Central Bank of Malaysia. Available from http://www.bnm.gov.my/files/publication/ar/en/2004/cp01_002_whitebox.pdf.

Central Bank of Malaysia (CBM) (2005). *Small and Medium Enterprise (SME) Annual Report 2005*. Central Bank of Malaysia. Malaysia.

Chapman, C.S. (1997). Reflections on a contingency view of accounting. *Accounting, Organizations and Society*, vol. 22, no. 2, pp.189-205.

Chen, C.K. and Hughes, J. Jr. (2004). Using ordinal regression model to analyze student satisfaction questionnaires. *IR applications, Using Advanced tools, techniques and methodology*, vol. 1. Association for institutional research.

Chenhall, R.H. and Morris, D. (1986). The impact of structure, environment, and interdependence on the perceived usefulness of management accounting systems. *The Accounting Review*, vol. 61, no. 1, pp. 16-35.

Chenhall, R.H. and Brownell, P. (1988). The effect of participative budgeting on job satisfaction and performance: role ambiguity as an intervening variable. *Accounting, Organizations and Society*, vol. 13, no. 3, pp. 225-233.

Chenhall, R.H. (1997). Reliance on manufacturing performance measures, total quality management and organisational performance. *Management Accounting Research*, vol. 8, no. 2, pp. 187-206.

Chenhall, R.H. and Langfield-Smith, K. (1998). Adoption and benefits of management accounting practices: An Australian study. *Management Accounting Research*, vol. 9, no. 1, pp. 1-19.

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*, vol. 28, pp. 127-168.

Chenhall, R.H. and Langfield-Smith, K. (2007). Multiple perspectives of performance measures. *European Management Journal*, vol. 25, no. 4, pp. 266-282.

Choe, J. (2004). The relationships among management accounting information, organizational learning and production performance. *Journal of Strategic Information Systems*, vol. 13, pp. 61-85.

Chong, V.K. and Chong, K.M. (2002). Budget goal commitment and informational effects of budget participation on performance: a structural equation modeling approach. *Behavioral Research in Accounting*, vol. 14, pp. 65-86.

Chow, C.W., Shields, M.D. and Wong-Boren, A. (1988). A compilation of recent surveys and company-specific descriptions of management accounting practices. *Journal of Accounting Education*, vol. 6, pp. 183-207.

Chun, L.S., Kassim, N.A.A. and Minai, B. (1994). Are management accounting systems in Malaysia outmoded?. *Singapore Management Review*, pp. 55-67.

Ciaran, M. and John, C. (1995). Enlarging the role of management accounting with DSS. *Management Accounting: Magazine for Chartered Management Accountants*, vol. 73, Issue 3, pp. 54.

CIMA (1987). *Management Accounting Official Terminology*. The Chartered Institute of Management Accountant.

CIMA (2002). Latest trends in corporate performance measurement. Developing and promoting strategy. July. CIMA. London.

CIMA (2005). *Management Accounting Official Terminology*. The Chartered Institute of Management Accountant.

Cinquini, L., Collini, P., Marelli, A., Quagli A. and Riccardo, S. (1999). A survey on cost accounting practices in Italian large and medium size manufacturing firms. *The 22nd annual congress of the European Accounting Association Bordeaux, France 5 - 7 May*. France.

Cinquini, L. and Mitchell, F. (2005). Success in management accounting: lessons from the activity-based costing/management experience. *Journal of Accounting and Organisational Change*, vol.1, pp.63-78.

Collier, P.A. (1994). *Factors affecting the voluntary formation of audit committees in major UK listed companies*. Ph.D Thesis, University of Exeter, United Kingdom.

Collier, P.A. and Wallace, R.S.O. (1992). Mail accounting survey response patterns: an example of the total design method. *Accounting Education*, vol. 1, no. 4, pp. 277-291.

Collier, P.A. and Gregory, A. (1995). Strategic management accounting: A UK hotel sector case study. *International Journal of Contemporary Hospitality Management*, vol. 7, no. 1, pp. 16-21.

Collins, F., Holzmann, O. and Mendoza, R. (1997). Strategy, budgeting, and crisis in Latin America. *Accounting, Organizations and Society*, vol. 22, no. 7, pp. 669-689.

Collis, J. and Jarvis, R. (2002). Financial information and the management of small private companies. *Journal of Small Business and Enterprise Development*, vol. 9, no. 2, pp. 100-110.

Collis, J. and Hussey, R. (2009). *Business research. A practical guide for undergraduate & postgraduate students*. 3rd ed. Palgrave Macmillan, New York.

- Cook, P. (2001). Finance and small and medium-sized enterprise in developing countries. *Journal of Developmental Entrepreneurship*; vol. 6, no. 1, pp. 17.
- Cooper, R. (1990). Explicating the logic of ABC. *Management Accounting (UK)*, pp. 58-60.
- Cramer, J.S. (1990). *An Introduction the Logit Model for Economist*. Routledge: Chapman and Hall Inc.
- Cress, W.P. and Pettijohn, J.B. (1985). A survey of budget-related planning and control policies and procedures. *Journal of Accounting Education*, vol. 3, pp. 61-78.
- Cunningham, G.M. (1992). Management control and accounting systems under a competitive strategy. *Accounting, Auditing and Accountability Journal*, vol. 5, no. 2, pp. 85-158.
- Daft, R.L. and Macintosh, N.B. (1978). A new approach to design and use of management information, *California Management Review*, vol. XXI, no. 1, pp. 82-92.
- Dean, G.W., Joye, M.P. and Blayney, P.J. (1993). Strategic management accounting survey: overhead cost allocation performance evaluation practices of Australian manufacturers. *The Accounting Review*, vol. 68, no. 2, pp. 426-427.
- De Joysa, A. and Kanthi Herath, S. (2007). Standard costing in Japanese firms: Re-examination of its significance in the new manufacturing environment. *Industrial Management & Data Systems*, vol. 107, no. 2, pp. 271-283.
- Dekker, H.C. (2003). Value chain analysis in interfirm relationships: A field study. *Management Accounting Research*, vol. 14, pp. 1-23.
- Dekker, H.C. and Smidt, P. (2003). A survey of the adoption and use of target costing in Dutch firms. *International Journal Production Economics*, vol. 84, pp. 293-305.
- Dent, J.F. (1990). Strategy, organization and control: some possibilities for accounting research. *Accounting, Organizations and Society*, vol. 15, no. 1, pp. 3-25.
- Demirbag, M., Tatoglu, E., Tekinkus, M. and Zaim S. (2006). An analysis of the relationship between TQM implementation and organizational performance: Evidence from Turkish SMEs. *Journal of Manufacturing Technology Management*, vol. 17, no. 6, pp. 829-847.
- Demong, R.F. and Croll, D.B. (1981). Cost accounting for the small business. *American Journal of Small Business*, vol. 5, no.4, pp. 48-60.
- Deros, B.M, Yusof, S.M. and Salled, A.M. (2006). A benchmarking implementation framework for automotive manufacturing SMEs. *Benchmarking International Journal*, vol. 13, no. 4, pp. 396-43.
- Dess, G.G. and Robinson, R.B. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, vol. 5, no. 3, pp. 265-273.

Dillman, D.A. (1978). *Mail and Telephone Surveys: The Total Design Method*. John Wiley & Sons, New York.

DOS (2005). *Census of Establishments and Enterprises. Profile of Small and Medium Enterprises*. Department of Statistic. Malaysia.

Drury, C., Braund, S., Osborne, P. and Tayles, M. (1993). *A survey of management accounting practices in UK manufacturing companies*, Chartered Association of Certified Accountants.

Drury, C. (1994). *Costing. An introduction*. Chapman and Hall.

Drury, C. and Tayles, M. (1995). Issues arising from surveys of management accounting practice. *Management Accounting Research*, vol.6, pp.267-280.

Drury, C. (ed) (1996). *Management Accounting Handbook*, 2nd ed. CIMA, Butterworth-Heinemann, pp. 1-13.

Drury, C. and Tayles, M. (2006). Profitability analysis in UK organizations: An exploratory study. *The British Accounting Review*, vol. 38, pp. 405-425.

Dugdale, D. and Lyne, S. (2004). *Beyond budgeting or better budgeting?*. A report on the Better Budgeting forum from CIMA and ICAEW. CIMA.

Dunk, A.S. (1993). The effect of budget emphasis and information asymmetry on the relation between budgetary participation and slack. *The Accounting Review*, vol. 68, no. 2, pp. 400-410.

Dunk, A.S. (2004). Product life cycle cost analysis: The impact of customer profiling, competitive advantage, and quality of IS information. *Management Accounting Research*, vol. 15, pp. 401-414.

Dunn, P.M., Ezell, D.E. and Roberts, A.T. (1980). The use of accounting information in the small business firm's planning and control process. *American Journal of Small Business*, vol. IV, no. 4.

Easterby-Smith, M., Thorpe, R. and Jackson, P.R. (2008). *Management research*. 3rd ed. Sage Publications Ltd.

Ekholm, B-G. and Wallin, J. (2000). Is the annual budget really dead?. *The European Accounting Review*, vol. 9, no. 4, pp. 519-539.

El-Ebaishi, M., Karbhari, Y. and Naser, K. (2003). Empirical evidence on the use of management accounting techniques in a sample of Saudi manufacturing companies. *International Journal of Commerce and Management*, vol. 13, no. 2, pp. 74-101.

Emmanuel, C., Otley, D. and Merchant, K., (1990). *Accounting for Management Control*, 2nd ed., London: Chapman & Hall.

Emory, C.W. and Cooper, D.R. (1991). *Business Research Methods*. Irwin.

Epstein, M. and Manzoni, J. (1998). Implementing corporate strategy: from tableaux de bord to balanced scorecards. *European Management Journal*, vol. 16, pp. 190-203.

Fan, Q. (2003). Importance of SMEs and the role of public support in promoting SME development. Creating a conducive legal & regulatory framework for small and medium enterprise development in Russia. *A Policy Dialogue Workshop, St. Petersburg, Russia. September 14-16*. Russia.

Feng, M., Terziovski, M. and Samson, D. (2008). Relationship of ISO 9001:2000 quality system certification with operational and business performance. A survey in Australia and New Zealand-based manufacturing and service companies. *Journal of Manufacturing Technology Management*, vol. 19, no. 1, pp. 22-37.

Field, A. (2000). *Discovering statistics using SPSS for windows*. London, Sage.

Firth, M. (1996). The diffusion of managerial accounting procedures in the People's Republic of China and the influence of foreign partnered joint ventures. *Accounting, Organizations and Society*, vol. 21, no. 7/8, pp. 629-54.

Fisher, J., Maines, L.A., Pfeffer, S.A. and Sprinkle, G.B. (2002). Using budgets for performance evaluation: Effects of resource allocation and horizontal information asymmetry on budget proposals, budget slack, and performance. *The Accounting Review*, vol. 77, no. 4, pp. 847-865.

Fisher, J. (1996). The impact of perceived environmental uncertainty and individual differences on management information requirements: A research note. *Accounting, Organizations and Society*, vol. 21, no. 4, pp. 361-369.

Flamholtz, E.G. (1983). Accounting, Budgeting and Control Systems in Their Organizational Context, *Accounting, Organizations and Society*, pp. 15-169.

Folk, J.M., Ray H.G. and Eric W.N. (2002). *Introduction to Managerial Accounting*. New York: McGraw-Hill.

Foster, G. and Swenson D.W. (1997). Measuring the success of activity-based cost management and its determinants. *Journal of Management Accounting Research*, vol. 9, pp. 109-142.

Fowler, F.J.J. (1993). *Survey Research Methods*. 2nd ed. Applied Social Research Methods Series, vol. 1, SAGE Publications.

Freedman, J.M. (1996). Development of Activity-based costing applications: Trends in financial management., *Management Accounting (USA)*, June.

Frezatti, F. (2007). The "economic paradigm" in management accounting return on equity and the use of various management accounting artifacts in a Brazilian context. *Managerial Auditing Journal*, vol. 22, no. 5, pp. 514-532.

Fruitticher, L., Stroud, N., Laster, J. and Yakhou, M. (2004). USA budget practices case studies. *Managerial Auditing Journal*, vol. 20, no. 2, pp. 171-178.

Fry, T.D., Steele, D.C. and Saladin, B.A. (1998). The use of management accounting systems in manufacturing. *International Journal of Production Research*, vol. 36, no. 2, pp. 503-525.

Fullerton, R.R. and McWatters, C.S. (2002). The role of performance measures and incentive systems in relation to the degree of JIT implementation. *Accounting, Organizations and Society*, vol. 27, no. 8, pp. 735-771.

Galbraith, J.R. (1973). *Designing Complex Organizations*. Addison-Wesley.

Garrison, R. and Noreen, E. (2000). *Managerial Accounting*, 9th ed., USA: Irwin McGraw-Hill.

Garcke, E. and Fells, J.M. (1887). *Factory Accounts*. London. Crosby Lockwood.

Garg, V.K., Walters, B.A. and Priem, R.L. (2003). Chief executive scanning emphases, environmental dynamism and manufacturing firm performance. *Strategic Management Journal*, vol. 24, no. 8, pp. 725-44.

Garner, S.P. (1947). Historical Development of Cost Accounting, *The Accounting Review*, vol. 22, no. 4, pp. 385-389.

Ghauri, P., Gronhaug, K. and Kristianslund, I. (1995). *Research methods in business studies. A practical guide*. Prentice Hall.

Georgellis, Y., Joyce, P. and Woods, A. (1999). Entrepreneurial action, innovation and business performance: The small independent business. *Journal of Small Business and Enterprise Development*, vol. 7, no. 1.

Gerdin, J. and Greve, J. (2004). Forms of contingency fit in management accounting research - a critical review. *Accounting, Organizations and Society*, vol. 29, pp. 303-326.

Gerdin, J. (2005). Management accounting system design in manufacturing departments: an empirical investigation using a multiple contingencies approach. *Accounting, Organizations and Society*, vol. 30, pp. 99-126.

Ghosh, B.C. and Chan, Y.K. (1997). Management accounting in Singapore-well in place?. *Managerial Auditing Journal*, vol. 12, no.1, pp. 16-18.

Ginzberg, M.J. (1980). An organizational contingencies view of accounting and information systems implementation. *Accounting, Organizations and Society*, vol. 5, pp. 369-382.

Gomes, C.F., Yasin, M.M. and Lisboa, J.V. (2004). An examination of manufacturing organizations' performance evaluation; Analysis, implications and a framework for future research. *International Journal of Operations & Production Management*, vol. 24 no. 5, pp. 488-513.

Gordon, L.A. and Miller, D. (1976). A contingency framework for the design of accounting information systems. *Accounting, Organizations and Society*, pp. 59-69.

Gordon, L.A. and Narayanan, V.K. (1984). Management accounting systems, perceived environmental uncertainty and organization structure: An empirical investigation. *Accounting, Organizations and Society*, vol. 9, no. 1, pp. 33-47.

Gordon, L.A. and Silvester, K.J. (1999). Stock market reactions to activity-based costing adoptions. *Journal of Accounting and Public Policy*, vol. 18, pp. 229-251.

Gosselin, M. (1997). The effect of strategy and organizational structure on the adoption and implementation of activity-based costing. *Accounting, Organizations and Society*, vol. 22, no. 2, pp. 105-122.

Govindarajan, V. (1984). Appropriateness of accounting data in performance evaluation: An empirical examination of Environmental uncertainty as an intervening variable. *Accounting, Organizations and Society*, pp. 125-136.

Govindarajan, V. and Gupta, A.K. (1985). Linking control systems to business unit strategy: Impact on performance. *Accounting, Organizations and Society*, vol. 20, pp. 51-66.

Green, F.B. and Amenkhienan, F.E. (1992). Accounting innovations: a cross-sectional survey of manufacturing firms. *Journal of Cost Management*, vol. 6, pp. 58-64.

Groebner, D.F., Shannon, P.C. and Smith, K.D. (2008). *Business Statistics, A decision making approach*. 7th ed., Prentice Hall.

Guilding, C., Lamminmaki D. and Drury, C. (1998). Budgeting and standard costing practices in New Zealand and the United Kingdom. *The International Journal of Accounting*, vol. 33, no. 5, pp. 569-588.

Guilding, C., Cravens, K.S. and Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research*, vol. 11, pp.113-135.

Gul, F.A. (1991). The effects of management accounting systems and environmental uncertainty on small business managers' performance. *Accounting and Business Research*, vol. 22, no. 85. pp. 57-61.

Gunasekaran, A., Marri, H.B. and Grieve, R.J. (1999.) Justification and implementation of activity based costing in small and medium sized enterprises. *Logistics Information Management*, vol. 12, no. 5, pp. 386-394.

Gupta, A.K. and Govindarajan, V. (1984). Build, hold, harvest: Converting strategic intentions into reality. *Journal of Business Strategy*, vol. 4, pp. 34-47.

Hair, J.F.J., Tatham, R.L., Anderson, R.E. and Black, W. (1998). *Multivariate Data Analysis*, 5th ed., USA: Prentice Hall.

Hair, J.F.J., Black, B., Babin, B., Anderson, R.E. and Tatham, R.L. (2006). *Multivariate Data Analysis*, 6th ed., USA: Prentice Hall.

Hair, J.F.J., Money, A.H., Samouel, P. and Page, M. (2007). *Research Methods for Business*. U.S: Wiley.

Hamid A.B.A., Baharun R. and Hashim N.H. (2004). Comparative analysis of managerial practices in small and medium enterprises in Malaysia. Faculty of management and human resource development, Universiti Teknologi Malaysia.

Hansen, S.C., Otley, D.T. and Van der Stede, W.A. (2003). Practice developments in budgeting: an overview and academic perspective. *Journal of Management Accounting Research*, vol. 15, pp. 95-116.

Hall, C. (2003). The SME policy framework in ASEAN and APEC: Benchmark comparisons and analysis. A 16th Annual Conference of Small Enterprise Association of Australia and New Zealand.

Hall, M. (2008). The effect of comprehensive performance measurement systems on role clarity, psychological empowerment and managerial performance. *Accounting, Organizations and Society*, vol. 33, pp. 141-163.

Hansen, S.C. and Van der Stede, W.A. (2004). Multiple facets of budgeting: an exploratory analysis. *Management Accounting Research*, vol. 15, pp. 415-439.

Haldma, T. and Laats, K. (2002). Contingencies influencing the management accounting practices of Estonian manufacturing companies. *Management Accounting Research*, vol. 13, pp. 379-400.

Hashim, K. (2000). SMEs in Malaysia: Past, Present and Future. *Malaysian Management Review*, vol. 35, no. 1.

Hashim, M.K., Mahajar, A.J. and Ahmad, S. (2003). Innovative practices of Malaysian firms: Some evidence from enterprise 50 winners. *Malaysian Management Review*.

Hassan, Z. (2008). Entrepreneurship Development for competitive SMEs: A Malaysian comparative analysis. UITM, Malaysia.

Hayes, D.C. (1977). The contingency theory of managerial accounting. *Accounting Review*, vol. 52, no. 1, pp. 22-39.

Heidmann, M., Schaffer, U. and Strahringer, S. (2008). Exploring the role of management accounting systems in strategic sense making. *Information Systems Management*, vol. 2, pp. 244-257.

Henry, G.T. (1990). *Practical Sampling*. Newbury Park; London: Sage Publications.

Hermes, N., Smid, P. and Yao, L. (2007). Capital budgeting practices: A comparative study of the Netherlands and China. *International Business Review*, vol. 16, pp. 630-654.

Hiramoto, T. (1988). Another hidden edge-Japanese management accounting. *Harvard Business Review* (July-August): PP. 22-26. Hotel Association of New York.

Holmes, S. and Nicholls, D. (1989). Modelling the accounting information requirements of small businesses. *Accounting and Business Research*, vol.19, no.74, pp.143-150.

Hope, J. and Fraser, R. (1997). Beyond budgeting: breaking through the barrier to 'The Third Wave'. *Management Accounting*, pp. 20-26.

Hopper, T., Koga, T. and Goto, J. (1999). Cost accounting in small and medium sized Japanese companies: an exploratory study. *Accounting and Business Research*, vol. 30, no. 1, pp. 73-86.

Hopwood, A.G. (1972). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research*, vol. 10, pp. 156-182.

Hoque, Z. and James, W. (2000). Linking balanced scorecard measures to size and market factors: Impact on organizational performance. *Journal of Management Accounting Research*, vol. 12, pp. 1-16.

Hoque, Z. (2004). A contingency model of the association between strategy, environmental uncertainty and performance measurement: impact on organizational performance. *International Business Review*, vol. 13, pp. 485-502.

Horngrén, C.T., Bhimani, A., Foster, G. and Datar, S.M. (1999). *Management and Cost Accounting*. Europe: Prentice Hall.

Hosmer, D.W. and Lemeshow, S. (1989). *Applied Logistic Regression*, U.S: Wiley.

Hrisak, D. (1996). The controller as business strategist. *Management Accounting*, vol. 78, no. 6, pp. 48-49.

Hutaibat, A.K. (2005). *Management Accounting Practices in Jordan - A Contingency Approach*. Ph.D Thesis, University of Bristol, United Kingdom.

Hyvönen, J. (2007). Strategy, performance measurement techniques and information technology of the firm and their links to organizational performance. *Management Accounting Research*, vol. 18, pp. 343-366.

IFAC. (1998). *International Management Accounting Practice Statement: Management Accounting Concepts*. New York.

Innes, J. and Mitchell, F. (1991). ABC: a survey of CIMA members. *Management Accounting*, vol. 69, no. 9, pp. 28-30.

Innes, J. and Mitchell, F. (1995). A survey of activity-based costing in the U.K.'s largest companies. *Management Accounting Research*, vol. 6, pp.137-153.

Innes, J., Mitchell, F. and Sinclair, D. (2000). Activity-based costing in the U.K.'s largest companies: a comparison of 1994 and 1999 survey results. *Management Accounting Research*, vol. 11, no. 3, pp. 349-362.

IMA. (2008). *Definition of Management Accounting*. Institute of Management Accountant.

Isa, M.R. and Haslinda, K. (2006). Comparative study on technical progress among SMEs in the manufacturing and selected services sectors. *Unpublished survey, Malaysia productivity corporation Malaysia*.

Isa, R.M. (2008). Small and medium enterprises (SMEs) development in Malaysia". 5th SMEs Global Economy Conference, August 2nd-3rd, Senshu University, Kandajimbocho, Tokyo, Japan.

Islam, M. and Kantor, J. (2005). The development of quality management accounting practices in China. *Managerial Auditing Journal*, vol. 20, no. 7, pp. 707-724.

Ismail, T.H. (2007). Performance evaluation measures in the private sector: Egyptian practice. *Managerial Auditing Journal*, vol. 22, no. 5, pp. 503-513.

Ismail, N.A. and King, M. (2007). Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms. *Journal of Information Systems and Small Business*, vol. 1, no. 1/2, pp. 1-20.

Israelsen, P., Anderson, M., Rohde, C. and Sorensen, P. (1996). Management accounting in Denmark: Theory and practice' in Bhimani, A. (ed). *Management Accounting: European Perspectives*, Oxford, Oxford University Press, pp. 31-53.

Ittner, C.D. and Larcker, D.F. (1998a.). Innovations in performance measurement: trends and research implications. *Journal of Management Accounting Research*, vol. 6, pp. 205-238.

Ittner, C.D. and Larcker, D.F. (1998b). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, vol. 36, pp.1-35.

Ittner, C.D. and Larcker, D.F. (2001). Assessing Empirical Research in Managerial Accounting: A Value-based Management Perspective. *Journal of Accounting & Economics*, vol. 32, pp. 349-410.

Ittner, C.D., Lanen, W.N. and Larcker, D.F. (2002). The association between activity-based costing and manufacturing performance. *Journal of Accounting Research*, vol. 40, no. 3, pp. 711-726.

Jarvis, R., Kitching, J., Curran, J. and Lightfoot, G. (2000). The use of quantitative and qualitative criteria in the measurement of performance in small firms. *Journal of Small Business and Enterprise Development*, vol. 7, no. 2, pp. 123-134.

Johnson, H.T. (1981). Toward a New Understanding of Nineteenth-Century Cost Accounting. *The Accounting Review*, vol. 56, no. 3, pp. 510-518.

Johnson, H.T. and Kaplan, R.S. (1987). *Relevance Lost: The Rise and Fall of Management Accounting*. Boston, Massachusetts: Harvard Business School Press.

Joshi, P.L. (2001). The international diffusion of new management accounting practices: the case of India. *Journal of International Accounting, Auditing and Taxation*, vol. 10, pp. 85-109.

Joshi, P.L., Al-Mudhaki, J. and Bremser, W.G. (2003). Corporate budget planning, control and performance evaluation in Bahrain. *Managerial Auditing Journal*, vol.18, no. 9, pp. 737-750.

Judd, C.M., Smith, E.R. and Kidder L.H. (1991). *Research Methods in Social Relation*. 6th ed. Harcourt Brace: The Dryden Press, Saunders College Publishing.

Jusoh, R. and Parnell, J.A. (2008). Competitive strategy and performance measurement in the Malaysian context. An exploratory study. *Management Decision*, vol. 46, no. 1, pp. 5-31.

Jusoh, R., Ibrahim, D.N. and Zainuddin, Y. (2008). The performance consequences of multiple performance measures usage, Evidence from the Malaysian manufacturers. *International Journal of Productivity and Performance Management*, vol. 57, no. 2, pp. 119-136.

Kaplan, R.S. (1984). The evolution of management accounting. *The Accounting Review*, LIX(3), pp. 390-418.

Kaplan, R.S. (1990). *Measures of Manufacturing Excellence*. Harvard Business School Press, Boston MA.

Kaplan, S.E. and Mackey, J.T. (1992). An examination of the association between organizational design factors and the use of accounting information for managerial performance evaluation. *Journal of Management Accounting Research*, vol. 4.

Kaplan, R.S. (1994). Management accounting (1984-1994): Development of new practice and theory. *Management Accounting Research*, vol. 5, pp. 247-260.

Kaplan, R.S. (1995). New roles for management accountants. *Journal of Cost Management*, Fall, pp.13.

Kaplan, R.S. and Norton, D.P. (1996) *The Balanced Scorecard-Translating Strategy into Action*. Harvard Business School Press, Boston, MA.

Kattan, F., Pike, R. and Tayles, M. (2007). Reliance on management accounting under environmental uncertainty; The case of Palestine. *Journal of Accounting & Organizational Change*, vol. 3, no. 3, pp. 227-249.

Khandwalla, P.N. (1972). The effect of different types of competition on the use of management controls, *Journal of Accounting Research*, pp. 275-285.

Kelly, M. and Pratt, M.J. (1994). Management Accounting Texts in New Zealand: The Need for a Paradigm Shift. *Accounting Education*, vol. 3 no. 4, pp. 313-329.

Kent, R. (2001). *Data Construction and data analysis for survey research*. Palgrave.

Kennedy, T. and Graves, J.A. (2001). The Impact of activity-based costing techniques on firm performance' *Journal of Management Accounting Research*, vol. 13.

Klammer, T.P. (1973). The association of capital budgeting with firm performance, *Accounting Review*, vol. 48, pp. 353-364.

Klammer, T., Koch, B. and Wilner, N. (1991). Capital budgeting practices-a survey of corporate use. *Journal of Management Accounting Research*, vol. 1, pp. 13-130.

Kraus, S., Harms, R. and Schwarz, E.J. (2006). Strategic planning in smaller enterprises – new empirical findings. *Management Research News*, vol. 29, no. 6, pp. 334-344.

Krumwiede, K.R. (1998). The implementation stages of activity-based costing and the impact of contextual and organizational factors. *Journal of Management Accounting Research*, vol. 10, pp. 239-277.

Lamminmaki, D. and Drury, C. (2001). A comparison of New Zealand and British product-costing practices. *The International Journal of Accounting*, vol. 36, no. 3, pp. 329-427.

Langfield-Smith, K. (2008). Strategic management accounting: how far have we come in 25 years?. *Accounting, Auditing & Accountability Journal*, vol. 21, no. 2, pp. 204-228.

Larson C.M. and Clute R.C. (1979). The failure syndrome. *American Journal of Small Business*, vol. IV, no. 2.

Lawrence, P.R. and Lorsch, J.W. (1967). *Organization and Environment*, Boston: Harvard University.

Lazaridis, I.T. (2004). Capital budgeting practices: A survey in the firms in Cyprus. *Journal of Small Business Management*, vol.42, no.4, pp. 427–433.

Leftesi, A. (2008). *The Diffusion of Management Accounting Practices in Developing Countries: Evidence from Libya*. Ph.D Thesis, University Huddersfield, United Kingdom.

Liao, T.F. (1994). *Interpreting Probability Models Logit, Probit and Other Generalized Linear Models*. Sage, U.S.

Libby, T. and Waterhouse, J. (1996). Predicting Change in Management Accounting Systems. *Journal of management accounting research*, vol. 8, pp. 137-150.

Lind, D.A., Marchall W.G. and Mason R.D. (2002). *Statistical Techniques in Business & Economics*, 11th En. McGraw-Hill Irwin.

Lobo, M.X., Tilt, C. and Forsaith D. (2004). The Future of Management Accounting: A South Australian Perspective' *Journal of Management Accounting Research*, vol. 2, no. 1.

Long, J.S. (1997). *Regression Models for Categorical and Limited Independent Variables*. California: Sage.

Lord, B.R. (1996). Strategic Management Accounting: The emperor's new clothes?. *Management Accounting Research*, vol. 7, pp. 347-366.

Lukka, K. and Granlund, M. (1996). Cost accounting in Finland: current practice and trends of development. *The European Accounting Review*, vol. 5, pp.1-28.

Luther, R.G. and Longden, S. (2001). Management accounting in companies adapting to structural change and volatility in transition economies: a South African study. *Management Accounting Research*, vol. 12, pp. 299-320.

Lybaert, N. (1998). The information use in an SME: its importance and some elements of influence. *Small Business Economics*, vol. 10, no. 2, pp. 171-191.

Lynch, R.L. and Cross, K.F. (1991). *Measure up – The Essential Guide to Measuring Business Performance*, Mandarin, London.

Lyne, S.R. (1988). The role of the budget in medium and large U.K. companies and the relationship with budget pressure and participation, *Accounting and Business Research*, vol. 18, no. 71, pp. 195-212.

Macintosh, N.B. and Daft, R.L. (1987). Management control systems and departmental interdependencies: An empirical study. *Accounting, Organizations and Society*, vol. 12, no. 1, pp. 49-61.

Maiga, A.S. and Jacobs, F.A. (2003). Balanced scorecard, activity-based costing and company performance: an empirical analysis. *Journal of Managerial Issues*, vol. 25, no. 3, pp. 283-301.

Maiga, A.S. and Jacobs, F.A. (2006). Assessing the impact of benchmarking antecedents on quality improvement and its financial consequences. *Journal of Management Accounting Research*, vol. 18, pp. 97-123.

Malmi, T. (1999). Activity-based costing diffusion across organizations: an exploratory empirical analysis of Finnish firms. *Accounting, Organizations and Society*, vol. 24, pp. 649-672.

Margaret May (1995). The role of management accounting in performance improvement. *Management Accounting: Magazine for Chartered Management Accountants*, vol. 73, Issue 4.

Mcintyre, E.V. and Icerman, J.I. (1985). The accounting rate of return—Appropriate for small businesses?. *American Journal of Small Business*, vol. IX, no.3, pp. 41-49.

McMann, P.J. and Nanni, A.J. (1995). Means versus ends: a review of the literature on Japanese management accounting. *Management Accounting Research*, vol. 6, no. 4, pp. 313-346.

McNair, C.J. (1997). *Beyond The Bottom Line: Measuring World Class Performance*. Homewood III, Irwin.

Merchant, K.A. (1981). The design of the corporate budgeting system: influences on managerial behavior and performance. *Accounting Review*, vol. 56, pp. 813–829.

Merchant, K.A. (1984). Influences on departmental budgeting: An empirical examination of a contingency model. *Accounting, Organizations and Society*, vol. 9, no. 3/4, pp. 291-307.

McChlery, S., Meechan, L. and Godfrey, A.D. (2004). Barriers and catalysts to sound financial management systems in small sized enterprises. *Research Executive Summaries Series*. CIMA, vol. 1, no. 3.

Mia, L. and Chenhall, R.H. (1994). The usefulness of management accounting systems, functional differentiation and managerial effectiveness. *Accounting, Organizations and Society*, vol. 19, no. 1, pp. 1-13.

Mia, L. and Clarke, B. (1999). Market competition, management accounting systems and business unit performance. *Management Accounting Research*, vol. 10, pp. 137-58.

Miles, J. and Shevlin, M. (2005). *Applying Regression & Correlation. A Guide for Students and Researchers*. Sage Publications Ltd.

Miles, R.W. and Snow, C.C. (1978). *Organizational Strategy, Structure, and Process*. New York: McGraw-Hill.

Mintzberg, H. (1975). *Impediments of the Use of Management Information*. New York: National Association of Accountants.

Mitchell, F., Gavin, R. and Julia, S. (1998). A case for researching management accounting in SMEs. *Management Accounting: Magazine for Chartered Management Accountants*, vol. 76, no. 9, pp. 30.

Mitchell, F. and Reid, G.C. (2000). Editorial problems, challenges and opportunities: the small business as a setting for management accounting research. *Management Accounting Research*, vol. 11, pp. 385–390.

Monden, Y. and Hamada, K. (1991). Target costing and kaizen costing in Japanese automobile companies. *Journal of Management Accounting Research*, pp. 16-34.

Nandan, R. (2010). Management Accounting Needs of SMEs and the Role of Professional Accountants: A Renewed Research Agenda. *Journal of Management Accounting Research (JAMAR)*, vol. 8, no. 1.

National Association of Accountants (1983). *Management Accounting Terminology*. no. 2 June 1

National SME Development Council (NSDC) (2005). *SME Annual Report 2005.*, Malaysia.

National SME Development Council (NSDC) (2006). *SME Annual Report 2006.*, Malaysia.

National SME Development Council (NSDC) (2007). *SME Annual Report 2007.*, Malaysia.

National SME Development Council (NSDC) (2008). *SME Annual Report 2008.*, Malaysia.

National SME Development Council (NSDC) (2010). *SME Annual Report 2009/10.*, Malaysia.

- Neuman, W.L. (2005). *Social Research Methods*. 6th ed., London: Pearson.
- Nik Ahmad, N.N., Sulaiman, M. and Alwi, N.M. (2003). Are budgets useful? A survey of Malaysian companies. *Managerial Auditing Journal*, vol. 18, no. 9, pp. 717-724.
- Nimtrakoon, S. (2009). *Organization Strategy, Management Techniques and Management Accounting Practices: Contingency Research in Thailand*. Ph.D Thesis, University of Hull, United Kingdom.
- O'Connor, N.G., Chow, C.W., and Wu, A. (2004). The adoption of "Western" management accounting/controls in China's state-owned enterprises during economic transition. *Accounting, Organizations and Society*, vol. 29, no. 3/4, pp. 349-375.
- Oppenheim, A.N. (1992) *Questionnaire Design, Interviewing and Attitude Measurement* (new edn). London: Continuum International.
- O'Regan, N. and Sims, M.A. (2008). Leaders, loungers, laggards: The strategic-planning-environment performance relationship re-visited in manufacturing SMEs. *Journal of Manufacturing Technology Management*, vol. 19, no. 1, pp. 6-21.
- Osborne, J. and Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation*, vol. 8, no. 2. Retrieved August 23, 2011 from <http://PAREonline.net/getvn.asp?v=8&n=2>
- Osman, I. and Hashim, K. (2003). An evaluation of the business practices in Malaysian SMEs. *Malaysian Management Review*, vol. 38, no. 2.
- Otley, D.T. (1978). Budget use and managerial performance. *Journal of Accounting Research*, vol. 16, pp.122-149.
- Otley, D.T. (1980). The contingency theory of management accounting: achievement and prognosis. *Accounting, Organizations and Society*, vol. 5, no. 4, pp. 413-428.
- Otley, D. and Pollanen, R.M. (2000). Budgetary criteria in performance evaluation: a critical appraisal using new evidence. *Accounting, Organizations and Society*, vol. 25, pp. 483-96.
- Owler, L.W.J. and Brown, J.L. (1978). *Cost Accounting and Costing Methods*. 14th ed., Macdonalds and Evans Ltd.
- Parker, R.H. (1969). *Management Accounting: An Historical Perspective*. Macmillan and Co Ltd.
- Parker, L.D. (2002). Reinventing management accountant. *The Chartered Institute of Management Accountant*.
- Parker, R. J. and Kyj, L. (2006). Vertical information sharing in the budgeting process. *Accounting, Organizations and Society*, vol. 31, pp. 27-45.
- Patton, J. and Zelenka, I. (1997). An empirical analysis of the determinants of the extent of disclosure in annual reports of joint stock companies in the Czech Republic. *The European Accounting Review*, vol. 6, no. 4, pp. 605-626.

Perera, S., Harrison, G. and Poole, M. (1997). Customer-focused manufacturing strategy and the use of operations-based non-financial performance measures: A research note. *Accounting, Organizations and Society*, vol. 22, no. 6, pp. 557-572.

Perez, B.E., Gonzalez, J.M.G. and Gallardo, A.L. (2008). Organisational Control System in a Continuous Improvement Environment: Special Reference to the Role of Management Accounting. *Journal of Accounting – Business & Management*, vol. 15, pp. 1-32.

Perrow, C. (1967). A framework for the comparative analysis of organizations. *American Sociological Review*, pp. 194-208.

Phadoongsitthi, M. (2003). *The role of management accounting in emerging economies: An empirical study of Thailand*. Ph.D Thesis, University of Maryland, College Park.

Pierce, B. and O’Dea, T. (1998). Management accounting practices in Ireland – The preparers’ perspective’ *Research Paper Series Paper*, no. 34.

Porter, M.E. (1980). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.

Preda, P. and Watts, T. (2004). Contemporary Accounting Innovations in Australia: Manufacturing versus service organizations. *Journal of Management Accounting Research*, vol. 2.

Puxty, A.G. and Lyall, D. (1989). *A Survey of Standard Costing and Budgeting Practices in the UK*, London: CIMA.

Ramos, M.M. (2004). Interaction between management accounting and supply chain management. *Supply Chain Management: An International Journal*, vol. 9, no. 2, pp. 134-138.

Ratnatuga, J. (2004). *Empowerment Accounting: The Role of Financial Statements in the Shift from the Informational to the Influential Paradigm*. *Journal of Management Accounting Research*, vol. 2, no. 2

Raymond, L. and Magnenat-Thalman, N. (1982). Information Systems in Small Business: Are they used in Managerial Decisions?. *American Journal of Small Business*, vol. VI, no. 4.

Reid, G.C. and Smith, J.A. (2000). The impact of contingencies on management accounting system development. *Management Accounting Research*, vol. 11, pp. 427-450.

Reid, G.C. and Smith, J.A. (2002). The bigger picture. *Financial Management*.

Richard, M. (2000). *Why Small Businesses Fail*. CMA Management.

Roscoe, J.T. (1975). *Fundamental Research Statistics for the Behavioral Sciences*. 2nd ed. New York: Holt, Rinehart and Winston.

Roslender, R. and Hart, S. (2003). In search of strategic management accounting: Theoretical and field study perspectives. *Management Accounting Research*, vol.14, pp. 255–279.

Rozali, M.B, Taib, M.H., Latif, R.A. and Salim M. (2006). Small firm's demand for finance in Malaysia. *International conference on business and information (BAI) July 12-14 Pan Pacific Hotel Singapore*, vol. 3, ISSN 17299322 Academy of Taiwan Information Systems Research.

Russell, K.A., Siegel, G.H. and Kulesza, C.S.B. (1999). Counting more, counting less: Transformations in the management accounting profession, *Strategic Finance*, September, vol. 81, Issue 3, pp. 39-44.

Said, A.A., HassabElnably, H.R. and Wier, B. (2003). An empirical investigation of the performance consequences of nonfinancial measures. *Journal of Management Accounting Research*, vol. 15, pp.193-223.

Samudhram, A. and Sivalingam, G. (2009). Formulating Policies for robust SME development: Schumpeterarrow- Inverted U Debate - Evidence from Malaysian SMEs. *Accountancy Business and the Public Interest*, vol. 8, no. 1, pp. 103.

Saleh, A.S., Caputi, P. and Harvie, C. (2008). Perceptions of business challenges facing Malaysian SMEs: Some preliminary results. *5th SMEs in a Global Economy Conference, August 2nd - 3rd*, Senshu University, Kandajimbocho, Tokyo, Japan.

Saleh, A.S. and Ndubisi, N.O. (2006). An evaluation of SME development in Malaysia. *International Review of Business Research*, vol.2, no.1, pp.1-14.

Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Students*, 5th ed. England: Pearson Education Ltd.

Scarborough, P., Nanni, A.J. and Sakurai, M. (1991). Japanese management accounting practices and the effects of assembly and process automation. *Management Accounting Research*, vol. 2, no.1, pp. 27-46.

Scapens, R.W. and Sale, J.T. (1985). An international study of accounting practices in divisionalized companies and their associations with organizational variables. *The Accounting Review*, vol. 60, no. 2, pp. 231-247.

Scapens, R.W. (1991). *Management Accounting: A Review of Recent Developments*. The Macmillan Press Ltd.

Scherrer, G. (1996). Management accounting: a German perspective', in Bhimani, A. (ed), *Management Accounting: European Perspectives*, Oxford, Oxford University Press, pp. 100-22.

Sekaran, U. (2004). *Research Methods for Business*, 4th ed., New York: John Wiley & Sons, Inc.

Sharma, R., Jones, S. and Ratnatunga, J. (2006). The relationships among broad scope MAS, managerial control, performance, and job relevant information: A concomitant analysis. *Review of Accounting and Finance*, vol. 5, no. 3, pp. 228-250.

Shields, M.D., Chow, C.W. and Kao, Y. (1991). Management accounting practices in the U.S. and Japan: Comparative survey findings and research implications. *Journal of International Financial Management and Accounting*, vol. 3, no. 1.

Shields, M.D. (1995). An empirical analysis of firms' implementation experiences with activity-based costing. *Journal of Management Accounting Research*, vol. 7, no. 1, pp. 148-166.

Shields, M. (1997). Research in management accounting by North Americans in the 1990s. *Journal of Management Accounting Research*, vol. 9, pp. 3-62.

Silva, L.F.D. and Abreu, F. B.E. (2010). Reengineering IT Infrastructures: A method for topology discovery. Seventh International Conference on the Quality of Information and Communications Technology.

Sim, K. and Killough, L. (1998). The performance effects of complementarities between manufacturing practices and management accounting systems. *Journal of Management Accounting Research*, vol. 10, pp. 325-346.

Simons, R. (1987). Accounting control systems and business strategy, *Accounting Organizations, and Society*, pp. 357-374.

Smith, M. (2003). *Research Methods in Accounting*. SAGE Publications.

SMIDEC (2003). *SME Performance Report 2003*. Small and Medium Industries Development Corporation (SMIDEC). Malaysia.

SMIDEC (2005). *SME Performance Report 2005*. Small and Medium Industries Development Corporation (SMIDEC). Malaysia.

Sousa, S.D., Aspinwall, E.M. and Rodrigues, A.G. (2006). Performance measures in English small and medium enterprises: survey results. *Benchmarking: An International Journal*, vol. 13, no. 1/2, pp. 120-134.

Soobaroyen, T. and Poorundersing, B. (2008). The effectiveness of management accounting systems: Evidence from functional managers in a developing country. *Managerial Auditing Journal*, vol. 23, no.2, pp. 187-219.

Speckbacher, G., Bischof, J. and Pfeiffer, T. (2003). A descriptive analysis on the implementation of Balanced Scorecards in German-speaking countries. *Management Accounting Research*, vol. 14, pp. 361-387.

Stutely, R. (2003). *Number Guides: The Essentials of Business Numeracy*. London: Bloomberg Press.

Sulaiman, M., Wafa, A. and Hashim, K. (2000). Strategic management in Malaysian SMEs: An empirical assessment. *Malaysian Management Review*.

Sulaiman, M. Ahmad, N.A.N. and Alwi, N. (2004). Management accounting practices in selected Asian countries. *Managerial Auditing Journal*, vol. 19, no.4, pp. 493-508.

Sulaiman, M. and Hashim, M.K. (2004). Issues and research agenda for Malaysian SMEs revisited". *8th International Conference on Global Business & Economic Development, Mexico, January 7-10, Mexico.*

Sulaiman, S. and Mitchell, F. (2005). Using a typology of management accounting change: An empirical analysis. *Management Accounting Research*, vol. 16, no. 4, pp. 422-437.

Sulaiman, S., Ramli, A. and Mitchell, F. (2007). Financial management in Malaysia. *Financial Management, CIMA.*

Smyth, E.B. (1960). Management accounting in Australia. *The Accounting Review*, vol. 35, no. 3, pp. 464-470.

Swenson, D. (1995). The benefits of activity-based cost management to the manufacturing industry. *Journal of Management Accounting Research*, vol. 7, pp. 167-180.

Szychta, A. (2002). The scope of application of management accounting methods in Polish enterprises. *Management Accounting Research*, vol.13, pp. 401-418.

Tambunan, T. (2008). SME development, economic growth, and government intervention in a developing country: The Indonesian story. *Journal International Entrepreneurship*, vol. 6, pp. 147-167.

Tani, T., Okano, H., Shimizu, H., Iwabuchi, Y., Fukyda, J. and Cooray, S. (1994). Target cost management in Japanese companies: current state of the art. *Management Accounting Research*, vol. 5, no. 1, pp. 67-81.

Tayles, M. and Drury, C. (1994). New manufacturing technologies and management accounting system: Some evidence of the perceptions of UK management accounting practitioners. *International Journal of Production Economics*, vol. 36, pp. 1-17.

Tayles, M., Pike, R.H. and Sofian, S. (2007). Intellectual capital, management accounting practices and corporate performance. Perceptions of managers. *Accounting, Auditing & Accountability Journal*, vol. 20, no. 4, pp. 522-548.

Thompson, J.D. (1967). *Organizations in Action* New York: McGraw-Hill.

Thong, J.Y.L. and Yap, C.S. (1995). CEO characteristics, organizational characteristics and information technology adoption in small businesses. *OMEGA International Journal of Management Science*, vol. 23, no. 4, pp. 429-442.

Thong, J.Y.L., Yap, C.S. and Raman, K.S. (1996). Top management support, external expertise and information systems implementation in small businesses. *Information Systems Research*, vol. 7, no. 2, pp. 248-267.

Turney, P.B.B. (1991). *Activity Based Costing: The ABC Performance Breakthrough. How to Succeed with Activity Based Costing*, Cost Technology, Beaverton, Oregon.

UCLA (2011) Introduction to SAS. : Academic Technology Services, Statistical Consulting Group. from <http://www.ats.ucla.edu/stat/sas/notes2/> (accessed July 20, 2011).

UNDP (2007). *Malaysia Small and Medium Enterprises: Building an Enabling Environment*. United Nations Development Programme UNDP.

Valančienė, L. and Gimžauskienė, E. (2007). Changing Role of Management Accounting: Lithuanian Experience Case Studies. ISSN 1392-2785, *Engineering Economics*, no. 5 (55).

Van Triest, S. and Elshahat, M.F. (2007). The use of costing information in Egypt: a research note. *Journal of Accounting and Organizational Change*, vol. 3, no. 3, pp. 329-343.

Vatter, W.J. (1950). *Managerial Accounting*, Prentice-Hall, Englewood Cliffs: New Jersey

Virtanen, K., Malmi, T., Vaivio, J. and Kasanen, E. (1996). Drivers of management accounting in Finland. in Bhimani, A. (ed) *Management Accounting: European Perspectives*, Oxford University Press, Oxford, pp. 218-41.

Wahab, I.A. and Buyong, S.Z. (2008). Financing Technology-Bases SMEs in Malaysia: Practices and Problems. 5th SMEs in a Global Economy Conference, August 2nd- 3rd, Senshu University, Kandajimbocho, Tokyo, Japan.

Waweru, N.M., Hoque, Z. and Uliana, E. (2004). Management accounting change in South Africa Case studies from retail services. *Accounting, Auditing & Accountability Journal*, vol. 17, no. 5, pp. 675-704.

Watson, J. and Everett, J.E. (1996). Do small businesses have high failure rates? Evidence from Australian retailers. *Journal of Small Business Management*, pp. 45-62.

Wendy, M.Y. and Teoh, S.C. (2008). Improving women entrepreneurs in small and medium enterprises in Malaysia: Policy recommendation. *Communications of the IBIMA*, vol. 2.

Wichmann, H. (1983). Accounting and marketing: key small business problems. *American Journal of Small Business*, vol. VII, no. 4.

Wilson, R.M.S. and Chua, W.F. (1993). *Managerial Accounting: Method and Meaning*. 2nd ed. U.K: Chapman & Hall.

Wilson, R.M.S. and Chua, W.F (1988). *Managerial Accounting: Method and Meaning*. Van Nostrand Reinhold (International) Co.Ltd.

Williams, J. J. and Seaman, A. E. (2001). Predicting change in management accounting systems: national culture and industry effects. *Accounting, Organization and Society*, vol. 26, pp. 443-460.

Wijewardena, H. and De Zoysa, A. (1999). A comparative analysis of management accounting practices in Australia and Japan: an empirical investigation. *The International Journal of Accounting*, vol. 34, no. 1, pp. 49-70.

Winship, C. and Mare, R.D. (1984). Regression Models with Ordinal Variables. *American Sociological Review*, vol. 49, no. 4, pp. 512-525.

Woodward, J. (1965). *Industrial Organization, Theory and Practice*. London: Oxford University.

Wong, K.Y. and Aspinwall, E. (2005). An empirical study of the important factors for knowledge-management adoption in the SME sector. *Journal of Knowledge Management*, vol. 9, no. 3, pp. 64-82.

Wu, J., Boateng, A. and Drury, C. (2007). An analysis of the adoption, perceived benefits, and expected future emphasis of western management accounting practices in Chinese SOEs and JVs. *The International Journal of Accounting*, vol. 42, pp. 171-185.

Yoshikawa, T., Innes, J. and Mitchell, F. (1989). Japanese Management Accounting: A Comparative Survey, *Management Accounting (UK)*, vol. 67, no.10, pp. 20-23.

Yoshikawa, T. (1994). Some aspects of the Japanese approach to management accounting', *Management Accounting Research*, vol. 5, pp. 279-89.

Young, S.M. and Selto, F.H. (1993). Explaining cross-sectional workgroup performance differences in a JIT facility: A critical appraisal of a field-based study. *Journal of Management Accounting*, vol. 5, pp. 300-326.

Zakaria, M., and Hashim, K. (2004). Perceptions of E-business among Malaysian SMEs: A recent survey. *Malaysian Management Review*, vol. 39, no.1.

Zarowin, S. (1997). Finance's Future: Challenge or Threat?. *Journal of Accountancy*, vol. 183, no. 4, pp 38- 42.

Glossary 1: Management accounting practices

Costing system

- Activity-based costing (ABC)
Cost contribution to cost units on the basis of benefit received from indirect activities e.g ordering, setting-up and assuring quality.
- Traditional absorption costing
The procedure which charges fixed as well as variable overhead to cost units.
- Direct costing systems
The accounting system in which variable costs are charged to cost units and fixed costs of the period are written-off full against the aggregate contribution. Its special value is in decision-making.

Budgeting

- Incremental budgeting
Incremental budgeting bases a period's expenditure level for a discretionary item on the amount spent for that item during the previous period.
- Zero-based budgeting
A method of budgeting whereby all activities are re-evaluated each time a budget is set. Discrete levels of each activity are valued and a combination chosen to match funds available.
- Operational budgeting
Budget of the profit and loss account and its supporting schedules such as monthly forecasts of sales, production, and operating expenses.
- Financial budgeting
Those budgets that identify the expected financial consequences of the activities summarized in the operating budgets. This includes balance sheets, income statement and cash flow statements.
- Flexible budget
A budget which, by recognizing different cost behaviour patterns, is designed to change as volume of output changes.
- Rolling budget
Method in which a budget established at the beginning of an accounting period is continually amended to reflect variances that arise due to changing circumstances.

Performance evaluation

- Performance evaluation based on financial measures (s)
The financial measures such as return on investment, budget variance analysis, divisional profit
- Performance evaluation based on non-financial measure(s) related to customers
The measures which include customers satisfaction survey and customer complaints.
- Performance evaluation based on non-financial measures related to operations
The measures which include ongoing supplier evaluation, stock turnover and product quality.
- Performance evaluation based on non-financial measure(s) related to employees
The measures which include team performance and employee attitude.

- **Benchmarking**
Benchmarking within an organization or with outside organizations on operational process, product characteristics, management process and strategic priorities.

Decision support system

- **Cost-volume-profit analysis**
The study of the effects on future profit of changes in fixed cost, variable cost, sales price, quantity and mix.
- **Stock control model**
Stock control is the systematic regulation of stock levels. A model such as Economic order quantity, and JIT.
- **Investment appraisal discounting techniques (e.g. NPV, IRR)**
A valuation of investment projects by adjusting cash flows for the time value of money using techniques as net present value (NPV) or internal-rate-of-return (IRR)
- **Investment appraisal non-discounting techniques (e.g. Payback, ROI)**
A valuation of investment projects which does not consider the time value of money. For example payback period and return on investment.
- **Customer profitability analysis**
Customer profitability (CP) is the difference between the revenues earned from and the costs associated with the customer relationship in a specified period.
- **Product profitability analysis**
An analysis on the relative profitability attributable to individual product.

Strategic management accounting

That body of Management Accounting concerned with the provision of strategically orientated information for decision-making and control.

- **Target costing**
A product cost estimate derived from a competitive market price. Used to reduce costs through continuous improvement and replacement of technologies and processes.
- **Quality costing**
Quality costs are those costs associated with the creation, identification, repair, and prevention of defects. These can be classified into three categories; prevention, appraisal, and failure costs. Cost of quality reports are produced for the purpose of directing management attention to prioritize quality problems.
- **Strategic costing**
The use of cost data based on strategic and marketing information to develop and identify superior strategies that will sustain a competitive advantage.
- **Strategic pricing**
The analysis of strategic factors in the pricing decision process. These factors may include: competitor price reaction; price elasticity; market growth; economies of scale; and experience.
- **Value chain costing**
An activity-based costing approach where costs are allocated to activities required to design, procure, produce, market, distribute, and service a product or service.

- **Competitor cost assessment,**
The provision of regularly updated estimates of a competitor's costs based on, for example, appraisal of facilities, technology, economies of scale. Sources include direct observation, mutual suppliers, mutual customers and ex-employees.
- **Competitive position monitoring**
The analysis of competitor positions within the industry by assessing and monitoring trends in competitor sales, market share, volume, unit costs, and return on sales. This information can provide a basis for the assessment of competitor's market strategy.
- **Product life cycle analysis**
The appraisal of costs based on the length of stages of a product or service's life. These stages may include design, introduction) growth, decline, and eventually abandonment.
- **Process costing**
Process costing is a method of costing used to ascertain the cost of the product at each process, operation or stage of manufacture

Glossary 2: Standard Definition of SMEs

Primary agriculture

General definition:

"A small and medium enterprise in primary agriculture is an enterprise with full-time employees not exceeding 50 or annual sales turnover not exceeding RM5 million."

Specific definitions:

"A micro enterprise in primary agriculture is an enterprise with full-time employees of less than 5 or with annual sales turnover of less than RM200,000."

"A small enterprise in primary agriculture is an enterprise with full-time employees of between 5 and 19 or with annual sales turnover of between RM200,000 and less than RM1million."

"A medium enterprise in primary agriculture is an enterprise with full-time employees of between 20 and 50 or with annual sales turnover of between RM 1 million and RM5 million."

Manufacturing (including Agro-Based) and manufacturing-related services (MRS)

General definition:

"A small and medium enterprise in manufacturing (including agro-based) and MRS is an enterprise with full-time employees not exceeding 150 or with annual sales turnover not exceeding RM25 million."

Specific definitions:

"A micro enterprise in manufacturing (including agro-based) and MRS is an enterprise with full-time employees of less than 5 or with annual sales turnover of less than RM250,000."

"A small enterprise in manufacturing (including agro-based) and MRS is an enterprise with full-time employees of between 5 and 50 or with annual sales turnover of between RM250,000 and less than RM10 million."

"A medium enterprise in manufacturing (including agro-based) and MRS is an enterprise with full-time employees of between 51 and 150 or with annual sales turnover of between RM10 million and RM25 million."

Services sector (including ICT)

General definition:

"A small and medium enterprise in services is an enterprise with full-time employees not exceeding 50 or annual sales turnover not exceeding RM5 million."

Specific definitions:

"A micro enterprise in services is an enterprise with full-time employees of less than 5 or with annual sales turnover of less than RM200,000."

"A small enterprise in services is an enterprise with full-time employees of between 5 and 19 or with annual sales turnover of between RM200,000 and less than RM1million."

"A medium enterprise in services is an enterprise with full-time employees of between 20 and 50 or with annual sales turnover of between RM 1 million and RM5 million."



Appendix 1: List of literature in management accounting