Degree of Information Technology (IT) Usage in Management Accounting Practices in Companies of Sri Lankan Food & Beverage Industry

Hashari, S (samindihasharimw@gmail.com)
Lakshitha, G
Kariyawasam, L
De Silva, S
De Silva, A
Shashikala, D
Fonseka, H
Indika, R
Priyantha, K

ABSTRACT

Purpose

The level of Information technology (IT) usage in Management Accounting is different from company to company.

The study is to identify the degree of IT usage in Management Accounting practices in companies of Sri Lankan food and beverage industry.

Design / Methodology / approach

A questionnaire-based study is conducted within a tightly defined industrial area in Sri Lanka so permitting personal follow-up of individual companies.

Findings

The study confirms the advanced IT applications for management accounting practices are used by the large companies which have relatively more revenue and also they are in the advanced levels of management stance such as Quantitative Management Accounting and Integrated Management Accounting.

Key words

Information Technology, Management Accounting, Management Accounting Stances

Paper type

Research paper

INTRODUCTION

In history, accounting is viewed as a data processing technology and often related with manual processes. Industry evaluation and post changes in business practices have changed accounting practices over time. According to Robert Kee (1993), the evolution of data processing technology and accounting are interrelated over thousands of years of their development.
Peter A. Firmin and James J. Linn (1968) discussed that, the essence of managerial accounting the thing which distinguishes accounting from other functional areas is that our product is information. The "specialty" which we have is the ability to access information needs and to design appropriate systems for satisfying them.

There is a positive relationship between the scope and extent of technological and management accounting innovations (Malcolm Smith Zaharah Abdullah Rafizan Abdul Razak, 2008) and therefore different companies at different level of management accounting practices uses different IT applications in their practice. It is important to identify the relationship between management practice stance and technological innovation phase where a company is currently operating.

High competition requires companies to produce new products and therefore the production process will affect the selection of the type of management accounting system. Specially costing systems function and tasks and the technological changes influence the change to adopt more sophisticated practices in costing systems (Sleihat, NAl-Nimer, M &Alabbadi ,2012). The Information technology advancements have greatly helped the accounting systems of business entities to improve business performance as well as the effectiveness & efficiency of information flow (Francis Pol C. Lim ,2013). ShirzadAmiri and NikzadAmiri (2014) have identified that IT effects on performance of management accounting to a greater extend. Therefore the application of IT in management accounting comes in to consideration. There are various information technologies which can be found in business organizations and frequently using information technology in different management accounting functions which varies from company to company. Identification of the level of IT application is therefore essential in understanding current management practices.

There are number of benefits and drawbacks associated with implementation of information technology in management accounting practices. According to CharalambosSpathis John Ananiadis, (2005), the benefits from the implementation of the ERP system showed that

managerial benefits come first, operational benefits follows, while IT infrastructure benefits are in the third position. There are some reasons or drawbacks of applying IT in managements accounting practices. These has been impacted for some companies to not to have IT implementation. The reasons are expensive, Perception that they are not suitable, they may have never heard of it, too difficult, objection from top management etc. (Malcolm Smith Zaharah Abdullah Rafizan Abdul Razak, 2008). And also accounting professionals will need to expand their skills in both scope and adaptability and also they have to adopt the perception that technology will continually change their requisite competencies and redefine their roles (American Accounting Association, 2014). This can be acted as a barrier for not adapting IT applications.

Research Question/Hypothesis

Problem Statement –What is the degree of IT usage in management accounting practices in companies of Sri Lankan food and beverage industry?

With reference to the above problem statement, the following research questions will be addressed.

1) Is there a relationship between revenue and management accounting stance?
2) Is there a relationship between revenue and IT applications?
3) Is there a relationship between management accounting stance and IT applications?
4) What are the perceived reasons for adapting or none adapting IT in management accounting practices?
5) Is there a significant difference between three levels (Office Support Systems, Accounting-Based Applications and ERP systems) of current technology usage on frequency of management accounting practices?
6) What are the major purposes of using IT in management accounting practices?

RESEARCH OBJECTIVES

Overall Objective

The overall objective of the research is to identify the degree of IT usage in Management Accounting practices in companies of Sri Lankan food & beverage industry. We will further study on;

1. The relationship between revenue and management accounting stance.
2. The relationship between revenue and IT applications.
3. The relationship between Management Accounting stance and current IT applications.
4. The other perceived reasons for adapting or none adapting IT in Management Accounting practices.
5. The frequency of Management Accounting practices with current IT application.
6. The major purposes of using IT in Management Accounting practices.

Significance of the study

As per the researchers' knowledge no research has been conducted to identify the relationship between management accounting stances and IT application in Sri Lankan context.Further the perceived reasons affecting to the usage or not usage of IT in Management Accounting Practices by the companies have not been discussed. The study has been designed to fill the research gap in selected area.

Scope and limitation of the study

The study has been limited to companies of food and beverage industry. Therefore the generalisation of results is questionable. Time limitation has been acted as a main constraint in conducting the study. Further, quantitative approach itself has a limitation by not capturing the qualitative data.

LITERATURE REVIEW

According to Robert Kee (1993), the evolution of data processing technology and accounting over the thousands of years of their development are interrelated. For example, the need to keep records is thought to have influenced the development of writing, likewise accounting influenced many of the subsequent developments in punched card technology. One of the significant aspects of this later relationship was the delegation of punched card and later computer systems to Electronic Data Processing (EDP) professionals. This led to non-accountants assuming many of the traditional data management functions and information system role of accounting. Equally important, it led to EDP professionals developing and managing large integrated information systems such as MIS that frequently included accounting as a subsystem.

Peter A. Firmin and James J. Linn(1968) discussed that,the essence of managerial accounting the thing which distinguishes accounting from other functional areas is that our product is information. The "specialty" which we have is the ability to access information needs and to design appropriate systems for satisfying them. We must construct reliable systems, borrowing as necessary from the bodies of knowledge in other disciplines. If the computer is to be a basic industrial enterprise for the future part of information processing, we must understand the computer. If the transformation process involves the application of a management science model, our accounting system must literally "wed" the model involved.

Francis Pol C. Lim (2013) examined the impact of information technology on accounting systems and he emphasized that information technology advancements have greatly helped the accounting systems of business entities to improve the business performance as well as the effectiveness & efficiency of information. On the other hand he emphasizes that these advancement in the information technology and the AIS cannot replace the role of a man in the accounting system.

ShirzadAmiriandNikzadAmiri (2014) examine that whether the changes of IT effect on performance of management accounting and to help knowledge recognize to what extent the spread of IT can influence empowerment of accounting practice and function. Relationships between IT and accounting practices were examined qualitatively. Ultimately this research

found that decentralization of function is cantered on accounting department traditionally. But in this research they have not addresses the relationship between them.

Sleihat, NAl-Nimer, M &Alabbadi (2012) it is possible to conclude that technology has been developed as a method of competing more effectively with competitors. To compete, organizations need to manufacture innovative products of high quality at low cost. The product life cycle may be short, demand may be changing more rapidly, and international competition creates a further element of uncertainty. And also the production process will affect the selection of the type of management accounting system. New technology will evidently lead to a change in cost structures and the importance of maintaining quality standards, for technological change has an important influence on the development of quality cost information. To sum up, the consensus has been that technology has a significant effect on the management accounting system role, specially costing systems function and tasks and the technological changes influence the change to adopt more sophisticated practices in costing systems.

'The role of Information Technology in Financial Reporting Quality' conducted by Mahdi Salehi&Elahe investigates the role of information in financial reporting as well as the relationship between using information technology and its impact on the quality of financial reporting.

The study shows that the use of IT has considerably changed financial reporting, especially as regards the relevance of accounting information; it is mainly because the use of IT has resulted in on-line financial reporting in which IT can help users make economic and managerial decisions. And also using IT results in removing negative impacts and diminishing dominant limitations on the quality of financial reporting is mostly due to the time of information.

According to CharalambosSpathis John Ananiadis, (2005), the benefits from the implementation of the ERP system showed that managerial benefits come first, operational benefits follows, while IT infrastructure benefits are in the third position and also ERP systems also offer the opportunity for organizations to Re-engineer their activities and revamp their information systems and accounting practices.
The factors identified are;

Factor 1: Managerial benefits	Factor 2: Operational benefits	Factor 3: IT infrastructure benefits
1.Improved follow-up of assets 2. Improved exploitation of financial resources 3.Increased flexibility in information provision 4.Improved cash control – liquidity 5.Improved decision making after timely provision of reliable information 6.Easier handling of the new programme 7.Increased effectiveness of internal control 8.Improved services of suppliers 9.Increased clarity of financial management 10.Necessary integration of functions among departments	1.Improved quality of reports – payment orders 2.Less time for issuing reports – payment orders 3.Less time for document entry 4.Fewer errors on data entry 5. Less time for annual closing of accounts	1.Decreased total operational costs 2.Personnel re-organisation improved maintenance of common databases 3.Improved document circulation 4.Improved communication between employees and management

American Accounting Association (2014) argue that a wide variety of progressive changes like information technology are impacting the accounting field at great speed and accounting professionals will need to expand their skills in both scope and adaptability and also they have to adopt the perception that technology will continually change their requisite competencies and redefine their roles.

Mahdi Salehi and AbdorezaAbdipour (2012) conducted a study to investigate the barriers of implementing accounting information systems in Iran using six hypothesis of accounting information systems which are middle managers, human resources, organizational structure, environmental factors, financial issues and organizational culture. By evaluating the above hypothesis using parametric statistics tests, the end finding emphasised that middle management, environmental factors, organizational culture and organizational structure act as barriers to implement accounting information systems in listed companies in Tehran Stock Exchange (TSE). In such a condition, it seems that without solving these problems the Iranian companies cannot enjoy the advantages of Accounting Information Systems.

Blau and McKinley (1979), suggest that innovations are adopted more easily in large firms as they have more complex and diverse facilities; it might be expected, therefore, that larger firms will have more innovative sophisticated costing systems.

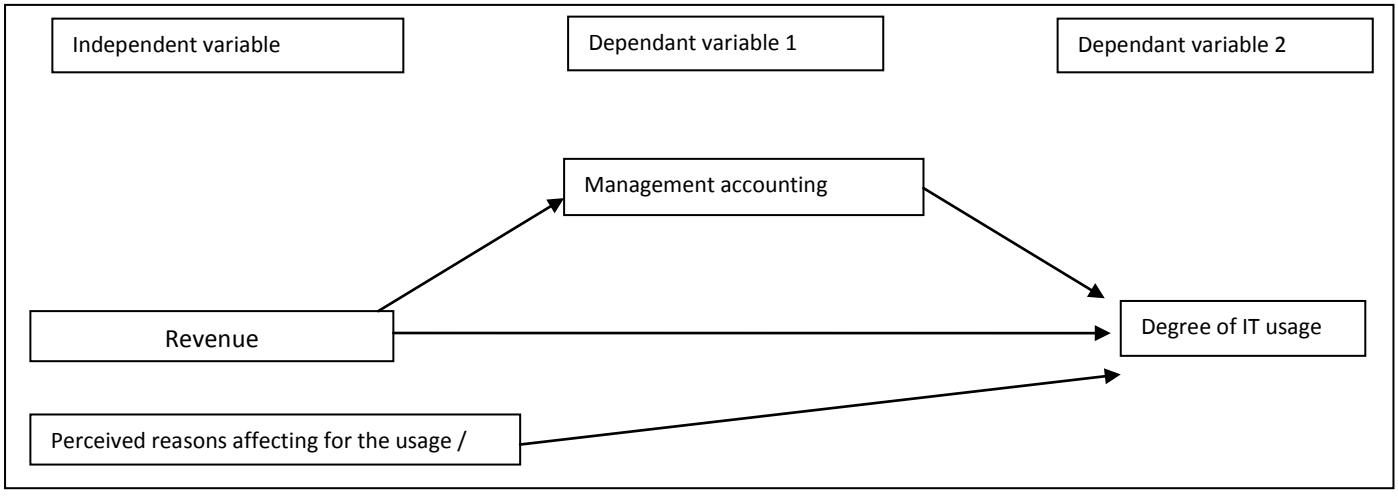
Malcolm Smith Zaharah Abdullah Rafizan Abdul Razak, (2008) supposes that the degree of IT application depends on the management accounting stance of the company and levels of adoption IT innovations remain low, with most companies using traditional and quantitative Management Accounting Practices and technological innovation is positively associated with the stage of management accounting practice.

The study seeks to provide an empirical evidence of the scope and extent of management accounting innovation, and associated changes in the development of management accounting practice, by testing the following null hypotheses:

Malcolm Smith Zaharah Abdullah Rafizan Abdul Razak, (2008) identifies the top four reasons for adoptions for IT in management accounting as “ease of use,” “cost saving,” “time saving,” and “increased production” and also a similar picture emerged with reasons for non-adoption, with “lack of suitability,” “cost,” “difficulty” and “time consuming” prominent on both lists. Therefore the study is also focused to identify what are the perceived reasons for adapting or non-adapting IT applications for management accounting practices.

Therefore the study seeks to identify what are the reasons for adaption or non-adaption of IT applications in management accounting practices.

Conceptual Diagram



Source: Author constructed

Conceptual diagram consisted with two dependent variables and two independent variables.

The degree of IT usage depends on the revenue, the Perceived factors affecting for usage /non usage of IT in management accounting and management accounting stance. The management stance also depends on the revenue of the company.

The revenues of the respective companies have been divided in to four levels such as 0-500 Mn, 501-2500 Mn, 2501-4500 Mn and above 4501Mn. Some perceived reasons for using IT are follow competitor, save time, save cost, easy to use and increase production. Some perceived reasons for non-usage of IT such as costly, too difficult to implement, objection from top management and lack of expertise. The Level of usage of IT depends on both revenue and the perceived reasons. The degree of IT usage has categorized into three categories such as office support systems, accounting based packages and ERP packages. In addition to the revenue and perceived reasons the level of the IT usage also depends on the management stance in which the company exist. The revenue of the company also effect on the management stance of the company.

According to the Akira model there are four stances of management accounting practices such as Drifting Management, Traditional Management, Quantitative Management and Integrated Management. In Drifting Management stage, most commonly used management tools were financial ratio analysis and comparative business analysis and in the stage of Traditional Management budgetary control, standard cost and cost volume profit analysis are used. Quantitative Management uses mathematical formulas such as probabilities, linier programming, multiple regression and present value-variance analysis, ROI, IRR and in the Integrated Management stage it applies the strategic management tools such as Just in Time, Lean production, Target costing and Activity Based Costing. Level of usage of IT depends on the stance of management accounting practice in the organisations.

Hypothesis

According to the theoretical model and identified independent and dependant variables in the previous section, the hypothesises are developed to support 'Degree of Information Technology (IT) Usage in Management Accounting Practices in Companies of Sri Lankan Food & Beverage Industry'.

The hypotheses developed are:

H1: There is a positive relationship between revenue and management accounting stance.
H2: There is a positive relationship between revenue and IT applications.
H3: There is a significant relationship between Management Accounting stance and current IT applications.

In addition to the hypothesis developed the study has been conducted to identify the other perceived reasons for adapting or none adapting IT in Management Accounting practices, whether the frequency of Management Accounting practices depends on the current IT application and the major purposes of using IT in Management Accounting practices.

FINDINGS AND DISCUSSIONS

In terms of the Akira model, only 7% percent of companies perceived themselves to be at Stage 1 (drifting) level of management practice, with 61% percent at Stage 2 (traditional), 14% percent at Stage 3 (mathematical) and, a surprisingly high 39% percent at Stage 4 (integrated). Out of them only 13% of companies do not use IT applications for their MA practices. This higher rate of non usage IT is may be due to the limited no of sample tested to the study. Therefore the study investigates only the reasons for non-adapting IT in their MA practices and do not deeply examine on that fact.

Table 01-Correlations

		Sales-V_7	MA stance-V_8
Revenue V_7	Pearson Correlation	1	.926**
	Sig. (2-tailed)		.000
	N	61	61
MA stance V_8	Pearson Correlation	.926**	1
	Sig. (2-tailed)	.000	
	N	61	61

**. Correlation is significant at the 0.01 level (2- tailed).

Table 1 show that the stage of development of management accounting practice, apparent from the Akira framework, appeared to be having a strong positive correlation with the size of the organization (sales turnover). r = .926 means that the companies will have an advanced MA stance when their revenue is high.

Table 2-ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
V_10.1.1 Office Support System	Between Groups	.124	3	.041	2.308	.088
	Within Groups	.857	48	.018		
	Total	.981	51			
V_10.1.2 Accounting Based Application	Between Groups	10.541	3	3.514	64.563	.000
	Within Groups	2.667	49	.054		
	Total	13.208	52			
V_10.1.3 ERP System	Between Groups	9.379	3	3.126	41.667	.000
	Within Groups	3.602	48	.075		
	Total	12.981	51			

Table 2 shows that the office support systems such as MS office package, Spread sheet modules etc. are used by the companies in management accounting practices regardless of the revenue level of the company (p= .088). Companies usage of other two level of IT applications (Accounting Based Application and ERP system) is based on the revenue level of the company (p= .000).

The study provides empirical evidence on the relationship between Management Accounting stance and current IT applications. Analysis of the responses provided an interesting overview of perceptions towards technological and accounting innovation in Sri Lankan food and beverage industry. The finding shows that the application of technology depends on the management accounting stance which the company is practicing.

Table 3 shows that the companies use Office Support System to management accounting practices regardless of the management accounting stance (p= .792) but companies use other two level of IT applications which are relatively advance such as SAP, MYOB based on their management accounting stances (p=.000).

Table 3-ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
V_10.1.1 Office Support System	Between Groups	.021	3	.007	.346	.792
	Within Groups	.960	48	.020		
	Total	.981	51			
V_10.1.2 Accounting Based Application	Between Groups	11.361	3	3.787	100.517	.000
	Within Groups	1.846	49	.038		
	Total	13.208	52			
V_10.1.3 ERP System	Between Groups	10.182	3	3.394	58.220	.000
	Within Groups	2.798	48	.058		
	Total	12.981	51			

Responders are allowed to select more than one of the reasons for adapting to the IT related MA practices. The options given were to follow competitors, save time, save cost, easy to use, increase production, required by customer and there are no alternative.

According to the table 4 the highest frequency percentage **(92.5%)** has recorded for **save time** (V14.2) category and **79.2%** has been reported by **save cost** (V 14.3) category. No any company in the study sample has chosen required by customer and there are no alternative as the reason for adapting IT related MA practices. Please refer appendix no 2 for the detail analysis.

Table 4 – Frequency

V		Follow competitor 14.1	Save time 14.2	Save cost 14.3	Easy to use 14.4	Increase production 14.5	Other (please specify) 14.8
		Valid Percent	Valid Percent	Valid Percent	Valid Percent	Valid Percent	Valid Percent
Valid	0-No	67.9	7.5	20.8	60.4	47.2	98.1
	1-Yes	32.1	92.5	79.2	39.6	52.8	1.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Table no 5 indicates that 62.5% of respondent who has answered that they are not implement IT, having high cost of adopting IT applications for Management Accounting Practices. Refer appendix 3 for detail analysis.

		Costly	Not suitable	Never heard of it	Too difficult	Objection from top management	Time consuming	Lack of expertise	Other
	0 – No	37.5	87.5	100	75	100	100	100	100
	1-Yes	62.5	12.5	-	25	-	-	-	-
	Total	100	100	100	100	100	100	100	100

Table 5 - Valid Percent

As discussed in table 2 and table 3 the application of office package system is independent of level of revenue and management accounting stance where a company exist. Therefore the study further investigates on identifying is there a significant difference between two levels (Accounting-Based Applications and ERP systems) of current technology usage on frequency of management accounting practices of an organization.

Table 6 shows that no significant difference between the frequency of usage of budgeting function among two levels of IT application (Sig < 05, 0).Except the budgeting all other tested management accounting practices showed a significant differences between two levels of IT applications(Sig > 05).

Table 6 - Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
V_12.1 Budget	Equal variances assumed	38.412	.000	2.593	50	.012	.290	.112	.065	.515
	Equal variances not assumed			2.647	41.556	.011	.290	.110	.069	.512
V_12.2 Standard Costing	Equal variances assumed	1.164	.286	9.267	50	.000	2.124	.229	1.664	2.585
	Equal variances not assumed			9.419	44.772	.000	2.124	.226	1.670	2.579
V_12.3 Target Costing	Equal variances assumed	1.865	.178	11.968	50	.000	2.519	.210	2.096	2.941
	Equal variances not assumed			12.094	48.232	.000	2.519	.208	2.100	2.937
V_12.4 Cost-Volume Profit (CVP) Analysis	Equal variances assumed	.422	.519	9.394	50	.000	2.059	.219	1.619	2.500
	Equal variances not assumed			9.417	49.987	.000	2.059	.219	1.620	2.498

V_12.5 Variable/ Marginal Costing	Equal variances assumed	.074	.787	17.185	50	.000	2.710	.158	2.393	3.026
	Equal variances not assumed			17.012	45.004	.000	2.710	.159	2.389	3.030
V_12.6 Full/Absorption costing	Equal variances assumed	.537	.467	7.881	50	.000	2.173	.276	1.619	2.727
	Equal variances not assumed			7.860	48.959	.000	2.173	.277	1.618	2.729
V_12.7 Ratio Analysis	Equal variances assumed	1.071	.306	17.394	50	.000	2.727	.157	2.412	3.042
'	Equal variances not assumed			17.243	45.923	.000	2.727	.158	2.409	3.046
V_12.8 Activity-based Costing (ABC)	Equal variances assumed	1.240	.271	-.552	50	.583	-.046	.083	-.213	.121
	Equal variances not assumed			-.547	46.107	.587	-.046	.084	-.215	.123
V_12.9 Total Quality Management (TQM) Cost of quality	Equal variances assumed	3.701	.060	5.138	49	.000	1.980	.385	1.206	2.754
	Equal variances not assumed			5.114	45.643	.000	1.980	.387	1.201	2.759
V_12.10 Kaizen (continuous Improvement)	Equal variances assumed	.018	.895	19.861	50	.000	2.913	.147	2.618	3.207
	Equal variances not assumed			19.779	48.367	.000	2.913	.147	2.617	3.209

V_12.11 Just-In-Time	Equal variances assumed	1.221	.274	6.100	50	.000	2.121	.348	1.423	2.820
	Equal variances not assumed			6.039	45.077	.000	2.121	.351	1.414	2.829
V_12.12 Others	Equal variances assumed	.535	.468	15.988	50	.000	2.841	.178	2.485	3.198
	Equal variances not assumed			16.117	49.195	.000	2.841	.176	2.487	3.196

Table No 7 represents the valid percentage of the answers given by the respondents for the question of importance of information technology usage on the given purposes. Since, respectively 39.6% and 37.7% of the respondents have given 1st and 2nd ranks for decision making and cost planning, they can be identified as main purposes which will course to use IT in Management Accounting Practices in Sri Lankan food & beverage industry.

Table 7 - Valid Percent

Ranking	Cost Design	Cost Planning	Cost Control	Product Pricing	Decision making	Strategic Management	Performance Evaluation	Budgetary control	Value Creation	Other
0	-	-	-	-	1.9	-	-	-	-	100
1	-	3.8	-	17	39.6	32.1	-	5.7	-	-
2	15.1	9.4	3.8	13.2	37.7	24.5	-	-	-	-
3	15.1	30.2	3.8	18.9	5.7	5.7	-	18.9	-	-
4	34	41.5	15.1	1.9	-	-	-	9.4	-	-
5	18.9	3.8	37.7	-	11.3	-	17	-	11.3	-
6	17	1.9	26.4	9.4	3.8	3.8	15.1	7.5	15.1	-
7	-	5.7	7.5	35.8	-	34	13.2	1.9	1.9	-
8	-	3.8	-	3.8	-	-	35.8	35.8	17	-
9	-	-	5.7	-	-	-	18.9	20.8	54.7	-
10	-	-	-	-	-	-	-	-	-	-
Total	100	100	100	100	100	100	100	100	100	100

Further, Value creation (54.7%), budgetary control (35,8%) and performance evaluation (35.8%) have been given less rankings by the respondents.

CONCLUSIONS AND DISCUSSION

This paper provides empirical evidence about the scope of the adoption of different management accounting and technological innovations in food and beverage industry in Sri Lanka. The levels of adoption for management accounting innovation remain low in the companies which uses traditional and quantitative management accounting practices. Simultaneously such companies earn a relatively low. A significant positive relationship was found, supporting the association of technological innovation with both organization size and the current level of accounting practice.

Perceived reasons for adopting IT related MA practices were identified as save time and save cost of the users while the non-users of IT related MA practices believe that it is costly for them. The main purpose of adapting in IT in MA was identified as the decision making and cost planning. And also the companies who use IT in their MA practices are significantly varies from each other by the frequency of using other management accounting functions among financial applications and ERP applications except budgeting.

There are a number of limitations to these research findings, including the limited sample size and the lower response rate. Because of the limited time frame the responders could not be followed up as to obtain a higher response rate. Therefore the generalization of the results is questionable.

REFERENCES

Francis Pol C. Lim, 2013, Impact of Information Technology on Accounting Systems, Vol. 3, No.2, pp. 93-106. Asia-pacific Journal of Multimedia Services Convergent with Art, Humanities, and Sociology.

Krahel,Vasarhelyi,2014,AIS as a Facilitator of Accounting Change: Technology, Practice, and Education,Vol. 28, No. 2,pp. 1–15.Journal Of Information Systems.

Robert Kee,1993, Data processing technology and accounting:A Historical Perspective, Vol. 20, No2, pp. 187-216.The Accounting Historians Journal.

Robert S. Kaplan, 1984, The Evolution of Management Accounting, Vol. 59, No. 3 (Jul., 1984), pp. 390-418. American Accounting Association.

CharalambosSpathis,John Ananiadis,2005, Assessing the benefits of using an enterprise system in accounting information and management, Vol. 18 No. 2, pp. 195-210. The Journal of Enterprise Information Management.

Peter A. Firmin ,James J. Linn,1968, Information Systems and Managerial Accounting, Vol. 43, No. 1 (Jan.1968), pp. 75-82. American Accounting Association.

Malcolm Smith, Zaharah Abdullah, Rafizan Abdul Razak, 2008, The diffusion of technological and management accounting innovation, Vol. 16 No. 3, pp. 197-218.Asian Review of Accounting.

Suodi Zhang, Ping Gao, Zhiyuan Ge,2013, Factors Impacting End-Users'Usage Of ERP In China, Vol. 42 No. 7, pp. 1029-1043. Kybernetes.

ShirzadAmiri,Nikzad Amiri,2014, Information Technology (IT) and its Role in Accounting Practice, International Journal of Economy, Management and Social Sciences, 3(1) January 2014, Pages: 28-32.

Gary Spraakman,CristobalSanchez'the, impact of information technology on management accounting practices.

NimerSleihat,Munther,Sinan Alabbadi,2012, The Effect of Advanced Technology on the Implementation of Costing System Practices, Vol. 39, No. 1, Administrative Sciences.

HazarDaoud,MohamedTriki, 2013, Accounting Information Systems in an ERP Environment and Tunisian Firm Performance, Vol. 13, pp. 1–35. The International Journal of Digital Accounting Research.

Mahdi Salehi,Abdoreza Abdipour,2013,Accounting information system's barriers: Case of an emerging economy, Vol. 7(5), 298-305. African Journal of Business Management 7 February, 2013.

ChandrasegaranLarojan,Janaki Samuel Thevaruban,2014, Impact of Environmental Management Accounting Practices on Financial Performance of Listed Manufacturing Companies in Sri Lanka, Oral Presentations. pp. 239-246. International Conference on Management and Economics.

Frank H. Selto, Sally K. Widener, 2002,New Directions in Management Accounting Research: Insights from Practice. '

Mahdi Salehi&ElaheTorabi (2012). The role of information technology in financial reporting quality: iranian scenario, Prihvaćenozatisak

'

APPENDICES

Appendix 1: Questionnaire

Kindly provide the information as requested. Information gathered is strictly private, anonymous and confidential basis. We greatly appreciate your assistant.

This research focus to identify how companies use IT in management accounting practices in food and beverage industry. This questionnaire has focused on usage of IT in general management practices such as budgeting, standard costing, target costing and etc.

1. Name of Business

2. Principal Activities/Products

3. Year(s) of establishment

4. Designation of respondent

5. Place of resignation

    a. Local
    b. Foreign

6. Please indicate the total number of your employee in the organization
    a. 0-1000
    b. 1001-10000
    c. Above 10000

7. Average sales turnover of your organization or organizational unit

8. Please tick (√) the appropriate stage of the Management Accounting of your organization.
    We have provided some possible descriptions of the Management Accounting Practices based from Akira model (Phase/stage of management accounting).
    There is no right or wrong answer.

    a. Drifting / Basic Management Accounting
    b. Traditional Management Accounting
    c. Quantitative Management Accounting
    d. Integrated Management Accounting

9. Are you using information technology in your management accounting practices?
    1. Yes
    2. No

If no, Please go to the question number 15

10. Included below how frequency the following information technologies used in your business organizations.

Package	Annually	Quarterly	Monthly	Weekly	Daily
1.Office Support Systems					
1.1 Microsoft office package					
1.2 Open office package					
1.3Spread sheet modules					
1.4Other (Specify)……					
2.Accounting-Based Applications					
2.1 General Packages					
2.1.1. Quickbook					
2.1 .2.Accpack					
2. 1.3. MYOB					
2.1.4 Sage 50					
2.1.5Peachtree					
2.2 Specific Management Accounting Packages – Please specify below					
…….					
…….					
…….					
…….					
…….					
3.ERP system					
3.1SAP					
3.2 Oracal					
3.3Other (Specify)……					

11. Included below how frequency you use the above mentioned information technologies for following functions.

Function	Annually	Quarterly	Monthly	Weekly	Daily
1.Data collection					
2.Report generation					
3.Analysis					
4.Presentation & communication					
5.Starage					
6.Other (Specify)……					

12. Please indicate for how frequently you apply information technology in following management accounting functions.

Please tick (/) the following:

(5 = always; 4 = often; 3 = sometimes; 2 = rarely; 1 = never)

	5	**4**	**3**	**2**	**1**
1. Budget					
2. Standard Costing					
3. Target Costing					
4. Cost-Volume Profit (CVP) Analysis					
5. Variable/Marginal Costing					
6. Full/Absorption costing					
7. Performance Management(Balance Scorecard)					
8. Ratio Analysis					
9. Activity-based Costing (ABC)					
10. Total Quality Management (TQM) Cost of quality					
11. Kaizen (continuous Improvement)					
12. Just-In-Time					
13. Others (Specify)……..					

13. Please rank the importance of information technology usage on following management accounting purposes.

(1 is the most important to 10 as the least important)

	Function	**Rank**
1	Cost Design	
2	Cost Planning (long term and short term)	
3	Cost Control (long term and short term)	
4	Product Pricing	
5	Decision making	
6	Strategic Management	
7	Performance Evaluation	
8	Budgetary control	
9	Value Creation	
10	Other (Specify)……	

14. Please indicate the **reason** for using information technology in Management Accounting Practice.

	Reason for using Management Accounting Practice	**Tick**
1	Follow competitor	
2	Save time	
3	Save cost	
4	Easy to use	
5	Increase production	
6	Required by customer	
7	There are no alternative	
8	Other (please specify)	

15. Please indicate the **reason** for not using information technology in Management Accounting Practice.

	Reason for using Management Accounting Practice	**Tick**
1	Costly	
2	Not suitable	
3	Never heard of it	
4	Too difficult	
5	Objection from top management	
6	Time consuming	
7	Lack of expertise	
8	Other (please specify)	

Thank you for your corporation…….

Appendix 2: Detail analysis for reasons for adapting to the IT related MA practices

Frequency Tables

Follow competitor **V_14.1**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	37	60.7	68.5	68.5
	1	16	27.9	31.5	100.0
	Total	53	88.5	100.0	
Missing	System	8	11.5		
Total		61	100.0		

Save time **V_14.2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	5	8.2	9.3	9.3
	1	48	80.3	90.7	100.0
	Total	53	88.5	100.0	
Missing	System	8	11.5		
Total		61	100.0		

Save cost **V_14.3**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	12	19.7	22.2	22.2
	1	41	68.9	77.8	100.0
	Total	53	88.5	100.0	
Missing	System	8	11.5		
Total		61	100.0		

Easy to use **V_14.4**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	33	54.1	61.1	61.1
	1	20	34.4	38.9	100.0
	Total	53	88.5	100.0	
Missing	System	8	11.5		
Total		61	100.0		

Increase production **V_14.5**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	26	42.6	48.1	48.1
	1	27	45.9	51.9	100.0
	Total	53	88.5	100.0	
Missing	System	8	11.5		
Total		61	100.0		

Required by customer **V_14.6**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	53	88.5	100.0	100.0
Missing	System	8	11.5		
Total		61	100.0		

There are no alternative **V_14.7**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	53	88.5	100.0	100.0
Missing	System	8	11.5		
Total		61	100.0		

Other (please specify) **V_14.8**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	52	86.9	98.1	98.1
	1	1	1.6	1.9	100.0
	Total	53	88.5	100.0	
Missing	System	8	11.5		
Total		61	100.0		

Appendix 2: Detail analysis for reasons for non-adapting to the IT related MA practices

Frequency Tables

V_15.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	4.9	37.5	37.5
	1	5	8.2	62.5	100.0
	Total	8	13.1	100.0	
Missing	System	53	86.9		
Total		61	100.0		

V_15.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	7	11.5	87.5	87.5
	1	1	1.6	12.5	100.0
	Total	8	13.1	100.0	
Missing	System	53	86.9		
Total		61	100.0		

V_15.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	8	13.1	100.0	100.0
Missing	System	53	86.9		
Total		61	100.0		

V_15.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	9.8	75.0	75.0
	1	2	3.3	25.0	100.0
	Total	8	13.1	100.0	
Missing	System	53	86.9		
Total		61	100.0		

V_15.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	8	13.1	100.0	100.0
Missing	System	53	86.9		
Total		61	100.0		

V_15.6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	8	13.1	100.0	100.0
Missing	System	53	86.9		
Total		61	100.0		

V_15.7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	8	13.1	100.0	100.0
Missing	System	53	86.9		
Total		61	100.0		

V_15.8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	8	13.1	100.0	100.0
Missing	System	53	86.9		
Total		61	100.0		

Appendix 3: Importance of information technology usage on MA purposes.

Frequency Table

V_13.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	8	13.1	15.1	15.1
	3	8	13.1	15.1	30.2
	4	18	29.5	34.0	64.2
	5	10	16.4	18.9	83.0
	6	9	14.8	17.0	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	3.3	3.8	3.8
	2	5	8.2	9.4	13.2
	3	16	26.2	30.2	43.4
	4	22	36.1	41.5	84.9
	5	2	3.3	3.8	88.7
	6	1	1.6	1.9	90.6
	7	3	4.9	5.7	96.2
	8	2	3.3	3.8	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	3.3	3.8	3.8
	3	2	3.3	3.8	7.5
	4	8	13.1	15.1	22.6
	5	20	32.8	37.7	60.4
	6	14	23.0	26.4	86.8
	7	4	6.6	7.5	94.3
	9	3	4.9	5.7	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	14.8	17.0	17.0
	2	7	11.5	13.2	30.2
	3	10	16.4	18.9	49.1
	4	1	1.6	1.9	50.9
	6	5	8.2	9.4	60.4
	7	19	31.1	35.8	96.2
	8	2	3.3	3.8	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	1.6	1.9	1.9
	1	21	34.4	39.6	41.5
	2	20	32.8	37.7	79.2
	3	3	4.9	5.7	84.9
	5	6	9.8	11.3	96.2
	6	2	3.3	3.8	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	17	27.9	32.1	32.1
	2	13	21.3	24.5	56.6
	3	3	4.9	5.7	62.3
	6	2	3.3	3.8	66.0
	7	18	29.5	34.0	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	9	14.8	17.0	17.0
	6	8	13.1	15.1	32.1
	7	7	11.5	13.2	45.3
	8	19	31.1	35.8	81.1
	9	10	16.4	18.9	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	4.9	5.7	5.7
	3	10	16.4	18.9	24.5
	4	5	8.2	9.4	34.0
	6	4	6.6	7.5	41.5
	7	1	1.6	1.9	43.4
	8	19	31.1	35.8	79.2
	9	11	18.0	20.8	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5	6	9.8	11.3	11.3
	6	8	13.1	15.1	26.4
	7	1	1.6	1.9	28.3
	8	9	14.8	17.0	45.3
	9	29	47.5	54.7	100.0
	Total	53	86.9	100.0	
Missing	System	8	13.1		
Total		61	100.0		

V_13.10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	53	86.9	100.0	100.0
Missing	System	8	13.1		
Total		61	100.0		