

A NOTE ON ABC IMPLEMENTATION: AN EVALUATION CASE

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Abstract

Whilst featuring prominently in management accounting research for at least the last decade, activity-based costing (ABC) may have reached a plateau in terms of implementation and success. This paper reports the results of a survey of activity-based costing (ABC) in a telecommunication organisation. The study considers ABC information and systems being used in various parts of division of the company. It reports on success measures adapted from the Foster and Swenson (1997) survey of ABC implementation.

The survey data was collected through a questionnaire to users of ABC sent through the company's e-mail system. 243 questionnaires were sent out for the 16 different ABC systems developed, 173 usable questionnaires were returned (a response rate of 71%). The respondents were selected based on their experience in using the various ABC systems irrespective of the divisions they operated in. They were mainly senior executives and executive level employees.

The study is reported in four parts. Firstly, it reports on the usage of ABC information as compared to the traditional costing systems. It was found that budgeting, improving opportunities and aiding in product management decisions were highly scored as the main usage of ABC/M information. The second part reports on decision actions taken as a result of ABC/M implementation. It states that ABC/M helped change in company's strategic focus, pricing strategy and changes in operations. Interestingly, it was found that ABC implementation provided almost no financial improvements, as perceived by respondents. Finally, the overall evaluation of the ABC systems is perceived by the users of the various ABC systems was to be mostly unsuccessful. A comparison of the survey results is made with the Foster and Swenson (1997) survey. The work is hoped to make a contribution to studying ABC implementation success in various settings.

Introduction

The rationale for the replication study reported in this note is twofold. First, apart from limited survey conducted by Shields (1995), no data exist on the use of ABC in Malaysia using Foster and Swenson (1997) survey instrument. Second there was a desire to carry out a replication of a prior survey in a different location. Most survey to date has provided only evidence on ABC adoption at one location and one point in time. The only replication study was conducted by Innes *et al.* (2000), who replicated in 1999 their survey of large United Kingdom companies carried out in 1994 (Innes and Mitchell, 1995, 1997; Innes, 1999).

This note summarises some empirical evidence of trends in the widely diverse locations in the practical consideration, adoption and use of ABC. The note is based upon a comparison of the 1997 UK survey with a single large Malaysian organisation carried out by the author in

2003. The Malaysian survey instrument was a replica of that used in the UK. The study reported in this note provides new evidence on the usage of ABC in Malaysia and was the first replication of the Foster and Swenson study outside the UK. It is important to recognize that there were differences in the targeted population characteristics of the Malaysian organisation and United Kingdom firms as the survey concentrates mainly in one large organization which has several embedded, stand-alone and ad-hoc ABC models. The most obvious difference is in relation to the size of the models from one another.

Design of the Study

The assurance that comparison could be made, the Malaysian survey instrument was an exact replica of that used by Foster and Swenson (FS) (1997) subject to a few adjustment and amendments in the layout and wording of the questionnaire. The targeted population concentrated on various ABC users mainly senior executives and executives. They were the users of the 16 ABC systems developed in the organisation by which only 14 of the systems were included in the study. The survey excluded two departments who had no representative for providing evaluations for their ABC system. The survey included 243 questionnaires which resulted in 178 usable returned questionnaires. The rationale for surveying the various ABC systems was that these people would be the people in the organisation most likely to have considerable amount of knowledge of ABC implementation in their respective divisions.

The Malaysian survey questionnaire was distributed through the company's e-mail system in January 2003 and there was satisfactory response rate of approximately 71 per cent. Non-response bias provided no evidence of significant non-response bias in respect to the Malaysian survey.

Results

In the results reported below, the 2003 Malaysian survey statistics are presented first, followed by the UK statistics. All descriptive results are supported by proper and appropriate statistical tests.

Success Measure of ABC Information Use

Decision Use of Current ABC/M System

The respondents were asked to "rate their current ABC/M system as compared to their previous cost management system on the use of information in 14 specific decision areas". The top three-decision use in the Malaysian company was budgetary and planning, value based management tool and aiding in product management decisions (see to Table 1.0). The results when compared to the FS survey indicated very clear differences in the usage of the ABC/M information in the Malaysian organisation. The top three decisions use of ABC/M information in FS survey was identifying opportunities for improvement, product management decisions and driving process improvement decisions. The Malaysian company revealed that their usage for ABC/M information in the various divisions was relatively aimed for specific decisions by which it varies from one division to another.

Table 1.0: Areas of Division Use of ABC/M Information

Information Use	N	Minimum	Maximum	Mean	Std. Deviation
Improve Opportunities	166	2.00	5.00	3.7349	.80279
Product Management Decisions	147	2.00	5.00	3.7075	.87750
Process Improvement	164	2.00	5.00	3.6585	.85400
Outsource	153	2.00	5.00	3.5556	.80204
Process Management	160	2.00	5.00	3.7250	.85377
Product And Development	146	2.00	5.00	3.6644	.88104
Budget	172	2.00	5.00	3.9593	.77503
Restructuring	159	2.00	5.00	3.5660	.88966
Forecasting	166	2.00	5.00	3.6928	.88534
Capital Investment	147	2.00	5.00	3.5714	.81088
Performance Measures	169	1.00	5.00	3.5976	1.05965
Value Based Management	147	2.00	5.00	3.6803	.81077
Manage Working Capital	149	1.00	5.00	3.6846	.85493
Rewards And Recognition	155	1.00	5.00	3.3742	1.09987

Frequency of Business Functional Use to Make Decisions

There is great difference in the way the various departments were set for this question of the survey. What was performed by FS was changed in the order representing not the different business functions rather representation of the different divisions that exist the ABC system. It was rather difficult to look at ABC/M in the various business functional areas as the company did not have widely rolled out ABC implementation within the whole organisation. Those that were from the Operation Divisions revealed that they used ABC/M “half of the time” as compared to the Service Divisions that revealed they used it “sometimes”. FS work revealed that the accounting and finance division uses ABC/M in the highest percentage of the time. Other line business functions are manufacturing, product management or engineering and marketing.

Frequency of Managerial Groups Use ABC/M for Decision Making

This section of the work relates to how frequent the managerial levels regard ABC/M information in making decision. It is to note that with the Malaysian survey, only 5 managerial level respondents responded to the questionnaire. This is reasoned by a majority of the users of the ABC system in the Malaysian company consists of those at the executive level positions. The results of the groups in FS survey revealed that operation managers and department managers use ABC/M information in their decisions more frequently than do line personnel¹. In this case, it could not be compared to the FS survey limitation in managerial level respondents. This section of the survey was slightly different in comparisons to the question underlying managerial positions only.

Success Measure of Decision Actions Taken

The survey asked the respondents to indicate the significance of changes made as a result of ABC/M site implementation. The areas with the greatest changes made were ABC/M changed outsourcing activities and processes, followed by changing customer segments and

¹ It is important to note that the vast majority of respondents are at the executive level and the Malaysian organisation had very few managerial level respondents answering the survey.

lastly, changed in pricing strategy and process. FS work greatest changes made were changed in processes, pricing strategy, component parts and strategic focus. Both the UK and Malaysian respondents used the ABC/M information in different areas of decision-making process. The Malaysian organisation felt that in relation to outsourcing activities and process was somehow something that they found their work to be significant² (see Table 1.1).

Table 1.1: Decision Actions Taken as a Result of ABC/M Site Implementation

Types of Change	N	Minimum	Maximum	Mean	Std. Deviation
Process Change	146	1.00	5.00	2.6233	1.01125
Pricing Strategy Change	142	1.00	5.00	2.7465	1.15738
Process Steps	141	1.00	4.00	2.6028	.98474
Strategic Focus	142	1.00	5.00	2.7676	1.04281
Operations	145	1.00	5.00	2.7103	1.06012
Customer Support/Services	143	1.00	5.00	2.6643	1.07431
Outsourced Activities	144	1.00	5.00	2.6736	1.06324
Customer Segments	143	1.00	4.00	2.5804	.95985
Distribution Channels	136	1.00	5.00	2.5588	.94096
Incentive Compensation	136	1.00	5.00	2.4485	.94139

Success Measure of Dollar Improvements

The success measure of dollar improvements is an approach where the success focuses on how much gained has ABC received in relation to monetary. More than half (56.9 per cent) of the respondents indicated that they had “some dollar improvements” and 29.3 per cent indicated that they had “no dollar improvements”. The results are generally represented from the operations and service departments. The three areas product/service profitability, manufacturing/production, and overhead support are reported to have the “most dollar improvements” resulting from ABC/M site implementation within the FS survey.

Success Measure of Management Evaluation

The fourth success measure is an overall management evaluation. This section asked respondents to indicate, “how successful” six different management groups regard the ABC/M efforts. The six groups in the Malaysian organisation are different with groups in FS. The six groups are vice president, assistant vice president, general manager, assistant general manager, managers and assistant managers. Majority of the answers provided originate from the assistant managers group. Almost half of them feel that ABC/M effort is unproven, followed by 38.7 per cent regard it as moderately successful and 20 per cent regard it as very successful. Other management groups rate the ABC/M effort as unproven and moderately successful. When compared the result with FS work, it revealed that ABC/M Champion group has the highest ranking of ABC success. With the Malaysian organisation, there is no ABC/M Champion group. Senior management group follows this while line personnel received the lowest average success rating for ABC/M. The line personnel group is similar to the non-executive level in the Malaysian organisation. In this case the line personnel did not exist in the Malaysian survey as the levels of management consists from assistant manager to vice president level.

² At the time of ABC implementation into the organisation, specific ABC purposes for specific divisions were gauged. Each division had their own reasons that required ABC to be adopted mainly for transfer pricing and operational excellence.

Table 1.3: Manager Group Evaluation of the Success of ABC/M Efforts

Manager Group	N	Minimum	Maximum	Mean	Std. Deviation
Senior Vice President	0				
Vice President	0				
General Manager	2	2.00	3.00	2.5000	.70711
Assistant General Manager	3	2.00	3.00	2.3333	.57735
Manager	7	2.00	4.00	3.4286	.97590
Assistant Manager	161	2.00	4.00	2.8012	.74850

Conclusions and Suggestions for Further Research

The use of ABC/M information as compared to their previous cost system revealed that the Malaysian organisation had specific purposes of ABC implementation. It is important to note that the FS survey indicated the use of ABC/M information was specifically to gather opportunities for improvement, product management decisions and driving process improvement decisions. This revealed that FS survey was specifically for improvement opportunities as compared to the Malaysian organisation where they had specific purposes to look closely to budgetary and planning, value based management tool and aiding in decision for product management. It might be interesting to examine the effect of ABC implementation purposes of the adoption of ABC by organisations (no research to date has looked at purposes of ABC adoption). We suggest that purposes of ABC adoption may be an explanatory variable. This can likely be an interesting area to be researched.

Although the majority of the Malaysian divisions revealed that they use the information almost half of the time to sometimes in the operation and service divisions, it is not seen in the case of FS. Very clear differences were seen between FS and Malaysian divisions in relation to use of ABC/M information in a particular business function area. FS had the accounting and finance dominating the ABC/M information usage while this was unseen in the Malaysian company. Given that this existed, it is fair to say that business functional areas may be a possibility that differentiates the frequency usage of ABC/M information for decision-making process. The Malaysian divisions had the various divisions use the ABC/M information more as compared to the accounting and finance divisions. The accounting and finance divisions played very minimal role in usage of information like the FS survey. In relation to managerial levels usage of ABC/M information, it could not be seen in the Malaysian organisation as their managers were not the majority users of the ABC/M information. There was very limited number of responses that represented the managerial levels in the organisation. Therefore limiting a comparison between the two surveys.

The use of ABC/M information in the various divisions revealed that there were great differences in the significance of changes made as a result of ABC/M implementation. Both surveys had their own reasons that ABC/M information helped changed decisions. Their comparisons showed very big differences between the areas where ABC/M information was used for changing decisions. The effect of division environment or division characteristics can possibly be a reason for this difference. This would be a potential area to be researched.

Gained in monetary was seen more in the FS survey as compared to the Malaysian survey. A big difference was seen within the Malaysian divisions where ABC implementation was not seen contributing much to the intended purposes. The potential difference may be that ABC

was implemented at certain level of adoption by the different divisions which resulted in lesser feeling of its reality of usage. It could be that purposes and intended usage of ABC must be built into the users to enable them to see its relevancy. Yet, it was not seen meeting their judgements. Perhaps if an organisation had more strong purposes for ABC to be used, it may result in better dollar improvements.

An overall management evaluation revealed that ABC implementation as a whole was very unsatisfactory which resulted in majority unproven success. Reasons of failure as a whole had been studied by many authors (e.g. Foster and Swenson, 1997; Shields and Young, 1989) all reported different levels of success contributed by many different factors were illustrated in their work. The management commitment, the originator and the development teams could be possible reasons attributing to this unproven success. FS survey indicated otherwise with the ABC Champions regarding it as full success.

The study on which this note is based has provided us with insights in ABC implementation and how users perceive its success in two different countries. Although this work has much differences in the firms versus divisions in one company, its implications in the various accounts of rating success of ABC could be seen in a smaller scale. The strength of the work would lie in its full replication and compatibility of the two survey. Nonetheless, we have gained some insights and shed lights in comparisons of the two.

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