［論文］

Managerial Accounting for Marketing Performance Measurement

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1. Introduction

This paper examines next-generation marketing management accounting, which has been derived as a result of accumulation of sales process data with the development of web marketing.

Traditionally in the field of management accounting, research themes for marketing management accounting expanded around two axes: (1) marketing activity budget management and (2) marketing activity cost management. Needless to say, as with research and development, corporate marketing activities play an important role in practical operations.

At the same time, we could also argue that such research had to develop because, in management accounting, the two types of management listed above (budget and cost) had already been implemented in terms of marketing costs. Detailed customer purchasing history (digital data) then began to be kept on the internet. Use of integrated marketing tools started to spread in 2016, allowing companies to easily collect, accumulate, and analyze customer data. This led to the emergence of a new, unexpected research area called "sales process management accounting" in the field of marketing management accounting. This emergence is believed to have led marketing management accounting research into the next-generation phase. Currently, development of a theoretical framework for this next-generation marketing management accounting is anticipated. Note, however, research on innovation of marketing activities, such as AI innovation and digital data accumulation, deals with recent technical innovation. This means, in management accounting studies, the number of research results produced by a sales division is significantly less than that by a manufacturing division [1].

This paper focuses on the latest trends of sales processes from the field of management accounting research to clarify the operating expenses and selling, general, and administrative expenses ("SG&A") of these processes. With such an objective, this paper is designed to help with creation of a framework in the promising next-generation research area in marketing management accounting.

2. Previous Studies and their Issues

According to Foster & Gupta [1994], although management accounting and marketing have their own unique study areas, there is obviously an area of study that is relevant to both.

Since 1980, traditional management accounting has been criticized for being internally oriented, and customer-oriented management accounting has been studied. Here, 'customer' is an example of an external entity. For the field of management accounting research, this transition marked the emergence of the necessity of customer and market research. It can also be said that it opened the path for management accounting to make an academic contribution to measurement and evaluation of customer satisfaction or customer value (Japan Accounting Association Special Committee [1997]).

Note that it was only after 2016 that sales process efficiency improvement tools spread widely for the purpose of accumulating and analyzing marketing data. Note that, after mobile commerce, cloud-based A/B testing, cloud-based landing page development, and the addition of online seminar capabilities to marketing tools rapidly increased, these functionally specific features were integrated into "all-in-one" tools and gained widespread acceptance in 2016 and onward ([Ogawa, [2017]).

2.1 From Black Box Model Analysis to White Box Model Analysis

Let us examine next-generation marketing management accounting from the system theory perspective.

According to Takahara and Iijima [1990] and Nishigaki [2002], it is widely known that there are roughly two types of system analysis. These are black box model analysis, in which system specifications are examined, and white box model analysis, in which the internal structure of the program is visualized and analyzed. While both present an approach in marketing management accounting, they have different analysis focuses.

Black box model analysis focuses only on what goes in and out of the program. It does not, or cannot, analyze what is in the program.

White box model analysis on the other hand focuses on the internal structure of the process to examine the mechanism of individual processing and its impact (Nishigaki, [2002]). It is a type of analysis interested in how the process works. It can also be perceived as complex analysis that takes into consideration the perspective of not only process users but also its creators.

Traditional marketing management accounting research involved analysis of an unclear internal structure using inputs and outputs, meaning it primarily relied on black box model analysis. To be more exact, analysis could not be done satisfactorily.

Meanwhile, the basic premise of white box model analysis is that customers are first recognized as unique individuals instead of a group of people and then research items are analyzed at the micro level. More specifically, among various elements of the sales process, white box model analysis is designed to grasp customer attributes and understand customers themselves ([Oheki [2018]). For this purpose, digital tools for analysis are selected, digital communication is created as multiple contents, and the workflow for transmitting such contents are set. Based on the analysis result data, the communication contents will be corrected as a routine (Figure1).

Figure1 Black Box & White Box

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■ Before

| ←—— White Box ——→ | ←—— Black Box ——→ | ←—— White Box ——→ |
|         ||                                      ||              |
| ← Budget Management → | ←—— Black Box ——→ | ← Cost Management → |

■ From 2016

| ←—— White Box ——→ | ←—— White Box ——→ | ←—— White Box ——→ |
|         ||                                      ||              |
| ← Budget Management → | ← Marketing Analysis → | ← Cost Management → |
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2.2 Black Box Model Analysis 1: Operating Expense Analysis

In traditional marketing management accounting, methods of managing the black box model were created based on the notion that "the cost-effectiveness in marketing is obtained through the black box."

Marketing costs, which are the costs related to corporate marketing activities, have a history of being analyzed as operating expenses[2)]. Differing from manufacturing costs, these operating expenses have the following characteristics (Matsumoto [1959]; Okamoto, [2000]):

(1) It is difficult to measure the cost-effectiveness, between costs and their outcomes.
(2) Business operations are diverse, and operating expenses greatly vary with the operation method.
These operating expenses are then roughly divided into two categories (Nishizawa [1962] [1965]):

(1) Order-filling costs

Order filling costs include storage costs, transportation costs, and accounts receivable collection costs. They are for filling customer orders. In addition to logistics costs, they include collection costs and after-sales service costs ([Shimura [1994]). There are three differences between order-filling costs and order-getting costs or general administrative expenses. first, since order-filling costs are physical and repetitive in nature, standard cost management is possible. Second, these costs are generated for the purpose of making sales and therefore can be managed in relation to the amount of sales. Third, these costs have characteristics of variable costs. This means that they tend to be proportional to the amount of sales.

(2) Order-getting costs

Order-getting costs are generated in an effort to get orders. They include SG&A as well as costs for advertising, sales promotion, direct sales, marketing research, and so on (Nishizawa [1962] [1965]).

The characteristics of order-getting costs are as follows. first, they create sales but do not result from sales. They are not proportional to the amount of sales. Second, their spending is based on the plan created for achieving sales targets. They therefore have characteristics of strategy costs.

Third, compared to manufacturing costs or order-filling costs, the amount of spending depends more on decisions of those who spend.

Order-filling costs described in (1) above can be managed under a flexible budget. Spending a lot of money on advertising costs does not necessarily lead to an immediate sales increase. The amount spent as order-getting costs is thus managed as a flexible budget, and the effectiveness of such spending will be checked regularly.

How much to spend as order-getting costs, described in (2) above, has to be decided in line with the top management policy. The cost-effectiveness of marketing activities such as advertising and sales promotion cannot be measured directly. This means that, like capital investments, the amount of input should be decided based on the recovery potential calculated from the sales prediction. For the cost definition purpose, an order-getting cost is considered a managed capacity cost. It is also often classified as a programmed budget for budget control purposes. The budget therefore is executed under the ceiling set for the sales-to-cost ratio.

2.3 Black Box Model Analysis 2: SG&A Analysis

Next, SG&A analysis is considered.

In current marketing management accounting, numerical value-based management has produced positive outcomes by setting operating expenses, operating costs, and assignment execution methods in advance as sub-goals for achieving the corporate goal. As a method of analyzing such a black box model, there is SG&A analysis in addition to the operating expense analysis described above.

SG&A analysis means profit analysis by sales segment. To obtain a reliable performance measurement scale, intricate calculations are carried out to allocate operating expenses to various sales segments [Ito, 2017; Ito, 2018]. For example, as Step 1, costs in each expense category are calculated for each 'function.' Here, targets of costing are "functions," which are smaller segments than 'departments' consisting of profit-generating and back-office functions. In Step 2, the costs tabulated for back-office functions are allocated to profit-generating functions. In Step 3, the costs allocated to profit-generating functions are then allocated to the final targets of costing (products and customers).

The method of SG&A analysis is divided into the contribution margin approach and the full cost approach (Charles T. Horngren, Alnoor Bhimani, Srikant M. Datar, and George Foster [1998]).

The contribution margin approach is a method to obtain a product margin. first, variable costs are subtracted from sales to calculate the contribution margin. Second, individual fixed costs are subtracted from the contribution margin.

The full cost approach is a method to manage SG&A by allocating it to all products in the same way that costs have been done earlier. The advantage of this approach is the ability to confirm cost recovery for each product since all costs are traceable to products. The weakness thereof, on the other hand, is that the allocation criteria greatly influence the profits and losses of each product.

What differentiates the two approaches is allocation/non-allocation of shared fixed costs. The contribution margin approach is easier to understand in terms of practical operation. From the management control perspective, the full cost approach is deemed invalid when ordinary income/loss calculation is carried out to measure the performance of the responsibility center manager (Matsumoto [1959], Nishizawa [1962] [1965]).

According to Okamoto [2000], SG&A analysis for each segment is the prerequisite for segment performance measurement. This means that SG&A is controlled by the result. Segment selection depends on the purpose such as analysis by product model, sales area, customer type, order size, or sales channel.

In SG&A analysis, sales administration costs are re-tabulated for each segment, and the effect (profits) for each sales administration segment is used as feedback.

Now, let us discuss the issues of previous marketing management accounting studies mentioned above.

The line of issues originates from the operating expense analysis model proposed by Longman & Shiff [1955][3]. In the traditional black box model analysis of the sales process, budget control at the time of cost input and cost control at the time of output (operating expense analysis and SG&A

analysis) were the optimal solutions.

Today, digital information can be obtained easily, and individual customer behavior can be tracked. Before 2016, however, the sales process was not clearly visualized. The issue of black box model analysis emerged as a result of using an alternative solution, which was indirect management accounting involving input and output measurement. This issue was caused by the difficulty in measuring the cost-effectiveness between the cost inputted and its outcome.

3. White Box Model Analysis

The marketing process, or the sales process to be exact, has been accumulated as digital information. This will make the white box model a new research focus, and new research approaches will emerge in the future.

3.1 Background of White Box Model Analysis

Until 2016, the effectiveness of marketing costs remained unclear due to (1) thriving of individual marketing tools, (2) longer time before business negotiations took place, and (3) growing complexity of the flow of marketing activities.

Continued cost inputs that do not produce clear marketing effects implies such inputs may reach their limits. Especially after the Lehman Brothers collapse, an increased number of companies reviewed their management structures and expanded their interest in the effectiveness of marketing costs for the following objectives:

1) Cost containment by marketing plans that would produce results with a low budget
2) Achievement of high marketing effects without changing marketing costs

Since 2016, data-driven web marketing has developed. It made it possible to lead target customers to recognize products and services, to nurture customer interests and desires based on their pre-purchasing behavioral data, and to collect their purchasing data. As a result, purchasing data and post-purchasing consumer product evaluation data provided ideas for product and service development.

3.2 White Box Model Analysis: Next-Generation Marketing Management Accounting

Web marketing can be described as forming of marketing activities in whole or in part on the internet. Carrying out marketing activities on the internet means sending out different information to match user attributes that have been identified.

Effective use of marketing tools requires a company to share internally the strategies targeting identified individuals and elements and methodology of attribute management.

Based on the shared knowledge, the company supports the sales process consisting of (1) lead generation, (2) lead nurturing, and (3) lead qualification by using an integrated marketing tool to indicate the effectiveness of advertising costs. It then uses prospective customers' attribute and behavioral information to assess how much they consider purchasing and initiates suitable communication based on the sales script via various channels such as websites and emails. Providing the most appropriate information at the best timing will heighten customer engagement and increase the chance of successful sales negotiations.

It seems that both the traditional web marketing analysis and the next-generation marketing management accounting analysis aim to improve marketing efficiency. Here, however, let us focus on the difference between them. The traditional web marketing analysis promotes efficiency by "streamlining the process toward signing a contract."

On the other hand, the next-generation marketing management accounting analysis, which focuses on the white box model, examines the marketing communication process. Its objective is to make the 'leads' work by long-term mutual communication (persuasion), which will increase the final contracting rate, and includes such a causal relationship in the profit. Integration of lead management and management accounting will become important in the future.

figuring out the cost-effectiveness in marketing means clarifying the return on invested capital. In other words, it means to examine the sales process in the white box. The return on invested capital is calculated as the profit (effectiveness) of marketing investments (costs). The key points of this calculation are how to set the amount of investment as well as the targets, namely the profit and effectiveness.

The order-filling costs, described earlier as a type of marketing cost, was not recorded in traditional marketing management accounting that relied on the black box model. In next-generation marketing management accounting, however, they will be recognized as flexible budgets. Preliminary cost-effectiveness measurement therefore will work as cost-effective analysis. Theoretically, the cost-effectiveness study in marketing should not end when the calculation is complete; sustainability analysis to further increase the effectiveness is necessary.

What exactly should happen to the figures in the formula to increase the cost-effectiveness in marketing? In addition to an increase of the unit price and sales volume, which are the standard marketing strategies, in marketing management accounting, (1) lower manufacturing costs, (2) decreased SG&A, and (3) marketing cost reduction are important.

To set the clear future direction of the company, it is necessary to figure out, based on the indicators obtained from the return on investment capital, the level of numerical targets that can be set for each item and marketing strategies to achieve these targets, and then check them against the situation of the company, competitors, and the market.

finally, the relationship between the specific process management indicators and accounting values are discussed. As marketing activity indicators, Jeffery [2010] listed 10 indicators, which are the number of trials, churn/defection rate, offer acceptance rate, period incomes, net present value, internal rate of return, payback period, cost per click, transaction conversion rate (TCR), and bounce rate to be added to the following five: (1) return on advertising spend (ROAS), (2) word-of-mouth (WOM) factor, (3) brand recognition rate, (4) lifetime customer value, and (5) customer satisfaction.

4. Conclusion

Development of web marketing placed the sales process in the white box (from 2016) and has brought about improvement of operating expense analysis. This paper examined the future direction of this improvement. More specifically, it examined, as a result of collecting and accumulating purchasing information, which combination of operating expense and management accounting process has become useful in marketing management accounting.

In previous studies, order-filling costs and order-getting costs were clearly divided under marketing costs as had been done in traditional marketing management accounting. In marketing management accounting, unlike order-getting costs, order-filling costs were regarded as costs that were correlated with sales. These costs were managed by standard costing and target prices. In other words, order-filling costs as marketing costs had clear input-output correlations and were classified as operating budgets in budget control. This allowed preliminary cost-effectiveness measurements.

The traditional marketing management accounting formula, on the other hand, did not make the effectiveness of order-getting costs clear. Therefore, preliminary measurement was not possible.

Future accumulation and use of sales data and initiation of white box model analysis on the traditional marketing management accounting formula, including order-getting costs, will require not only mutual understanding but also close collaboration among the top management, sales control department, and sales department. Cross-departmental collaboration will also be difficult.

Footnotes

1) Although there has been only a small number of studies in the field of marketing research, excellent research findings on marketing management accounting based on purchase data accumulation have started to be produced such as studies by (Ito [2017] [2018]).

2) There was also profitability analysis by Kotler & Keller

[1995]. In the examination of profit and loss areas in marketing activities, the profitability of products, regions, customers, segments, transaction channels, and order volumes were analyzed for the purpose of controlling the profit of marketing activities. This analysis clarified (1) what should be examined and what kind of measures should be implemented when marketing activities do not work and (2) how the profit should be managed.

3) Of course, in order to conduct effective next-generation marketing management accounting analysis, the price of an integrated marketing tool should not be included in the web budget. The first step should be identification of "missing parts" or a "desirable approach if available" in the current sales measures in the field of SFA/CRM, and the second step should be deciding on introduction of a marketing tool to implement them. Following these steps will lead to an understanding of the area for which the sales department needs a marketing tool.

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