

Centralization of the Controlling Department

Effects on Management Accounting Change

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1 Introduction

Activity-based costing, target costing or balanced scorecard are a few examples of changes that many firms have implemented in their management accounting systems (MAS). Why do changes occur in some firms and not in others? Could the right decision be sometimes to avoid changes in MAS and ignore innovations in the field of management accounting?

The innovative techniques themselves can give part of the answer. They cannot be equally useful to all firms. Let us take the example of activity-based costing. It is most useful for firms with a high share of overhead costs and multiple products manufactured in different quantities. On the other hand, the improvements in accuracy for a firm producing a single product in large quantities may not be worth the costs of implementing ABC. Similar arguments for other techniques certainly explain why we do not observe changes in some firms.

Yet, this answer is not complete. There are many firms in which innovative accounting techniques could add value and still these firms do not make use of them. Why? The most prevalent answer would suggest that this is due to implementation difficulties. Firms encounter resistance and numerous other pitfalls during the implementation process. Not all firms can cope with them successfully. Implicitly, this explanation classifies firms as 'good implementers' and 'bad implementers'. While this may be a valid distinction to some extent, it is too simplistic.

In this article, we would like to point out that the implementation difficulties 'do not just happen'. They are driven by some specific organiza-

tional characteristics and can be predicted, provided good knowledge of the organizational circumstances. Rather than 'good' and 'bad' implementers, there are firms with characteristics that allow a relatively smooth implementation process and firms for which the opposite is true. 'Good' implementation (clear objectives, training of users, appropriate software, et cetera.) may alleviate resistance but cannot remove the underlying cause that is deeply entrenched in the firm's structure (Markus and Pfeffer, 1983).

Recent research findings provide examples of organizational characteristics that affect the implementation process: formalization and delegation of authority (Gosselin, 1997), the way remuneration throughout the organization is dependent on accounting measures (Foster and Ward, 1994), distribution of power within an organization (Markus and Pfeffer, 1983), or cooperation between staff and line managers (Chenhall and Langfield-Smith, 1998). Obviously, these are characteristics that cannot be altered during the implementation process; they reflect the specifics of each firm.

In line with these research findings, our study argues for the importance of an other characteristic: the way MAS are organized in large firms. Every firm has a functional branch responsible for the design of MAS and this function can be organized in different ways (we will further refer to this function as the controlling department). Hence, our study addresses the following question:

What effects does organization of the controlling department have on the process of a MAS change?

In what follows, we first describe a setting, in which this question is practically relevant. Secondly, we explain why organization of the controlling department matters for the MAS change process. Thirdly, we present an argument to answer our research question and, finally, discuss implications of our findings.

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2 Organization of the Controlling Department

Large multidivisional firms, which are the main focus of our study, have several options in organizing their controlling departments. Authority to design MAS and make changes in it may reside at different levels. Consider the organizational chart in Figure 1.

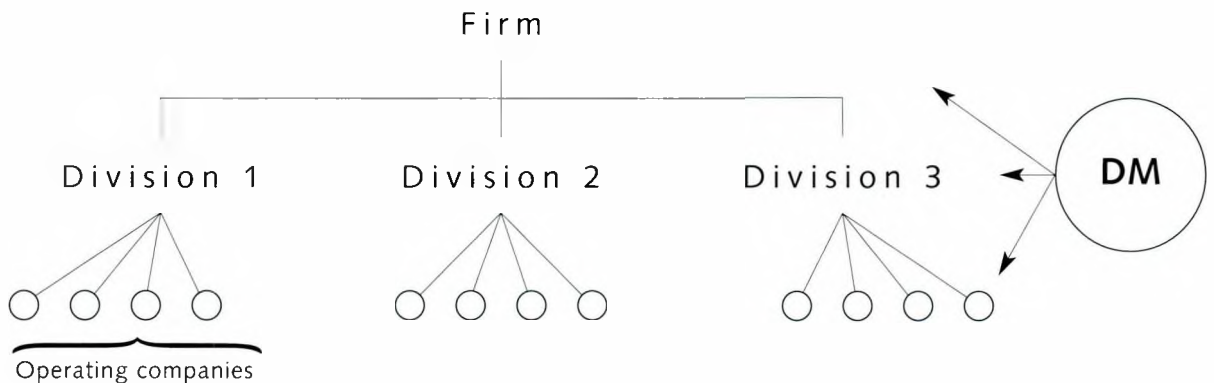


Figure 1: Organizational structure

A firm focusing on a single business (division structure may then reflect geographical regions) may keep most of the authority to design and change MAS at the firm level. For an other firm with several lines of business, it may be better to delegate most of the decision rights to the divisional level. Decentralized firms may opt for delegating the authority largely to the company level.

Simon et al. (1954) conducted an extensive study (interviews with more than 500 executives) of how controlling departments are organized. Despite its age, the study provides unique insights in the controlling function and is still widely cited. The study introduced the term *controlling centralization* to refer to the organizational structure in which a relatively high number of decisions on MAS changes are taken at a high level of hierarchy. Controlling centralization was defined as follows:

'In some [firms] a [company controller]¹ is given broad discretion to determine the accounting procedures to be used in the [company], or the kinds of reports to be prepared for the [company] manager; in other [firms] he is not. In the former case, therefore, there is relatively great decentralization to the [company] level within the controller's department; in the latter situation, there is relatively great centralization to the [firm] level within the controller's department.'

The study also found that controlling centralization consists of several factors:

- 1 *The structure of the accounts and reports.* A decentralized account structure is one that provides a maximum of specific information about the individual operating company.
- 2 *The geographical location of the controlling function.* Geographical decentralization means locating the controlling personnel in the operating company rather than at the firm level. In

large multidivisional firms almost every operating company will have its own controller. Yet, the existence and location of the division controller or the size of the corporate controlling department will be relevant.

- 3 *Formal authority relations.* Decentralization implies putting the company controller under the authority of the general manager.
- 4 *Loyalties.* Decentralization of the loyalties means encouraging controlling personnel to regard themselves as members of the operating 'team' to which they are providing service.
- 5 *Channels of communication.* Decentralization means that company controlling personnel communicate more often with company manager (rather than with the corporate controlling department).

'[The] study showed rather conclusively that the same degree of centralization and decentralization is not desirable with respect to all five of these factors.' In other words, controlling centralization can theoretically consist of up to five different dimensions.

A further complication for empirical measurement is that some of the factors (1, 3, 5) may not be 'fixed' and may vary depending on the type of change considered. Decisions on some parts of MAS will hardly ever be decentralized, e.g. measures of company performance, investment evaluation, key figures in strategic planning, et cetera.

Changes in other areas will seldom occur centrally; e.g., product cost calculations, short-term forecasting techniques, et cetera.

Our study draws on economic theory to answer how and why the level of hierarchy at which a MAS change decision is taken affects the MAS change process.

3 Centralization and MAS change

In this section, we make two observations about controlling centralization. They are theoretically grounded and at the same time reflect problems that commonly arise in practice.

First, MAS design is a result of a compromise between *decision-making and control needs*. Obviously, top management at the firm level will have different information needs than managers at operating companies. Effective control of a large number of companies will require standardized regular reporting, common key indicators of performance, establishing of benchmarks, et cetera. Thus, there is a strong demand for a certain degree of uniformity of MAS and this demand has also implications for changes in MAS. Important changes to MAS have to occur across all companies in a division or firm. Consider the following example:

A large multinational firm producing consumer goods has several operating companies in most of major European markets. The firm focuses on a single line of business but production lists of its companies differ widely. Each company produces a different number of products and has a different mixture of local and European brands. The firm was concerned with efficiency of production in some companies and planned to reorganize the production of its European brands. The firm launched a firm-wide benchmarking program. To be able to rely on accurate product cost information, the firm decided to implement activity-based costing (ABC) in all of its companies. The ABC project met with resistance in some companies. They argued that ABC will not bring anything to them because they either produce very few product items (i.e. cost allocations are not a major issue) or focus mainly on local brands that will not be affected by the reorganization. Still, to assure comparability of cost information, these companies were asked to switch to the ABC system.

The example illustrates the firm-level need for comparable cost information. It also points out that local information needs are company-specific (dependent on cost structure, product portfolio) and have to be compromised sometimes.

Second observation is that a high degree of centralization limits decision makers *knowledge of local circumstances*. When making a decision on MAS change that will affect several companies, the decision maker has to balance benefits from

the change in some companies against adverse effects it could have on others. This requires good knowledge of the local circumstances or extensive communication with the companies to provide it. If the decision maker is close to a company (in a decentralized organization), the communication can be informal and inexpensive. Yet, when the decision is taken at the firm level, the distance between the decision maker and the operating companies becomes large. Consequently, local information about MAS needs can only be transmitted through a costly process of writing formal reports, conducting internal research, hiring consultants, et cetera.

In summary, we argue that the decision to change MAS will create incentives for companies to spend resources on gathering and presenting evidence in favor or against the change to the decision maker. This is due to the dual function of MAS as a decision-making and control instrument. Transmitting the same piece of evidence from local levels is more costly in firms with a centralized controlling department because the distance from operating companies and the knowledge barrier become larger.

The next section shows the consequences of the observations made above and addresses the question of our study: *what are the effects of controlling centralization on the process of a MAS change?*

4 Adoption and Implementation of MAS change

Let us consider a very simplified model of a MAS change process². Its goal is to make the argument clear and expose the building blocks of our theory. The model captures the effects of conflicting interests and limited knowledge of a decision maker that apply, to some extent, to every organization. On the other hand, it can hardly be more than a simple representation of the important issues outlined above and it is not meant to apply fully to any specific instance of a MAS change. Some issues are clearly left out of the model because including them would make it impossible to arrive at any general predictions. Nevertheless, even though the model is very simple, the predictions it generates can be validated by other research findings (see section 5).

Suppose MAS changes proceed in the following three steps:

First, a decision maker decides whether the firm should seriously consider a MAS change and asks lower levels to provide more information. Let us call this *adoption of a change*. Providing information is a costly process. The decision-

maker has to make sure that the implementation costs do not exceed the benefits from the MAS change. A simple representation of the decision-maker's concern with information costs is that he approves some budget for information search. The budget has a broad meaning here. For instance, it could be an implicit agreement about what is a reasonable limit on information costs. It could even be a 'time budget', i.e. setting a deadline for presenting information.

Second, there are two managers at the level of operating companies (more generally, they could represent two different group of managers that have different opinions about the MAS change). One is in favor of the change, as his company would profit from additional possibilities introduced by the MAS change. The other is against it, as benefits from the change would be too low to cover implementation costs. Both managers know intuitively how large the (positive or negative) impact of the change would be. Yet, this knowledge is tacit, based on their everyday experience, and is not transferable to the decision maker (see also Jensen and Meckling, 1992). Instead, the managers have to find and present some 'hard evidence' to the decision-maker to argue convincingly their case. They will use the approved budget for that. They prefer not to spend too much money on searching for evidence because it can be better used for other purposes. Nevertheless, the managers compete with one another. If one party wins and persuades the decision maker, the other party loses. To maximize their chances of winning, the managers may sometimes spend even the whole budget (they cannot spend more than the approved amount).

Third, managers present evidence that comes out of their research to the decision-maker. He

now has additional information and can approve or reject *implementation of the change*. He has an opportunity to revise his adoption decision from the first step. Three outcomes are possible:

- A. The manager in favor of the change presents stronger evidence and convinces the decision maker to implement the change.
- B. The opposite is true and the MAS change will not be implemented.
- C. Both managers feel strongly about the change, spend the whole approved budget and present equally strong evidence in favor and against the change. In other words, the allocated budget was not enough to find out whether the change should be implemented or not. The decision maker has to follow his intuition and make a decision. This must be a clear top-down decision, otherwise more and more resources will be spent on unproductive influencing. Yet, this creates a risk of implementing a change that should have been rejected and otherwise.

The important thing to notice is the *trade-off* the decision-maker faces. Approving a high budget allows a lot of evidence to be transferred from lower levels. Yet, as a result of that, *information costs* increase. At the same time, the quality of decision-making improves. It is more likely that the decision-maker finds out whether the benefits from the change outweigh its costs or vice versa. Then, it is possible to implement profitable changes (case A above) and reject unprofitable ones (case B). In other words, allowing more 'evidence' reduces the *costs of a bad decision* as it lowers the risk of making the decision in an ambiguous situation (case C).

Figure 2 captures this trade-off. It reflects that due to the larger knowledge gap, information costs are

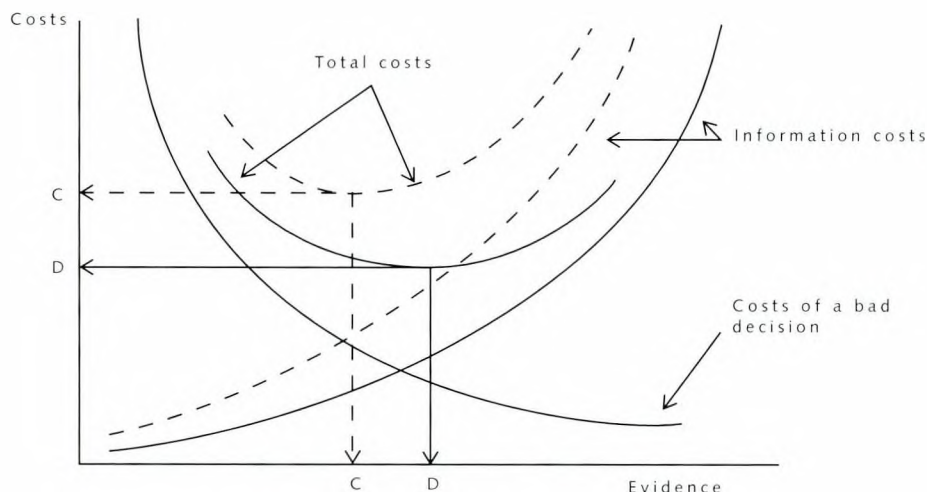


Figure 2: Total costs of a MAS change (centralization vs. decentralization)

higher in firms with a centralized controlling department (see the dashed line in Figure 2). When deciding on how much information search or evidence should be approved by means of a budget, the decision-maker minimizes the expected total costs. D^* and C^* in Figure 2 denote the optimal amount of evidence and the related total costs for decentralized and centralized controlling departments respectively.

Figure 2 allows to compare firms where controlling centralization is high with firms where it is low. We can make the following predictions:

Prediction 1 *In firms with a decentralized controlling department, it is possible to transfer more information from lower levels. When deciding on a MAS change implementation, the decision-maker knows more about the impact of the change.*

As argued before, providing the same amount of evidence will have different information costs depending on the degree of controlling centralization. Preparing and presenting evidence to a decision-maker high in the hierarchy is very costly. Consequently, it would be prohibitively expensive to transfer the same amount of evidence as for a decentralized decision.

Prediction 2 *Top-down MAS changes will be more frequent in firms with a centralized controlling department. So will be the instances of profitable changes rejected and unprofitable implemented.* Less evidence makes it more likely that the decision-maker will not be able to find out who is 'right' and will have to rely on his guess (case C above). Making a quick top-down decision is better than making 'the best' decision, when communication is too costly. The advantage is that it prevents excessive influencing activities, the disadvantage that it sometimes rejects profitable changes and vice versa.

Prediction 3 *Expected total costs of a MAS change will be higher in firms with a centralized controlling department. Hence, they will be more reluctant to allow MAS changes, to make a positive adoption decision.*

Figure 2 shows that the total costs of a MAS change, including both the information costs and the costs of a bad decision are higher for firms with a centralized controlling department. The total costs have to be compared with the benefits of the MAS change. The decision maker will adopt the change, i.e. ask lower levels to prepare and present evidence, only if he expects that the benefits of the MAS change exceed its total costs. Hence, in firms with a centralized controlling department, where the total costs are high, the probability of a

positive adoption decision is low. Only changes with a great potential to improve existing MAS can be considered.

Prediction 4 *Over a long period of time, firms with a centralized controlling department will adopt fewer MAS changes than firms with a more decentralized structure. Centralized MAS will be more stable.*

This prediction follows from the preceding one. Activity-based costing, balanced scorecard, and other innovative ideas have a potential for improving MAS. The potential of some of those innovations may not be high enough to allow costly adoption in firms with a centralized controlling department. Nevertheless, the same innovations may be quite useful and may add value in firms with a decentralized controlling department where the total costs of the change are lower.

The key ideas of the model can be summarized as follows. Resolving a conflict when the decision-maker does not know enough about the subject of discussion can be very costly. Organizational participants have incentives to spend resources on searching for evidence to influence the decision. Obviously, the decision-maker can predict this behavior and adjust in how he makes decisions about adoption and implementation of MAS changes. We can compare the best decision of a decision maker in a decentralized setting with the best decision under centralization where the costs of preparing and presenting evidence are higher. This comparison allows to make the above predictions. They may not fully apply to every organization, but are likely to be valid, to some extent, in most of them.

5 Discussion and Implications for Practice

Our theory suggests that the adoption and implementation process of a MAS change will differ among firms with different degrees of controlling centralization. Optimal change process for centralized firms encompasses two features. First, there will be a relatively high threshold that expected profit from a MAS change has to meet. Below the threshold, change will not even be considered and no further information will be sought (i.e. project will not even reach the adoption phase). Second, it is optimal to limit information seeking and ignore some amount of information available in the organization, even though this may sometimes lead to implementation of a change that does not offset its costs.

What are the implications for practice? Firms that decide about management accounting reports and procedures at a relatively high level of the

hierarchy should be aware of the increased costs of a MAS change due to incentives to influence the decision. Maintaining stability and a balanced compromise among different needs of the firms' subunits can often be more important than implementing MAS innovations. Stability of their MAS does not mean that they are 'bad implementers'. Sometimes, the best they can do is to avoid implementing an innovation, even though it is quite useful in other firms.

At the same time, we can argue for the reversed implications. Business units of a firm may be in an environment where they have to compete on accurate and timely information provided by MAS (e.g. product/project costs for competitive bidding). There may be a continuous need for specific information and flexible MAS that can quickly adjust to changing information demands. In such a situation, it is necessary to delegate authority for MAS. This delegation may require a substantial reorganization because together with the authority to design MAS, headquarters would be giving up their main control tool to a large extent.

Obviously, there are also limitations to our findings. The above described implications will hold for a particular organization only to the extent to which the assumptions of our analysis are a good approximation of the situation in the organization. The implications do not apply in case all managers affected by a MAS change support it, i.e. in case there is no conflict. Similarly, we have not considered the situation when the decision-maker knows more about the impact of the MAS change, than managers at lower levels. Yet, it is unlikely that these situations occur very often.

Findings from related streams of work provide comparable results. Zaltman et al. (1973) present the 'ambidextrous model' of innovation which suggests that decentralization facilitates the adoption of innovations, whereas centralization is instrumental in the implementation stage. Further, Gosselin (1997) found that the degree of centralization has an effect on what level of activity management is adopted and then implemented. In his study, he distinguishes less formal and less sophisticated levels (activity and cost driver analysis) and then the full formal ABC. Firms with several hierarchical levels were found to adopt the full ABC system rather than the simpler activity analysis. Even more interestingly, when centralized firms adopted ABC, they also went on with the implementation, while the decentralized would often stop the implementation process at some activity analysis level. Also in line with our findings, Anderson (1995) and Krumwiede (1998) emphasize the importance of distinguishing

between different stages in the MAS change process.

It is interesting to note that the economics-based findings presented here or in Foster and Ward (1994) can complement rather than contradict the behavioral explanations of the MAS change (Anderson and Young, 1999; Libby and Waterhouse, 1996; Innes and Mitchell, 1990). As the ABC implementation literature documents, behavioral (Shields, 1995) and institutional (Malmi, 1999; Bjørnenak, 1997) theories usually provide richer explanations of the MAS change process. In contrast to this literature, our predictions do not take into account the effect of managerial fads, firm's implementation skills and do not distinguish between administrative and technical innovations. The rather narrow focus is inherent in the economic approach. The advantage is that the predictions can be transparently derived from only several basic assumptions. As a result, the predictions are more general, internally consistent, and the assumptions are clearly exposed.

Finally, our theory adds an additional explanation of the management accounting developments in the past. It has often been argued that management accounting is lagging behind the developments in the production environment. Assume that the degree of centralization differs across functional areas and that the controlling department is more centralized than other parts of the organization. (This seems a plausible assumption, nevertheless, it still has to be tested.) Given the assumption, it is in line with our theory that MAS are relatively rigid and it takes a major innovation such as ABC for changes to occur on a large scale.

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we omit the formal analysis and describe its core ideas instead. Interested readers can obtain a copy of a working paper that presents the complete game theoretical model from the authors.

NOTES

1 Simon et al. (1954) use slightly different terminology.

2 This model is supported by a game theory analysis. Findings at the end of the section can be proven to follow from the above described observations and some additional basic assumptions of economic theory. To make our findings accessible,