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The role of accounting information**

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# **Decision making by top managers of nonprofits in a financial crisis: The role of accounting information**

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## **Abstract**

The decisions of top managers of nonprofit organizations during a financial crisis have a significant influence on the organization. However, prior studies of nonprofit organizations during a crisis focus mainly on the effect of changes in management accounting systems. This study aims to reveal the managers' decision-making process, their use of accounting information, and their response to the conflict between profitability and the organization's mission. Our survey of Japanese nonprofit nursing homes indicates the managers' responses to a financial crisis. We also interviewed several survey respondents and find that they made decisions within their mission domain and use accounting information positively. However, nonprofit managers facing financial difficulties rarely introduce or change their management accounting systems.

**Keywords:** nonprofit organizations, decision making, financial crisis, critical decision method (CDM)

## 1. Introduction

Researchers in the past few decades investigated the use of management accounting in nonprofit organizations under financial pressure. When top managers of nonprofits face serious financial problems, they must determine restructuring plans to get out of the difficult situation. This includes improving the profitability of their services, suspending or abolishing unprofitable business, starting a new profitable business, and introducing or revising management accounting systems. On the other hand, nonprofit organizations must also consider their organizational mission, which may conflict with the restructuring plan (Maier, Meyer, & Steinbereithner, 2016). In addition, members of nonprofit organizations consist of professionals such as physicians, nurses, and so on, who sometimes resist the restructuring plan (Collier, 2001, Broadbent, Jacobs, & Laughlin, 2001, Jacobs, 1998, Lehtonen, 2007, Marriott, Mellett, & Macniven, 2011). These factors mean that top managers of nonprofits may have to make difficult decisions under financial pressure.

This study investigates the decision making process of the top managers of nonprofit organizations under financial pressure and their use of accounting information. In general, top managers' judgements and decisions have a significant effect on their results (Hambrick & Mason, 1984, Hambrick, 2007). Despite this influence, studies of the decision-making process of top managers of nonprofits under financial pressure are relatively scarce. Thus, our study aims to fill a considerable research gap.

We collected data from nonprofit organizations (syukaifukusihoujin) that run nursing homes for elderly people in Japan. Japan has a long-term care insurance system, in which the central government sets most prices for insured services.<sup>1</sup> The prices of insured services have been decreasing in recent years.<sup>2</sup> In addition, the workforce shortage is worsening, and some nursing homes cannot operate fully. These factors increase the seriousness of the financial conditions at nursing homes. Thus, Japanese nonprofit elderly care service providers are one of the most appropriate research targets.

This research has several contributions. First, by using cognitive task analysis, especially the critical decision method (CDM), we reveal the detailed decision-making process of nonprofit managers during a financial crisis. CDM is one of the most

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<sup>1</sup> Care service providers set the prices of uninsured services, such as meal and residence expenses.

<sup>2</sup> In Japan, the prices of insured elderly care services are revised every three years.

appropriate methods to research the cognitive process of experts in critical situations (Crandall, Klein, & Hoffman, 2006). To the best of our knowledge, no prior accounting studies use CDM, and we show the applicability of this method in accounting research. In addition, the results have implications for managers of nonprofit organizations because it highlights important aspects of decision making in financial crises. In difficult situations, managers of nonprofits must consider several aspects of restructuring plans simultaneously.

In the next section, we provide background information about Japanese nonprofit nursing homes. We then review the literature and present the research questions. Section 4 describes the research methods, questionnaire survey, and CDM. In Section 5, we present and discuss the survey and interview results. Finally, Section 6 concludes and suggests future research topics.

## **2. Japanese nonprofit nursing homes**

Japanese nonprofit nursing homes face a severe competitive environment. The long-term care insurance system began in 2000. As a form of social insurance, clients pay an insurance fee and the central, prefecture, and municipal governments provide financial support. However, the increase in the elderly population created financial problems within these governments.

After 2000, for-profit service providers joined the elderly care service industry, while the the number of nonprofit care providers also increased, which intensified the competition among nonprofit and for-profit service providers. In addition, the Japanese government decreased the prices for insured elderly care services to control the rapidly increasing payments from the government to fund the system. For example, the prices for special nursing homes, which are operated mainly by nonprofit organizations (syakaifukusihoujin), were revised in 2015, and the average prices decreased by 5.6 percent.

The workforce shortage also worsened the financial conditions of nonprofit nursing homes. Care homes must employ a certain number of care workers to provide insured care services in their facilities to meet the requirements. For example, nursing homes with a capacity of it is 90 beds must employ 30 full-time equivalent (FTE) care workers, 3 FTE nurses, and other professional medical employees to be in full

operation.<sup>3</sup> If they cannot meet the required standards, they cannot be in full operation. Thus, their organization's revenue will decrease. In recent years, the number of care workers in Japan decreased dramatically for several reasons, such as the low salary and high work load.

Nursing homes in the Tohoku region in Japan endured the 2011 Tohoku earthquake and tsunami, which destroyed some facilities and equipment, and in which some patients and care workers died. After this disaster, the region's population decreased dramatically. The nonprofit nursing homes aiming to provide care services in this harsh environment faced significant financial difficulties.

In summary, intensive competition among care service providers, price revisions for insured services, and the workforce shortage caused financial difficulties in nonprofit nursing homes. In the Tohoku region, the earthquake and tsunami had a fatal effect on the financial condition of nursing homes.

### **3. Literature review and research questions**

How do nonprofit organizations facing financial difficulties make decisions and use accounting information in their decisions? Nonprofit organizations have objectives besides making profit; that is, they aim to provide mission-related services (Anthony & Young, 2003, Weisbrod, 1998). This characteristic makes judgements and decisions in a financial crisis difficult. Top managers may determine a restructuring plan, in which they will create a profitability improvement plan and estimate the effect of that plan on their financial performance. In extreme cases, they may shut down or stop their mission-related services, or launch new profitable, but not mission-related, services. They may also use accounting information to determine plan and introduce or change their management accounting systems to improve their financial condition.

Top managers of nonprofits with an excessive focus on financial conditions can create mission drift (Maier et al., 2016), meaning that the organizations do not focus on their mission and either do not provide or reduce mission-related services. In such decisions, top managers may have to consider their mission and financial conditions simultaneously. Sometimes, mission-related services are unprofitable (Weisbrod, 1998), so top managers may reduce these services and increase the number of profitable

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<sup>3</sup> The Ministry of Health, Labor and Welfare set personnel, facilities, and operational standards for each insured care service type.

services.

Research into how managers deal with this situation and use accounting information in their decision-making process is scarce. For example, Carlsson-Wall, Kraus, and Lind (2011) describe the change in budgetary control systems in a public home help unit facing financial crises in Finland, though they do not address the decision-making process. Abernethy and Chua's (1996) longitudinal case study shows the process behind the change in control package and includes a short description of the new CEO's crisis management, but does not explain the decision-making process and use of accounting information.

Few studies examined this topic, though the decision making of nonprofit managers in financial crises have a significant impact on their organizations. Thus, we aim to fill this research gap by addressing the following research questions:

RQ1: In their decision-making process, how do top managers of nonprofits use accounting information in a financial crisis?

RQ2: How do top managers of nonprofits deal with the conflict between financial problems and mission related activities?

## **4. Research methods**

To investigate the research questions, we conducted a (1) questionnaire survey of nonprofit nursing homes, and then (2) interviewed some respondents who addressed financial problems. We used mixed methods research (Creswell & Clark, 2007) to reveal the detailed decision-making process in financial difficulties.

### **4.1. Questionnaire survey**

We submitted a prototype questionnaire to academic researchers who study accounting in hospitals or the social service industry for a pilot test and revised our questionnaire based on their comments. We sent the revised questionnaires to top managers of nonprofit nursing homes in the Tohoku Region of Japan. Given the severe competitive environment for Japanese nonprofit nursing homes, we expect many top managers facing financial difficulties to respond to our survey. We made a list of nonprofit organizations (shakafukushihoujin) operating nursing homes from data available from the web sites of prefecture governments. In the summer of 2016, we sent questionnaires to 515 nonprofit organizations, and received responses from 174 top

managers, a response rate of 33.8%.

We based our questionnaire on previous studies and our knowledge of nonprofit nursing home management. The questionnaire had two parts.<sup>4</sup> First, we researched budgetary control intensity. Prior studies show that organizations change their budgetary control systems to improve their financial condition (Carlsson-Wall et al., 2011), so we focused on this management accounting system. The scale included items related to (1) organizational units of budgetary control, (2) frequency of budgetary control, and (3) detail of profitability management to evaluate different aspects of budgetary control.

Second, we researched significant financial crises and responses. This section included free-form description type questions related to (1) significant the organization's financial crises in top managers' experience and (2) top managers' responses to these crises. We used these questions to collect a significant amount of information about actual experience and managers' responses to significant financial crises.

#### 4.2. Interviews: Critical decision method

We requested interviews with survey respondents with experience of significant financial crises. Seven top managers accepted our request. In our interviews, we used CDM to reveal the detailed process of decision-making (Crandall et al., 2006; Klein, Calderwood, & Macgregor, 1989).

CDM is a cognitive task analysis method that aims to reveal decision making processes in challenging situations (Crandall et al., 2006). For example, prior studies use this method to study diagnoses and responses to neonatal sepsis in a neonatal intensive care unit (Crandall & Getchell-Reiter, 1993), firefighters' judgements during large scale fires, and weather forecasters' judgements before a hurricane. Researchers can use the information collected via CDM to develop educational and training programs.

CDM consists of four steps: selecting an incident, constructing a timeline, deepening, and "what if" queries (Crandall et al., 2006). In the first step, we asked the

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<sup>4</sup> The questionnaire has other parts related the organization's goal, frequency of management meetings, and so on. We do not report these results because they are not related our research questions.

interviewee for an overview of a possible difficult situation and to identify an appropriate situation for analysis. In step 2, we asked the interviewee about the sequence of events and constructed a timeline. We can separate this timeline into several parts based on changes in the interviewee's understanding of a situation and some actions that affected the situation. In step 3, based on the phases of the situation, we deepened our understanding of the interviewees' judgment and decisions. We asked some questions repeatedly, such as "how do you get the information," "how do you notice the information," "what is the basis of your judgement," "what is the image you describe in your mind," and so on. By doing this, we can reveal the interviewee's judgment and decision making. In step 4, we asked the interviewee "what if" questions and investigated other possibilities related to their judgement and decision making, possibly revealing mistakes by inexperienced managers or the critical information that affects their judgement and decision making. We recorded and transcribed our interviews.

## **5. Results and discussion**

### **5.1. Questionnaire survey results**

We analyzed the 147 responses for all question items, which included 43 responses from top managers who experienced a significant financial crisis and 103 other responses. We compared the responses from these two groups.

Table 1 shows the differences in budgetary control between these groups of managers. We find little difference in budgetary control, suggesting that nonprofit nursing homes did not change their budgetary control systems, even in the event of a significant financial crisis. This is not much of a surprise; prior studies of the introduction or change in management accounting systems at nonprofit organizations that face financial difficulties find similar results (Abernethy & Chua, 1996, Carlsson-Wall et al., 2011). We later considered the cause of this result using the interview results.



**Table 1 Differences in budgetary control between organizations that did and did not experience a financial crisis**

	crisis experienced n=43	others n=103	$\chi^2$	<i>p value</i>
Organizational units of budgetary controls				
Business unit	100%	100%	NA	NA
Department in business unit	25.6%	35.6%	0.96	0.326
Frequency of budgetary control				
Business unit			8.45	0.133
Weekly	0%	2.9%		
Monthly	65.1%	77.9%		
Bimonthly	7.0%	1.0%		
Quarterly	20.9%	10.6%		
Semiannually	4.7%	5.8%		
Annually	2.3%	1.9%		
Department in business unit <sup>ab</sup>			5.06	0.282
Monthly	63.6%	64.9%		
Bimonthly	9.1%	0%		
Quarterly	18.2%	10.8%		
Semiannually	9.1%	13.5%		
Annually	0%	10.8%		
Detail of profitability management (multiple answers)				
Organizational level	72.1%	75.0%	0.03	0.874
Business unit level	88.4%	87.5%	0.00	1.000
Department in business unit level	14.0%	21.2%	0.61	0.435
Service user level	9.3%	3.8%	0.86	0.354

<sup>a</sup> Includes responses from only top managers who responded that they use a budget department for control. Sample size of "crisis experienced" is 11, and "others" is 37.

<sup>b</sup> The Fisher's exact test results were also non-significant.

Regarding the causes of significant financial crises in Table 2, many top managers pointed to the decrease in the prices set by the central government. Some managers reported that the workforce shortage, decrease in users / bed occupancy rates, and decrease in service prices combined worsened the financial condition of their nonprofit nursing homes. Other managers identified the large effect of new investment on their

financial conditions, stating that due to the price decrease and/or workforce shortage, they were not able to earn the initially expected surplus.

**Table 2 Causes of significant financial crises in nonprofit nursing homes**

Cause of financial crisis	
Rise of labor costs	14.0%
Shortage of workforce	14.0%
Less cash inflow of new facility/equipment than expected	14.0%
Decrease of service prices by Central Government	44.2%
Decrease of service users /bed occupancy rate	14.0%
Other reason	16.3%

Top managers responded to financial crises in several ways. The most popular was to plan and implement methods to increase users (23.3%), which would increase revenue. Other ways to increase revenue included providing more nursing care (14.0%). In long-term care insurance systems, when organizations meet some care provision standards, they can receive a higher payment. These two methods to increase revenue requires an appropriate workforce. Thus, some top managers responded that recruiting care workers and improving labor conditions (16.3%) should increase revenue.

**Table 3 Top managers' responses to financial crises<sup>a</sup>**

Responses to financial crisis	
Planning and impementing of the way to increase users	23.3%
Review of expenditures to general and administrative costs	16.3%
Recruting care workers and improvement of labor conditions	16.3%
Getting additonal amount for nursing care	14.0%
Borrowing money form banks	11.6%
Shut down or stop of unprofitable services	9.3%
Meeting with other mangaers and making restructuring plan	7.0%
Limiting increase of salaryly	7.0%
Others	41.9%

<sup>a</sup> Includes responses indicating that more than three managers implemented these measures.

Some top managers implemented cost reduction plans. They reviewed their general and administrative expenses and reduced some of them (16.3%), ended unprofitable services (9.3%), and limited salary increases (7.0%).

When top managers had to rebuild their business, they met with other top managers and outlined a restructuring plan (7.0%). Implementing restructuring plans requires significant funding, and when nonprofits face financial difficulties, they often lack the money to do so. Thus, 11.6% of responding managers indicated that their nonprofits borrowed money from banks.

Only one top manager responded that he (or her) enhanced their management accounting system. Again, the questionnaire results suggest that top managers in nonprofit nursing homes in Japan do not focus on introducing or changing management accounting systems.

While we have information from top managers of nonprofits about responses to financial crises, we do not know how they use accounting information in their decision making. We next discuss the results of the interviews with seven respondents and their decision-making process.

## 5.2. Interview results

### 5.2.1. Use of accounting information

We analyzed our CDM interview results and identified managers' use of management accounting information in their judgements and decision making during a financial crisis (Appendix). Managers use accounting information to enhance profitability in two ways by (1) increasing their workforce and (2) initiating new business.

First, they use accounting information when increasing their workforces by focusing on increasing their fees for nursing care. The Japanese long-term care insurance system sets some additional fees for some services when service providers establish high-quality services. For example, additional payments to enhance the service delivery system type I requires that service providers meet some criteria, one of which is a sufficient number of care workers, half with national qualifications for certified care. The provisions are revised every three years. Thus, top managers who experienced financial difficulties frequently checked revisions to the criteria and estimated the effect of higher fees on the profitability of their business. Of course, enhancing the service delivery system needs additional employees. They drafted plans to increase labor expenses and revenue, and decided whether to do so or not before the price revisions for insured care services.

Second, managers aiming to restructure their business by introducing new profitable business use accounting information. Some top managers experienced the 2011 earthquake and tsunami in the Tohoku region, and had to reconstruct their facilities and equipment to provide services. Unlike increasing the number of care workers, this response required managers to make judgements and decisions based on incomplete information and time pressure. In this process, managers mainly estimated the cash flow of their investment. However, time pressure sometimes had a greater effect on their decision making than did accounting information. For example, the central government planned to establish some subsidies to reconstruct nursing home facilities and equipment. However, the national congress took a long time in their discussions, and top manager C could not predict when the subsidy system would start. Top manager C wanted to use this subsidy, but he had to reconstruct the facilities as soon as possible. The tsunami damaged many facilities, and service users and care workers used another organization's facility temporarily. Thus, they could not increase the number of users, even if one died. Therefore, the longer the reconstruction took, the higher was the opportunity cost. Thus, top manager C gave up using subsidies for reconstruction, and

decided that the nonprofit would rebuild on their own. However, he said that looking back, he would wait for the subsidy. Other organizations that used subsidies completed their reconstruction before his organization did. This case suggests that in a significant financial crisis, time pressure has a greater effect on top managers' decision making than accounting information does.

### 5.2.2. Mission-profitability conflicts

Did managers experience conflicts between the organizational mission and profitability? In our interviews, top managers did not identify conflicts between the mission and profitability. The mission defined their business domain (Simons, 1995), and they planned their restructuring accordingly.

For example, top manager E said that their nonprofit's mission is to contribute to community residents' welfare. Some community residents cannot use residential care services due to the supply shortage. Increasing their capacity to provide residential care services and increasing their profitability is congruent with their mission because it will contribute to residential care services for the community residents.

Top manager F said that after the facilities were damaged by the earthquake and tsunami, they planned new facilities considering both profitability and their organizational mission. This nonprofit's mission is to contribute to community welfare; however, it was difficult to employ new care workers in their town because the population decreased after the tsunami. In addition, services requiring many care workers are not so profitable. Thus, top manager F decided that the new facilities should include not only a services floor for elderly people but also a shared residence for young people that did not require care workers, making it relatively profitable. In addition, top manager F expected that people looking for work during the post-tsunami reconstruction would live in this residence and help elderly people. She considered that this facility would help improve profitability and contribute to their organizational mission, and thus chose this new investment.

Both top managers E and F considered their reconstruction plan within their organizational mission. The organizational mission determines the business domain, and they did not find a conflict between profitability and the organizational mission.

### 5.2.3. Lack of changes in management accounting systems

In our interviews, no managers stated that they introduced or changed their

management accounting systems to improve their organization's profitability. Considering this, together with the survey results, we may conclude that management accounting systems have not penetrated Japanese nonprofit nursing homes as a management tool to improve financial conditions. However, many prior studies point out that management accounting improves financial conditions in nonprofit organizations, and is popular in hospitals (Carlsson-Wall et al., 2011, Kurunmäki, 2004, Pizzini, 2006).

We consider three explanations for why Japanese nonprofit nursing homes do not use management accounting systems. First, managers of nonprofits in the elderly care industry lack knowledge about management accounting, which is not established as top management "expertise" (Kurunmäki, 2004). Among Japanese elderly care service providers, top managers' backgrounds are mainly as care workers, as evidenced by our questionnaire results (average = 14.03 years, median = 12 years, SD = 12.85). In addition, most had no management education; in our sample, only 23.3% of the top managers had management education. Japan has national qualifications for certified social workers, which includes a test for knowledge about managing social welfare organizations. Many top managers have this national qualification, though the test does not cover management accounting and includes only financial statement analysis as accounting-related content.<sup>5</sup>

Second, top managers may be afraid of resistance from care workers. Previous studies suggest that tightening management accounting leads to strong resistance from medical and social welfare professionals (Bracci & Llewellyn, 2012). Some anecdotal evidence in Japan indicates that care workers do not understand management accounting information and resist it (Shirinashihama, 2013), implying that any forcible changes could lead to resistance and potential resignations. Thus, top managers may avoid introducing or changing their management accounting systems.

Third, there is little pressure to improve management accounting systems in Japanese nonprofit nursing homes (Cardinaels & Soderstrom, 2013). Prior studies show that nonprofit organizations improved their management accounting systems due to

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<sup>5</sup> However, in the hospital industry, management accounting is recognized as a management tool. In Japan, some graduate schools offer a Master of Medical Administration that provides a course on management accounting. In addition, many prior studies investigate hospital management accounting.

pressure from government funding authorities. For example, Abernethy and Chua (1996) find that government funding authorities exercised their power to improve hospital management accounting systems. Carlsson-Wall et al. (2011) also point out that when the deficit of a home help unit dramatically increased, politicians put higher pressure to improve financial conditions. Thus, the home help unit introduced some administrative controls, including “increased budget awareness and monthly budget follow-ups” (p. 321). In Japanese elderly care services, the central government has not pushed for improvements to management accounting systems in nonprofit nursing homes. If nursing homes were public institutions, then the central government could exercise such pressure. For example, the central government in Japan forced public hospitals to improve their financial conditions by making an intermediate plan for financial improvements (Ministry of Internal Affairs and Communications 2014, 2015). However, Japanese nonprofit nursing homes are private organizations free from direct pressure from the central government.

In summary, the lack of management accounting “expertise” among top managers, resistance from care workers, and little pressure from the government to improve management accounting systems contribute to absence of changes in management accounting systems in nonprofit organizations facing financial difficulties.

## **6. Conclusion**

This study investigates the decision-making process of top managers of nonprofit nursing homes facing financial difficulties. In general, top managers’ judgments and decisions have a significant effect on the organization’s performance. We aimed to expand the knowledge about nonprofit managers’ decision making, use of accounting information in periods of financial difficulties, and how they dealt with conflicts between their organizational mission and financial improvement. This study makes a contribution to the literature by applying CDM to accounting research to reveal the decision-making process of expert top managers in a critical situation. In addition, our research findings can help top managers of nonprofits by providing information about important aspects of decision making in financial crises.

Our research target was top managers of nonprofit nursing homes in Japan using a questionnaire survey and interviews. The questionnaire survey revealed that these managers did not introduce or change their management accounting systems when facing financial crises to improve their financial performance. In addition, we identified several ways to improve financial conditions in these nonprofits. We interviewed 7

questionnaire respondents and found that they use accounting information to estimate the effect of recruitment plans and initiating new profitable business on their organizations. They determined restructuring plans based on accounting information, though time pressure had a larger effect on their decision making.

The top managers we interviewed did not experience mission-profitability conflicts, and instead avoided implementing profitable plans that conflicted with their organizational missions. Respondents did not introduce or change the management accounting systems in their organizations, possibly due to the lack of management accounting “expertise” among top managers, resistance from care workers, and little pressure from the government to improve management accounting systems.

This research is the first step to describing the decision making process of top managers of nonprofits and their use of accounting information in financial crises. Since we did not study the results of their decision making, future studies could determine the relationship between the use of accounting information and decision making results. In addition, research in other environments, such as nonprofit organizations in the U.K. or other European countries, will reveal more interesting and diverse decision-making processes among top managers of nonprofits in a financial crisis.

### **Appendix: Summary of interviews**

names of organizations	interviewee(s)	Date
A	Chief Administrative Officer (CAO; Jimu-cho)	2016/7/18
B	Executive Director, CAO	2016/8/1
C	COO, CAO	2016/8/17
D	COO, CAO	2016/9/15
E	Chief Operating Officer (COO; Shisetsu-cho)	2016/9/16
F	CAO	2016/9/20
G	CAO	2016/9/23



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