

# COMpAr ATIVe STud IES Of C OST ACCOuNTING pr ACTICES IN JApAN ANd GErM ANy

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## **Abstract**

This paper examines the characteristics of cost accounting in Japan and Germany and how it is embedded in the cultural, institutional and educational environment. The findings are based on an exploratory survey concerning cost accounting in medium-sized Japanese and German companies in the food and beverage, mechanical engineering as well as hospital sector. The main purpose of this project is to investigate the similarities and the differences of cost accounting practices in Japan and Germany. In particular, this paper describes the close relationships of cost accounting and cultural factors. The empirical results suggest that Japanese cost accountants are rather integrated into the Japanese management systems. Moreover, a gap between education and practice, and a diversity of career developments in the field of cost accounting are identified.

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## **Introduction**

Empirical studies contributed to the progress of management accounting research. Researchers have tried to explain the reasons why cost and management accounting practices vary according to the industry and country

in recent years [Kajüter and Moeschler (2011); Yoshida et al. (2010), Takahashi et al. (2004), Watanabe (2000)].

The main objective of this research project is to compare cost accounting practices in Japan and Germany. A tentative plan for a questionnaire was suggested by the German research partners. The questionnaire was developed first in English and, thereafter, translated into Japanese and German.

At first, the contents of the questionnaire included views and terminology of German cost accounting in some parts. However, later the questionnaire, through discussion, was carefully updated so that the contents were modified and related to respondents in both countries, and assured an equal balance in the response of both countries' participants. In its final form, the questionnaire was composed of four sections, Section A: general questions about the company, Section B: objectives of cost accounting, Section C: design of cost accounting systems, and finally Section D: performance of cost accounting systems [Moeschler (2012), p. 368ff.].

The questionnaire was sent to Japanese and German medium-sized companies in three unrelated industries: food and beverage, mechanical engineering and medical hospitals. These three industries were chosen because they are all well represented and important in both Japan and Germany. Thus, the results of the equivalent questionnaires are suited for both cross-country and cross-industry comparison. Medium-sized companies employing about 250 to 2,000 employees were surveyed because they were considered to be oriented toward domestic markets. They were expected to reflect a good grasp of cultural factors involved in cost accounting practices compared to large companies which are often more influenced by global forces.

The addresses of companies from the food and beverage and mechanical engineering industry in Japan come from several sources. These databases include the Kaisha-Shikihou (listed companies) from 2010 and Mijyoujyou-Kaisha (unlisted companies) from 2010, which are published by Toyo Keizai Inc., Nikkei and Kaisha-Shokuinroku (listed and unlisted companies) from 2010, which are published by Diamond Inc. and Nikkei Telecom 21. Additionally, the addresses of hospitals were obtained from Byoin-Nenkan (Hospital Year Book) from 2008 and 2010 by Research and Development Co.Ltd.

Figure 1: Summary of Data Collection in Japan and Germany

Industries	Companies (Japan)	Companies (Germany)
Food & Beverage	55	100
Mechanical Engineering	72	164
Medical Hospital	56	216
Sum	183	480

Figure 1 presents a breakdown of the respondents by country and industry. As noted, the empirical data from the three industries is separated into Japanese and German respondents. A total of 1,571 letters was sent to Japanese companies: to the board, the head of the accounting department or employees who are in charge of cost accounting tasks. In total, 183 Japanese companies returned the questionnaire (response rate of 11.6%).

The position of cost accountants in Japan is not regarded as fixed and differentiated in the organization. On the contrary, the person in charge of cost accounting is readily recognized in Germany. Due to cultural and institutional differences, the German research partners called cost accountants individually and asked them to participate in this study. Consequently, 1,329 companies in total were contacted. 480 companies returned the questionnaire, so that a response rate of 36.1% could be achieved in Germany.

The distribution of the number of employees, a proxy for firm size, is presented in Figure 2 for both the Japanese and German sample. Most companies in the sample have 250 to 999 employees. The average number of employees is 769.6 for the Japanese and 771.3 for the German sub-sample.

Figure 2: The Distribution of Employees' Number

The Number of Employees	Japan	Germany
< 250	9%	8%
250 — 499	39%	45%
500 — 999	38%	30%
1000 — 2000	14%	12%
> 2000	5%	5%

## **Cultural Aspects About Cost Accounting**

The early development of cost accounting in Japan was affected by accounting theory and practice from both the United States and Germany. Japanese companies had growing concerns to implement advanced institutional and legal systems. Accounting systems from different cultural backgrounds gradually took root, being modified to fit the Japanese cultural and institutional context. In the following we describe the cross-cultural factors that shaped the characteristics of cost accounting systems.

In Germany, financial accounting and management accounting have developed in principle separately [Busse von Colbe (1996)]. From an historical point of view, the different developments of accounting systems had an impact on the construct of cost accounting systems [Coenenberg et al. (1990)]. Tracing historical developments of cost and management accounting is crucial in identifying representative principles of cost accounting systems. Colwyn and Luther in their 2005 paper stated, “German controlling has developed independently under much stronger influence by economic theory than was the case in the UK...” [Colwy and Luther (2005), p. 168]. Thus, one reason why cost accounting practices among countries differ is the different historical development of cost accounting systems.

In contrast with the past, many large German companies that adopted IFRS have redesigned their traditional accounting systems in recent years. The convergence between financial accounting and management accounting occurs in this process [Franz and Winkler (2006)]. The adoption of IFRS strongly influences internal reporting as well as external reporting, by causing interaction between financial accounting and management accounting.

The impact of cultural elements on cost and management accounting has been frequently examined [Nishimura (1995), MacArthur (2006)]. First of all, management accounting studies from the cultural perspective have been swayed mostly by the work of Hofstede. He indicated that culture consists of four, later six dimensions affecting social values and behavior in organizations (power distance, individualism-collectivism, masculinity-femininity, and uncertainty avoidance) [Hofstede et al., (2010)]. Evidence from his surveys showed that Japan and Germany resemble in uncertainty

avoidance, but apparently vary in the area of long-term orientation, individualism and collectivism. It is quite relevant to examine just how these cultural aspects affect the conceptual design of cost accounting systems.

Similar to Hofstede, Dore (2000) argued that there are considerable similarities between Japan and Germany “in terms of the financialization/liberalization process, but with a more deeply institutionalized, uncertainty-eliminating structures and a much more ‘productivist’ culture than either Britain or the United States.” [Dore (2000), p. 171].

Considering cultural points of view, Nishimura (1995) consistently concluded that “it is important to make the general characteristics of present excellent management accounting clear and to develop an advanced management accounting suitable for the national culture of each country” [Nishimura (1995), p. 330].

According to his insights, because Japanese management is strongly connected with cultural aspects like collectivism (teamwork) and masculinity (loyalty to company), transplanting a production system or target costing into other countries might cause some difficulties. And the impact of Japanized company [Marinaccio and Morris (1991)] was also investigated as an emerging topic in this line of research [Hutchinson and Liao (2009)].

For example, another study that MacArthur (2006) presented was the comparative analysis of management accounting in Germany and the United States. “... Two countries, one key cultural difference is uncertainty avoidance. Germany is classified as a strong uncertainty avoidance (SUA) country with a low tolerance for uncertainty, while the United States is considered to be a weak uncertainty avoidance (WUA) nation with a high tolerance for uncertainty ” [MacArthur (2006), p. 11].

He invoked that cultural aspects should not be underestimated in implementing a typical German costing procedure, Grenzplankostenrechnung (GPK), in U.S. companies. However, GPK has received increasing interest in the U.S. in recent years, even though the conceptual design of GPK was already developed around the 1960’s in Germany. Due to a different cultural and institutional environment in the USA, GPK has been adapted for U.S.

companies. In 2005, US researchers started this attempt by merging GPK with ABC [Clinton and Webber (2004); Webber and Clinton (2004); Thomson and Gurowka (2005), p. 31].

While these previous findings are insightful, there is still a need to better understand how cultural, institutional and educational aspects are closely interrelated in terms of cost accounting practices. This is particularly true for Japan and Germany as both countries have a distinct tradition in cost accounting [Moeschler (2012)].

## **Implications from Selected Results**

In this section, we review the results of cost accounting practices observed from the exploratory field study in Japan and Germany. The findings reveal distinctive features of Japanese and German cost accounting.

Although there is remarkably a difference in culture between Japan and Germany, it is necessary to carefully interpret the results of this research to find out how similar or different cost accounting practices in the two countries are.

In the following, selected empirical findings are presented regarding six key aspects of cost accounting: (1) IT systems, (2) managers' satisfaction with cost accounting, (3) the distribution of cost accountants' workload, (4) the primary source of cost accountants' knowledge, (5) skills of cost accountants and (6) top management support for cost accounting in both countries.

### *IT Systems*

In this section, the main functions of IT systems are reviewed. The effectiveness of cost accounting systems in a country can be evaluated by the quality of physical devices and competence of users.

Given the advances of information technology and software in recent years, the use of the ERP system for gathering all kinds of accounting information has been widely acknowledged. Users like cost accountants are supposed to manage accounting information systems in order to achieve their objectives

by producing appropriate cost information. Cost accountants engage in coordinating the complexity of planning and analyzing alternative tools of cost accounting. Respondents were asked to assess characteristics of their IT systems on a seven point scale.

**Figure 3: Features of IT system in companies**

Do the following statements apply to your company's IT system?  
(1 = strongly disagree... 7 = strongly agree)

	Japan			Germany		
	Food & Beverage	Mechanical Engineering	Medical Hospital	Food & Beverage	Mechanical Engineering	Medical Hospital
Highly cross-functionally integrated	3.53	4.00	3.79	4.91	5.12	5.05
Provides user-friendly query capabilities	3.86	4.12	3.78	4.47	4.56	4.37
Provides comprehensive cost and performance information	3.94	4.05	2.90	4.82	4.71	4.53
Most information is updated in "real-time" and not periodically	4.04	3.70	4.01	4.56	4.68	4.82

As shown in Figure 3, IT systems, in all three industries, are more highly cross-functionally integrated in Germany than in Japan. Moreover, the findings indicate that the quality of cost and performance information in Japanese hospitals is rather low (2.9 on average). This is partly because

specific issues to capture the attributes of costs and performance in medical treatments remain unsolved.

### *Managers' Satisfaction with Cost Accounting*

We review the degree of managers' satisfaction with information provided by cost accounting systems in this section. The empirical data implies significant observations concerning the quality of cost accounting information.

**Figure 4: Managers' satisfaction with cost accounting**

How satisfied are the managers overall with the information provided by your cost accounting?  
(1 = not at all... 7 = very satisfied)

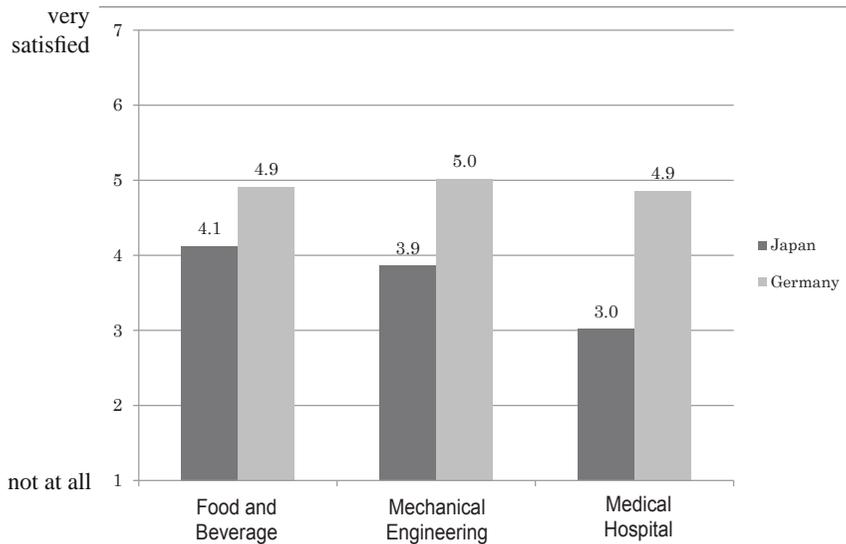
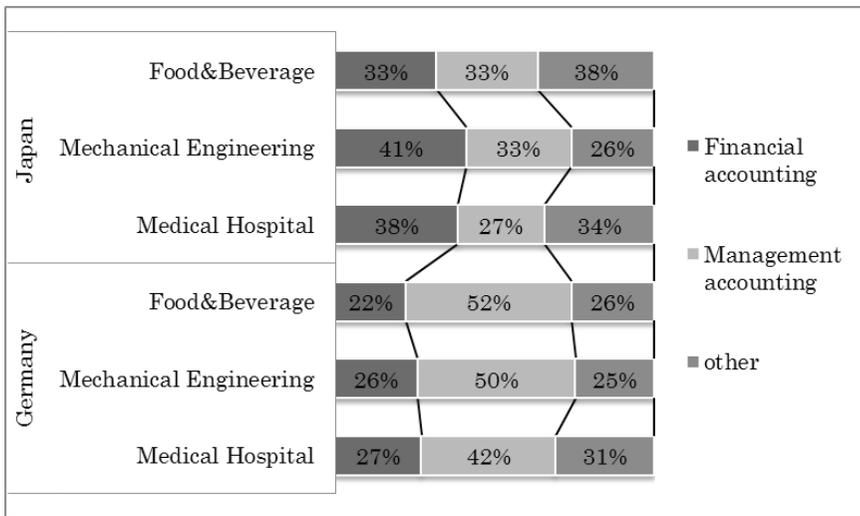


Figure 4 shows that the degree of satisfaction of German managers is higher than that of their Japanese counterparts. Japanese managers' satisfaction is very low in hospitals. In contrast, German managers in all three industries are quite satisfied with the information. Consistently, previous studies conducted by Friedl et al. (2009) also indicated that German managers are generally satisfied with the cost accounting information in their companies.

### Cost Accountants' Workload

Cost accountants are often not only in charge of cost accounting. Moreover, the relevance of financial accounting and management accounting might vary internationally. Due to a different cultural and institutional background it can be expected that the division of cost accountants' workload differs between Japan and Germany. The division of the cost accountants' workload is illustrated in Figure 5.

**Figure 5: The distribution of cost accountants' workload**  
How is the workload divided up for employees responsible for cost accounting?



Japanese cost accountants spend their time almost evenly among financial and management accounting, and other tasks. By contrast, German cost accountants spend a lot of time performing management accounting tasks. The importance of management accounting might be higher in Germany than in Japan. However, the precise tasks within financial accounting and management accounting have not been explored. It therefore remains subject to future research to analyze what kind of jobs cost accountants are actually engaged in.

### The Primary Source of Cost Accountants' Knowledge

In this section, the primary source of knowledge of cost accountants is reviewed. Respondents were asked to assess potential sources of knowledge on a seven point scale.

**Figure 6: The primary source of cost accountants' knowledge in Japan**

Where did Japanese cost accountants acquire their knowledge of cost accounting?

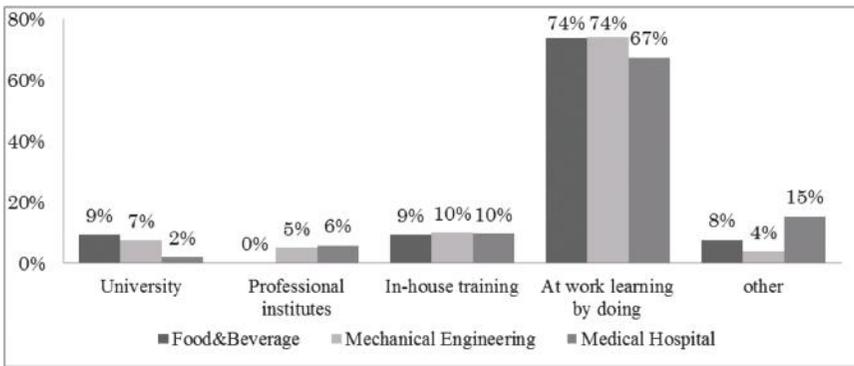
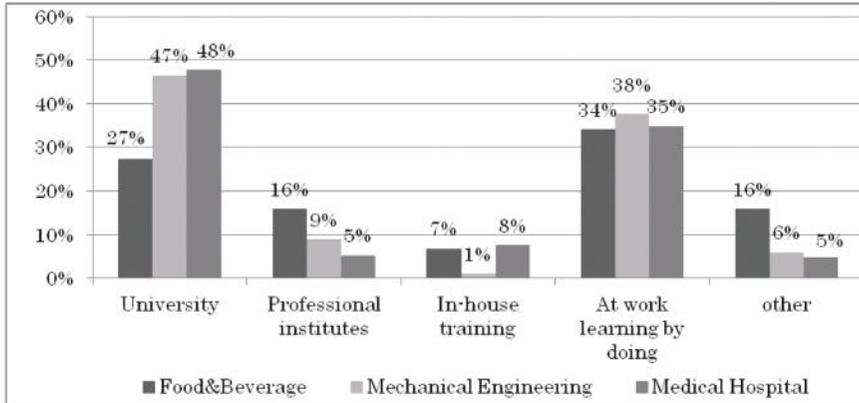


Figure 6 shows that Japanese cost accountants generally acquire knowledge of cost accounting from learning by doing at work. As a result, Japanese cost accountants in the three industries do not always take a course of cost accounting during their studies at university, although they engage in the task of cost accounting at their workplace. As was pointed out by Wijewardena and Cooray (1995), in Japanese companies, the background of accounting personnel does not necessarily correlate with their university education [Wijewardena and Cooray (1995), p.369].

The results also show that Japanese cost accountants tend to acquire their knowledge more often from in-house training than their German counterparts. This may be explained by the fact that Japanese employees work in various job positions irrelevant to whatever they have studied at university [Shields et al. (1991)].

**Figure 7: The primary source of cost accountants' knowledge in Germany**  
Where did German cost accountants acquire their knowledge of cost accounting?



In comparison with Japan, cost accountants in Germany acquire their knowledge of cost accounting chiefly from their studies at university. After studying cost and management accounting at university, students are very likely to work in the area of cost and management accounting.

It is possible that the occupational consistency of practice and education represent a distinctive German way of thinking in society. Relating to this issue, Ahrens and Chapman (2000) argued that the German Controllers' occupational identity was dominated by their academic training [Ahrens and Chapman (2000), p. 495].

In their study about the functions of management accountants in Germany and the U.K., they concluded that “the occupational identity of the British management accountants was framed as a professional mobility project in which the individual practitioners sought to maximize marketable experience. The occupational identity of the German controllers was framed as the distanced analysis of economic flows and objective moderators between organizational units” [Ahrens and Chapman (2000), p. 496]. Their focus on the identity of management accountants revealed that the purpose of German management accountants is mainly to describe economic reality. In Germany, cost accountants produce cost accounting information making use of their theoretical knowledge from university. This probably leads to

the reason why the degree of German managers' satisfaction is so much higher than that of their Japanese counterparts.

In summary, judging from occupational attainments of German cost accountants, a close cooperation between university and company regarding cost accounting creates much success. Based on the results of the questionnaire, there seems to be a remarkable impact of cultural and educational factors on cost accounting practices. Education of cost accounting at university affects career development differently in Japan and Germany.

### Skills of Cost Accountants

In this section, we review cost accountants' skills in the food and beverage, mechanical engineering and hospital sector in both Japan and Germany.

**Figure 8: Skills of cost accountants**

To what extent do the following characteristics apply to your company's cost accountants?  
(1 = not at all... 7 = completely)

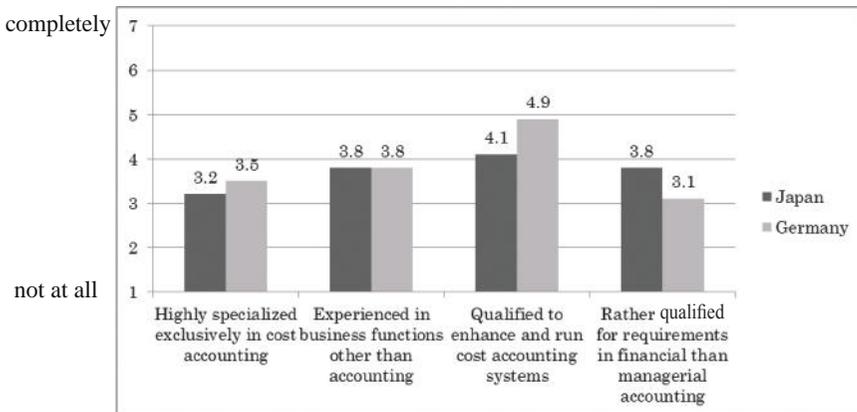


Figure 8 shows that German cost accountants are more qualified to enhance and run cost accounting systems than their Japanese counterparts. On the contrary, Japanese cost accountants seem to be rather qualified for requirements in financial accounting than managerial accounting.

It can be presumed that the capability of enhancing and improving the accounting systems is related to the theoretical knowledge of cost accounting. Thus, the nature of the Japanese cost accountants' profession differs from German cost accountants by their practical character.

### *Top Management Support*

In this section, the degree of top management support is reviewed. Prior research demonstrates that top management support is an essential prerequisite for successfully implementing cost accounting systems like ABC [Shields (1995), p. 161-164; Krumwiede (1998), p. 259-269]. With top management support, sufficient resources are provided and it determines what employees accept and work with [Shields (1995), p. 150].

**Figure 9: Support from top management**

To what extent do the following statements apply to your cost accounting?  
(1 = not at all... 7 = completely)

	Japan			Germany		
	Food & Beverage	Mechanical Engineering	Medical Hospital	Food & Beverage	Mechanical Engineering	Medical Hospital
It receives strong, active support from top management	3.60	3.90	3.26	4.57	4.62	4.41
Top management provides sufficient resources	3.64	3.82	3.24	4.61	4.59	4.05

The results indicate that top management in Germany gives cost accountants moderate to high support in all three industries. The top management support for cost accounting is higher in Germany than in Japan.

## **discussion**

The results in previous sections have shown that there are several differences in cost accounting practices between Japan and Germany. Taking these matters into account, it is suggested that it requires mutual cultural understanding in implementing best practices of cost accounting systems from another cultural sphere.

Some themes have emerged through this research. The most provocative findings from the Japanese perspective concern different roles of cost accountants in both countries.

What employees recognize as social values tends to be hardly changeable, however, there are changing circumstances taking place against the background of the stagnation in Japan. Because of globalization and localization, the external changing environment requires reorganizing human resource management in Japanese organizations.

Japanese companies have more and more concerns about employing highly educated workers. The seniority system has been gradually converted into a more performance-based system in most Japanese companies over the last two decades. Life time employment, a cornerstone in Japanese employment, is no longer guaranteed in even the large companies [Moeschler (2012)].

However, according to Stiles (2009), the institutional heritage of Japan remains a powerful force, and the Japanese focus on quality and high commitment have spread around the world [Stiles (2009), p. 428-429], although he observed the impact of Japanese management systems in another Asian context.

Firstly, the skills of Japanese cost accountants due to learning by doing on the job are characterized as company-specific in a group-oriented environment. A closely connected group of Japanese workers displays greater competitive advantage so far. From this research, it is also recognized that career developments of Japanese cost accountants have not shifted away from attaching importance to job experience. One interpretation of the function of Japanese cost accountants is that it is integrated into the Japanese management system.

In contrast, in Germany there are cooperative relationships between education and practice in the course of career development of cost accountants, assuming the importance of cultural, institutional and educational aspects. Wagenhofer (2006) argues that contributions of management accounting research to a society in German speaking countries including Germany, Switzerland and Austria are outstanding for three reasons: "...[B]ecause of the prominence of normative and conceptual research and the case studies, as well as the development of cost accounting software in close connection with academia" [Wagenhofer (2006), p. 11].

From this standpoint, contributions of individuals to organization and society are generally admired in terms of professionalism. The skills of cost accountants are considered to be compatible outside their companies in Germany. In this respect, it revealed that there is a definite difference regarding career paths of cost accountants between Japan and Germany.

As noted above, Hofstede classified initially four values that distinguish cultures in different nations. Social values are placed on professionalism and individualism which are explicitly incorporated in the role of German cost accountants. On the other hand, professionalism and individualism are not considered to be so admired in Japan. Therefore, Japanese companies offer their own path for cost accountants. In this setting, Japan and Germany are categorized in the same dimension, in terms of uncertainty avoidance. Although both countries are in accord with avoiding uncertainty, it doesn't necessarily mean that two countries react in the same way or use the same tools in cost accounting in order to prepare for uncertainty. An application of this reaction is observed in developing various types of cost accounting tools such as Grenzplankostenrechnung in Germany. GPK is so sophisticated that it can provide highly detailed cost information for different purposes [Friedl et al. (2009)], while the construct of cost accounting tools in Japan is regarded as rather simple.

Organizational values which are more or less reflected by national cultural factors are closely related to the workforce. Nishimura (2003) spoke about Japanese management accounting and culture as follows: "In particular, Japanese middle- and lower level managers play an important proactive role in anticipating problems before they occur. In this Japanese system much depends upon the mutual trust between workers and managers, proper

training, multi-skilled employees and a firm belief in the ability to amend wrong plans if everyone works together to control the operating management process” [Nishimura (2003), p. 59-60].

Nishimura’s comments focus an important aspect of the relationship of cost accounting and culture with significant implications for Japanese cost accountants. He placed a strong emphasis on the role of middle and lower managers. It is very worthy to note that there exists a mutual trust between workers and managers, with proper trained and multi-skilled employees in a Japanese company.

As indicated by Wijewardena and Cooray (1995), “In-house education and training given in many Japanese firms is characterized by a unique system of imparting a basic knowledge of accounting to all employees in the organization, in addition to providing the accounting staff with a much more comprehensive and advanced programme of training” [Wijewardena Cooray (1995), p. 368].

The occupational features of Japanese workers in the area of staff assignment and job rotation have emerged mainly due to this Japanese management system and continued because of the success of the postwar economic growth. Job rotation is aimed at increasing the capabilities of employees. Employees share common information by experiencing various positions in the departments.

These results lead to opportunities for deepening the mutual understanding between Japan and Germany. In order to increase productivity in developing human resource management in cost accounting, it is highly relevant for Japanese cost accountants to closely connect major subjects at the university with job contents, while maintaining the cultural identity of Japanese management. These findings advance our understanding of how the cultural and educational aspects shape the role of cost accountants further.

## **Conclusions**

In recent years, many researchers have noted that best practices in other countries can be applied to another country by considering cultural, institutional and educational factors carefully.

Utilizing the empirical data from companies in Japan and Germany, we examined the characteristics of cost accounting and cost accountants. In this sense, the career path of cost accountants seems to be more consistent in Germany than in Japan. Moreover, German cost accountants are motivated to work in an organization and receive active support from top management. Cross-cultural consideration of the selected findings showed that the role of cost accountants is different in Japan and Germany. The main function of Japanese cost accountants is apparently integrated into the Japanese management systems. Japanese cost accountants are rather accepted as generalists who have a wide knowledge acquired from job experience in the organization. Consequently, the lack of theoretical knowledge and insufficient training for Japanese cost accountants may make a company lose the competitive advantage.

The findings indicate that German cost accountants make use of their competence acquired by combining practice and education through a coherent career development. In addition, the professionalism and individualism are widely accepted as social values in Germany. The standardization of skills in the field of cost accounting is aimed at developing their capabilities.

Finally, this study is subject to several limitations. The sample consists of two countries, Japan and Germany, and three industries, food and beverage, mechanical engineering and medical hospitals. Since the samples were derived from medium-sized companies only, research in the future needs to be extended to analyze how cultural factors are observed in large companies, various other countries and industries. Moreover, job components of cost accountants in organizational contexts need to be investigated. We also hope to continue our research to explore in more detail how cultural factors influence management accounting. However, this exploratory study offers important insights into comparative cost accounting.

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