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— Bibliographic Study of English Journals —

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Contribution of Japanese Management Accounting to Global Research — Bibliographic Study of English Journals —

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Abstract

The purpose of this study is to clarify how the field of Japanese management accounting has attracted international attention and contributed to global research. We selected relevant academic papers from the EBSCO database, and conducted a bibliographic study. Our results indicated the features of Japanese management accounting in terms of periods, research topics, research methods, academic fields, and countries. Concretely, (1) Japanese management accounting attracted international attention in the late 1980s. The related research increased rapidly in the 1990s, but has decreased since 2000; (2) Most related research work is conducted in the U.S. and the U.K./Ireland, with that in the latter having peaked in the late 1990s, and decreasing since then. The number of related articles in Asia and Oceania have increased recently; (3) Most research studies worldwide focus on cost management approaches, such as TQC/TQM, JIT, and TCM; (4) Although the number of articles on these topics has decreased, research on topics on global management accounting has increased, thereby generalizing Japanese accounting research; (5) Research on how Japanese companies practice accounting techniques acquired from the U.S. has recently increased; and (6) Many Japanese management accounting studies adopt empirical research, and the method of using mail surveys has dominated since the 1990s. Therefore, we can clarify that Japanese management accounting has significantly contributed to restoring the conformity to practical business, since the first publication of “*Relevance Lost*” in 1987.

Keywords: Japanese management accounting, Bibliographic study, Management accounting, Management control, Cost accounting

1. Background/Objectives and Goals

The objective of this study is to examine how Japanese management accounting attracted international attention and contributed to global research. Yoshida et al. (2012) define Japanese management accounting as (1) accounting techniques, which stem from Japanese companies' practices, such as JIT (Just-In-Time production system) and MPC (Micro Profit Center); and (2) management accounting practices with Japanese management as the organizational context. Moreover, according to Okano (2000), Japanese management accounting has several features, such as cross-functional management, decentralization of the accounting function, on-site/actual-item principle, emphasizing voluntary supplier relationship, and upstream management.

We now describe the history of the worldwide focus on Japanese management accounting. In the early 1980s, Japanese companies attracted international attention because Japanese trade surplus had increased during "the period of stable economic growth." Consequently, in Japan, research studies on Japanese companies became popular. Hiromoto (1988) and Monden and Sakurai (1989) introduced accounting techniques from Japan, such as TCM (Target Cost Management), Kaizen costing, and JIT, and this attracted more global attention to the field of Japanese management accounting. Moreover, the discussions on "Relevance Lost" (Johnson and Kaplan, 1987), which argued that the existing management accounting systems did not adapt to the current manufacturers management, have also influenced management accounting research worldwide. Consequently, studies on Japanese management accounting practices increased in the U.S. and Europe. These studies influenced overseas transfers and the development of Japanese management accounting (Hiki, 2007; Kato, 1997; Tanaka, 2000).

Some English-language literature reviews on Japanese management accounting appeared influenced by this increase in the related research. Yoshikawa et al. (1994) identified the features of Japanese management accounting by discussing it based on each topic. McMann and Nanni (1995) showed the genealogy of the research on accounting techniques from Japan, and discussed the possibility of introducing these techniques in European and American companies. Okano and Suzuki (2007) discussed Japanese management accounting from a historical perspective, and indicated the problem that most worldwide researchers observe only Japanese accounting techniques without understanding the relevant context and culture.

However, these previous studies have some limitations. For example, McMann and Nanni (1995) excessively emphasize on production systems, such as JIT and TQC (Total Quality Control) (Kato, 1997). In addition, these studies focus only on the management accounting techniques from Japan, so they may not be representative of the actual global interest in management accounting practices of Japanese companies. Moreover, these studies

review articles in management or accounting journals, although JIT, for example, is discussed in operations management and HRM (Human Resource Management) journals as well. Further, most other studies primarily cover the trend of Japanese management accounting research from the 1980s to the early 1990s, and focus comparatively less on the period from the late 1990s to the 2000s.

Therefore, this study seeks to clarify how Japanese management accounting has attracted international attention and contributed to global management accounting research. We conduct a bibliographic study and comprehensively search for the trends and contributions to accomplish this purpose. The remainder of the paper is organized as follows. Section 2 describes the methods used in the study. Section 3 presents the results and discussion, and Section 4 concludes.

2. Methods

First, in Sub-section 2.1, we review the bibliographic studies on management accounting to report the research methods and their significances. Second, in Sub-section 2.2, we explain the research methodology.

2.1 Review of bibliographic studies on management accounting

Bibliographic studies can reveal the trends in research and problems by examining various papers, and then counting them based on several aspects. Shields (1997), which is a pioneering paper, classified articles from principal accounting journals in the U.S. and Europe during 1990-1996, based on research topics, methods, sites, and source disciplines, and demonstrated the characteristics of management accounting research. The paper showed that many management accounting studies focused on management control. Hesford et al. (2007), based on Shields (1997), sorted the papers of the major accounting journals from 1981-2000. This paper expressed the trends and changes in management accounting research. Moreover, Hopper and Bui (2016) conducted a bibliographic study on all the papers in *Management Accounting Research (MAR)* during 1990-2014. They analyzed the papers in terms of research topics, methods, periods, authors' countries, and source disciplines, and referred the contributions and problems of *MAR* to practical business. In Japan, Yoshida et al. (2009) sorted management accounting articles by research topics, methods, sites, and source disciplines. Their results confirmed the increasing tendencies of introducing new research topics and empirical research, and increasing the number of research sites. They mentioned that the source disciplines are unclear in many papers, and suggested further developing management accounting research in Japan.

2.2 Methods

First, we conducted a computerized search on the EBSCO database to select the

academic papers containing the words “management accounting or costing” and “Japan” in their titles, key words, or abstracts. Second, we searched the database again for papers containing the words of the research topics covered in the papers selected from our first search, and “Japan.”¹ Only the papers about Japanese management accounting were required for the study.

We examined and counting the papers based on the following aspects, to clarify how Japanese management accounting has attracted worldwide attention. First, we classified the articles based on periods and the countries where the journals were published, to clarify the global trend of Japanese management accounting research. Next, we sorted these articles by research topics and methods, and compared them with other bibliographic studies on the overall management accounting field. This can exhibit the features of Japanese management accounting research. Finally, we analyzed the papers based on the fields of the journals, to prevent problems arising from studies focusing more on the fields of accounting and management.

3.Results and Discussion

3.1 Period

Table 1 depicts the total number of articles on Japanese management accounting sorted by periods and countries. We show the total number of articles in each period up to the 1990s, and observe that these numbers are generally consistent with the other studies in this field (Hiki, 2007; Okano and Suzuki, 2007), which state that Japanese management accounting attracted international attention in the late 1980s, and related research studies increased rapidly in the 1990s. Since 2000, the number of studies has decreased, although they increased temporarily in the late 2000s. In Sub-section 3.3, we further discuss in detail the cause of this tendency, along with the trends of the research methods.

3.2 Country

Table 1 shows that approximately 90% of the articles were published in North America and Europe, with the majority being from the U.S. and the U.K./Ireland. While the change in the U.S. is comparatively stable, the studies in the U.K./Ireland reached their peak in the late 1990s and have decreased since then. On the other hand, the number of articles in Asia and Oceania has increased only recently, although their share in the total is low. However, we cannot clarify the tendency in non-English-speaking countries, such as Germany and China, because the EBSCO database focuses on journals published in English.

¹ Since some topics that include the word “costing” are likely to be selected in our first search, we conducted the second search to avoid inequality.

Table 1: Countries over time

	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	Total
U.S.A.	7	11	20	18	8	16	2	82
Canada	0	0	2	1	0	0	0	3
U.K./Ireland	6	19	23	35	14	24	16	137
Holland	2	1	3	0	2	0	2	10
Germany	0	0	1	0	0	0	0	1
Australia	0	0	0	1	0	1	0	2
Malaysia	0	0	0	0	0	1	4	5
Singapore	0	0	0	0	0	1	1	2
Taiwan	0	0	0	0	0	0	1	1
Others	0	0	0	0	0	0	2	2
Total	15	31	49	55	24	43	28	245

of papers

3.3 Topics

As depicted in Table 2, 73% of global Japanese management accounting research studies focuses on cost management. However, according to Hesford et al. (2007), and Hopper and Bui (2016), articles about cost management do not dominate the general management accounting research studies worldwide (19.3% and 18%, respectively). Moreover, management accounting research studies in Japan also do not focus significantly on cost management (about 22%, Yoshida et al., 2009). However, we cannot compare them because their research methods and periods are different from those of our research, although this gap is remarkable.

Among the topics, quality management approaches, such as TQC/TQM (Total Quality Control/Management), QC circle, and QCM (Quality Cost management), are the dominant topics (38%), followed by JIT (23%), and TCM (5%). Studies on TCM have decreased recently, although they peaked during the late 1990s. In addition, JIT research had attracted attention during the 1980s and 1990s but decreased drastically since 2000. TQM research also increased in the 1990s. Although it increased temporarily during 2005-2009, it has diminished generally since 2000. Thus, TCM, JIT, and TQM-related research tend to influence the changes in Japanese management accounting worldwide because their trends are similar to that of the entire Japanese management accounting research (Table 1), and in addition, these topics predominate the research.

Consequently, a question arises on whether worldwide researchers lose interest in the management accounting techniques from Japan. For example, Table 3 shows that TCM research studies worldwide have increased recently. Since the number of papers depicted in Table 3 is almost equal to that in Table 2, during the early 1990s, almost all the TCM research

studies were conducted in Japan. However, these numbers have changed since the late 1990s. This is because TCM research sites exited from Japan, and many research studies were based on the American and European countries adopting TCM (Hiki, 2007; Obata, 2000). This indicates that TCM was generalized during that time.

On the other hand, there are very few articles on MPC, which is a major accounting technique from Japan (under 1%). This shows the gap between international attention and the practice in Japan, because many Japanese companies have adopted MPC (Yoshida et al., 2012).

In addition, as shown in Table 2, about 10% of the papers focus on the accounting techniques from the U.S., such as ABC (Activity-Based Costing), BSC (Balanced Scorecard), LCC (Life Cycle Costing), and TOC (Theory of Constraints). These research studies have increased since 2000, and have influenced the temporary increase during the late 2000s, as shown in Table 1.

Japanese companies practicing accounting techniques from the U.S. attract attention possibly because many researchers worldwide have interests in the techniques that were originally developed under Japanese-style business management. In fact, it is evident that Japanese companies adopted the accounting techniques from the U.S., and developed them further according to the situation (Yoshida et al., 2012). For instance, LCC, which was derived from the Department of Defense, was introduced into Japan, and was changed from its original form by Japanese accounting researchers (Okano, 2002). Kagawa et al. (2013) discuss the usefulness of the LCC, which is practiced under the strong supply chain management in the Japanese automobile industry. Moreover, it is known that ABC/ABM, derived from the U.S., combine with Hoshin Management, which is a Japanese-style management technique (Asada et al., 2000), and BSC combines with Management by Objective (Ito and Kobayashi, 2001).

Table 2: Topics over time

	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	Total
General MA	0	2	4	2	0	2	1	11
General CM	0	2	1	3	0	1	0	7
TQM	4	7	19	24	9	16	9	88
JIT	10	13	19	15	5	7	3	73
TC, VE	0	3	3	7	0	2	1	16
TQC,QCCircle	3	5	7	5	1	4	0	25
QCM	0	0	2	1	0	3	1	7
TOC	0	0	0	1	2	3	0	6
Kaizen	0	0	2	2	0	1	0	5
MPC	0	0	0	0	1	0	2	3
All CM	17	30	53	59	18	37	16	230
General CA	1	2	0	0	3	1	1	8
LCC	1	1	0	2	0	6	3	12
ABC	0	1	0	1	3	3	1	9
Other CA	0	3	0	0	1	2	0	6
All CA	2	7	0	3	7	12	5	35
General MC	0	1	2	2	1	0	1	7
BSC	0	0	0	0	3	3	1	7
Other MC	0	3	3	1	2	1	3	13
All MC	0	4	5	3	6	4	5	28

of papers

Table 3: All TCM research on the database by period

1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	Total
0	3	4	30	34	51	53	175

of papers

3.4 Fields

Table 4: Fields and topics

	TCM	JIT	TQM	TQC, QC	LCC	Budgetary control	Total
Accounting	9	5	4	2	2	4	26
Management	3	24	33	9	5	3	77
Operations management	2	38	32	6	1	0	79
HRM	0	1	4	2	0	0	7
Economics	1	1	1	0	1	2	6
Strategic management	1	1	6	1	1	0	10
Others	0	3	8	5	2	1	19
Total	16	73	88	25	12	10	224

of papers

Table 4 depicts the fields of the journals pertaining to the topics for which there are over 10 articles, as shown in Table 2. As seen in Table 4, the fields of management and operations management dominate Japanese management accounting research worldwide (over 30% each). In addition, Japanese management accounting is researched in several fields. Management and operations management journals dominate the research studies about JIT and TQC/TQM, whereas many articles about TCM and budgetary control are predominant in accounting journals.

Naturally, Japanese management accounting is researched globally in not only the fields of accounting and management, but also other areas such as operations management, HRM, and strategic management. This is because Japanese management accounting focuses on both accounting and physical information (Okano, 1995).

3.5 Methods

Table 6: Research methods²

	1980-84	1985-89	1990-94	1995-99	2000-04	2005-09	2010-14	Total
Field	7	13	13	22	9	20	7	91
Mail Survey (MS)	0	0	10	10	5	9	5	39
Normative	4	9	15	7	4	7	5	51
Analytical	1	5	5	5	2	5	4	27
Literature Survey (LS)	1	3	4	5	2	3	5	23
Framework (FW)	0	0	1	0	0	0	0	1
Simulation (SL)	1	0	0	0	0	0	0	1
Archival (ACV)	0	0	1	1	1	0	0	3
Unknown	1	1	0	5	1	2	2	12
Total	15	31	49	55	24	46	28	250

of papers

Table 6 shows that many articles adopt empirical research, such as field/case studies and MS (38% and 19%, respectively). We confirm the same results as Hopper and Bui (2016), who indicate that many Asian papers are based on empirical research. Since generally, management accounting research studies do not significantly adopt empirical research in Europe and the U.S. (35%; Hesford et al., 2007), the research studies on Japanese management accounting possess the feature that many papers adopt empirical research, although Hesford et al. (2007) based their study on different methods in terms of periods and classifications, and therefore cannot be compared. Following them, several articles adopted normative research. Many of them discuss the difference between Japanese and American/European companies, and suggest how the latter practice management accounting.

As we show the changes in the methods, case/field studies have predominated across all periods, and mail surveys have dominated since the 1990s. Consequently, about 50% of the articles adopt empirical research during all periods. This trend is different from that in general management accounting research, because other studies indicate that the utilization of empirical research has increased only recently (Hesford et al., 2007; Hopper and Bui, 2016), although these studies are based on different methods in terms of periods and classifications, and therefore cannot be compared.

On the other hand, the utilization of normative research has decreased, although several papers have adopted this type of research constantly during all the periods. The number of

² The total number of papers in Table 6 is not the same as in Table 1 because some papers adopt only some research methods.

research studies increased from the late 1980s to the early 1990s, influenced by “*Relevance Lost*,” which asserts that the existing management accounting systems do not adapt to current manufacturers. Many articles introduced Japanese management accounting practices in Japan, such as JIT and TQC/TQM, as models, and suggested how current management accounting could be practiced to restore its relevance.

We cannot observe the features of literature surveys and analytical research.

3.6 Topics and methods

As seen in Table 7, several papers on the management accounting techniques from Japan adopt the LS. Particularly, the articles on TCM tend to be based on studies by Japanese researchers. On the other hand, the papers about techniques from America do not adopt LS as much.

Table 7: Research methods and topics

	General MA	From Japan	From USA	Total
Field	4	47	57	108
Mail Survey (MS)	3	27	21	51
Normative	2	26	12	40
Analytical	0	15	11	26
Literature Survey (LS)	1	16	10	27
Framework (FW)	0	1	1	2
Simulation (SL)	0	2	1	3
Archival (ACV)	0	1	0	1
Unknown	1	4	9	14
Total	11	139	123	273

of papers

4. Conclusion

We conduct a bibliographic study to clarify how Japanese management accounting has attracted attention and contributed to global research. Our results show that: (1) Japanese management accounting attracted international attention in the late 1980s, the related research increased rapidly in the 1990s, and has decreased since 2000; (2) Most research is based in the U.S. and the U.K./Ireland, wherein the studies in the latter peaked in the late 1990s and have decreased since then, and the articles in Asia and Oceania have increased recently; (3) Most related research studies worldwide focus on cost management, such as TQC/TQM, JIT, and TCM, (4) Although the number of articles on these topics in this study has decreased, research on the topics in global management accounting research has increased, and Japanese

management accounting has been generalized; (5) Research on how Japanese companies practice accounting techniques from the U.S. has increased recently; and (6) Many Japanese management accounting studies adopt empirical research, and mail surveys have dominated since the 1990s.

These results and discussions clarify that Japanese management accounting has contributed significantly to management accounting research worldwide since the discussions presented in *“Relevance Lost,”* which had a significant impact on related research. As described above, Johnson and Kaplan (1987) assert that accounting information is not timely, and the existing management accounting systems do not adapt to current manufacturers. This is because of the advancement in the technological innovations in Japan, such as the introduction of JIT and TQC/TQM. Influenced by this criticism, researchers in the U.S. and Europe developed an interest in incorporating management accounting practices by Japanese firms (Sub-section 3.1). Concretely, empirical research in Japanese firms became popular for observing their practices and investigating their actual conditions (Sub-section 3.6). Consequently, the research on accounting techniques from Japan, such as JIT, TQC, and TCM increased, and has contributed to the transfer of the techniques overseas (Sub-sections 3.1 and 3.3).

Other initiatives to restore the conformity to practical business include introducing and practicing the new accounting techniques, such as ABC and BSC. These accounting techniques from the U.S. have not been adopted significantly in Japan (Yoshida et al., 2012). However, the practice of using them by Japanese companies is currently attracting attention (Sub-section 3.3).

This study has some limitations as well. First, we depended on a single database. As mentioned in Sub-section 3.2, we cannot depict the tendency in non-English-speaking countries, because this database covers only the journals published in English. Second, we cannot discuss the quality and effect of each paper, which is a shortcoming of bibliographic studies. This study focuses on academic journals with peer reviewing, wherein we can consider the quality to some extent. However, we cannot discuss the research currents and the degree of the impact. Third, our research keywords may pose a challenge. In this study, we selected papers containing the words “management accounting or costing” and “Japan” in their titles, key words, or abstracts, but papers that do not contain these words may focus on Japanese management accounting virtually.

There are several potential avenues for further research. First, the subject of the bibliographic research should be expanded. This study showed that the trends of Japanese management accounting research vary with countries and regions. However, we could not observe the differences in the topics and fields. For example, if research is conducted focusing on journals published in Chinese and German, we can observe the feature of each country and region.

This could render the discussion on the contribution of Japanese management accounting more interesting. Second, literature reviews based on this study could clarify the contribution in more detail. As mentioned earlier, bibliographic studies cannot observe the currents and impacts of the research. The literature review, in terms of fields, countries, and periods, can reinforce our study. Third, further empirical research on the relationship between Japanese management and management accounting techniques may show the new contribution of Japanese management accounting. This study clarified that the practice of using accounting techniques from the U.S. by Japanese companies is currently attracting attention. Yoshida et al. (2012) show that Japanese organizational contexts, such as kaizen innate, influence the effects of TCM and MPC. Therefore, we should analyze the relation between Japanese organizational contexts and using various accounting techniques, such as ABC and BSC. For example, according to Hiki (2007), the accounting techniques introduced from Japan into the U.S. have been developed through knowledge transfer from the USA to Japan. Similarly, the accounting techniques from the U.S. into Japan may be developed by reimporting them from Japan.

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