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The original English language edition published by JFMRA.

Greetings on the First Issue of the Journal of Japanese Management

The journal of the Japan Federation of Management Related Academies (JFMRA) is an official publication of JFMRA. I am very pleased with this first electronic publication of a scholarly journal of the Japan Federation of Management Related Academies. Through this journal, we aim to contribute to international academic progress through advanced studies in wide-ranging research fields related to management, management information, commerce, and accounting in Japan. JFMRA was established through the affiliation of 57 academic societies in the fields of management, accounting, and commerce on 23 November 2006. It emerged out of the gap left by the disappearance of what were the three Research Liaison Committees (management, accounting, and commerce)—due to re-organization the Science Council of Japan (SCJ)—and now has 61 affiliated academic societies in Japan. I think that JFMRA now has a very significant presence in Japanese academies, and is far more than merely the successor organization of the previous Liaison Committees in the SCJ.

To date, economic inequality, global environmental issues, ageing and depopulating of societies, accelerated development of new emerging markets, or innovations like the internet of things (IoT), artificial intelligence(AI), open innovation and linkages-innovation, etc. have changed our social life and cast a lot of research themes to our researchers, which need a wide-ranging interdisciplinary approach that calls for cooperation going beyond the existing academic frameworks of individualistic society. Therein lies the significance of JFMRA.

JFMRA has been working with the following aims: (1) Development of research and spread of knowledge in fields related to management, management information, accounting, and commerce; (2) Research and contribution to society through education related to management; (3) Exchanges between various academies and researchers associated with management; (4) Promotion of cooperation with researchers overseas related to management, and; (5) Promotion of cooperation with the Science Council of Japan and the academic research communities working in cooperation with the Council. The association also organizes public lectures twice every year, as well as an annual symposium. One of the positive results has been publications such as "The Creation of a New Business Management" (Chuoikeizai-sha, 2014).

I rejoice at the release of the first issue, and would like to thank the members of the JJM editorial board, especially Prof. Fangqi Xu, the vice-president of JFMRA. I am sure that this journal is beyond the expected levels of many academic researchers at home and abroad and will intellectually stimulate the readers.

Dr. Nobutaka Kazama
President, Japan Federation of Management Related Academies
Professor, School of Commerce, Meiji University, Tokyo, Japan

Preface

We often hear that the global competitiveness of Japanese firms has been declining in recent years. However, once you consider the long-term sustainability of firms as “going concerns”, Japanese managerial practices might prove to be more viable than Western style short-term profit orientation. It is incumbent on us to continue to conduct research on Japanese managerial practices that emphasize sound business management and further disseminate it to the world.

Unfortunately, while many academic associations exist in Japan, few appear to be active in disseminating Japanese knowledge abroad, particularly in the field of social sciences. Needless to say, even if individual academic associations were interested in actively doing so, limited resources make it difficult to accomplish such a task. Fortunately, 61 academic associations representing management, commerce, accounting and management information are participating in the Japan Federation of Management Related Academics (JFMRA).

One of the main means of knowledge dissemination is the publication of an academic journal in English. In particular, in today’s highly networked society thanks to the internet, there is no doubt that electronic journals should be the most appropriate media accessible to anyone anytime anywhere around the world.

Under the leadership of the new board of directors, the JFMRA had in earnest initiated action in this direction, and after about 20 months of efforts, launched as planned the first issue of the Journal of Japanese Management (JJM) in 2015. As the representative of the editorial board, I would like to acknowledge our appreciation to those academic associations that participated in this effort, manuscript contributors, and reviewers for their cooperation.

We continue to work hard for the further development of JJM in the future.

Dr. Fangqi Xu

Editor-in-Chief, Journal of Japanese Management

Vice-president, Japan Federation of Management Related Academics

Professor, Faculty of Business Administration, Kindai University, Osaka, Japan

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Effects of Incorporated Psychiatric Institutions' Internal and External Control on Their Local Distributions and Hierarchical Formation: Case of Osaka

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Abstract

Medical institutions in Japan can be classified as either public or private, with both being basically nonprofit organizations. However, most private medical institutions are incorporated and have equity; in this sense, they operate as for-profit organizations. Moreover, their data are not freely disclosed, making their internal controls too difficult to investigate. On the other hand, the Ministry of Health, Labour and Welfare control the public medical and care system either directly or indirectly; for example, the Ministry regularly revises the medical-fee system. However, it is difficult to decide whether this system works well or not because the system of medical institutions is too complex. To investigate a simpler model, this study examined private psychiatric hospitals. This study aimed to examine the local competitiveness of incorporated psychiatric hospitals, in order to reveal whether internal and external control works well or not. In this study, 30 out of 49 private psychiatric hospitals listed on the homepage of Osaka Association of Psychiatric Hospitals were investigated. The selected sample represents “dedicated” psychiatric hospitals, offering only psychiatric beds. “Having a license to charge a psychiatric emergency hospitalization fee” is an indicator of external control, and can be also considered as an indicator of clinical activity in each hospital. Distribution of psychiatric beds as well as of hospitals with the license was examined in each medical area. This study concluded that the uneven distribution of psychiatric beds as well as psychiatric emergency hospitals and the hierarchical formation of the incorporated psychiatric hospitals system can be observed.

Keywords

Incorporated medical institution, Psychiatric hospital, Control, Hierarchy, Distribution, Medical area

(1) Introduction

1. Equity and limitedly disclosed information

The total number of medical hospitals and clinics in Japan is 8,493 and 100,461,

respectively, while incorporated medical hospitals and incorporated medical clinics total 5,721 and 39,455, respectively, as of the 1st of

October, 2014¹.

Most incorporated medical institutions in Japan are known to have equity. Typical incorporated medical institutions are called *Iryou-houjin* in Japanese. Kawabuchi reported that in 2014, of the total 49,889 *Iryou-houjins*, the number of incorporated foundations was 391, while the number of incorporated associations was 49,498. Of the 49,498 incorporated associations, 41,476 associations have equity, while the remaining 8,022 do not². That is, 83% (41,476/49,889) of incorporated medical institutions own equity (Figure 1). However, data that would enable similar analysis of incorporated psychiatric institutions, whether hospitals or clinics, are not available; thus, it is not possible to compare equity status among other types of institutions.

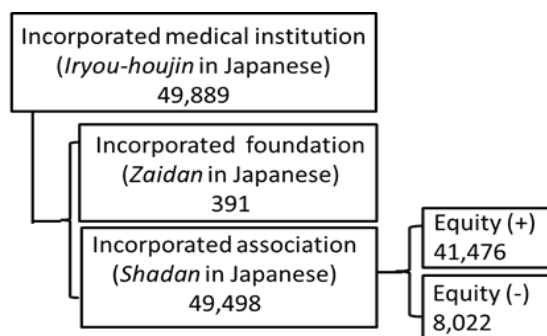


Figure 1. Incorporated medical institutions in Japan

Source: This figure is created by the author based on (Kawabuchi, 2014, p.43)

In this study, incorporated hospitals and incorporated psychiatric hospitals are defined as “hospitals” and “psychiatric hospitals” which belong to incorporated medical institutions, respectively. The data on each incorporated

hospital that can be accessed by using registries (*Toukibo* in Japanese) are too limited. The number of the members of the board of directors (*Riji* in Japanese) within an incorporated medical institution is decided by law³. There must be three or more members of the board of directors, and at least one auditor (*Kanji* in Japanese). Registries only need to include the chief’s (of the board of directors) (*Riji-chou* in Japanese) name but not those of all the members of the board of directors⁴. Registries are not required to state whether the hospital is an association or a foundation. Moreover, when an incorporated hospital is an association, its equity status is not disclosed in the registry. Similar to small and medium-sized enterprises, incorporated hospitals pose the problem of limited data.

2. Public roles of private psychiatric medical institutions

In this study, the term “private” is defined as “non-public” (in a broad sense).

Private psychiatric institutions play important roles in Japan. The total number of psychiatric beds in Japan is 338,174, with 267,578 of those operated by incorporated psychiatric hospitals. Therefore, incorporated psychiatric hospitals represent 79% of all psychiatric beds. The total number of psychiatric hospitals was 1,067, with 912 of them incorporated psychiatric hospitals. Therefore, 85% of psychiatric hospitals are incorporated psychiatric hospitals. These statistical data are accurate as of the 1st of

¹ *Toukei-Hyou* (in Japanese), the Ministry of Health, Labor and Welfare:
http://www.mhlw.go.jp/toukei/saikin/hw/iryosd/14/dl/03_toukei.pdf

² Kawabuchi, 2014, pp.43-44

³ *Iryou Hou* in Japanese:
<http://law.e-gov.go.jp/htmldata/S23/S23HO205.html>

⁴ *Kumiai-tou Touki Rei* (in Japanese) : <http://law.e-gov.go.jp/htmldata/S39/S39SE029.html>

October, 2014, according to the Ministry of Health, Labour and Welfare⁵.

Whether incorporated or not, hospitals providing psychiatric care in Japan must obey the Act on Mental Health and Welfare for the Mentally Disabled (*Seishin Hoken Fukushi Hou* in Japanese), which was enacted in 1995. Several laws mostly protecting human rights of psychiatric patients enacted after the end of the Second World War. These laws were responses to major violations of the human rights of psychiatric patients. There have been several revisions to this legislation over the years, leading it to evolve into the Act on Mental Health and Welfare for the Mentally Disabled (*Seishin Hoken Fukushi Hou*).

Thus, although psychiatric care is governed by Japan's public departments, most psychiatric-hospital treatment takes place in private hospitals, most of which are incorporated psychiatric hospitals. This presents a paradox.

3. Second medical areas in Japan

In Japan, 344 in 2013; medical administration areas called "second medical areas"⁶ have been established to provide general hospital treatment, which is based on the Medical Care Act⁷. In Osaka prefecture, eight second medical areas were established in 2015⁸. Under the act, the number of hospital beds in each area is controlled and reviewed every five years by each prefectural governor. The same is also true for psychiatric hospital bed numbers. The number of beds that each

hospital is allowed depends on the total number of beds in the area in which the hospital is located. Each hospital gets its share in competition with the other hospitals in the same area. However, this competition is not completely free, and strong vested interests may exist.

4. The competitive system among incorporated psychiatric hospitals

Medical fees for treatment covered by health insurance are the remit of the Ministry of Health, Labor and Welfare in Japan. Therefore, medical fees (excluding fees for medical treatment not covered by health insurance) are subject to a de facto official price, and in fact can be policy variables. The government is able to run and improve a medical policy by controlling the variables.

Medical treatments and technologies performed in general hospitals are generally more complex than those in psychiatric hospitals. Therefore, the medical-fee system of general hospitals is more difficult for nonprofessionals to understand. On the other hand, the medical-fee system in psychiatric hospitals is easier to understand because these hospitals' functions and abilities are simpler at a glance.

Therefore, to investigate the governance of incorporated hospitals, psychiatric hospitals were selected due to the narrower range of medical skills and technologies involved compared with general hospitals⁹.

However, medical care in psychiatric

⁵ *Toukei-Hyou* (in Japanese) http://www.mhlw.go.jp/toukei/saikin/hw/iryosd/14/dl/03_toukei.pdf

⁶ *Iseikyoku* (in Japanese), the Ministry of Health, Labor and Welfare: <http://www.mlit.go.jp/common/001086652.pdf>

⁷ *Iryou Hou* (in Japanese): <http://law.e-gov.go.jp/htmldata/S23/S23HO205.html>

⁸ Osaka Prefectural Government: http://www.pref.osaka.lg.jp/attach/2502/00118050/02_16_02_fuikiban_02_syou_03_setsu.pdf

⁹ Takaya, 2016, p.41

hospitals has been differentiated and graded these days. For example, the system of needing a license to charge a psychiatric emergency hospitalization fee was established in the 2002 revision of medical fees¹⁰.

Hospital systems (including the certification system of specialists) have evolved under the control of the Ministry of Health, Labor and Welfare since the Meiji government, a process that was discussed in terms of general hospitals¹¹. Now, national and public hospitals play leading roles in providing clinical treatment, undertaking medical research, and offering specialist training. In contrast, psychiatric hospital systems have historically differed from those of general hospitals. Therefore, the system of competition among incorporated psychiatric hospitals seems different from that among general hospitals. However, investigation of the former could offer insight into the latter.

5. Literature Review of governance of incorporated medical institutions

5.1. Governance model of hospitals

When investigating the governance of incorporated hospitals, there are two theoretical approaches: the governance theory for nonprofit organizations and the governance theory for medical institutions. The former holds that no standard governance model fits all nonprofit organizations¹². The latter is a theory specifically tailored to medical institutions.

Several previous studies about governance of medical organization were reviewed¹³.

Fujioka described Japan's medical-institution governance models as reflecting two influences. One is the "clinical governance" model of the United Kingdom (UK), and the other is the "hospital governance" model of the United States (USA). The former focuses mainly on offering safe and high-quality health care, whereas the latter focuses on a governance style akin to those utilized by for-profit organizations¹⁴. Additionally, Fujioka referred to the internal control of medical organizations as risk-based by management, and opined that management solely by family groups (relatives) should be abolished in medical institutions¹⁵. However, governance theories such as that espoused by Fujioka¹⁶ are confusing because they fail to distinguish between public and private hospitals when discussing governance, including internal and external sources of control. For example, Fujioka did not classify hospitals by type (e.g., general, special functioning)¹⁷. Matsubara, et al. discussed ideal governance styles of incorporated medical institutions in Japan. However, they used the term "public interest" in an ambiguous way without precisely defining it; they insisted on the necessity of governance only in incorporated medical institutions¹⁸.

Most Japanese incorporated medical institutions are managed by family groups (relatives), and information about them is closely held, thus frustrating attempts at data collection. This may make studies of management of incorporated medical institutions too difficult. On the other hand,

¹⁰ On the psychiatric Emergency Care system: <http://www.mhlw.go.jp/shingi/2009/03/dl/s0326-8c.pdf>

¹¹ Takaya, 2015, pp.108-120

¹² Hotta, 2012, p.787

¹³ Fujioka, 2013, pp.167-197

¹⁴ Fujioka, 2013, pp.151-166

¹⁵ Fujioka, 2013, pp.167-181

¹⁶ Fujioka, 2013, pp.151-198

¹⁷ Fujioka, 2013, pp.167-197

¹⁸ Matsubara, et al. 2004, pp. 4-8.

case studies of non-incorporated medical institutions have examined successful innovations by way of internal control systems implemented in hospitals¹⁹.

The Medical Care Act (*Iryou Hou* in Japanese), which was established in 1948, has been improved several times, including establishment of rules that should be applied to incorporated medical institutions; however, these were later revised for the sake of “public interest” in Japanese medical systems²⁰. As a result, even now, information on incorporated medical institutions is not sufficiently disclosed, as mentioned above.

Though the discussion on whether non-profit medical institutions are better has been long-running, no clear conclusion has emerged in a theoretical sense. This is partly because the term “public interest” cannot be defined strictly in theoretical economics²¹. However, in Japan, medical institutions need to be officially non-profit, whether or not they are incorporated. As mentioned above, most medical institutions in Japan are substantially incorporated enterprises. The separation of ownership and management is not realized for many small and medium-sized institutions, which is also true of incorporated psychiatric medical institutions.

5.2. Relationship between governance and activities of private psychiatric hospitals

Takaya investigated the relationship between the separation of ownership and management of the incorporated psychiatric medical institutions in Osaka, Japan, and their institutional activities by examining the possession of three elements: (1) a license to

charge a psychiatric emergency hospitalization fee, (2) a specialist psychiatry training facility authorized by the Japanese Society of Psychiatry and Neurology (JSPN), and (3) authorization from the Japan Council for Quality Health Care (JCQHC). The first represents the hospital's clinical competence²². The second represents the educational competence of the hospital's specialists. The third represents overall hospital competence²³. It is not impossible to conclude that the separation of ownership and management in incorporated psychiatric hospitals bears a relation to any of these three activities²⁴. The reasons for this can be thought of as follows. First, the separation of ownership and management of incorporated psychiatric medical institutions may be only nominal and, in fact, cannot be performed. Second, hospital activities might be influenced by the inter-relationship of administrative units, which helps establish medical facilities or controls their activities and competence²⁵.

6. Aim of this study

As mentioned earlier, the activities and competences of incorporated psychiatric hospitals cannot be determined based on the separation of ownership and management. This suggests that other factors may influence competitiveness among incorporated psychiatric hospitals in Japan.

This study investigated private psychiatric hospitals in Osaka prefecture, Japan. In the first phase, the private psychiatric hospitals were surveyed, most of which are incorporated

¹⁹ Matsuo, 2009, pp.1-223

²⁰ *Iryou Hou* (in Japanese): <http://law.e-gov.go.jp/htmldata/S23/S23HO205.html>

²¹ Takaya, 2015, pp.108-109

²² Takaya, 2016, pp.42-47

²³ Takaya, 2016, pp.42

²⁴ Takaya, 2016, pp.46-47

²⁵ Takaya, 2016, pp.40-49

hospitals. In the second phase, a sample of “dedicated” psychiatric hospitals was selected, and their local distribution and hierarchical structures were investigated, using cross-sectional data.

(2) Empirical analysis

In this study, statistical analysis was performed using the software jmp10 (SAS Institute Inc., Cary, NC, USA).

1. Private psychiatric hospitals in Osaka, Japan

Psychiatric hospitals in Japan are generally classified as in Figure 2, according to their types of establishers.

- | |
|--|
| <p>Psychiatric Hospitals</p> <ol style="list-style-type: none"> 1. National psychiatric hospitals 2. Public psychiatric hospitals 3. Incorporated medical institutions etc. |
|--|

Figure 2. Types of psychiatric hospitals in Japan.

Source: This Figure is modified from the original version shown in the website;

http://www.mhlw.go.jp/toukei/saikin/hw/iryosd/14/dl/03_toukei.pdf

The website of the Osaka Association of Psychiatric Hospitals ²⁶ lists 49 private psychiatric hospitals as members (Table 1). In Table 1, the column “Name of hospital (Abbreviation)” shows alphabetical abbreviations of corresponding hospital names in Japanese.

The terms A, B, and C in “governance type” mean, respectively, “the chief of the board of directors (*Riji-chou* in Japanese) and the

director of the hospital (*Byuoin-chou* in Japanese) is the same person,” “the chief of the board of directors is thought to be a relative of the director of the hospital,” and “the chief of the board of directors is not the same as, nor is a relative of the director of the hospital.” “Psychiatric emergency beds” in Table 1 is the numbers of beds for which a psychiatric emergency fee can be charged (approved by a regulatory agency). This approval represents psychiatric hospitals’ clinical activity (or competence)²⁷. “Approval year” indicates the year when each hospital was licensed to collect the psychiatric emergency fee. “Opening year” is chiefly based on the homepage of each hospital. Cases when “the opening year” cannot be found are denoted by a “*” symbol.

Hospitals whose “Governance type” is classified into “B” were excluded from this study because the separation of ownership and management is unclear even in a nominal sense. Hospitals 16 and 17 are run by the same chief of the board of directors, as are Hospitals 18-20. In Hospitals 16 and 18, the chief of the board of directors holds the director of the hospital. Therefore, Hospitals 17, 19, and 20 were removed from the analysis to reduce complexity.

We usually maintain the phrase “psychiatric hospitals.” but psychiatric hospitals are not precisely defined. Some general hospitals have psychiatric beds, and some hospitals, for example Hospital 48 in Table 1, are thought to be “psychiatric hospitals” even though they can be classified as “general hospitals.” Therefore, “psychiatric hospitals” are defined in this empirical analysis as hospitals that provide psychiatric beds only. According to this definition, 13 hospitals in Table 1 were ex-

²⁶ <http://www.daiseikyoo.or.jp/>

²⁷ Takaya, 2016, pp.42-47

Table 1. Private psychiatric hospitals in Osaka, Japan

Number	Name of hospital (Abbreviation)	Governance type	Opening year	Regular doctor	Psychiatric beds	Recuperation beds	Beds for general patients	Total beds	Psychiatric emergency beds	Approval year
1	Mizuma	A	1959	11	541	0	0	541	0	*
2	Kijima	A	1963	13	492	0	0	492	0	*
3	Yoshimura	A	1976	6	222	0	0	222	0	*
4	Sakane	A	1965	3	150	0	0	150	0	*
5	Tamenaga	A	1965	7	266	0	50	316	0	*
6	Watanabe	A	1965	9	336	100	0	436	0	*
7	Keihan	A	1954	9	306	0	0	306	0	*
8	Shichiyama	A	1599	13	640	0	0	640	48	2011
9	Neyagawa	A	1965	10	267	0	0	267	60	2014
10	Kaizukachuou	A	*	9	406	0	0	406	0	*
11	Orenji	A	1965	3	240	0	0	240	0	*
12	Kumeda	A	1962	9	494	0	0	494	0	*
13	Osakasayama	A	1966	6	279	0	0	279	0	*
14	Kosaka	A	1948	17	537	0	0	537	0	*
15	Kouai	A	1964	10	221	0	0	221	0	*
16	Sawa	A	1953	30	455	0	0	455	114	2005
17	Hokuto	C	*	8	50	0	0	50	50	2008
18	Aobaoka	A	1986	16	357	270	54	681	0	*
19	Aino	C	1965	45	600	144	225	969	0	*
20	Ainohanazono	C	1984	13	606	0	0	606	0	*
21	Esaka	B	1965	8	360	0	0	360	0	*
22	Ibaragi	B	1952	8	350	0	0	350	0	*
23	Kokubu	B	1961	9	201	0	0	201	48	2008
24	Hanna	B	1967	5	213	48	0	261	0	*
25	Kanaokachuou	B	*	10	486	0	0	486	0	*
26	Shinseikai	B	1981	3	148	0	0	148	0	*
27	Kansaisanatoriumu	C	1968	2	192	0	0	192	0	*
28	Kansaikinen	C	1983	4	270	0	46	316	0	*
29	Sakamoto	C	1892	16	546	0	0	546	0	*
30	Hanwaizumi	C	1965	11	354	90	0	444	0	*
31	Mikunigaoka	C	1960	5	144	0	0	144	0	*
32	Hannan	C	1956	46	690	0	0	690	168	2007
33	Kokoroa	C	*	11	450	0	0	450	0	*
34	Izumichuou	C	*	5	206	0	0	206	0	*
35	Mihara	C	1963	5	562	0	0	562	0	*
36	Higashikori	C	*	10	38	39	45	122	0	*
37	Minou	C	1960	8	345	0	0	345	0	*
38	Yao	C	1913	14	513	0	0	513	0	*
39	Kaede	C	*	4	150	0	0	150	0	*
40	Shinabuyama	C	1971	8	273	0	0	273	0	*
41	Tanpisou	C	1956	12	310	0	0	310	0	*
42	Shirai	A	1965	9	322	48	29	399	0	*
43	Kisen	C	1967	3	260	0	0	260	0	*
44	Hamadera	C	1930	20	749	0	0	749	0	*
45	Ozone	C	1956	16	557	0	0	557	0	*
46	Izumigaoka	C	1963	6	257	0	4	261	0	*
47	Shionomiya	C	1969	10	384	60	0	444	0	*
48	Asakayama	C	1922	67	948	38	185	1171	102	2008
49	Hirakatoryoiku	C	1969	28	50	0	440	490	0	*

Source:

(1) Table 1 is a modified version of the original table in (Takaya, 2016, p.44)

(2) Statistical data are derived from the homepage of each hospital and the following websites:

Osaka Association of Psychiatric Hospitals: <http://www.daiseikyo.or.jp/>Kinki Regional Bureau of Health and Welfare: <https://kouseikyoku.mhlw.go.jp/kinki/>Japanese Association for Emergency Psychiatry: <http://www.jaep.jp/>

Table 2. Private Psychiatric Hospitals with Psychiatric Beds Only

Number	Name of hospital (Abbreviation)	Governance type	Medical area	Opening year	Regular doctor	Psychiatric beds	Psychiatric emergency beds	Approval year	Approved training facility	Accredited facility
16	Sawa	A	A	1953	30	455	114	2005	1	1
20	Ainohanazono	C	A	1984	13	606	0	*	1	0
37	Minou	C	A	1960	8	345	0	*	1	0
45	Ozone	C	A	1956	16	557	0	*	0	0
11	Orenji	A	B	1965	3	240	0	*	0	1
15	Kouai	A	B	1964	10	221	0	*	1	0
40	Shinabuyama	C	B	1971	8	273	0	*	1	1
7	Keihan	A	C	1954	9	306	0	*	1	0
9	Neyagawa	A	C	1965	10	267	60	2014	1	1
14	Kosaka	A	D	1948	17	537	0	*	1	1
29	Sakamoto	C	D	1892	16	546	0	*	1	0
38	Yao	C	D	1913	14	513	0	*	1	0
3	Yoshimura	A	E	1976	6	222	0	*	1	0
13	Osakasayama	A	E	1966	6	279	0	*	1	0
41	Tanpisou	C	E	1956	12	310	0	*	1	1
31	Mikunigaoka	C	F	1960	5	144	0	*	1	1
32	Hannan	C	F	1956	46	690	168	2007	1	1
35	Mihara	C	F	1963	5	562	0	*	1	0
1	Mizuma	A	G	1959	11	541	0	*	1	0
2	Kijima	A	G	1963	13	492	0	*	1	1
4	Sakane	A	G	1965	3	150	0	*	0	0
8	Shichiyama	A	G	1599	13	640	48	2011	1	1
10	Kaizukachuou	A	G	*	9	406	0	*	1	0
12	kumeda	A	G	1962	9	494	0	*	0	0
27	Kansaisanatoriumu	C	G	1968	2	192	0	*	0	0
33	Kokoroa	C	G	*	11	450	0	*	1	0
34	Izumichuou	C	G	*	5	206	0	*	1	1
39	Kaede	C	G	*	4	150	0	*	1	0
43	Kisen	C	G	1967	3	260	0	*	1	0
44	Hamadera	C	G	1930	20	749	0	*	1	1

Source:

(1) This table has been modified from one presented by (Takaya, 2016, p.45).

(2) Data for analysis are derived from the homepage of each hospital and the following websites:

Osaka Association of Psychiatric Hospitals: <http://www.daiseikyo.or.jp/>

Kinki Regional Bureau of Health and Welfare: <https://kouseikyoku.mhlw.go.jp/kinki/>

Japanese Association for Emergency Psychiatry: <http://www.jaep.jp/>

Osaka Prefectural Government: <http://www.pref.osaka.lg.jp/iry/keikaku/keikaku2013to2017.html>

The Japanese Society of Psychiatry and Neurology: <https://www.jspn.or.jp/>

Japan Council for Quality Health Care: <http://jcqhc.or.jp/>

cluded from the analysis. Following these exclusions, 30 private psychiatric hospitals remained, as listed Table 2. Values of 1 and 0 for “approved training facility” mean, respectively, that the Japanese Society of Psychiatry and Neurology approved or did not approve of each facility as a psychiatric specialist training facility. Values of 1 and 0 for “accredited facility” mean, respectively, that Japan Council for Quality Health Care (JCQHC) has or has not accredited the facility (hospital).

Notations “A”–“G” for “medical area” in Table 2, which correspond to those in Figure 3 and Table 3, indicate the second medical areas in Osaka, Japan, to which each hospital belongs. Medical areas are arranged alphabetically. Figure 3 displays Osaka’s medical areas geographically.

2. Uneven distribution of private psychiatric hospitals in terms of clinical activity

As mentioned above, Takaya pointed out that it is not possible to say that having a license to charge a psychiatric emergency hospitalization fee, which represents clinical activity, is related to either a hospital’s governance type or the separation of ownership and management²⁸. Takaya also pointed out that except for the Mishima and Minamikawachi medical areas, every medical area has at least one hospital licensed to charge a psychiatric emergency hospitalization fee²⁹. These are shown in Figure 3 and Table 3, where each “hospital number” corresponds to that used in Table 1 and Table 2. Hospitals with numbers in parentheses in Table 3 are included in Table 1 but not in Table 2.

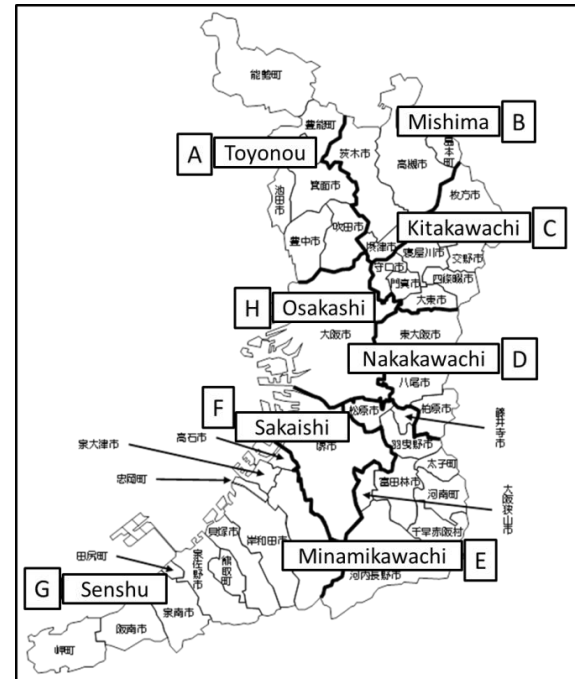


Figure 3. Second Medical areas in Osaka, Japan.

Source: This Figure is modified, by the author, from the original version shown in the data in the website; <http://www.pref.osaka.lg.jp/iryo/keikaku/keikaku2013to2017.html>

Table 3. Private hospitals licensed to charge a psychiatric emergency hospitalization fee and their medical areas

Medical area	Japanese name of a medical area	Hospital number
A	Toyonou	16
B	Mishima	
C	Kitakawachi	9
D	Nakakawachi	(23)
E	Minamikawachi	
F	Sakaishi	32, (48)
G	Senshu	8
H	Osakashi	(17)

Source: This Table is modified from Tables 1 and 2, and Figure 3.

According to Table 3, an uneven distribution of hospitals having “a license to charge a psychiatric emergency hospitalization

²⁸ Takaya, 2016, pp.41-47

²⁹ Takaya, 2016, p.48

fee” can be observed among each medical area.

3. Relationship between the numbers of regular doctors and psychiatric beds

This study considers having a license to charge a psychiatric emergency hospitalization fee as an indicator of clinical activities in each hospital. Each hospital is assigned a specific number of hospital beds by each prefectural government, a number that is indirectly, under the control of the Ministry of Health, Labour and Welfare. The allocated number of beds corresponds to the area of the hospital wards. Therefore, the number of beds can be considered as an initial value. On the other hand, the number of regular doctors can be considered a variable in each hospital's evolutionary process because each hospital can or should recruit or control the number of the doctors in order to improve its activity. However, Takaya found multico-linearity between number of beds and number of regular doctors in the 30 private psychiatric hospitals³⁰.

4. Clinical competence and the number of regular doctors or psychiatric beds

The result of bivariate logistic regression analysis between the number of regular doctors (independent valuable) and having a license to charge a psychiatric emergency hospitalization fee (dependent valuable) showed no significant correlation (parameter estimate: -0.2020 , p-value: 0.0525). Neither did the result of bivariate logistic regression analysis between the number of psychiatric beds (independent valuable) and having a license to charge a psychiatric emergency hospitalization fee (dependent valuable) show (parameter

estimate: -0.00485 , p-value: 0.1638).

5. Overall hospital competence and the number of regular doctors or psychiatric beds

The result of bivariate logistic regression analysis between the number of regular doctors (independent valuable) and JCQHC authorizations (dependent valuable) showed no significant correlation (parameter estimate: -0.1183 , p-value: 0.0922). Neither did the result of bivariate logistic regression analysis between the number of psychiatric beds (independent valuable) and JCQHC authorizations (dependent valuable) show (parameter estimate: -0.0013 , p-value: 0.5459).

6. Competitiveness in each medical area

6.1. Clinical competence as a result of internal control

The relationship between clinical activity and number of regular doctors in private psychiatric hospitals will be discussed below by medical area, based on the data in Table 2.

Of the four hospitals in medical area A, hospital 16 has the most stable number of doctors (30). In medical area C, Hospital 9 has the most stable number of doctors (10). In medical area F, Hospital 32 has the largest number of regular doctors (46), and in medical area G, Hospital 8 has the second highest number of regular doctors of all 12 hospitals.

These results suggest that the number of regular doctors seems to have an important effect on the clinical activities of each medical area's hospitals. A strict standard is imposed to obtain a license to charge a psychiatric emergency hospitalization fee. This organizational hurdle can be an indicator for the

³⁰ Takaya, 2016, p.46

presence of internal control as well as external control; however, the mechanism of this internal control is unclear.

6.2. Overall hospital competence as a result of internal control

On the other hand, the factor “accredited facility,” which indicates JCQHC approval, can be an indicator representing the outcome of hospitals’ activities as well as an indicator of external control. In Table 2, all hospitals licensed to charge a psychiatric emergency hospitalization fee are “accredited facilities” according to JCQHC. However, not all hospitals approved by JCQHC have a license to charge psychiatric emergency hospitalization fee. Therefore, a license to charge a psychiatric emergency hospitalization fee is more difficult to get.

6.3. Relationship between internal and external control

Official information and data for each private hospital are too limited, as mentioned above, and internal control mechanisms and governance functions are not revealed; therefore, we cannot help consider the mechanism of internal control as being performed in a “black box”. Therefore, indicators for external controls described above could be a useful tool for estimating the results of internal controls.

6.4. Evolution of private psychiatric hospitals

Private “psychiatric hospitals” (in a broad sense) in Japan were founded after the Second World War perhaps in response to the public demand. This can be considered “the initial state” of the subsequent evolutionary path of the modern Japanese psychiatric hospital system. Most private psychiatric hospitals were founded in the 1950s and 1960s (Kazamatsuri,

2001, p.68). As indicated in Table 1, seven hospitals were founded in the 1950s and 23 in the 1960s (in all, opening-year data was available for 26 hospitals). Thirty hospitals out of 42 (71%) were founded in the 1950s or 1960s. As shown in Table 2, six hospitals were founded in the 1950s, and 12 hospitals in the 1960s (in all, opening-year data was available for 26 hospitals) Eighteen hospitals out of 26 (69%) were founded in the 1950s or 1960s.

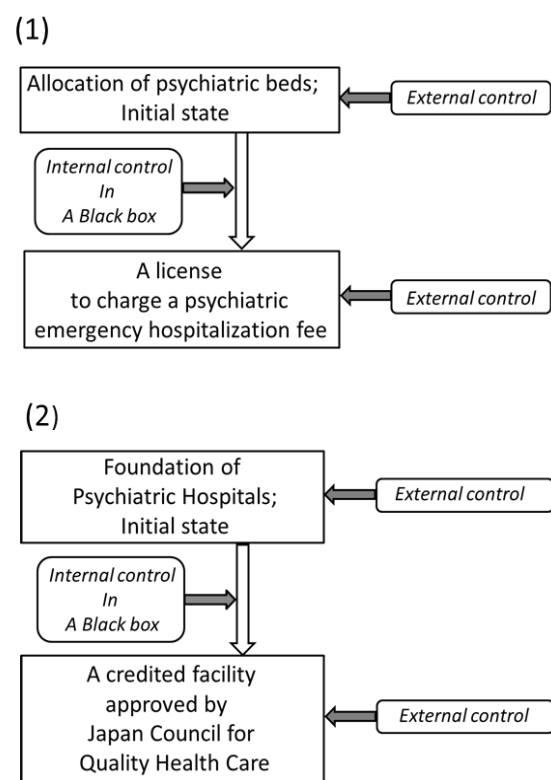


Figure 4. Evolutional processes under a combination of internal and external controls, about (1) the hospital’s clinical competence and (2) the overall hospital’s competence

Source: Author

The discussions in Sections 5-1, 5-2, and 5-3 are depicted by Figure 4. Numbers (1) and (2) in Figure 4 show the systematic evolutionary processes of private psychiatric hospitals in

terms of internal and external controls. From an external perspective, internal control is usually conducted in a “black box” region because the data and information are tightly held as confidential to the institution.

On the other hand, external control, which is usually performed by regulatory agencies or the like, is exerted in the presence of available information. The term of “external control” shown in (1) and (2) in Figure 4 seems different from “external control” defined in (Fujioka, 2013, p.197), but can be an indicator of external control or official approval from external regulatory agencies or the like. In this sense, the system of private psychiatric hospitals has evolved by strengthening internal controls in each hospital, and by receiving a license to and/or official accreditation as excellent hospitals.

7. Hierarchical formation in terms of clinical competence

Despite multiple attempts by the author, previously disclosed data and information related to the number of regular doctors and number of psychiatric beds has been elusive to retrieve, even from disclosure system of the regulatory agency. Therefore, a cross-sectional study was conducted to investigate hierarchical formation of the private psychiatric hospital system in this study.

Table 4 is modified version of Table 2, in that the PB/RD Ratio (PB:RD), which is defined as psychiatric beds per regular doctor, and PED/PB Ratio (PEB:PB), which is defined as psychiatric emergency beds per psychiatric bed, are calculated, and the PB/RD Ratio column rearranged in ascending order (unnecessary columns in this section are omitted).

The first, second, and fifth-ranking hospitals in PB: RD in Table 4 (Hospitals 32, 16, and 9, respectively) are licensed to charge a psychiatric emergency hospitalization fee. The PEB: PB of these hospitals is 0.24, 0.25, and 0.22, respectively. Hospital 8 (Shichiyama) is an exception because its PED: PB is 0.075, which is much lower than those of the other three hospitals mentioned above.

Table 4. Psychiatric Beds per Regular Doctor and Psychiatric Emergency Beds per total bed (PB/RD ratio and PED/PB ratio, respectively)

Number	Hospitals (Abbreviation)	Medical district	Regular doctor (RD)	Psychiatric beds (PB)	PB/RD Ratio	Psychiatric emergency beds (PEB)	PEB/PB Ratio
32	Hannan	F	46	690	15	168	0.24
16	Sawa	A	30	455	15.2	114	0.25
15	Kouai	B	10	221	22.1	0	0
41	Tanpisou	E	12	310	25.8	0	0
9	Neyagawa	C	10	267	26.7	60	0.22
31	Mikunigaoka	F	5	144	28.8	0	0
14	Kosaka	D	17	537	31.6	0	0
7	Keihan	C	9	306	34	0	0
40	Shinabuyama	B	8	273	34.1	0	0
29	Sakamoto	D	16	546	34.1	0	0
45	Ozone	A	16	557	34.8	0	0
38	Yao	D	14	513	36.6	0	0
3	Yoshimura	E	6	222	37	0	0
39	Kaede	G	4	150	37.5	0	0
44	Hamadera	G	20	749	37.5	0	0
2	Kijima	G	13	492	37.8	0	0
33	Kokoroa	G	11	450	40.9	0	0
34	Izumichuou	G	5	206	41.2	0	0
37	Minou	A	8	345	43.1	0	0
10	Kaizukachuou	G	9	406	45.2	0	0
13	Osakasayama	E	6	279	46.5	0	0
20	Ainohanzono	A	13	606	46.6	0	0
1	Mizuma	G	11	541	49.2	0	0
8	Shichiyama	G	13	640	49.2	48	0.075
4	Sakane	G	3	150	50	0	0
12	kumeda	G	9	494	54.9	0	0
11	Orenji	B	3	240	80	0	0
43	Kisen	G	3	260	86.7	0	0
27	Kansaisanatoriumu	G	2	192	96	0	0
35	Mihara	F	5	562	112.4	0	0

Source: This Table is modified from Table 2.

Hospital 8 (Shichiyama) in Table 4 is located in medical area G in Figure 3. The PB: RD of Hospital 8 is ranked eighth among all 12 hospitals in medical area G (Table 2), which means Hospital 8 seems to be an ordinary private psychiatric hospital. On the other hand, Hospitals 32, 16, and 9 have top-ranked PB:RD in their respective medical areas (F, A, and C).

In this sense, $PB:RD=49.2$ and $PEB:PB=0.075$ for Hospital 8 may be an outlier among Hospitals 32, 16, 9, and 8.

Hospital 16 in Table 2, 3 and 4 is the only private psychiatric institution licensed as a Social medical corporation (*Shakai Iryou-houjin* in Japanese), which suggests the hospital undertakes a very high level of public-interest activity. The system of social medical corporation was established in 2008³¹. This system aims to act strongly in the public interest. The number of social medical corporations in Osaka, Japan is 31 as of 1 April, 2016³².

Hospital 14 in Table 2 and 4 is the only hospital established by Social Welfare Corporation (*Shakaifukushi-houjin* in Japanese)³³. The other hospitals in Table 2 and 4 are established by incorporated medical institutions.

8. Uneven distribution of psychiatric beds

A working paper No. 352 of the Japan Medical Association Research Institute reported the distribution of psychiatric beds in Osaka (www.jmari.med.or.jp). The reported deviation value of the number of psychiatric beds per person for each medical area is shown in Table 5. Letters A–H in Table 5 corresponds

Table 5. Uneven distribution of psychiatric beds

Medical area	A	B	C	D	E	F	G	H
Deviation value of the number of psychiatric beds per population	47	54	45	48	50	54	69	37

Source: This Table is created based on the data in the website; www.jmari.med.or.jp.

to the letters in Figure 3, and Tables 3 and 4. In Table 5, the deviation values were derived based on the averages and standard deviations in Japan.

The deviation value of medical area G and H is significantly high and low, respectively, which shows the uneven distribution of psychiatric beds in Osaka, Japan. The causal factors for situation remain to be investigated, though the result here is similar to that offered in the discussion of Table 4. Medical area G received excessive total psychiatric beds (Table 5), but was not successful in obtaining psychiatric emergency beds (Table 4).

(3) Conclusion

This study showed that, psychiatric beds as well as incorporated psychiatric hospitals that have “a license to charge a psychiatric emergency hospitalization fee,” are distributed unevenly among medical areas in Osaka.

On the other hand, a hierarchical structure of private psychiatric hospitals was observed in each medical area where an incorporated psychiatric hospital possessing “a license to charge a psychiatric emergency hospitalization fee” is located.

The result of this study might provide a framework for investigating other types of hospitals in the absence of internal hospital data.

A limitation of this study is that the internal controls utilized in each hospital could not be discerned because of too limitedly disclosed data, and that the hierarchical formation process of incorporated psychiatric

³¹ <http://www.mhlw.go.jp/topics/bukyoku/isei/igyoudl/shakaiiryouhouzin1.pdf>

³² [http://www.mhlw.go.jp/file/06-Seisakujouhou-10800000-](http://www.mhlw.go.jp/file/06-Seisakujouhou-10800000-Iseikyoku/0000073016_10.pdf)

[Iseikyoku/0000073016_10.pdf](http://www.mhlw.go.jp/bunya/seikatsuhogo/shakai-fukushi-jigyoku3.html)

³³ The Ministry of Health, Labor and Welfare:

<http://www.mhlw.go.jp/bunya/seikatsuhogo/shakai-fukushi-jigyoku3.html>

hospitals could not be investigated utilizing time-series data.

In the future, the process formation of the psychiatric hospital system remains to be investigated from an historical viewpoint in order to reveal the systems influencing Japan's medical institutions.

References

- Fujioka, Eiji (2013). *Iryokikan no Gavanansu to Kansa* (The governance and inspect of medical institutions). Tokyo: Chuokeizai-Sha.
- Hotta, Kazuhiro (2012). *Hi-eirisoshiki no Riron to Konnichitekikadai* (The theories about nonprofit organizations and current subjects of research). Tokyo: Maruzen Publishing.
- Kawabuchi, Koichi (2004). *Dairokuji Iryohou kaisei no Pointo to Taiousenryaku* (The points of the 6th revision of the Medical Care Act, and the strategies for it). Tokyo: Japan Medical Planning.
- Kazamatsuri, Hajime (2001). *Wagakuni no Seishinka-iryō wo Kangaeru* (On the psychiatric medical care in Japan). Tokyo: Nippon Hyoronsha.
- Matsuo, Makoto (2009). *Gakushu-suru Byōin Soshiki* (Self-reforming Medical Institutions). Tokyo: Dobunkan Shuppan.
- Matsubara, Yumi, and Tanaka, Shigeru (2004). *Iryō-houjin no gavanansu ni tsuite* (On the governance of incorporated medical institutions). Tokyo: The ministry of Health, Labour and Welfare. (<http://www.mhlw.go.jp/topics/bukyoku/isei/igyō/igyōukeiei/ken-toukai/4k>)
- Takaya, Masahiko (2015). Nihon ni okeru Byōin-seido no Sinka to Kouekisei ni Kansuru Kousatsu - Ipanbyōin to Senmon-i Seido wo Reitoshite - (On Evolution of Hospital System in Japan and Public Interest of Japanese Hospitals - Especially on Regular Hospitals and on Training for Specialists -). *Journal of Association for Research on NPOBP*, Vol.17, pp.107-120.
- (2016). Iryō-houjin ni okeru gavanansu to akutibiti -Seishinkabyōin ni okeru Jishoubunsekijyōron- (The Relationship between Forms of Governance and Activity in Incorporated Medical Institutions- Preliminary Research for Empirical Analysis of Psychiatric Hospitals-). *Journal of Association for Research on NPOBP*, Vol.18, pp.39-49.

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Entrepreneurial Activities and Residential Networks of Creative Areas in Japan and Korea

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Abstract

This study surveyed and compared the creative and entrepreneur activities of small-size local areas in Japan and Korea adopting creative city policies with qualitative analysis. The result showed that the tolerance of these areas had influence on the entrepreneur activities, and the strength of social network among citizens had related with the effect of creative city policies. Along with the findings from the previous studies, this study proposes a new finding that residential network, which has not been discussed in the original creative city theory, and its strength could be essential factors affecting success of creative city policy and entrepreneur activities.

Keywords

Creative city, Entrepreneurship, Residential Networks

(1) Introduction

The theoretical background of creative city policy can roughly be divided into two streams. One is based on Landry (1995) and the other is on Florida (2004). This study is based on the latter as it is more widely adopted.

As a bearer of modern economy, Florida pointed out the existence of “creative class,” a group of people engaged in economic activities with their creativity as initial capital, and “creative economy” sustained by them. He criticized conventional policy which tried to increase population by inviting large-size factories, and insisted that local area could

attract creative class, give birth to creative firms, and finally succeed in regional vitalization through making its environment attractive for creative workers. Specifically, he classified professions such as scientists, artists, designers, entertainers as “Super Creative Core” and defined adjacent professions, such as managers, as “Creative Professions.” People belonging to these classes exceeded 30 percent of total population in the United States according to Florida (Florida, 2004).

Creative industry excels others in production effectiveness. For example, although workers of creative industry accounted only four

to six percent of the total workforce in the United Kingdom, its output of about 21 trillion yen far exceeded that of financial sector (NESTA, 2004). According to Yoshimoto (2009, p.42), Japanese creative industry had 250 thousand offices and 2.19 million employees in 2006, which accounted for 4.4% and 4.0% of the whole offices and employees respectively. According to the trial calculation of Nomura (2012, p.23), the output of Japanese creative industry was 64.4 trillion yen, comparable to those of agriculture (8 trillion yen), financial industry (98 trillion yen), steel industry (16 trillion yen), automobile industry (including parts industry) (42 trillion yen), medical welfare industry (42 trillion yen). This indicates that creative industry is one of highly efficient industries which can produce large output with small workforce.

Florida (2004) pointed that three Ts - Technology, Talent and Tolerance - were required in order to enhance creative economic activities of these classes. The area with these three elements were said to be able to bear creativity, attract creative workers, give birth to creative firms created by entrepreneurs, and keep growing regionally.

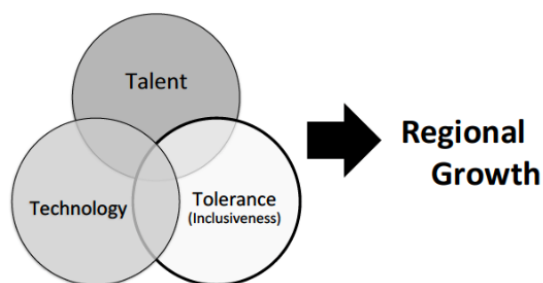


Figure 1. Florida's 3Ts for Creative City

Source: Florida, 2004

(2) Background in Japan and Korea

Florida's theory was introduced into Japan

in the beginning of the 21th century, and some of local governments had adopted it as the theoretical basis for their policies.

First of all, Kanazawa Association of Corporate Executives started an international conference "Kanazawa Creative City Conference" in 2001. Then Yokohama came to the first city to adopt creative city policy by establishing "Creative City Promotion Section" and starting "Creative City Yokohama" project in 2004. Sendai, Kobe and some other cities followed Yokohama, but this movement was mainly observed in large cities such as ordinance-designated cities in Japan (Sasaki, 2012).

Japanese Agency for Cultural Affairs launched "Creative Cities Network Japan" in 2013, which held small-size autonomies such as Higashikawa town in Hokkaido prefecture (population 7,800), Nakanojo town in Gunma prefecture (population 17,000). The Agency announced that it would promote the creative city policy even for areas populated below 100,000.

However, most of researches have focused on large cities, and few of them have discussed whether this creative city policy model worked even for a small-size autonomy. Kang and Kawaji (2015) conducted fieldwork on a marginal settlement implementing the policy, and found that although it was effective for entrepreneur activities and business performance in the area, unexpected reverse economic effect was caused by the fact that regional intolerance drove out immigrated entrepreneurs and artists from the area.

Creative city policy has been aggressively pursued in not only Japan but also Korea, mainly among large to middle cities. For instance, Incheon city joined UNESCO Creative

Cities Network in the field of Craft and Folk Art, Seoul city did in the field of Design and Jeonju did in the field of Gastronomy.

In addition to this, Korean government started to implement creative city policy¹.

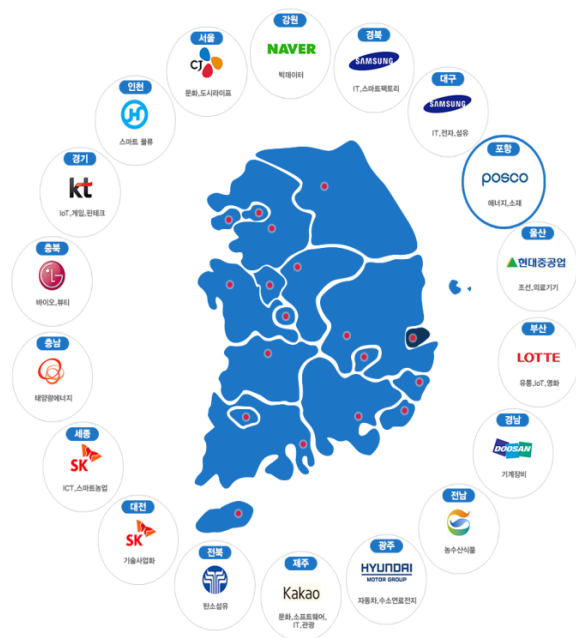


Figure 2. Creative & innovative cities and supporting companies in Korea.

Source: Korean Creative Economy & Innovation Center, 2016.

The government designated eighteen cities throughout Korea, where leading companies were designated as implementing entities, and started “Creative Economy Innovation Center” project aiming at creation of creative economy by a policy-driven approach. This is a mechanism in which each company is responsible for promotion of creative economy in the area.

On the contrary to the governmental approach, there is an area famous for its

residential approach. That is Seongmisan Village in Mapo district of Seoul city, where community development has been led by residents. They started business such as theaters, schools and cafes consecutively, and became popular even among Japanese citizens engaging in regional vitalization. Related books were published (Empublic & Nihon Kibou Seisakujo, 2011) and visiting tours were conducted in Japan².

(3) Research

1. Research Question

Creative city policy has come to be implemented in not only large cities, but also small-size areas as stated above. Kang and Kawaji (2015) conducted a survey on a marginal settlement implementing the policy, and found the unexpected economic effect caused by the fact that regional intolerance ousted creative workers to entrepreneur activities outside the area. In order to explore the difference between characteristics specific to the creative city activities of small-size areas and those of large cities, we decided to conduct surveys in wider areas.

Specifically, our objectives are to explore (1) whether creative city policy is effective even for small areas, (2) if it is so, how it contributes to development of the area, (3) what kind of influence entrepreneur activities receive, by surveying typical cases of small-size areas vitalizing communities with creativity (two in Japan, one in Korea).

2 Research Method

at that time, some of which included “Seongmisan Cooperative Visiting Project” by NPO Corporation Akatsuki, “Let’s go to see, as ‘town development’ in Seoul is awesome” by Bukasu Do! Regional Revitalization Section.

¹ In President Park Geun-hye’s first press conference in Jan 6th 2014 after her inauguration.

² We encountered some of tours from various places, such as Tottori prefecture in Japan. Many other tours were held

We adopted qualitative approach for small areas vitalizing communities using creativity. Specifically, we visited related facilities and interviewed policy makers. The interviews were recorded, converted into text, and analyzed with SCAT 4-step coding method (Otani, 2007).

The surveyed areas were Yanedan district in Kanoya city, Kagoshima prefecture (conducted in 2014), central area of Kurume city, Fukuoka prefecture (2015), and Seongmisan Village in Mapo district of Seoul city, Korea (2016).

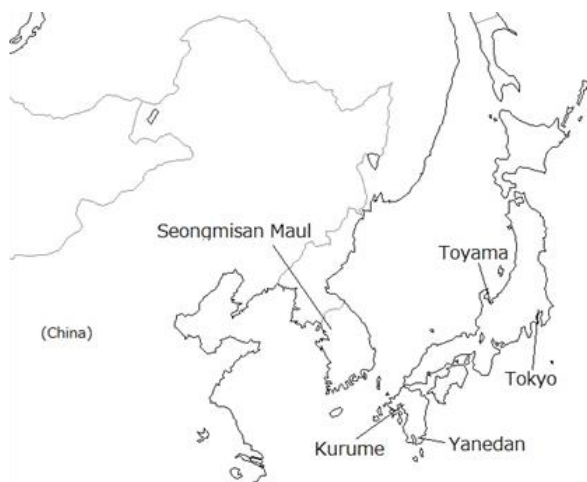


Figure 3. Creative cities in Japan and Korea

Source: Prepared by authors.

Let us explain the reason why these areas were chosen. There are four research fields regarding creative cities (Table 1), large city with population decreasing, large city with population increasing, small area with population decreasing, and small area with population increasing.

For large creative cities (with population around more than 0.5 million), there are various reports already. For example, City of Yokohama and Suzuki (2010, p.130-231) summarized characteristics of twelve creative cities, and

Kang (2013) studied Sendai and Kobe cities.

For small creative areas, there are few studies conducted at this point, but the study of small area with population decreasing could mislead us to the problem of depopulation. Thus we excluded this field and concentrated on “creative small area with population increasing,” and selected three typical areas, Yanedan, Kurume city and Seongmisan Village. They are not only small size population increasing areas, but also famous for creative activities. Yanedan has its own source of income based on its creative regional management philosophy (Toyoshige, 2004). Creative regional economic activities of Kurume city are supported by entrepreneurs (Kawaji et al., 2016, p.1-4). Seongmisan Village has built its local infrastructure from the point of building resident associations (Empublic & Nihon Kibou Seisakujo, 2011, pp.40-45).

Table 1. Creative city research matrix

Population	Large City	Small Area
Decreasing	Kobe	Depopulation
Increasing	Yokohama Sendai	<u>Not studied</u>

(4) Results

1. Yanedan district

Yanedan district is a small settlement in Kanoya city, Kagoshima prefecture. It had about three hundred residents and aging rate of over 30 percent in 2015. It had carried out aggressive reforms (starting town businesses producing and selling Shochu (Japanese traditional white liquor), selling deodorants, etc.) since Mr. T (age 75) was installed as a president of a residents' association.

Table 2. Concepts extracted from interviews (Yanedan district)

Interviewee	T	A	B	C	D	E
	70s	40s	30s	30s	60s	60s
	Male	Male	Female	Male	Male	Male
	President of a residents' association	Photo Design	Grass Sculpture	Painting	Bronze Sculpture	Ceramics
Concepts						
Enhancing creativity of the area	++	-	-	—	—	+
Enhancing creativity of his/her own	-	—	-	+++	-	-
Enhancing skills of his/her own	N/A	+++	++	+++	++	+
Tolerance of the area	++	—	—	—	—	—
Entrepreneur activities in the area	++	+	-	-	-	+
Entrepreneur activities outside the area	N/A	+++	-	+++	+++	+
Willing to live continuously	+++	—	—	—	—	+
Total Valuation	+++	++	++	+++	++	++

Source: Prepared by authors.

The reform was successful and its residential internal revenue sources totaled to be over five million yen, which made it possible to distribute bonus of ten thousand yen to each of one hundred twenty two households.

An artists invitation project had been started since 2006, aiming at enhancing cultural level of the area by letting artists live vacant houses with low rent fee. Houses of immigrated artists were named as Geihinkan (VIP guest house), galleries reformed from vacant houses were scattered around the district, and an art festival was held once a year. We interviewed Mr. T and all artists living in the district at the time of survey. The interviewed contents were converted into text, coded, and reconstructed by concepts (Table 2).

The table indicates the creative city policy in the area caused discontent, dissonance and disagreement on future direction in both sides of residents and artists.

Residents had little interest in creativity of artists or enhancement of regional creativity.

On the other hand, artists suffered from such indifference, had difficulty in adapting themselves to old conventions in the area, and were apt to disconnect from association with local residents. Tolerance of the area was at the worst level, which made the artists discontent.

As a result, the artists got out of the district to outside area and achieved good performance by actively engaging in entrepreneur activities with firms and organizations there. This made the district lose some of the outcome of creative economy, but they still could establish its brand as “village of artists.” Thus both of residents and artists accomplished part of their objectives.

In contrast to this, one of the essential objectives of creative city policy, “development of regional creativity,” was not observed in the area, whereas it was active outside the area. Judging from this finding, we confirmed that a creative economy model was effective even for small-size autonomies, but the largest inhibitor was tolerance.

2. Central area of Kurume City

Kurume city is a core city holding thirty million people, and one of few cities with increasing population in Japan. Nishinippon Shinbun (2014) listed three reasons for the increase as follows; (1) low house acquiring cost, (2) reliable medical system, (3) increased employment by local firms, which reduced draining out of young workforce.

For promoting creative activities in city, Kurume city invited Ms. Yuko Yamashita to Highmart Kurume, a third sector company. She was a regional vitalization producer and succeeded in promoting creative activities in urban areas such as Toyama city (Yamashita, 2013). Under her planning and guidance, we conducted non-structured interviews to residents involving creative activities in Kurume city. Note that we moved from place to place on foot, indicating that creative activities were carried out within walkable distance.

Subjects were Ms. Yuko Yamashita (indicated as Mr. Y), Mr. F, a designer/producer of Kurume Kasuri (a traditional splashed textile), Mr. G, a Kurume Kasuri wholesaler and a cheap sweet shop owner, Mr. H, a video creator, Mr. I, a business conductor, and Mr. J, a real estate renovator. All of them were managers, as young as their thirties, had territorial relationship, and engaged in entrepreneur activities.

Most of interviewees started their businesses after working or studying outside Kurume city. All of them strongly respected Ms. Yamashita, and stated that she brought weak ties into strong territorial and blood ties of Kurume, which had influenced on their creative activities at that time.

Yamashita said “my job is to connect person

with person.” According to Mr. I, each subject engaged in a job which he/she believed to realize his/her “belief” and worked separately before she came to Kurume. They tried to vitalize the area using various methods, but such trials were not successful. One of the reasons could be lack of connection among them. “We knew each other’s face, but that is all.”

After meeting at an event held by city government and noticing this problem, they started “Wisdom Connection Project,” (Yamashita, 2015, p.18) in which participants connected their pieces of wisdom. “It did not come out in a good shape actually” (Yamashita, 2015, p.17) at first, but “Wisdom such as vision, idea, network in each area began to connect each other” (Yamashita, 2015, p.21) after finding that “there are many active people!” (Yamashita, 2015, p.19) in each area of Kurume city according to Yamashita.

In general, the eager activity gets, the stronger human relation gets. Such tendency is strong in local cities, where territorial, blood and educational relationships temper the tendency.

Under such situation, Yamashita succeeded in not only connecting people, but also bringing many points connecting Kurume residents and outside people. For example, she invited Ms. Tomsuma Alternative, who is a contemporary art performer, from Toyama prefecture in “2016 Wisdom Connection Lecture” held in Feb 2016. By asking her to explain cases and information nothing to do with Kurume, she tried to break firm relationships in the area. She continues this kind of activities, which are thought to bring weak ties into the area.

3. Seongmisan Village in Mapo District of Seoul, Korea

Table 3. Concepts extracted from interviews (Kurume city)

Interviewee	Y	F	G	H	I	J
	40s	30s	30s	30s	30s	30s
	Female	Female	Male	Male	Male	Male
	Regional activation	Textile Design	Textile Shop	Video Artist	Share Office	Rental House
Concepts	Coordinator				Business	Business
Entrepreneurial Environment	++	++	+	+++	+++	+++
Experience outside Kurume	+++	++	-	+++	++	+
Business Performance	—	+	++	+	+	+
Willingness to make regional contribution	++	+++	+++	+++	+++	+++
References to Strong Network	+++	++	++	++	+++	++
References to Weak Network	+++	++	++	++	+++	++
Respect to Yamashita	N/A	+++	+++	+++	+++	+++

Source: prepared by authors

A part of residential area adjacent to downtown Seoul is known as Seongmisan Village. Twenty-five households began to connect each other and engaged in regional activities, taking the opportunity of building a nursery by themselves. They have continuously engaged in entrepreneur activities, making the area known as a creative activity area. Today, residents there run cooperatives, restaurants, groceries, cafes, theaters and so on by themselves.

The area holds around 0.1 million residents. Two thousand citizens participate in regional activities, of which ten percent live outside the area (Empublic & Nihon Kibou Seisakujo, 2011).

We interviewed Mr. S, a leader of residential activities of Seongmisan Village, visited facilities in the area, and conducted a literature survey in March 2016. The result is shown in Table 4.

The residents in Seongmisan Village do not receive any public fund, and engage in creative activities with their own funds. Mr. S told that

“we came to know that housewives usually have secret savings of ten million won (US\$ 10,000) or so.” Actually, most investors participating in entrepreneur projects invested around ten million won to cooperatives, restaurants, groceries, cafes or theaters.

The environment of these residential businesses is, however, harsh. One of the difficulties is specific to Korean lease contract, in which rent increases each time of renewal. “Rent rises more than twice, making us hard to continue business,” said Mr. S. Despite of it, more than twenty businesses have started by residents for more than twenty years, indicating their competency in entrepreneurship.

As stated earlier, not all of residents participate in these creative or entrepreneur activities. 1.8 thousand of 0.1 million residents participate, meaning that a participation ration is only 1.8 percent. Moreover, people living outside can also participate them. Thus, although these activities are strongly related to the area, they can be regarded as being

supported by weak ties, which hold residents together with shared wishes such as “I want to protect regional environment,” “I want to stick to my own lifestyle.”

However, there were not only weak ties but

also strong ties, connecting entrepreneurs who have strong and clear will of “want to start my business,” “want to be successful in business” in specific fields.

Table 4. Concepts extracted from an interview and literature (Seongmisan Village)

Concepts	S	Articles & Fieldworks
	40s Female	Books, Thesis Visiting, Observation etc.
Entrepreneurial environment	++	++
Spontaneous creative activities	++	+++
Business performance	–	+
Willingness to make regional contribution	++	++
References to strong network	+++	++
References to weak network	+++	++

Source: Prepared by authors.

(5) Discussion

Viewing from the aspect of theory of “strength of weak ties” (Granovetter, 1973), both of weak and strong ties had influence on creative and entrepreneur activities in three cases described in this research.

“The strength of weak ties” is a theory addressing that information of high novelty and value can be obtained more from weakly connected network (weak ties), such as “friend’s friend,” than from strongly connected network (strong ties), such as blood or territory relation. This theory implies that weak ties enhance exchange of information of high novelty and value, thus stimulate creative and entrepreneur activities.

In Yanedan district, artists invited from outside felt intolerance to strong regional ties, and sought weak ties outside the district. Consequently, the entrepreneur activities were vitalized and content level of immigrated artists increased.

In Kurume city, although activities and

relationships restricted inside the area had a limitation (they tend to become strong ties), thanks to the construction of connections among people spatially separated by Mr. Y, human relations with weak ties among them were successfully formed. This type of network exerts powerful influence of exchanging useful and novel information, which is not visible from inside of network with strong ties.

In Seongmisan Village, strong ties aiming at starting business together were naturally spawned among people tied weakly. This mixture of weak and strong ties was observed to vitalize the area.

Weak ties bridge gap between strong ties, and play an important role in conveying valuable information. This study thinks that a mixture of weak and strong ties facilitates communication and vitalizes creative and entrepreneur activities.

The previous studies of creative cities have not put much emphasis on the connection among residents so far. For example, Florida

(2004, 2005) insisted that creative workers gathered to the area naturally as the level of regional creativity increased, regardless of blood or territorial relationship.

Our results, however, cast a doubt on it, as connection among residents is found to be an important factor affecting creative activities.

Some studies also reported the similar results. An international research team of EU committee (ACRE project) conducted a questionnaire survey on thirteen creative cities in EU (Martin-Brelot et al., 2010). Their result showed that creative workers' willingness to live in creative cities was much more strongly affected by personal connections (such as family members or friends live in the same cities, or close places) than working environment. This fact was inconsistent with the widely accepted theory that good working environment with sufficient tolerance attracted creative workers.

Their and our findings jointly indicate that residential network might be essential for creative activities, and research on it should be promoted.

Kang (2013) surveyed three advanced cities implementing creative city policy Sendai, Yokohama and Kobe in Japan, and pointed out that although these cities helped creative workers by offering abandoned facilities, such help might hinder spontaneous development of creativity.

Creative economy theory originally states that creative environment develops and attracts creative works naturally without public support. This statement and our findings suggest that not only public support of facility or fund, but also policy aiming at bringing strong and weak ties to residents might enhance spontaneous creative activities when adopting creative city

theory.

Although we made some contribution to creative studies, our findings should not be generalized as they are based on the surveys in limited areas and time interval. To be specifically, we focused on small population growing areas in Japan and Korea, where creative activities were observed (Table 1). Let us summarize the space and time boundary conditions of our study as follows:

- a. Part of Eastern Asia centered in Japan and Korea.
- b. Area where creative economic activities can be observed.
- c. Not large region, but small area.
- d. Not population decreasing, but increasing area.
- e. At the time from Dec. 2013 to Mar. 2016, when our surveys were conducted.

(6) Conclusion

This research found out three important facts.

- a. In Yanedan district, immigrants engaging creative activities escaped from strong ties of old residents, and sought for weak ties outside the district.
- b. In central area of Kurume city, a producer invited from outside brought weak ties and creativity from outside.
- c. In Seongmisan Village, regional active-ties were supported by weak ties among residents as they were started as volunteers' weak connections. Note that some activities, such as starting a business with joint investment, could be supported by strong ties.

Judging from these three findings, we

concluded that when implementing creative city policy in small-scale area, two points should be considered.

- a. Social tie is one of the required components (both of strong and weak ties are important).
- b. Weak tie is necessary for creative city policy.

The previous study of creative cities had seldom focused on residential network, and Florida's creative city/economy theory insisted that creative workers migrate among cities looking for talent, skills, and tolerance without minding such network. Our findings and Martin-Brelot et al. (2010), however, cast doubt on such a simple view.

Our findings imply that strong and weak ties of residential network interact each other, and exert influence on will of living and creative activities of creative workers. The underlain mechanism is, however, unknown. Further research is needed for clarifying processes and variables in it. Moreover, the way of building these ties should be studied.

One way of approach to this problem could be management resource needed for starting creative or business activities. That is, by scrutinizing benefits of strong/ weak ties which vary from resource to resource, we may clarify the processes where these ties exert influence on the activities. For example, the benefit of strong ties on human resource when starting the activities may be "obtaining core management staff" since they are glued with strong ties. On the other hand, that of weak ties could be "obtaining various talents" as they come from weakly tied human network. Thus, we may infer that both of strong/weak ties play important roles in the process of obtaining

human resource, but with different approaches.

Another approach is society type theory, *Gemeinschaft* and *Gesellschaft*. *Gemeinschaft* means a community where its members are strongly connected with territorial and blood ties, while *Gesellschaft* is an association where its members are weakly connected with benefits or contracts. The former often refers to a pre-modern society where people gather on community events, while the latter to a modern global society where people communicate with SNS. By linking weak/strong tie theory with *Gesellschaft*- *Gemeinschaft* theory, we may approach to the problem of building ties. For example, we may say that community activities are effective for building strong ties in *Gemeinschaft* while SNS are beneficial for weak ties in *Gesellschaft*.

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Reference

- City of Yokohama, and Suzuki, Nobuyoshi (Ed.) (2010). *Sozosei ga Toshio wo Kaeru* (The Creativity Changes the Cities), Kyoto: Gakugei Shuppan Sha.
- Empublic and Nihon Kibou Seisakujo (2011). *Machi no Kigyō ga Dondon Umareru*

- Komyunitiyi* (Community where Town Business Starts out One after Another), Tokyo: Nihon Kibou Seisakujo.
- Florida, R. (2004). *The rise of the creative class*. New York: Basic books.
- (2005). *The flight of the creative class*. New York: Harper Business.
- Granovetter, M. (1973). The Strength of Weak Ties, *American Journal of Sociology*, Vol. 78, Issue 6, pp.1360-1380.
- Kang, R. (2013). 10nen me no kurieitibu siti: Sendai, Yokohama, Kobe no jirei kara, (The 10th Creative Cities: Sendai, Yokohama and Kobe cases), *Proceedings of The 35th Annual Conference of Japan Creativity Society*, pp.119-122.
- Kang, R., and Kawaji, T. (2015). A Qualitative Study to Explore the Difference Between Creative Cities and a Village in Japan, *Proceedings of The 10th International Conference on Knowledge, Information and Creativity Support Systems (KICSS2015)*, pp. 265-274
- Kawaji, T., Kang, R., and Park, J. (2016). Creative Economic Activities and Citizen Network in Kurume City, *Proceedings of the 1st Conference of West Japan Branch of Japan Creativity Society*, pp.1-4.
- Martin-Brelot, H., Grossetti, M., Eckert, D., Gritsai, O., and Kovacs, Z. (2010). The spatial mobility of the 'creative class', A European perspective. *International Journal of Urban and Regional Research*, 34(4), pp.854-870.
- National Endowment for Science, Technology and the Arts (NESTA) (2004). *Creating value: How the UK can invest in new creative businesses*.
- Nishinippon Shinbun (2014). Kurumeshi no Jinkou, Irei no 13 kagetsu Renzokuzou, Ima Naze? (Population of Kurume city, Unordinary 13 Months Continuously Increase, Why Now?). qBiz, Nishinippon Shinbun Digital Version, May 26th 2014, <http://qbiz.jp/article/38474/1/> (viewed March 13th 2016).
- Nomura Research Institute (2012). Heisei 23 Nendoban - Chitekizaisanken Wahkingu Gurupu nado Shingaitaisaku Kyoukajigyou Houkokusho (Heisei 23 Financial Year Version - Report of Enhancing Preventive Measures Business against Invasion such as Working Group of Intellectual Property Right). Tokyo: Nomura Research Institute.
- Official Statistics of Japan. The 2015 Population and Housing Census (Preliminary report), http://www.e-stat.go.jp/SG1/estat/GL08020103.do?_toGL08020103_&tcID=000001068779&cycleCode=0&requestSender=search (viewed August 16th 2016).
- Sasaki, Masayuki (2012). *Souzoutoshi he no Chousen - Sangyou to Bunka no Ikiduku Machi he* (Challenge to Creative City - Towards a City where Industry and Culture are Thriving). Tokyo: Iwanami Gendai Bunko.
- Sendai City. Estimate of the Population, www.city.sendai.jp/kikaku/seisaku/toukei/jinkou/graph1.html (viewed August 12th 2016).
- Toyoshige, Tetsuro (2004). *Chiiki Saisei* (Regional Revitalization). Kagoshima: Asantesana.
- Yamashita, Yuko (2013). *Nigiwai no Ba, Toyama Gurando Puraza: Kadouritsu 100% no Kokyo Kuukan no Tsukurikata* (Field of Bustling, Toyama Grand Plaza: How to Make Public Space with 100% Operation

Rate). Tokyo: Gakugei Shuppan sha.

— (2015). *Sozo toshi teki katudou Kurume-hen* (Creative City Kurume). Power Point Document.

Yoshimoto, Mitsuhiro (2009). *Souzou-sangyou no Chouryuu 2: Tokusei ga Kiwadatsu*

Seireishiteitoshi (Stream of Creative industry 2: Ordinance-Designated Cities with Outstanding Characteristics). *NLI Research Institute Report*, 2009, pp.40-47.

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Impacts of Overtime Reduction on Psychological Well-Being for Japanese Research and Development Engineers: Positive and Negative Sides of Work Time Regulations

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Abstract

In recent years, Japanese employers increasingly impose restrictions on employees' work time. Reduced overtime work has impacted a large number of engineers employed in private firms, making it more difficult to put in extra hours to complete their work. As a result, the incidences of experiencing incompleteness and non-accomplishment in work have grown among Japanese engineers. This study investigates whether and how the overtime reduction affects engineers' work experiences and their psychological well-being. Results show that intensification in overtime reduction negatively affects engineers' work experiences regardless of their managerial status. It increases their job demands and unfinished work, while it reduces their workplace communication. Furthermore, overtime reduction is likely to deteriorate engineers' psychological well-being. Reduced overtime exhibited negative indirect influence on their work engagement and mental health via increased demands and reduced communication. Findings suggest that managing overtime work is an important aspect of human resource management of engineers, and it is imperative that we recognize immoderate work time regulations may bring about unintended negative consequences in engineers' work.

Keywords

overtime reduction, engineers, work engagement, depression, Japan

(1) Introduction

Long hours of work have been regarded for many years as an important characteristic of Japanese work lives (cf. Kuroda & Yamamoto, 2012; Ogura, 2007). It is officially reported that the annual work hours in Japan between 1999 and 2009 were over 1800 hours, and that the average annual hours worked exceeded 2,000 hours¹ in several years during this period (See Table1; Ministry of Health, Labour and Welfare, 2011). Full-time employees in Japan worked approximately 2000 hours per year, and this was 400 hours longer than the hours their counterparts in Germany and France worked (The Japan News, 2012).

Japanese employers, however, started to cut back on the hours of employees' overtime work soon after the financial crisis hit the economy in 2008 (See Table 1). Employer's restriction of overtime work has impacted a large number of R&D engineers employed in private firms, making it increasingly difficult for them to put in extra hours in work. As a result, the incidences of experiencing incompleteness and non-accomplishment in work grew among Japanese engineers.

Japan is an island country with limited natural resources, so that innovative, technological contributions that R&D engineers make are a crucial requisite for Japan's economic development. In order to elicit their continued contributions, it is important to look carefully at R&D engineers' work conditions.

Up till today, a limited number of studies have explored the psychological experiences of R&D engineers in Japan. Fujimoto and Nakata (2007) reported that Japanese engineers' motivation had declined between 1994 and 2005. They found that the negative effect of dissatisfaction with HRM on work motivation

had become exacerbated during the 9 years between 1994 and 2005. Such results imply that Japanese R&D engineers' psychological well-being may have deteriorated during the past two decades. Psychological well-being is conceptualized as a combination of positive affective states such as happiness (the hedonic element) and functioning with optimal effectiveness in individual and social life (the eudaimonic element) (Deci & Ryan, 2008). Huppert (2009) claims that psychological well-being is about lives going well, and it is the combination of feeling good and functioning effectively. Based on Schaufeli & Bakker (2004), we view engagement in work and mental health as two important factors of psychological well-being. While we believe that "living well" is important to all people regardless of occupations, it is highly likely that well-being is an important psychological resource which enables R&D engineers' creative performance at work. Yet, only a limited attention has been paid to this day to the Japanese R&D engineers' psychological well-being in relation to the circumstances of their employment.

The purpose of this study is to investigate how the intensified reduction of overtime work in Japanese firms after the financial crisis in 2008 affected R&D engineers' work experiences and their psychological well-being. Specifically, we address the following research questions: (1) Does reduction in overtime work increase Japanese engineers' job demands and decrease their workplace communication? If so, does it exert stronger impacts on managerial engineers than on non-managerial engineers? (2) Does overtime reduction deteriorate engineers' work engagement and mental health? If so, does it exert an indirect influence on them via increased job demands and decreased

¹ The average annual hours of work between 2002 and

2007 exceeded 2000 hours. In 2007, the average reached 2033 hours.

communication, or does it exert direct impacts on them?

This paper is organized in the following order. First, we overview the situations surrounding engineers' work in Japan, and we briefly review

our theoretical framework and analytic model. Then, we provide details of our method and report the results of statistical analysis. Finally, we discuss our findings and conclude this paper by indicating the direction for future research.

Table 1. Changes in Annual Work Hours between 1999 and 2009

Year	Average of Official Work Hours	Average of Actual Work Hours	Average of Overtime Work Hours
1999	1834	1990	156
2000	1835	1999	164
2001	1835	1990	155
2002	1836	2000	164
2003	1843	2016	173
2004	1836	2015	179
2005	1832	2012	180
2006	1837	2024	187
2007	1841	2033	192
2008	1820	1996	176
2009	1807	1972	165

Source: Ministry of Health, Labour and Welfare (2011)

Note: The survey was conducted among full-time employees in Japan.

(2) Backgrounds

1. Work Hours in Japan

In Japan, the importance of work-life balance is increasingly recognized by employers and employees, as well as the government. Most of the past research on work-life balance evolved around the key issue of how to reduce long hours of work in order to ensure sufficient time for private life. Needless to say, regulating long hours of work is important to improve workers' well-being. In this sense, it is probably true that overtime restriction in and of itself is a blessing for a majority of Japanese workers.

A cross-national comparison of the average annual hours actually worked by employees

shows that Japan is not the only country with long hours of work, but workers in Japan, U.S. and Korea work equally long hours² (Japan Institute for Labour Policy and Training [JILPT], 2013)³. In addition, the proportion of employees who work more than 60 hours per week is over 10 percent in Japan (Ministry of Internal Affairs and Communications, 2013), and the proportion of those who put in long hours of work is not only larger compared with other industrialized nations but is also as large as in other developing countries (Ogura, 2008). The average annual hours of overtime for Japanese workers between 2006 and 2008 (before the financial crisis) exceeded 180 hours.

² This comparison included both full-time and part-time workers.

³ Note that there are differences in the ways work hours are defined between OECD countries (JILPT, 2013; Ogura, 2008).

Also, Research Institute for Advancement of Living Standards (2009) pointed that the average daily hours of overtime for Japanese workers, especially men, exceeded 100 minutes. Note that this number does not include hours of unpaid overtime, or so-called “service overtime.” Therefore, if we are to include those hours, overtime work for Japanese workers will become even longer.

Historically, overtime work has been an integral part of Japanese management, and this “structured overtime” is one of the characteristics of the management in Japan. While firms are to pay extra to employees who work overtime,⁴ Japanese employers in many cases load their employees with an amount of work that easily exceeds what an employee can handle within standard work hours (Sato, 2008). Japanese employers tend to view this mismatch necessary since it allows them to adjust flexibly the volume of work without firing employees during the time of recession. This mismatch is one of the important background factors that sustained Japanese long-term employment, and both employers and employees tacitly agree to maintain the system. However, just after the financial crisis in 2008, most Japanese employers started to impose restrictions on overtime work in order to reduce labor costs. A survey on Japanese employers’ employment adjustment practices between 2009 and 2011 revealed that, followed by a temporary suspension of business and layoff, approximately 30% of Japanese enterprises regulated overtime work after the financial crisis (JILPT, 2014). In this survey, 42.1% of

Japanese respondent firms reduced overtime work in 2008 (immediately after the financial crisis), and 34.7% in 2009 (See Table 2; JILPT, 2014). Due to this employer reduction of overtime, work hours for Japanese employees, including R&D engineers, were significantly cut down.

2. Changes in Japanese R&D Engineers’ Work

Intensification in employer reduction of overtime after the financial crisis has caused unexpected problems in Japanese engineering workplaces. An earlier interview research conducted in Japanese manufacturing firms reported that engineers underwent a serious time shortage due to the overtime reduction, and as a result the incidences of experiencing incompleteness/ non-accomplishment in work were growing among them (Fujimoto, Shinohara, Tanaka, & Nakata, 2013). In addition, managerial engineers and team leaders, who normally worked in discretionary labor system⁵, were likely to be left with the job tasks that their subordinates could not complete within standard hours, so that the total amount of their work significantly increased, and more time pressure and stress were added on them.

In general, reduced overtime may be a blessing for workers. However, Fujimoto et al. (2013) pointed out that due to the intensified overtime reduction after the crisis a large number of Japanese employees, R&D engineers in particular, became increasingly unable to put in sufficient amount of time in work. Findings in this study showed that reduction of R&D engineers’ work hours had a significant negative

⁴ As a common practice in Japan, employees in managerial positions are treated as exempt. However, “the level and timing of assigning employees as exempt vary among firms depending on their own long standing practices” (Kuroda & Yamamoto, 2012, pp.252).

⁵ Discretionary labor system is an example of the flexible work hour system, and it is designed to allow employees in certain designated jobs to decide on how they utilize their

time when trying to accomplish their work. Research and development is one of the “professional services” jobs designated in the discretionary labor system. In addition, managers’ work hours are usually not regulated by Japan’s Labor Standards Act.

impact on the sense of accomplishment for Japanese engineers.

These results imply that reduction of

overtime may carry a connotation for R&D for engineers different from what we typically believe about reducing workers' overtime.

Table 2. Employment Adjustment Practices between 2008 and 2011 in Japan

Year		2008	2009	2010	2011
Total Number of respondent companies	N	974	2,108	1,997	1,913
	%	100.0	100.0	100.0	100.0
Cutback in Overtime Work	N	410	731	591	529
	%	42.1	34.7	29.6	27.7
Standstill/Reduction of Employment of New School Leavers	N	203	344	337	309
	%	20.8	16.3	16.9	16.2
Standstill/Reduction of Mid-Career Recruitment	N	231	377	317	276
	%	23.7	17.9	15.9	14.4
Temporary Suspension of Business and Layoff (Daily)	N	477	1,499	1,342	1,281
	%	49.0	71.1	67.2	67.0
Temporary Suspension of Business and Layoff (Hourly)	N	154	379	373	406
	%	15.8	18.0	18.7	21.2

Source: JILPT (2014), p.60.

Note: Numbers in the table represent multiple responses.

(3) Theoretical Framework

Our main focus in this study is whether and how overtime reduction affects Japanese engineers' work experiences and their psychological well-being. We explore how reduced overtime influences engineers' job demands, unfinished work and workplace communication, and then how these in turn affect their work engagement and depression. We draw on the job demands-resources model to framework these relationships among Japanese R&D engineers.

1. Job Demands-Resources Model

Job demands-resources (JD-R) model (Demerouti, Bakker, Nachreiner & Schaufeli, 2001) focuses on two types of work conditions, i.e., job demands and job resources. Job demands refer to "characteristics of the job that potentially evoke strain, in case they exceed the

employee's adaptive capability" (Bakker, Hakanen, Demerouti & Xanthopoulou, 2007). Specifically, job demands are "physical, social, or organizational aspects of the job that require sustained physical and/or psychological effort on the part of the employee, and are therefore associated with certain physiological and/or psychological costs" (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Examples of job demands include work pressure (including time pressure), emotional demands, adverse physical work environment, role ambiguity, role conflicts and overload.

Job resources, on the other hand, refer to work conditions that provide supportive means for employees when trying to accomplish their work. Specifically, job resources are "physical, psychological, social, or organizational aspects of the job that may (a) reduce job demands and the associated physiological and psychological

costs, (b) are functional in achieving work goals, and (c) stimulate personal growth, learning and development” (Demerouti, Bakker, Nachreiner & Schaufeli, 2001). Job resources may be located in several different levels, including organization (e.g., salary, career opportunities, job security), inter-personal (e.g., supervisor and co-worker support), organization of work (e.g., role clarity, participation in decision-making), and task (e.g., performance feedback, skill variety, autonomy) (Bakker, Demerouti & Verbeke, 2004).

Generally, past research suggests that job demands and resources are negatively related to each other, because high demands are likely to prevent the mobilization of job resources, and availability of job resources are likely to reduce job demands (Bakker and Demerouti, 2007). JD-R model suggests that an increase in job demands and a decrease in job resources may deteriorate individuals’ psychological well-being and reduce their work engagement.

Work engagement is defined as a positive work-related state of mind that is characterized by vigor, dedication and absorption (Schaufeli et al., 2002). Since vigor and dedication are considered as a reverse condition of exhaustion and cynicism, engagement is assumed to be negatively related to burnout (Shimazu et al., 2008). As Schaufeli et al. (2006) stress, work engagement and depression are negatively related, and engagement in work ameliorates individual mental health.

2. Analytic Model

The JD-R model emphasizes that job demands and resources are the two key determinants of employee well-being, and it is predicted that an increase in job demands and reduction in job resources are likely to result in deterioration of employees’ work engagement and mental health. We argue that time is a job

resource that engineers particularly value when they try to accomplish their work, and therefore overtime reduction necessarily decreases their valued resource of time, affecting the ways in which engineers engage in work.

Since overtime work is often allowed for when Japanese employers estimate the amount of work assigned to engineers, unless the total amount of work assignment is significantly cut back when overtime is reduced, they are likely to experience work overload and become unable to complete their assignment without extra work time to put in. Also in a situation like this, engineers may feel they have so little time for communication with others at work. Therefore, we expect that overtime reduction increases job demands and unfinished work for engineers, while it decreases the level of their workplace communication, and these in turn negatively affect engineers’ work engagement and mental health.

Note that overtime reduction usually affects work hours for non-managerial engineers, making it more difficult for them to complete their work within standard work hours. However, the work that non-managerial engineers are unable to complete has to be finished by their managers and team leaders. Managerial engineers and team leaders in general take charge of a wider range of jobs. In addition, leaders and managers in R&D divisions tend to participate in multiple R&D teams/ projects. In consequence, their job demands may increase significantly when they must take on additionally their subordinates’ unfinished tasks. Hence, the reduction of overtime work may affect managers and non-managers differently. We predict that overtime reduction has stronger impacts on engineers in managerial status, and it is likely to exert stronger influence on work engagement and mental health for managerial engineers. In this

study, we test an analytic model as shown in Figure 1, using data collected from among R&D engineers in Japan.

(4) Methodology

1. Data

The data used in this study come from an online survey “Survey on Work and Life among Research and Development Workers” conducted by Fujimoto in March, 2012. Samples were taken from over 22,500 Japanese engineers

registered at one online survey company, which consisted of 6,740 research and development engineers, 6,480 systems development engineers, 5,341 systems planning engineers. While the target number of respondents was set for 4,500, 4,482 engineers completed the survey. Our analytic sample for this study was 4,374 engineers, which consisted of 2,226 engineers in managerial positions and 2,148 engineers in non-managerial positions.

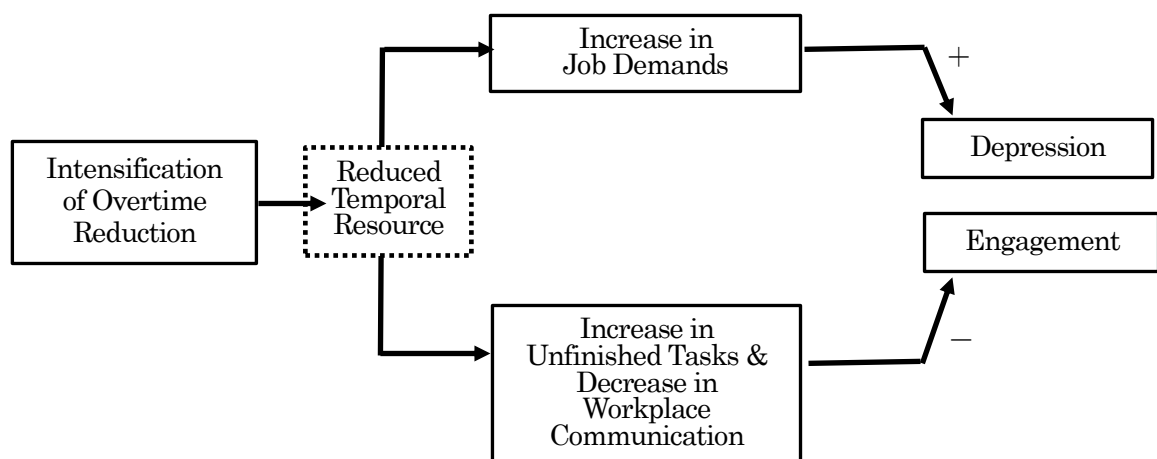


Figure 1. Analytic Model

2. Variables

2.1. Dependent Variable (1): Work Engagement

Work engagement was measured by using the shortened Japanese translation of Utrecht Work Engagement Scale (UWES, Schaufeli, Bakker, & Salanova, 2006; Shimazu et al., 2008). The 9 items in the shortened UWES represented 3 facets of engagement (vigor, dedication, and absorption), including items such as “At my work, I feel that I am bursting with energy (vigor),” “My job inspires me (dedication),” and “I get carried away when I am working (absorption).” Responses ranged from “1= strongly disagree” to “4= strongly agree”, such that higher scores indicated stronger engagement in work. We computed the average of these 9 items and used it as a composite scale.

The internal reliability (Cronbach’s alpha) of the scale was .93 for managerial engineers and .94 for non-managerial engineers.

2.2. Dependent Variable (2): Depression

Depression was measured by using 10 items from the Japanese version of Self-reporting Depression Scale (Zung, 1965). Respondents were asked their physical and mental conditions (e.g., “I feel down and melancholy,” “I cannot sleep at night” etc.) with a 4-point response scale (1 = hardly ever to 4 = always.) We computed the average of these 10 items and used it as a composite scale. The internal reliability of the scale was .60 for both managerial and non-managerial engineers.

2.3. Intervening Variable (1): Job Demands

Job demands was measured by a scale

which is the unweighted average of the following three items: “Do you think that the volume of work is balanced with the amount of time available in your workplace? (4=strongly disagree, 3=disagree, 2=agree, 1= strongly agree.) ” “Because of a shorter delivery period, many people at my work cannot work satisfactorily.” “During the past year, I have had very little time in delivering my work.”(4=strongly agree to 1= strongly disagree.) The internal reliability of the scale was .64 for both managerial and non-managerial engineers.

2.4. Intervening Variable (2): Increase in Unfinished Work

Increase in unfinished work was measured by using a single item phrased “During the past year, I am increasingly being unable to finish my job (1= strongly disagree to 4= strongly agree).”

2.5. Intervening Variable (3): Decrease in Workplace Communication

Decrease in workplace communication was tapped by a single item phrased “During the past year, the atmosphere for communication has deteriorated at my work (1= strongly disagree to 4= strongly agree).”

2.6. Focal Independent Variable (1): Reduction in Overtime Work

The focal independent variable in this study was intensification of overtime reduction. Respondents were asked whether reduction in overtime work had been intensified during the five years prior to the survey (i.e., between 2007 and 2012). In our analysis, the variable was dummy-coded as 1= intensified, 0= no change or relaxed.

2.7. Focal Independent Variable (2): Managerial Status

Managerial status was coded as 1=manager, 0=non-manager.

2.8. Control Variables

We included the following independent variables as controls. First, years working for current employer were measured in years. We controlled for years working for current employer, instead of respondents' age, because these two variables are significantly and highly correlated each other ($r=.662$). Educational attainment was measured as 1=junior high school or high school, 2=some college, 3=college, 4=master degree, and 5=doctoral degree. Income in the past year (in Japanese yen) was coded as 1=less than 3 million yen (equivalent to approximately US \$35,000 or less), 2=3.00-3.49 million yen (approximately US \$35,000-40,000), 3=3.50-3.99 million yen, ... 15=9.50-9.99 million yen, and 16= 10 million yen (approximately US \$120,000) or over. Monthly overwork hours were measured in hours. Number of projects currently involved was also controlled. Type of industry was dummy-coded, such as communication/IT (reference category), manufacturing, or other types of industry. Finally, area of work was dummy-coded as research (reference category), development/planning, information processing/software development, or other areas.

3. Statistical Procedure

Our analysis proceeded in two steps. First, we conducted mean comparisons between managerial and non-managerial engineers in overtime reduction, work engagement, depression and other major job outcome variables. Then, Ordinary Least Squares (OLS) regression models were estimated to examine (1) whether intensified overtime reduction exerts differential impacts on job demands, increase in unfinished work, and decrease in workplace communication for managerial and non-managerial engineers, and (2) whether and how the above work intervening variables in turn affect engineers' engagement and mental

Table 3. Mean Comparisons of Variables in Analysis: Managerial and Non-Managerial Engineers

	Managerial (N=2,226)		Non- Managerial (N=2,148)		Mean Difference
	Mean	S.D.	Mean	S.D.	
<u>Focal Variables</u>					
Intensified Overtime Reduction	.415	.493	.389	.488	†
Work Engagement	2.472	.616	2.263	.657	***
Depression	2.064	.346	2.047	.358	
Job Demands	2.631	.638	2.569	.666	***
Increase in Unfinished Work	2.460	.853	2.360	.903	***
Decrease in Workplace Communication	2.360	.770	2.320	.827	
<u>Control Variables</u>					
Sex (1=female)	.068	.252	.255	.436	***
Education	3.870	.976	3.880	1.013	
Marital Status (1=married)	.779	.415	.525	.499	***
Children (1=present)	.675	.469	.397	.489	***
Annual Income	9.220	4.529	5.050	3.522	***
Tenure	16.870	9.390	9.800	8.556	***
Recruitment Status (1=regular)	.560	.497	.500	.500	***
Employment Status (1=regular)	.530	.499	.620	.485	***
Monthly Hrs. of Overtime Work	78.470	73.352	67.660	72.376	***
N of projects R participates	2.920	3.588	2.130	3.273	***
Firm Size	3.620	1.499	3.560	1.469	
Job Type: Research (reference)	.101	.304	.119	.324	†
Job Type: Development	.320	.467	.305	.460	
Job Type: Systems Engineering	.342	.474	.364	.481	
Industry: Manufacturing	.417	.493	.401	.490	
Industry: IT (reference)	.334	.472	.380	.486	***
Industry: Other	.235	.424	.213	.409	†

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, † $p < .10$

health.

(5) Results

1. Descriptive Results

Table 3 reports the results of t-tests conducted to examine the difference in mean

scores between managerial and non-managerial engineers for all variables in analysis. First, we find that engineers in managerial positions were more likely than their non-managerial counterparts to experience intensification in overtime reduction. While at a marginal level

($p < .10$), the mean of overtime reduction was higher for managers (.415) than for non-managers (.389).

Mean comparison revealed that managers were more likely than non-managers to engage in work. Mean scores of work engagement were 2.472 for managers and 2.263 for non-managers. Managers exhibited a significantly higher mean score in job demands (2.631) than non-managers (2.569). Also, managers perceived a significantly higher level of increase in unfinished work (2.460) than non-managers (2.360). However, we found no significant mean differences in depression and decrease in workplace communication between engineers in managerial and non-managerial positions.

Mean scores for indicators of demographic characteristics also showed differences between managerial and non-managerial engineers. For instance, significantly more non-managers were women (25.5%) than managers (6.8%). Managers' tenure in the current employer was significantly longer (16.87 years) than non-managers (9.80 years). While we observed no significant mean difference in educational attainment, managers earned a higher level of annual income (9.220) than non-managers (5.050). Managers worked significantly longer monthly hours of overtime (78.470 hours) compared with non-managers (67.660 hours), and managers were also involved in more projects (2.920) than non-managers (2.130). Thus, managers were working more intensively than non-managers in our sample. We found no statistically significant mean differences in firm size and type of industry. As to job type, non-managers were slightly more likely (11.9%) than managers (10.1%) to work in research, while approximately equal proportion of managers and non-managers were working in development/planning and systems engineering. In terms of family status, managers were much

more likely (77.9%) than non-managers to have spouse (52.5%). Managers were significantly more likely (67.5%) than non-managers (39.7%) to have children in the household.

2. Multivariate Results

Table 4 reports the result of OLS regression predicting job demands, increase in unfinished work, and decrease in workplace communication. First, the regression result for job demands indicate that intensified overtime reduction is likely to increase engineers' job demands, and managerial engineers were significantly more likely than non-managerial engineers to feel burdened with their high job demands. Yet, we found no significant interaction effect of over time reduction and managerial status. Several demographic characteristics were significantly associated with job demands. For instance, women were less likely to experience high job demands compared with men. Higher income level and longer tenure were negatively associated with job demands, while longer hours of overtime and more projects currently involved were positively related to job demands. Those who were in manufacturing industry were more likely to experience a higher level of job demands than those in other industries. Engineers in development and systems engineering were more likely to be burdened with demands, compared to those who were in research.

Second, we find that intensification of overtime reduction tends to increase engineers' unfinished work, and that those in managerial positions were significantly more likely than their counterparts in non-managerial positions to experience an increase in unfinished work, when controlling for demographic conditions. Yet here again, we found no significant interaction effect of over time reduction and

Table 4. OLS Regression Coefficients for Models of Job Demands, Increase in Unfinished Work, and Decrease in Workplace Communication

	Job Demands		Increase in Unfinished Work		Decrease in Workplace Communication	
	beta	Sig	beta	Sig	beta	Sig
Overtime Reduction	.206	***	.101	***	.098	***
Manager	.057	***	.072	***	.016	
«Interaction Term» Overtime Reduction * Manager	.010		.016		-.003	
Sex (1=female)	-.059	***	-.037	*	-.049	**
Education	.023		.020		.021	
Marital Status (1=married)	.013		.021		.011	
Children (1=present)	-.018		-.042	*	.010	
Annual Income	-.063	**	-.016		-.048	*
Tenure	-.045	*	-.095	***	.033	+
Recruitment Status (1=regular)	.034	*	.068	***	-.038	*
Employment Status (1=regular)	-.020		-.033	*	.032	*
Monthly Hrs. of Overtime Work	.033	*	.049	***	.031	*
N of Projects R Participates	.085	***	.067	***	-.007	
Firm Size	-.021		.004		.005	
Development	.144	***	.030		.013	
Systems Engineering	.117	***	.011		-.008	
Other Job Types	.034		-.033		.006	
Manufacturing	.036	*	.022		.017	
R ²	.073		.035		.015	

Note: + p<.10, * p<.05, **p<.01, ***p<.001

Coefficients indicated in table are standardized beta coefficients.

Reference category for job type is basic & applied research.

managerial status. Several demographic characteristics were significantly associated with increase in unfinished work. For instance, women were less likely than men to experience increase in unfinished work. Longer tenure was negatively associated with the increased unfinished work, while working longer hours of overtime and being involved in more projects were positively related to the increase.

Third, while overtime reduction does decrease workplace communication, we found no significant effect of being in managerial position on the decreased communication at work. Here again, sex exhibited a significant negative effect, indicating that women were less likely than men to feel the decrease in workplace communication. Those who earn higher annual

Table 5. OLS Regression Coefficients for Model of Work Engagement

	Work Engagement			
	Model 1		Model 2	
	beta	Sig	beta	Sig
Overtime Reduction	-.057	***	-.022	
Manager	.091	***	.093	***
«Interaction Term» Overtime Reduction * Manager	-.016		-.017	
Sex (1=female)	.058	***	.047	**
Education	.006		.010	
Marital Status (1=married)	.029		.029	
Children (1=present)	.029		.033	
Annual Income	.113	***	.098	***
Tenure	.021		.030	
Recruitment Status (1=regular)	-.022		-.029	+
Employment Status (1=regular)	-.055	***	-.050	***
Monthly Hours of Overtime Work	.029	+	.031	*
Number of Projects R Participates	.065	***	.070	***
Firm Size	-.047	**	-.051	**
Development	-.096	***	-.071	**
Systems Engineering	-.158	***	-.138	***
Other Job Types	-.079	***	-.067	**
Manufacturing	.023		.029	+
Job Demands			-.197	***
Increased in Unfinished Work			.155	***
Decrease in Workplace Communication			-.109	***
R ²	.069		.114	

Note: + p<.10, * p<.05, **p<.01, ***p<.001

Coefficients indicated in table are standardized beta coefficients.

Reference category for job type is basic & applied research.

income are less likely to feel the decrease in communication. Longer tenure was positively associated with the decreased communication, while longer overtime was negatively related to the decrease.

Tables 5 and 6 show the results of OLS regression predicting work engagement and depression. First, we examined whether

intensification in overtime reduction exerted a direct impact on each dependent variable (Model 1). Then we entered additionally job demands, increase in unfinished work, and decrease in order to examine whether and how these intervening variables affect engagement and depression, and whether intensification of overtime reduction affect engagement and de-

Table 6. OLS Regression Coefficients for Model of Depression

	Depression			
	Model 1		Model 2	
	beta	Sig	beta	Sig
Overtime Reduction	-.012		-.033	*
Manager	.025		.016	
«Interaction Term» Overtime Reduction * Manager	-.007		-.009	
Sex (1=female)	.098	***	.105	***
Education	.034	+	.031	+
Marital Status (1=married)	.016		.013	
Children (1=present)	-.017		-.013	
Annual Income	.042	*	.048	*
Tenure	-.015		-.006	
Recruitment Status (1=regular)	.013		.007	
Employment Status (1=regular)	.004		.006	
Monthly Hours of Overtime work	.027	+	.020	
Number of Projects R Participates	.074	***	.065	***
Firm Size	-.018		-.017	
Development	.012		.002	
Systems Engineering	-.043		-.050	+
Other Job Types	.015		.016	
Manufacturing	-.022		-.026	
Job Demands			.048	**
Increased in Unfinished Work			.082	***
Decrease in Workplace Communication			.027	+
R ²	.017		.032	

Note: + p<.10, * p<.05, **p<.01, ***p<.001

Coefficients indicated in table are standardized beta coefficients.

Reference category for job type is basic & applied research.

pression only through these intervening variables.

As reported in Table 5, the result in Model 1 for work engagement shows that intensified overtime reduction exerted a significant negative impact on work engagement. However, when we added job demands, increase in

unfinished work, and decrease in workplace communication in Model 2, the negative effect of overtime reduction was reduced to non-significance. These results suggest that intensification in overtime reduction affects work engagement only via these intervening variables.

All three intervening variables entered Model 2 exhibited statistically significant effects on work engagement. Job demands and decreased workplace communication were likely to reduce work engagement, whereas increased unfinished work was likely to enhance engagement for engineers.

The regression results in Models 1 and 2 also show that managerial engineers were significantly more likely than non-managerial engineers to be engaged in work, controlling for various demographic characteristics. Here again, we found no significant interaction effect of over time reduction and managerial status. Several demographic characteristics were significantly related to work engagement (Model 2). For instance, women were more likely to be engaged in work compared with men. Higher income level and more projects currently involved were positively associated with engagement, while working in larger firms was negatively related to engagement. Those who worked in manufacturing industry were more likely to engage in work than those in other industries. Work engagement for engineers in research and development tends to be higher than those who were in other types of engineering jobs. Turning to the results for depression (Table 6), intensified overtime reduction exerted no significant effect on depression. In Model 2, however, the negative effect of overtime reduction turned statistically significant after controlling for job demands, increase in unfinished work, and decrease in workplace communication. These results suggest that intensification in overtime reduction has a direct impact on depression, in addition to the indirect effects via job demands, increase in unfinished work, and decreased workplace communication.

The results in Model 2 revealed that higher job demands and increase in unfinished work

are likely to deteriorate engineers' mental health. Decreased workplace communication also exerted a positive influence on depression, yet the effect was only marginally significant ($p < .10$).

The regression results for depression (Model 2) also revealed that women were more likely than men to be depressed, and those who earned higher income and had more project assignments were more likely to feel depressed. We found no significant effect of managerial status on depression in Models 1 and 2.

(6) Discussion and Conclusion

Present results show that recent intensification in overtime reduction in Japanese firms has negatively affected Japanese R&D engineers' work. We found that overtime reduction increased their job demands and unfinished work, while it decreased the level of their workplace communication. We also found that Job demands and decreased workplace communication were likely to reduce work engagement, whereas an increase in unfinished work was likely to enhance engagement for Japanese engineers. We predicted that overtime reduction would exhibit stronger impacts on engineers in managerial status, and that it would exert a stronger influence on work engagement and mental health for managerial engineers. While managers were marginally more likely than their non-managerial counterparts to perceive the intensification of overtime reduction, we observed no differences in the effect of overtime reduction on work engagement and depression for engineers in managerial and non-managerial positions. Thus, intensified reduction of overtime work has negative influence on Japanese engineers irrespective of their managerial status.

We also found that intensification in

overtime reduction only indirectly affects engineers' work engagement via job demands, increase in unfinished work, and decreased workplace communication, whereas it has both direct and indirect impacts on depression.

Findings in the present study raised questions about the commonly held perception of long hours of work for Japanese employees. Overtime reduction for Japanese engineers may have both positive and negative sides, and while on one hand it enhances the time availability for their life outside paid employment, on the other hand it reduces the adequacy in time spent for work. As Yoshimura (2007) claims, scientists in general are highly involved in their jobs, meaning that work tends to be their central life interest, and it is an important source of their identity. While we found a positive association between an increase in unfinished work and work engagement, it may be that engineers become all the more absorbed in work when they feel their work-centered identity is threatened by not being able to accomplish their work.

In order to strike an adequate balance between work and life, it is not sufficient to just reduce time at work, but it is also necessary to evaluate the adequacy in work time simultaneously. Although employers may generally believe that reducing employees' overtime work is an effective means to reduce labor costs, it is important that they realize immoderate work time regulation may bring about unintended negative consequences in engineers' work. In order to improve the well-being and creativity for R&D engineers believed to be motivated by intrinsic aspects of work (fun, challenges etc.), it is necessary to carefully

examine the role of "time management." Our finding that work engagement for engineers in development and systems engineering is lower than those in basic research has an implication that we must pay attention to how engineers in different job types work. We will need to compare how time at work is differentially experienced by those who work under tight schedule control and those who do not, in order to evaluate the role of "time management" for engineers in different job types.

Finally, the limitations of the present study need be mentioned. First, the data used in this study did not allow us to look more carefully at how overtime reduction affected other aspects of engineers' work, such as voluntary unpaid overtime. While some may argue that reduced paid overtime is compensated by increase in unpaid overtime, our data did not include information to examine whether this was true, and to our best knowledge there is no public data available to see whether unpaid "service" overtime increased between 2007 and 2012.

Perhaps our conceptual model requires a wider scope to capture the processes through which overtime reduction affects engineers' work. In addition, although we looked at the impact of managerial status in our analysis and how the effect of overtime reduction is conditioned by incumbency in a managerial position, we did not carefully compare the ways that managerial and non-managerial engineers worked. Future research should also look at whether and how intensified overtime reduction has exerted differential impacts on the work and non-work lives for managerial and non-managerial engineers.

References

Bakker, A. B., and Demerouti, E. (2007). The

Job Demands-Resources Model: State of the Art. *Journal of Managerial Psychology*, 22, pp.309-328.

- Bakker, A. B., Demerouti, E., and Verbeke, W. (2004). Using the Job Demands-Resources Model to Predict Burnout and Performance. *Human Resource Management*, 43, pp.83-104.
- Bakker, A. B., Hakanen, J. J., Demerouti, E., and Xanthopoulou, D. (2007). Job Resources Boost Work Engagement, Particularly When Job Demands Are High. *Journal of Educational Psychology*, 99, pp.274-284.
- Deci, E. L., and Ryan, R. M. (2008). Hedonia, Eudaimonia, and Well-Being: An Introduction. *Journal of Happiness Studies*, 9, pp.1-11.
- Demerouti, E., Bakker, A. B., Nachreiner, F., and Schaufeli, W. B. (2001). The Job Demands-Resources Model of Burnout. *Journal of Applied Psychology*, 86, pp.499-512.
- Fujimoto, T., and Nakata, Y. (2007). Has Work Motivation among Japanese Workers Declined? *Asian Business & Management*, 6, S.1, pp. 57-88.
- Fujimoto, T., Shinohara, S., Tanaka S. H., and Nakata, Y. (2013). Overtime Reduction, Work-Life Balance, and Psychological Well-Being for Research and Development Engineers in Japan. *Proceedings of the 2013 IEEE IEEM*, pp.1510-1514.
- Huppert, F. A. (2009). Psychological Well-Being: Evidence Regarding Its Causes and Consequences. *Applied Psychology: Health and Well-Being*, 1, pp. 137-164.
- Japan Institute for Labour Policy and Training (JILPT) (2013). *Deetabukku Koukusai Roudou Hikaku* (Datebook of International Labour Statistics) (in Japanese). Tokyo: JILPT.
- Japan Institute for Labour Policy and Training (JILPT) (2014). *Koyo-Chousei no Jisshi to Koyo-Chousei Joseikin no Katsuyou ni Kansuru Chousa* (Survey for Employment Adjustment and Utilization of Government Subsidies for Employment Adjustment) (in Japanese). Tokyo: JILPT.
- Kuroda, S., and Yamamoto, I., (2012). Impact of Overtime Regulations on Wages and Work Hours. *Journal of the Japanese and International Economics*. 26, pp.249-262.
- Ministry of Health, Labour and Welfare (2011). *Maitsuki Kinro Toukei Chousa* (Monthly Labour Survey) (in Japanese). Tokyo: Ministry of Health, Labour and Welfare.
- Ministry of Internal Affairs and Communications (2013). *Heisei 24-Nen Shugyo Kouzou Kihon Chousa Kekka no Gaiyou* (Summary of the Results of 2012 Employment Status Survey)(in Japanese). Tokyo: Ministry of Internal Affairs and Communications.
- Ogura, K. (2007). *Endoresu Waakaazu: Hatarakisugi Nihonjin no Jitsuzou* (Endless Workers: Real Images of Overworked Japanese) (in Japanese). Tokyo: Nihon Keizai Shimbunsha.
- Ogura, K. (2008). *Nihon no Choujikan Roudou* (Long Working Hours in Japan: International Comparison and Research Subjects) (in Japanese). *The Japanese Journal of Labour Studies*, 575, pp.4-16.
- Research Institute for Advancement of Living Standards (2009). *Seikatsu- Jikan no Kokusai Hikaku* (International Comparison of Time Use) (in Japanese). Tokyo: Research Institute for Advancement of Living Standards.
- Sato, A. (2008). *Shigoto-Kanri to Roudou-Jikan*

- (Work Management and Working Hours: Mechanism That Generate Prolonged Working Hours) (in Japanese). *The Japanese Journal of Labour Studies*, 575, pp.27-38.
- Schaufeli, W. B., and Salanova, M., Gonzalez-Romá, V., & Bakker, A. B. (2002). The Measurement of Engagement and Burnout: A Confirmative Analytic Approach. *Journal of Happiness Studies*, 3, pp.71-92.
- Shimazu, A., Schaufeli, W. B., Kosugi, S., Suzuki, A., Nashiwa, H., Kato, A., Sakamoto, M., Irimajiri, H., Amano, S., Hirohata, K., and Goto, R. (2008). Work Engagement in Japan: Validation of the Japanese Version of the Utrecht Work Engagement Scale. *Applied Psychology: An International Review*, 57 (3), pp.510-523.
- Schaufeli, W. B., and Bakker, A. B. (2004). Job Demands, Job Resources, and Their Relationship with Burnout and Engagement: A Multi-Sample Study. *Journal of Organizational Behavior*, 25, pp.293-315.
- Schaufeli, W. B., Bakker, A. B., and Salanova, M. (2006). The Measurement of Work Engagement with a Short Questionnaire: A Cross-National Study. *Educational and Psychological Measurement*, 66, pp.701-716.
- Yoshimura, A. (2007). *Kiso-Kenkyusha no Shokumu Kanyo to Jintekishigenkanri* (Job Involvement and Human Resource Management for Scientists in Basic Research) Tokyo: Keio Daigaku Shuppankai.
- Zung, W. W. K. (1965). A Self-Rating Depression Scale. *Archives of General Psychiatry*, 12, pp.63-70.
- Web Site
- Ogura, K. (2012). Opinion: Overtime Work in Japan-No Easy Way to Reduce Working Hours. *The Japan News*. (http://www.yomiuri.co.jp/adv/wol/dy/opinion/society_120206.html) (Referenced on January 6, 2015)

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Family Firms' Transformation to Non-family Firms During 1920's-2015

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Abstract

This paper sheds light on the transformation of the listed family business during almost a century (1920's - 2015) in Japan, to analyze the erosion of family influence upon the firm from the resource-based view perspective. Family business, broadly defined as any firm under family influence, are known for their major role in the national economy and superior performance both in developed and developing countries. Despite the importance of the continuation of the family firms for generations, little research has been done to analyze its transformation to non-family status.

This paper examines the family firm transformation process as the family capital committed to the firm decreases, to identify the sequence and causes of the transformation. Major findings of the research include:

- (1) Family capital is essential to maintain the family business status.
- (2) Erosion of the family financial capital is the most important force that causes the transformation.
- (3) Major causes of the transformation include the decision-making at the business expansion phase, separation of ownership and management, disposal of the shares and resignation from the board of directors.
- (4) The transformation process to the non-family status, once occurred, is seldom reversible.

With the above findings, this paper contributes to the existing literature to enrich understanding of the transformation and importance of family capital to maintain the family influence on the firm. This paper presents academic, practical and administrative implications before arriving at the conclusion.

Keywords: family business, ownership, succession, board of directors

(1) Introduction

This paper sheds light on the transformation of the listed family business during almost a century (1920's - 2015) in Japan,

to analyze the erosion of family influence upon firms from the resource-based view (RBV) perspective. As a theoretical lens to view the resources of the firm as the source of its

competitiveness (Barney, 1991), RBV is employed to analyze the erosion of the various resources of the family business and its impact upon the family influence. The research questions are; in what sequence the transformation takes place, and what major factors cause the transformation.

Family business research is one of the emerging fields, reflecting the major role of the family business in the national economy both in developed and developing countries, its unique characters, and its superior performance compared to the non-family business. Since the inception of the research in our field, succession has remained as the main subject, reflecting the short life span of the family business and the strong desire of business families for longevity for future generations. Despite the importance of the continuation of the family firms for generations, little research has been done to analyze its transformation to non-family status.

The paper aims to contribute to the literature with major findings about the erosion of family capital, which eventually terminates life as a family firm, and provides implications in the academic, pragmatic, as well as the administrative perspectives. The rest of the paper is composed of the literature review, method and the major results, discussions, and implications before arriving at the conclusion.

(2) Literature review

Family business, broadly defined as any firm under a family's influence (Newbauer & Lank, 1998), has quickly gained considerable attention both in the developing and the developed countries. The main reasons for this attention include but are not limited to; the major role family business plays in the national

economy over the world, its superior performance and its unique characteristics. Both contradict the famous declaration of a separation of ownership and control (Berle & Means, 1932) and Chandler (1977), which assesses the family business as outdated.

It is conservatively estimated that family businesses comprise between 65% and 80% of all existing firms worldwide (Gersick et al., 1997). Among the big firms, family businesses also take a significant share. In the United States, for example, 35% of the S&P firms (excluding financial institutions) are family businesses. It is also well known that family businesses outperform other types of firms (Anderson & Reeb, 2003).

Literature addresses the unique character of the family business from various viewpoints. A family business is typically presented as a three circle model (Gersick et al., 1997), which is composed of family, ownership and business subsystems. The family's involvement and its influence on the ownership and business/management make the family business distinctive from other types of organizations.

F-PEC (Astrachan et al., 2002) is a concept, composed of power, experience and culture, proposed to assess the family influence on a continuous scale rather than artificially dichotomizing family and non-family firms. Familiness (Habbershon & Williams, 1999) is another concept to model a family business from the RBV perspective. Familiness represents a useful all-encompassing term for the sources, processes, and consequences of family involvement in terms of ownership, management, and intergenerational intention. F-PEC and familiness have been discussed but not operationalized in a quantitative manner.

Measuring the family's influence on the ownership and management, Goto (2016) analyzes all firms listed on the stock markets in Japan, to identify the family firms and evaluate the level of family influence. The ownership influence is judged by the level of the stocks owned by the family, both as individuals and firms under the family's influence, while the management influence is judged by the magnitude of the family's representation on the board of directors.

The research categorizes listed family firms into three groups based upon the level of the family's influence and proposes that the family's influence tends to be eroded both in the ownership and management, which eventually brings family firms to the non-family status. This process of the family business transformation to the non-family firm was preliminarily examined in the automotive industry (Goto, 2016).

Following this approach, the present paper further expands it with the RBV approach, and adds the temporal dimension to examine the transformation process in a historical manner. As Pramodita et al. (2014) emphasize, time is an important factor in our research field, especially when we research the ownership and leadership transitions across generations.

The present paper examines the transformation of the listed family firms to the non-family status between the 1920's and 2015 in Japan. During the post-WW2 period, Japan has experienced radical social changes and rapid economic growth, while the pre-war period remained relatively stable. There is no literature focusing on the longitudinal changes of family business during a century of such drastic changes, anywhere in the world.

(3) The method and major results

This section explains the research method, definitions, information sources, and major results. In order to find the transformation of the family firms to the non-family status over nearly a century, we chose to focus on the listed firms, which were family firms in 1950 but lost its family business status in or before 2015. The year 1950 is chosen as the first observation period since the Stock exchanges reopened in 1949 after WW2 in Japan. After observing the transformation since 1950, the observation period is expanded back to the 1920's. Such a retrospective manner is chosen to make the comparison meaningful, because data availability before 1950 varies among the firms due to the different times of listing and foundation.

Information sources include all securities reports published by the firms, the Joint-stock company almanacs (Yamaichi Securities, Toyo Keizai Shinposha), company history books, 'who's who' directories, which are supplemented by the following databases: Business Archive Center (<http://j-dac.jp>) & eol (<http://www.dl.itc.u-tokyo.ac.jp/gacos>).

Family business is defined, as an extension of Newbauer & Lank (1998), as any firm with multiple members from the same family serving sequentially or simultaneously either as the major shareholders and/or board members (Goto, 2012: 3). Family shareholders are the ten largest shareholders, as listed in the securities reports of the subject firms, whose name, number of the stocks owned and ownership share are available in the securities reports. The members of the board of directors are also available from the same information sources as the shareholders. Board members include all

directors and auditors, either full time or not. Family members include relatives by blood within the sixth degree, the spouse, and relatives by affinity within the third degree, as defined by Civil Code Article 725.

While family names give important clues to identify the family members, some people with the same family name may not belong to the same family. Some family members, on the other hand, may have different family names because of marriage. This needs to be examined by referring to directories and company history books. Lastly, on the occasion of the merger & acquisition, we focus on the legal surviving company.

The following are the major research results. Table 1 summarizes the transformation of the family business status between 1950 and 2015, where firms are listed in the order of the timing of reaching non-family business status. Table 2 shows the transformation of the family business between the 1920's and 1950, where firms are listed in the descending order of the family business status in 1940.

Following Goto (2016), family firms are categorized into three major groups (Group A, B and C), which are further subdivided into two levels. Explanations are as follows: Group A, composed of level 6 and 5, includes family firms with the family members positioned together among the major (ten largest) shareholders, and with at least one family member in the board of directors. The difference between level 6 and 5 is that the family together is the largest shareholder in level 6, while the family together is positioned between the 2nd and 10th shareholders in level 5. Group B, composed of level 4 and 3, includes family firms with the family positioned together among the major

shareholders but no representative in the board of directors. The difference between level 4 and 3 is, same as the above, that the family together is the largest shareholder in level 4, while the family together is between the 2nd and 10th shareholders in level 3. Group C, composed of level 2 and 1, includes family firms with at least one board member but with no family shareholders among the top ten. The difference between level 2 and 1 is that the family has a president or chairperson in level 2, while the family has a board member(s) other than a president or chairperson in level 1.

Out of 57 cases which experienced the total loss of family influence between 1950 and 2015, 5 firms lost by 1970, an additional 16 firms by 1980, 7 firms by 1990, 15 firms by 2000, 13 firms by 2010, and 1 by 2015. 10 firms moved directly from Group A to the non-family status (level 0), while 47 moved from Group C and no firms from Group B moving to nonfamily status. There are 3 events in 2 firms, which witnessed a loss of family influence and its recovery before finally arriving at the non-family status.

(4) Discussion

This section discusses the research results starting with the general overview, followed by the importance of the family influence and family capital, route to the non-family status, major factors that cause the transformation, and the reversibility of the transformation process in this order.

1. General overview

First, let us review Table 1, which highlights quick and gradual transformation in most cases. There are 5 firms (8.8%), which became nonfamily by 1970 and another 40.3%

Table 1. Family status of the listed family business in the post-WW2 period (1950-2010)

Code	Name	Industry	1950	1960	1970	1980	1990	2000	2010	
5233	Taiheiyo Cement Co.	Construction materials	1	1	0	0	0	0	0	CN
3106	KURABO Industries	Textile goods	0	1	0	0	0	0	0	CN
8013	Naigai Corp	Textile goods	1	2	0	0	0	0	0	CN
4503	Astellas Pharma Inc.	Pharmaceutical	5	5	0	0	0	0	0	AN
7752	RICOH Co.	Electronics	6	6	0	0	0	0	0	AN
5331	Noritake Company	Glass & Ceramics Products	6	1	1	0	0	0	0	CN
3501	Suminoe Textile Co.	Textile goods	5	1	1	0	0	0	0	CN
4461	DKS Co.	Chemicals	5	1	1	0	0	0	0	CN
4613	KANSAI PAINT CO.	Chemicals	3	1	1	0	0	0	0	CN
7122	The Kinki Sharyo Co.	Transportation machinery	1	1	1	0	0	0	0	CN
3110	Nitto Boseki Co.	Textile goods	2	2	1	0	0	0	0	CN
4043	Tokuyama Corp.	Chemicals	6	5	1	0	0	0	0	CN
6508	Meidensha Corp.	Electrical equipment	6	5	1	0	0	0	0	CN
6326	Kubota Corp.	Machinery	6	2	2	0	0	0	0	CN
5352	Kurosaki Harima Corp.	Glass & Ceramics Products	5	2	2	0	0	0	0	CN
6742	Kyosan Electric Mfg. Co.	Electrical equipment	2	2	2	0	0	0	0	CN
4902	KONICA MINOLTA, INC.	Electrical equipment	6	5	5	0	0	0	0	AN
4112	Hodogaya Chemical Co.	Chemicals	5	5	5	0	0	0	0	AN
3201	THE JAPAN WOOL TEXTILE CO.	Textile goods	4	5	5	0	0	0	0	AN
5332	TOTO LTD.	Glass & Ceramics Products	4	5	5	0	0	0	0	AN
7913	Tosho Printing Co.	Miscellaneous goods	6	6	5	0	0	0	0	AN
3405	KURARAY CO.	Chemicals	5	2	0	1	0	0	0	CN
5333	NGK INSULATORS, LTD.	Glass & Ceramics Products	5	1	1	1	0	0	0	CN
6461	Nippon Piston Ring Co.	Machinery	5	1	1	1	0	0	0	CN
7701	Shimadzu Corp.	Precision Instruments	1	1	1	1	0	0	0	CN
4004	Showa Denko K.K.	Chemicals	0	5	2	1	0	0	0	CN
7971	TOLI Corp.	Chemicals	5	5	5	1	0	0	0	CN
7992	THE SAILOR PEN CO.	Miscellaneous goods	6	6	2	2	0	0	0	CN
6473	JTEKT Corp.	Machinery	6	5	2	1	1	0	0	CN
7261	MAZDA Motor Corp.	Automotive	6	5	2	1	1	0	0	CN
4452	Kao Corp.	Chemicals	5	3	3	1	1	0	0	CN
4508	Mitsubishi Tanabe Pharma Corp.	Pharmaceutical	6	5	5	1	1	0	0	CN
3408	Sakai Ovex Co.	Textile goods	6	2	2	2	1	0	0	CN
6103	Okuma Corp.	Machinery	6	5	2	2	1	0	0	CN

4516	Nippon Shinyaku Co.	Pharmaceutical	5	5	5	2	1	0	0	CN
6841	Yokogawa Electric Corp.	Electrical equipment	5	2	1	2	2	0	0	CN
2533	Oenon Holdings, Inc.	Food processing	5	2	2	2	2	0	0	CN
7951	Yamaha Corp.	Miscellaneous goods	2	2	2	2	2	0	0	CN
6367	DAIKIN INDUSTRIES, Ltd.	Machinery	6	5	5	2	2	0	0	CN
6506	YASKAWA Electric Corp.	Electrical equipment	5	5	5	2	2	0	0	CN
4912	Lion Corp.	Chemicals	6	6	5	2	2	0	0	CN
4028	Ishihara Sangyo Kaisha, Ltd.	Chemicals	3	5	5	5	5	0	0	AN
9017	Niigata Kotsu Co.	Ground transportation	2	6	6	6	6	0	0	AN
9048	Nagoya Railroad Co.	Ground transportation	2	1	1	1	1	1	0	CN
5334	NGK SPARK PLUG Co.	Glass & Ceramics Products	6	5	2	1	1	1	0	CN
7905	DAIKEN Corp.	Construction materials	5	5	5	2	1	1	0	CN
7723	Aichi Tokei Denki Co.	Precision Instruments	6	1	1	1	2	1	0	CN
9064	YAMATO HOLDINGS CO.	Ground transportation	6	5	5	5	2	1	0	CN
2802	Ajinomoto Co.	Food processing	6	5	6	5	2	1	0	CN
6474	Nachi-Fujikoshi Corp.	Machinery	5	5	0	0	1	2	0	CN
9044	Nankai Electric Railway Co.	Ground transportation	1	1	2	2	1	2	0	CN
4911	Shiseido Co.	Chemical	5	3	1	1	2	2	0	CN
2002	Nisshin Seifun Group Inc.	Food processing	2	2	2	2	2	2	0	CN
6203	Howa Machinery, Ltd.	Machinery	2	2	2	2	2	2	0	CN
6332	Tsukishima Kikai Co.	Machinery	6	5	5	5	2	2	0	CN
8244	KINTETSU Department Store Co.	Retail	6	5	5	5	5	5	0	AN
3526	Ashimori Industry Co.	Industrial materials	6	3	1	2	2	2	1	CN

Note 1: Each column shows the level of the family influence as defined in the text.

Note 2: Company names are shown in the current manner.

Note 3: Dark columns show the total loss of the family's influence (level 0).

Note 4: Black columns in 1950 indicate the extraordinary erosion of the family influence.

Note 5: In the extreme right column, "CN" shows the erosion of the family influence from Group C to non-family, while "AN" shows the direct loss of the family influence from Group A.

Source: Compiled by author.

became nonfamily by 1990. The number of firms in Group C show a sharp decrease from 29 (in 1960), to 18 (1970), 6(1980), 3 (1990) and 1(2000). The majority of the firms (47 firms or

82.5%) experienced gradual erosion, i.e. moving from Group C (the weakest family status) to non-family status. In contrast, 17.5% of the firms made a direct move from Group A (the strongest

Table 2 Family status of the listed family business in the pre-WW2 period (1920's-1950)

Code	Name	Founded	S	M	1920's	1930	1940	1950
7971	TOLI Corp.	1919	3	1	6	6	6	5
3106	KURABO Industries	1888	1	2	6	6	6	0
3501	Suminoe Textile Co.	1883	7	2	6	6	6	5
4613	KANSAI PAINT CO.	1917	5	3	6	6	6	3
3110	Nitto Boseki Co.	1923	6	3	6	6	6	2
6326	Kubota Corp.	1890	11	4	6	6	6	6
3201	THE JAPAN WOOL TEXTILE CO.	1896	4	2	6	6	6	4
5332	TOTO LTD.	1917	5	3	6	6	6	4
5333	NGK INSULATORS, LTD.	1919	6	2	6	6	6	5
6841	Yokogawa Electric Corp.	1915	10	3	6	6	6	5
2802	Ajinomoto Co.	1907	9	5	6	6	6	6
4043	Tokuyama Corp.	1918	3	2		6	6	
3405	KURARAY CO.	1926	2	1		6	6	5
7701	Shimadzu Corp.	1875	6	3		6	6	1
7992	THE SAILOR PEN CO.	1911	11	2		6	6	6
6103	Okuma Corp.	1898	4	2		6	6	6
2533	Oenon Holdings, Inc.	1900	5	1		6	6	5
4911	Shiseido Co.	1872	4	3		6	6	5
4461	DKS Co.	1909	5	1	5	5	6	5
7752	RICOH Co.	1936	2	1			6	6
6508	Meidensha Corp.	1897		1			6	6
5352	Kurosaki Harima Corp.	1918	4	2			6	5
4112	Hodogaya Chemical Co.	1915	2	2			6	5
6473	JTEKT Corp.	1921	1	2			6	6
4452	Kao Corp.	1887	1	2			6	5
3408	Sakai Ovex Co.	1891	3	3			6	6
6367	DAIKIN INDUSTRIES, Ltd.	1924	2	2			6	6
6506	YASKAWA Electric Corp.	1915	1	5			6	5
4028	Ishihara Sangyo Kaisha, Ltd.	1920	1	3			6	3
5334	NGK SPARK PLUG Co.	1936	4	1			6	6
8013	Naigai Corp	1920			5	5	5	1
7723	Aichi Tbkei Denki Co.	1904	1	1	5	6	5	6
2002	Nisshin Seifun Group Inc.	1900	4	2	5	6	5	2
7261	MAZDA Motor Corp.	1921	3	1		6	5	6
9048	Nagoya Railroad Co.	1894	1	1		6	5	2
6474	Nachi-Fujikoshi Corp.	1928	1	1		6	5	5
6332	Tsukishima Kikai Co.	1905	1	1		6	5	6
5331	Noritake Company	1904	5	1	6	5	5	6
5233	Taiheiyo Cement Co.	1881	1	2	5	5	5	1
7951	Yamaha Corp.	1927	1	1		5	5	2
6461	Nippon Piston Ring Co.	1931					5	5
4004	Showa Denko K.K.	1926	5	2			5	0

9017	Niigata Kotsu Co.	1913	3	2			5	2
3526	Ashimori Industry Co.	1878	4	1			5	6
6203	Howa Machinery, Ltd.	1932	3	1	/	/	5	2
8244	KINTETSU Department Store Co.	1920	3	1			5	6
4516	Nippon Shinyaku Co.	1911	3	2	6			5
4503	Astellas Pharma Inc.	1923			/			5
7122	The Kinki Sharyo Co.	1920		4				1
6742	Kyosan Electric Mfg. Co.	1917						2
4902	KONICAMINOLTA, INC.	1873	6	6				6
7913	Tosho Printing Co.	1911						6
4508	Mitsubishi Tanabe Pharma Corp.	1678						6
4912	Lion Corp.	1891		3				6
7905	DAIKEN Corp.	1945	1	1	/	/	/	5
9064	YAMATO HOLDINGS CO.	1919	4	2				6
9044	Nankai Electric Railway Co.	1884		1				1

Note 1 & 2: Ditto

Note3: Dark columns show the strong family influence (Group A).

Note4: Black columns in 1950 indicate the extraordinary erosion of the family influence.

Note5: Column “S” and “M” show the largest number of the family shareholders and family board members respectively.

Note6: Column with a slash indicates the firm didn’t exist then. Vacant column indicates data isn’t available.

Source: Compiled by author.

family status) to non-family status.

The general overview of Table 2 shows, in contrast to Table 1, the minor transformation, keeping the highest level of family influence both in the ownership and the management. All firms were in Group A, and after experiencing an erosion from level 6 to level 5 in general, 30 firms (65.2%) still maintained level 6 status in 1940.

This is natural at the infant stage of family business development (Carlock & Ward, 2001). Most of the firms started as a small family firm, which grew and eventually went public, as described in the company history books (ex. Ajinomoto, 1972:29-30, Nachi-Fujikoshi Corp., 1978).

Before discussing the specific subjects, we

need to look at 1950, which witnessed extraordinary transformations. Immediately after WW2, Japan was occupied by the General Headquarters (GHQ), which dissolved the Zaibatsu. The dissolution first targeted 5 major Zaibatsu, and later the minor and local ones. Their controlling families' assets were seized and holding companies were eliminated. There are 8 Zaibatsu targeted in our sample firms, whose family influence in 1950 was eroded to the following levels:

Non-family: KURABO[3106]¹, Showa Denko [4004]

Level 2: Nitto Boseki [3110]

Level 4: JAPAN WOOL TEXTILE [3201]

Level 3: Ishihara Sangyo Kaisha [4028]

Level 5: Kurare [3405], DAIKEN [7905], DAI-

¹ [] designates the security code.

KIN INDUSTRIES [6367]

There are several family firms, which took voluntary actions to protect themselves from dissolution, and as a result, significantly eroded their family influence. For example, Ajinomoto [2802] made a series of decisions to avoid the dissolution, which included: name change of the firm, liquidation of Suzuki & Co. the holding company, and the retirement of Saburotsuke Suzuki III, the head of the family and Suzuki & Co. The company history book states, “Change in major shareholders: Suzuki Sanei Co. and the Suzuki family held 44.7% of the shares in June 1946. Three years later, this number was down to roughly 7% by June 1949.

Table 3. Extraordinary status in 1950 & normalized status

Name	Code	Original	Normalized
KURABO	3106	0	1
Nitto Boseki	3110	2	2
JAPAN WOOL TEXTILE	3201	4	5
Kurare	3405	5	5
Showa Denko	4004	0	5
Ishihara Sangyo Kaisha	4028	3	5
TOTO	5332	4	5
DAIKIN INDUSTRIES	6367	5	5
DAIKEN	7905	5	5
Naigai	8013	1	2
Niigata Kotsu	9017	2	6

Note 1 & 2: Ditto

Source: Compiled by author.

Shimadzu [7701] retired all family members from the board of directors. Though successfully avoiding the dissolution, its family

influence wasn't recovered. Other factors that erode family influence include huge property taxes and the decreasing of value of holding stocks (Mishima, 1983). Labor unions were another factor to force management concession in Niigata Kotsu [9017].

Some families recovered family influence from the extraordinary damage, as presented in the securities reports of 1960. In such cases, the paper conservatively normalizes the family status of 1950 to the level of 1960 (Table3).

2. Importance of family influence and the family capital

Family firms' uniquenesses arise from their family/firm integration, as presented by the three-circle model (Gersick et al., 1997). The transformation of the family firm, as we've seen, is nothing but the disintegration of such a unique relationship between the family and its firm, which results in the partial loss of the family firms' uniqueness and finally loses life as a family firm.

From the resource-based view, disintegration of such a unique family-firm relationship means the detachment of family capital from the firm. Family capital, defined as totally owned family resources composed of human, social, and financial capital (Danes et al., 2009), is vital to the sustainable growth of the family business through the family's involvement in ownership and management. Erosion of family influence in its ownership and management means the decrease of the family's financial and human capital committed to the firm respectively.

It is critical for the family to maintain family influence on the firm, not only from the family viewpoint but also from the perspective

of the national economy. For the business family, especially for the founder, the family business is an intense source of energy and interest, which represents an extension of himself (Levinson, 1971).

Considering such a special relationship, it is in the nature of founders/entrepreneurs to have a difficulty “giving up what they have created” (Shein, 1985: 275). Erosion of family capital committed to the firm means the partial or total separation of the family from the firm as a shareholder or board member, severing a special relationship and accompanied emotional ties. Such a separation is the last thing for the business family to accept.

From the perspective of the national economy, erosion of the family capital committed to the firm means the weakening of the unique character of the family firms, which ultimately results in loss of the major role the family business plays in the national economy as addressed in the beginning of the paper. Therefore, the erosion of the family influence, or family capital, should be avoided by all means, both from the family and the national economy’s perspectives.

3. Routes to the non-family status

Concluding the general overview with the above, we now move to the three main subjects relevant to the transformation of the family business. First is the route and sequence to non-family status. Our question is to find the causal relationship between the erosion of the family’s influence in its ownership and management. In order to answer the question, two models are prepared to explain the process to become a non-family business; one model to put the Group B & C phase between A and nonfamily status (ie.

$A \rightarrow B \rightarrow C \rightarrow$ non-family), and another model to put Group C & B in-between (ie. $A \rightarrow C \rightarrow B \rightarrow$ non-family), and find which model explains the process better (with less number of deviations).

The result shows that the former model has 10 deviations in 9 firms, while the latter model has 13 deviations in 9 firms. Therefore, we conclude that the former model explains the process better than the latter model. The model positions the erosion of the family’s shareholder position as the fundamental force to transform the family business, which triggers the erosion of the family’s position in the board of directors and ultimately brings the firm to non-family status.

Although the margin is slim, the result is supported by the importance of the ownership in a joint-stock company, where the board of directors is appointed at the annual shareholders’ meeting and work as agents of shareholders. Therefore, family influence as the shareholder(s) is most essential, and it must be maintained to keep the firm under the family’s control.

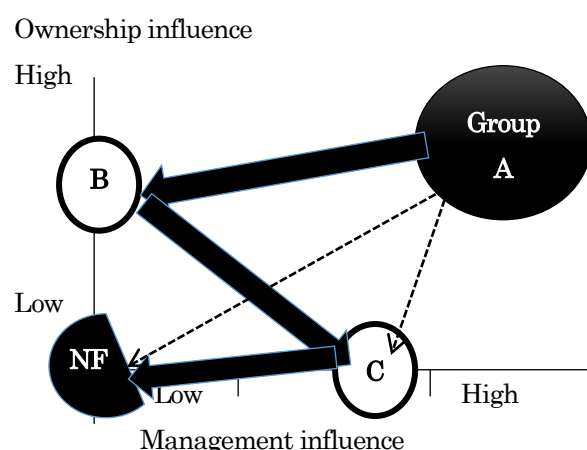


Figure 1. Transformation of the family firm

Note1: Solid and dotted lines show the main route and its short-cuts respectively.

Note 2: NF designates non-family.

Source: Compiled by author.

Beside the main route and the sequence as discussed above, two shortcuts need to be added. One is the direct route from Group A to C, and another is from Group A to non-family status. Table 1 shows that ten firms, or 17.5%, followed this route, while most of our sample followed the major route.

Summarizing the above discussion, Figure 1 illustrates the main route/sequence of the transformation of the family business, with two short-cuts.

4. Major factors to cause transformation

4.1. Decision-making during the business expansion period

Significant erosion of family influence between 1960 and 1990 coincides with the rapid growth of the Japanese economy. The transformation to the non-family status started in 1970s, and most significantly in the 1980s and 1990s. One of the most relevant factors to this end was the dilution of the family's shareholding position, which was caused by the capital increase during 1970s and 1980s, especially through the public stock offerings. Stock dilution resulted from the issue of additional common shares by the firms to finance the business expansion.

While the firms benefited from the additional capital and improved profitability, the dilution lowered the family's positions as shareholders, i.e. ownership percentage and voting control. For the family and its business, this meant the decrease of the family's influence as shareholders. The increase of capital after WW2 was significant in Japan. Compared to the 1950s, when the total amount of the capital increase was 1,270.9 billion yen, the amount of the new capital issuance increased more than

ten-fold to 19,350.2 billion yen during the 1980s (Suzuki, 2013: 41).

Furthermore, public stock offerings became the major method of the capital increase (51.38% during 1970s and 79.42% during 1980s) in contrast to 3.75% in 1950s and 5.67% in 1960s (Suzuki, 2013: 41). While the rights issue, which was the major method of the capital increase until the 1960s, doesn't affect the existing shareholders' position, public stock offerings certainly result in the dilution of the existing shareholders' positions. The result shows that most of the business families couldn't maintain the same family influence as the shareholders under such circumstances.

Summing up, the findings show that the business family's decision during the business expansion period benefited the firm, which resulted in the sacrifice of family influence. In order to maintain the family capital and family's influence on the firms, the family always needs to pursue the optimal balance between the benefits of both the family and its firm when making a business decision.

4.2. Separation of the ownership and management

Another factor that accelerated the decrease of the family's influence after WW2 is the separation of the ownership and management, and the appointment of the non-family members to president. Such practices were considered to be modernization of the management, and started implementation before the war (ex. Ajinomoto, 1972:30, 113). It became popular after the war, especially at the time of rapid business expansion, when the family couldn't afford to provide enough human resources both in quantity and quality.

Just like the above discussion, the business

family needs to carefully consider what is good for the family and the firm in the long run. Separation of ownership and management, and the introduction of professional executives may work well only under certain conditions (Goto, 2012: 81-83). It is necessary for the business family to fully understand its advantages as well as disadvantages before making the final decision.

4.3. Disposal of shares

The disposal of shares is another main factor for the erosion of family influence in ownership. There are various reasons for the shares disposal, including the inheritance tax payment, financial needs for personal purposes etc., which are not easy to observe from the outside. There were two cases, which were made public. K. Ichimura, founder of RICOH [7752], decided not to pass the baton to a family member and most of his assets (3 billion yen) were donated to the newly established New Technology Development Foundation. M. Ogura, after retiring from YAMATO HOLDINGS [9064], donated 4.6 billion yen to establish Yamato Welfare Foundation (Mori, 2016). Today, neither of these foundations have family influence, without having family members in the executive board.

Whatever the motivation and necessity is, disposal of the company shares means less commitment of the family capital as the shareholder. The business family needs to consider the outcome of disposal in the long run.

4.4. Removal from the board of directors

There are at least 6 firms which experienced the family executive's removal from the board of directors, either as a president or chairperson, reportedly taking responsibility for the poor performance (2 firms), management

crisis (2 firms), and occasionally scandalous incidents (2 firms). Removal from the board of directors means not only the erosion of the family influence, but also the loss of revenue as the executive. Loss of such revenue makes it difficult to buy newly issued stocks to maintain family influence as a shareholder.

Some of the cases, such as scandalous incidents, were expected and avoidable, for which the family executives are responsible. Family executives are also responsible for the poor performance and management crisis, at least to some extent. It is the business family's responsibility to take every possible measure to avoid such incidences beforehand, in order to maintain the commitment of the family capital.

5. Reversibility of the transformation process

Once the family influence is damaged, is it possible to recover it? Our research shows that the family's influence in the management can be recovered, while it is very difficult to recover the influence in the ownership. Table 1 shows 10 incidences of the reverse moves: there are 7 upward movements in the board member(s), composed of 2 moves from non-family to level 1, 7 moves from level 1 to 2. In contrast, there is only one upward move regarding the shareholder's position (from level 5 to 6).

It is possible to recover the position in the board of directors as long as the ownership is maintained at a certain level, such as among the top ten shareholders (e.g. moves from level 4 to 5). We contend that it is quite difficult to move upward in the shareholder's position unless the family continues its conscious effort to this end.

In conclusion, family capital and its commitment to the firm is fundamental to the status of the family firm, and the family needs

to continue a conscious effort to maintain it, as it is very difficult to recover once it is damaged or lost.

(5) Implications

This section presents implications, which are academic, practical and administrative respectively. Academically, the research has three major implications. First, the paper presents a new definition of family business to quantitatively measure the family involvement on a continuous scale. Traditional definitions artificially dichotomize family vs. nonfamily firms when no such clear-cut dichotomy exists (Astrachan et al, 2002: 46). To avoid the problem, F-PEC is proposed, which however isn't operationalized.

This paper presents a quantitative measurement of the family involvement, both in the ownership and management, on a continuous rather than dichotomous scale, overcoming the weakness of both the conventional definitions and FPEC. It has a potential to tap different qualities of businesses, making it possible to differentiate levels of family involvement, and providing a framework integrating different theoretical and methodological approaches to the study of family business.

Secondly, as discussed in the last section, this paper addresses the importance of the optimal solution of the conflict between the family and its business. In order to pursue the optimal balance between the benefits of both the family and its firm, this research emphasizes the importance of maintaining the family's perspective when making a business decision. It is therefore critical to research the optimal point, to balance the benefit of both the family and its

business in the long run.

The third academic implication, the modeling of the sustainable family business, is relevant for family firms to achieve sustainable growth for generations. The family business today is facing various challenges due to ever-changing environmental conditions. The sustainable family business model, once constructed under such ever-changing environmental conditions, is expected to evaluate each family firm for its sustainability, succession capability and address its obstacles.

Practical implications are varied, out of which the following two are briefly remarked about. One is the importance of the family's conscious effort to keep control of the business within the family. The importance of the family's control of its business is echoed by Ernst Young (2015), summarizing the 2012 survey of 280 family businesses in 30 countries, which says that "two-thirds of all businesses questioned said that they planned to keep the control of the business in the family." This strong desire should be pursued consciously and continuously, otherwise business decisions will be easily made in favor of the firm's interest.

Another practical implication, important to the business family, is the significance of all possible measures to maintain the family's influence in a long-term horizon. Education of the next generation is one of the most important factors to this end, which requires at least one or two decades to successfully accomplish as planned. Therefore, such a practice can't be overemphasized.

Last but not the least important is the administrative implication. For the policymakers, this paper indicates the importance of maintaining the family status,

nevertheless administrations in Japan and other nations seem to be geared toward non-family succession. In Japan, succession is one of the very imminent issues for family firms (Small and Medium Enterprise Agency, 2006). Less and less numbers of members of the next generation choose to succeed, and as a result, family firms are obliged to cease operation. In such a situation, the Small and Medium Enterprises Agency, moves to support various alternate successions, including succession to non-family members, following advanced nations which have already geared toward this direction, typically the European Community (European Commission, 2011: 78), and especially France (Murakami, 2008: 16).

It may be argued that various alternate successions serve to the benefit of the family and its firms. Literature tells the opposite since extra-family succession yields better financial performance than intra-family succession in the short run, but it is inferior in continuity (Wennberg et al., 2011). Policymakers should be aware of the outcome of the policy in the long run and should take every possible means to promote intra-family succession.

(6) Conclusion

Tracing 57 listed family firms in Japan for their transformation process to become non-family firms over almost a century (1920's - 2010), this paper examined the family business transformation process as family capital committed to the firm eroded, to identify the sequence and the causes of the erosion.

By addressing the family capital as most essential to maintain the family business status, this paper emphasized the erosion of the family's financial capital as the most important

force to cause the transformation, and identified decision-making during the business expansion period, separation of ownership and management, disposal of shares and resignation from the board of directors as the major causes for the transformation. Since the transformation process to the non-family status is difficult to reverse once occurred, it is critical for the business family to continue the conscious effort to maintain family capital to influence its firm. This paper presented academic, practical and policy-related implications.

The limitation of the research is the lack of comparisons with those firms that have maintained the family firm status until today. Also, the comparison with family firms' transformations in other countries is expected to give universal applicability to the findings of the paper.

References

- Ajinomoto Co. (1972). *Ajinomoto Kabushikikaisha Shashi* (Company history of Ajinomoto Co.). Japan Business History Institute.
- Anderson, R., and Reeb, D. (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P500. *The Journal of Finance*, 58 (3), pp.1301- 1327.
- Astrachan, J., Klein, S., and Smyrniotis, K. (2002). The F - PEC scale of family influence: a proposal for solving the family business definition problem. *Family Business Review*, 15 (1), pp.45-58.
- Barney, J. (1991). Special theory forum the resource-based model of the firm: origins, implications, and prospects. *Journal of management*, 17, pp.99-120.
- Berle, A., and Means, G. (1932). *The modern*

- corporation and private property*. Harcourt Brace Jovanovich.
- Carlock, R., and Ward, J. (2001). *Strategic Planning for the Family Business: Parallel Planning to Unify the Family and Business*. Palgrave Macmillan.
- Chandler, A. (1977). *The Visible Hand: The Managerial Revolution in American Business*. Harvard University Press.
- Danes, S., Stafford, K., Haynes, G., and Amarapurkar, S. (2009). Family Capital of Family Firms Bridging Human, Social, and Financial Capital. *Family Business Review*, 22 (3), pp.199-215.
- Ernst Young (2015). *Built to last: family businesses lead the way to sustainable growth*. Retrieved from <http://www.ey.com> [Online available: May 30, 2016]
- European Commission (2011). *Business dynamics : start-ups, business transfers and bankruptcy*. European Commission.
- Gersick, K., Davis, J., and Hampton, M. and Lansberg, I. (1997). *Generation to Generation: Life Cycles of the Family Business*. Harvard Business School Press.
- Goto, T. (2012). *Famiri bijinesu: Shirarezaru jitsuryoku-to kanousei* (Family business: its capability and potential). Tokyo: Hakuto shobo.
- (2016). *Famiri bijinesu Hakusho 2015* (Family business yearbook 2015). Tokyo: Doyukan.
- Habbershon, T., and Williams, M. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, 12 (1), pp.1-25.
- Kobayashi, K. (2014). Senji torihikisho tougo-kara heiji tougo-made: torihikijo seturitu/kaisan seisaku-no do-to sei (History of the securities exchange: its merger during and after WW2). *Shouken keizai Kenkyu*, 88, pp.1-15.
- MassMutual (2008). *American Family Business Survey*. Retrieved from <https://www.massmutual.com> [Online available: May30, 2016]
- Mishima, Y. (1983). Yamaguchi Zaibatsu no Hatten to Kaitai (The development and the dissolution of Yamaguchi zaibatsu). *Japan Business History Review*, 18 (2), pp.23-51.
- Mori, K. (2006). Ogura Masao: *Inori-to Keiei Yamato "Takkyuubin-no chichi" ga tatakatteita mono* (Masao Ogura: Prey and management: what the Father of Yamato courier delivery service strived for). Tokyo: Shougakukan.
- Murakami, Y. (2008). *Furansu-no jigyou-shoukei-to jigyou-shoukei siensaku* (Business succession and succession supporting policies in France). *Chosa kiho*, 84, pp.15-17.
- Nachi-Fujikoshi Corp. (1978). *Fujikoshi 50-shuunenshi* (50 years history book of Fujikoshi).
- Nemoto, T. (2007). *Doitsu-no famiri bijinesu-niokeru jigyo-shoukei-no genjou-to kadai* (Business succession of German family business: current situation and the issues in Japanese). *Chosa kiho*, 81, pp.38-63.
- Newbauer, F., and Lank, A. (1998). *The Family Business: Its Governance for Sustainability*. New York: Routledge.
- Pramodita, S., Salvato, C., and Reay, T. (2014). Temporal Dimensions of Family Enterprise Research. *Family Business Review*, 27 (1), pp.10-19.
- Small and Medium Enterprise Agency (2006) *Chushoukigyō hakusho* (White Paper on

Small and Medium Enterprises).

Suzuki K. (2013). *Nihon no Equity finance no ayumi* (The History of Equity Finance in Japan). *Kokumin Keizai Zasshi*, 207 (2), pp.39-63.

Toyo Keizai Shinposha (1926-1942). *Toyo Keizai Kabusikikaisha Nenkan* (Joint-stock company almanacs).

Wennberg, K., Wiklund, J., Hellerstedt, K., and

Mattias Nordqvist (2011). Implications of Intra-Family and External Ownership Transfer Of Family Firms: Short Term and Long Term Performance. *Ratio Working Paper*, No.172, pp.1-50.

Yamaichi Shoken kabusikikaisha (1940-1956). *Kabusikikaisha Nenkan* (Joint-stock company almanacs).

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SOCO's Impact on Individual Sales Performance: The Mediating Role of Cross-functional Integration

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Abstract

The effects of sales orientation (SO) and customer orientation (CO) on individual performance and the mediating effects of cross-functional integration are examined in this research. The assumption, two types of selling motivation (SOCO) differentially influence individual performance, is modified by evaluating the mediating role of cross-functional integration based upon the rationale is that SO emphasizes self-interest whereas CO involves knowledge sharing and internal communication. Hypotheses are tested with structural equation modeling using survey data from 236 salespeople in a Japanese industrial company and it is found that SO directly influenced individual performance but cross-functional integration completely mediated the relationship between CO and individual performance. Based on these results, the importance of SOCO both in order to increase upper performance is emphasized and a new perspective on the cross-functional integration of salespeople is provided.

Keywords

sales orientation, customer orientation, salespeople, Japanese industrial company, integration, individual performance

(1) Introduction

In the context of increased domestic and international market competition, the

importance of formulating diverse sales strategy and managing the behavior of salespeople has been the focus of considerable

academic attention and research interest (Franke and Park, 2006). Although satisfaction with and maintenance of long-term relationships with customers are critical, firms also pursue short-term interests even though in business-to-business transactions. Therefore, salespeople should adapt diverse sales strategy with exclusive psychological orientations.

This study tests that how salesperson-level sales orientation (SO) and customer orientation (CO) affect the performance of those salespeople by evaluating mediating effect of cross-functional integration behavior. SO is the degree to which salespeople prioritize their own needs and/or the needs of the firm over those of their customers by attempting to sell as much as possible. Conversely, CO means that the degree to which salespeople try to help customers make purchase decisions to satisfy the needs of the latter and the extent to which they enjoy doing so (Saxe and Weitz, 1982; Brown et al., 1997). Most researches on the selling behavior of salespeople have usually discussed SO as being inversely related to CO (e.g., Saxe and Weitz, 1982). However, SOCO is not exactly inversed concepts because their effects to performance unseparated (Schwepker, 2003). Related empirical research has reported a positive or a non-influential relationship between SO and performance (e.g., Boles et al., 2001; Wachnel et al., 2009) and has argued for additional research to test this relationship further by addressing whether both components of SOCO have a positive impact on performance (Wachnel et al., 2009; Goad and Jaramillo, 2014).

In addition, the academic literature examining SOCO has revealed that this phenomenon enhances individual sales performance, but it has ignored the possibility that the observed effect is the result of intervening variables. According to a personality-performance perspective, which provide a framework for how personality affects behavior at work, a specific psychological state affects individual performance through proactive processes (Goad and Jaramillo, 2014). As a sales-related concept, SOCO may affect individual performance through the activation of a particular stage of organizational development, such as integration with other knowledgeable members. The integration of salespeople with a variety of functional members is critical for exchanging information and activating organizational learning, which may affect the effectiveness and ability of a salesperson (Rouzes et al., 2005). This behavior of salespeople may reasonably be expected to influence individual performance. In particular, CO may prompt the delivery of high customer value by increasing internal dissemination of market-related information and enhancing coordination with other functional members.

By examining the effects of SOCO on individual performance and investigating the mediating role of integration, it may be possible to identify the real effects of SOCO which clarify their implications for sales managers.

The remainder of this paper is organized as follows. First, I discuss the extant literature on the sales behavior of salespeople and their integration with other functional

members. Then it is developed related hypotheses. Next, I present the methods used in our empirical research and discuss the results. Then the theoretical and managerial implications of findings are presented. Finally, it is discussed the limitations of this study and implications for future research.

(2) Conceptual background

1. Sales motivation of salespeople

Research regarding the sales motivation of salespeople has developed the SOCO criterion to estimate the degree to which tasks are effectively accomplished by salespeople. The degree of SOCO is important for organizations because it influences the job-related attitudes and goals of salespeople (Schwepker, 2003; Jaramillo et al., 2007).

The SOCO scale incorporates two subscales: SO (sales-oriented selling) and CO (customer-oriented selling). The SOCO scale addresses the following characteristics of a customer-oriented sales process: the desire to help customers make satisfactory purchase decisions, helping customers assess their needs, offering products that will satisfy manipulative tactics, and avoiding the use of high-pressure selling (Saxe and Weitz, 1982). Based on these assumptions, one line of research on SOCO has proceeded from the notion that both types of sales effectiveness can be investigated using only one measurement (Pettijohn et al., 2007). Drawing on the stance that SO should be limited to encourage CO, several studies have examined the more effective aspects of the SOCO approach and the antecedents of the CO approach in particular (Widmier, 2002).

On the other hand, another line of

research is based on the view that SOCO are distinct rather than opposite constructs and that they should be assessed with separate measures (Guenzi et al., 2011). Specifically, the antecedents and benefits of CO, such as job satisfaction, commitment, organizational citizenship, and the behavior of members, have been outlined (Cross et al., 2007).

Despite numerous studies have attempted to identify and explore the relationship between performance and sales motivation, no consensus has developed in this regard (Goad and Jaramillo., 2014). Indeed, few researchers have focused on SO as a significant contributor to performance because they have assumed that SO is negatively related to organizational outcomes under the rationale that the use of a primarily sales-oriented sales strategy involves less concern for customers' interests (e.g., Guenzi et al., 2009). However, the impact of SO on sales performance remains uncertain (Schwepker, 2003).

In addition, only a few potential moderating factors, such as differences in performance measurements (subjective or objective) (Jaramillo et al., 2007) and the level of skill of salespeople (Wachner et al., 2009), have been examined with regard to the relationship between SOCO and sales performance. These studies have shown that various external and individual factors can affect the relationship between SOCO and performance, but the impact of internal factors, such as integration with other functional members of the organization, has not been well studied.

2. Cross-functional integration of salespeople

In general, the sale of products and services is not the exclusive province of marketing or sales but also involves multiple functional members (Le Meunier-FitzHugh and Piercy, 2007). Cross-functional integration, a structure that maximizes a firm's effectiveness, has been addressed by three approaches within the relevant literature: the interaction, collaboration, and composite perspectives (Kahn and Mentzer, 1998). According to Kahn (1996), interaction includes physical activities, such as meetings, e-mails, telephone calls, and cross-functional training, whereas collaboration involves intangible elements, such as mutual understanding, common vision, and information sharing or building.

Some empirical research has shown that collaboration is a feature of successful performance that promotes market satisfaction and identifies the behavior that is most important for new product development (NPD) (Kahn and Mentzer, 1998; Kahn, 2001). However, since interaction and collaboration are closely parallel, the composite perspective has been accepted, according to the goals of integration, for discussing cross-functional integration (Song & Montoya-Weiss, 2001; Rouzie et al., 2005). In this research, salesperson's integration with other functional members is focused, using "integration" to refer to the extent of information exchange and personal interaction. Integration is an internal option available to salespeople and that it creates value for customers. The important functions of integration are discussed in terms of the cross-functional relationships related to marketing, such as those involving R&D (Kahn and Mentzer, 1998), human resources (Chimhanzi and Morgan, 2005),

and sales (Le Meunier-FitzHugh et al., 2007).

Research in these areas has suggested that integration is vital to overall performance on both individual and group levels. For example, Kahn and Mentzer (1998) showed that integration among different functional members has a positive influence on performance in terms of department success, overall firm performance, and NPD because information exchange that is intrinsic to integration allows members to reduce uncertainty, thereby facilitating different types of performance. Similarly, Le Meunier-FitzHugh and Piercy (2007) empirically determined that collaboration between sales and marketing is positively associated with business performance. At the individual level, Chimhanzi and Morgan (2005) found that informal interaction in the dyadic relationship between marketing and human resources increases familiarity but reduces competitiveness by prompting mutual understanding of others' personality traits and preferences. Moreover, Guenzi and Troilo (2006) showed that salespeople can foster marketing capability (e.g., marketing sense, understanding market trends, and customer relations) by increasing the relevance of their interactions with marketing.

(3) Model and hypotheses

The conceptual model, which illustrates the relationship between constructs, is shown in Figure 1. Although extant research suggests that SO by itself negatively affects customer loyalty and job satisfaction as it prioritizes short-term interests over customer satisfaction (Boles et al., 2001; Schwepker,

2003), SO is often the most effective sales strategy for improving individual performance. Wachnel et al. (2009) reported that SO directly increased individual sales performance in B-to-B market settings and found that this tendency was stronger when salespeople were less skilled at selling. Moreover, SO develops certain types of customer relationships. Boles et al. (2001) accurately observed that SO was not harmful for relationships with customers in in-store retail settings because customers expect salespeople to engage in selling-oriented behavior to some degree. Similarly, according to Singh and Koshy (2011), SO is positively associated with the development of customer relationships in the short- or medium-term. On the other hand, Schwepker (2003) argued that salespeople are more likely to utilize SO in an effort to meet relevant demands and goals when management employs outcome-based measurements (e.g., financial performance) to evaluate their performance. Harries et al. (2005) found that performance orientation positively influenced SO, suggesting that highly performance-oriented salespeople are focused on short-term rather than long-term success, and that they, in turn, behave in a way to maximize their extrinsic rewards. This may imply that when salespeople adopt a stronger sales-oriented approach, they increase their attention to the act of selling itself and place the highest priority on finding effective methods for increasing performance. These discussions show that SO is influential in increasing sales performance. Building on the aforementioned theoretical and empirical foundations, first hypothesis is as follows:

H1. Sales orientation positively affects individual sales performance.

CO is considered as a long-term sales approach. Various studies have shown that CO improves individual performance by encouraging salespeople to focus on increasing long-term customer satisfaction and avoiding behaviors that may lead to customer dissatisfaction (Franke and Park, 2006; Boles et al., 2001; Arndt and Karande, 2012). Franke and Park (2006) argued that a customer-oriented salesperson finds the process of satisfying customers' needs to be intrinsically pleasing. Cross et al. (2007) also showed a positive effect of CO on performance. Their rationale was that a salesperson is often the only representative of the organization to interact with the customer, and the individual salesperson's focus on satisfying customer needs is therefore a crucial subject of inquiry. Moreover, salespeople who have a high-CO approach tend to build stronger customer relationships (Bole et al., 2001). Such relationships lead to more frequent repeat sales, more word-of-mouth referrals, and overall, a more desirable image for the selling firm.

H2. Customer orientation positively affects individual sales performance.

Improved information flow and flexibility of responses by team members can allow resources to be quickly and easily disengaged from unproductive uses and applied to new opportunities (Ford and Randolph, 1992). By transmitting information and interacting with members who work in complementary functions, salespeople are more likely to increase their product knowledge and effectively control their schedules. Moreover,

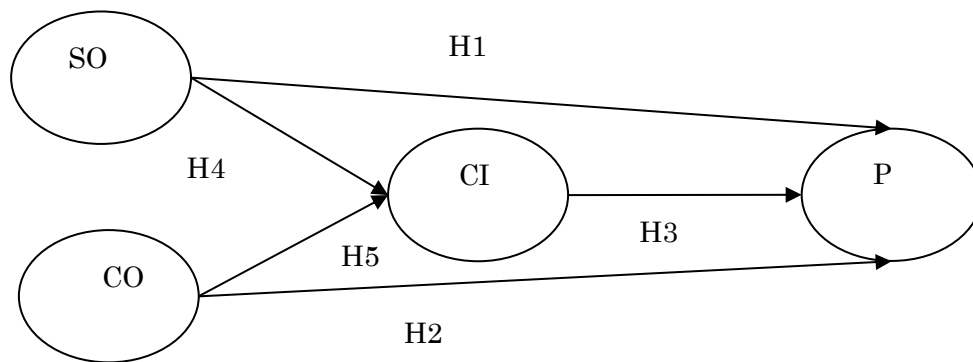


Figure 1. Conceptual model and hypothesized relationships

Note: SO=sales orientation, CO=customer orientation

CI=cross-functional integration, P= salespersons' performance

a network can supplement an individual's ability to respond well to new challenges when that individual knows from whom to seek information or expertise (Cross and Cumming, 2004). In this regard, salespeople who are more aware of other functional members' expertise are likely to contact the right people at the right time when information and technical support is required for their tasks. Based on these considerations, the following hypothesis is developed:

H3. Cross-functional integration positively affects individual sales performance.

This research proposes that SO is negatively related to integration with other functional members. Because SO emphasizes that a salesperson's self-interest over that of customers, it is stimulated by the general output evaluation systems of organizations (Sujan et al., 1994). Auh and Menguc (2013) reported that a reward practice that links pay increases to performance is negatively related to knowledge-sharing behaviors. This relationship involves a self-interested

perspective that holds that "people choose after assessing the probable gains and losses in well-being from a set of alternative actions" (Knoke, 1990, p. 31). When knowledge sharing with other functional members is not part of a formal job description, it is difficult to motivate self-interested salespeople because they engage primarily in efforts to achieve rewards.

H4. Sales orientation negatively affects cross-functional integration.

Customers in B-to-B contexts require a full array of services, including help with problem-solving processes and efforts to increase the productivity of their sales force (Leigh and Marshall, 2001). Therefore, the role of salespeople is increasingly associated with account management and solution development. For example, Storbacka et al. (2009, p. 982) argued that "for salespeople to succeed in a servitised sales process they require knowledge held not just by marketing but also by operations and finance, resulting in the need for greater internal communication." This means that, for

salespeople who emphasize customer satisfaction, integration with other functional members is especially important to their ability to perform their fundamental role; thus, CO is likely to motivate salespeople to interact or collaborate with other functional members.

H5. Customer orientation positively affects cross-functional integration.

(4) Research methodology

1. Sample and measure

This study was conducted in a company whose sales of individual services and products involved real state and auto and financial insurance. I chose this special company because its salespeople are motivated to accept SOCO approaches, and they are generally integrated with other functional members. In total, 382 questionnaires were distributed, and 236 salespeople, including sales managers, responded, reflecting a response rate of 61.78%. Scales for measuring SOCO, integration, and individual performance were adapted from previous research for this study. Likert scales, ranging from one to indicate “not at all” to five to indicate “a lot,” were used. Based on Wachner et al. (2009), SO was measured with a three-item index, as shown in Table 1. It is modified these measures from those used by Wachner et al. (2009) to reflect the short-term transactional emphasis on superior financial performance of SO. It is modified instruments drawn from those used by Thakor and Joshi (2005) to measure CO. In addition, integration with other functional members, which was referenced by Kahn and Mentzer (1998), is included. Finally,

individual performance was measured using two items developed by Churchill, Ford, Hartley, and Walker (1985) to emphasize the view of performance in the sales role. All items measured self-reported performance relative to other salespeople.

2. Results

2.1 Measurement model

The validity and dimensionality of our reflective constructs are assessed by performing a confirmatory factor analysis (CFA). CFA model addressed SO (three items, $\alpha = .706$), CO (four items, $\alpha = .732$), integration (four items, $\alpha = .835$), and performance (two items, $\alpha = .912$). The model showed an acceptable fit with the data, with a χ^2 value of 135.609 ($df = 59$, $p < .001$), a comparative fit index (CFI) of .941, an adjusted goodness-of-fit index (AGFI) of .872, and a root mean square error of approximation (RMSEA) of .074. These data imply that the fit of the model was good. Item loadings are presented in Table 1. One item related to cross-functional integration had a low loading, $< .5$ is founded, it is accepted because it is necessary to directly estimate how salespeople perceive the possibility as to integrate with other functional members. Moreover, the overall composite reliability and average variance extracted (AVE) were strong for all latent variables, as shown in Table 2. Because the square root of the AVE for each construct was greater than the correlation between any pair of constructs in the measurement model, all model constructs exhibited discriminant validity with respect to the standard.

In addition, a Harman's one-factor tests performed on the four conceptually crucial

variables in our research model: SO, CO, cross-functional integration, and individual performance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Results from this test showed that four factors were present and that the most

covariance explained by one factor was 28.62%. This suggests that our data sample was most likely not contaminated by common method bias.

2.2. Structural model

To test hypotheses related to the structural

Table 1. Variables and measures

Scale items	Model Estimate*
<i>Sales orientation</i>	
SO1 when a company appraises salespeople, only financial performance has to be considered.	.474
SO2 I try to focus attention on the degree of sales performance compared with others	.828
SO3 high sales performance is more important than how to accomplish it	.657
<i>Customer orientation</i>	
CO1 It is important to fully understand the customer's needs	.573
CO2 I try to determine how I can satisfy customers	.794
CO3 I try to determine how I can best help the customer solve his/her problem	.674
CO4 I spend much of my time listening to the customer talk about his/her firm's needs	.557
<i>Cross-functional integration</i>	
CL1 the integration between sales and other functions is possible	.351
CL2 critical information is shared between colleagues with different functions	.901
CL3 I am actively gathering information from colleagues with different functions	.859
CL4 I frequently exchanges information with other functional members	.922
<i>Individual Performance</i>	
P1 the degree to which the salesperson commits to the target sales figure	.943
P2 the sales figures are achieved	.889

Table 2. Descriptive statistics and correlations

	Composite reliability	AVE	1	2	3	4
1.Sales orientation	0.74	0.50	1			
2.Customer orientation	0.86	0.61	-.009	1		
3.Cross-functional integration	0.88	0.67	.034	.245**	1	
4.Individual performance	0.92	0.84	.285**	.074	.322**	1

Table 3. Structural model estimates

Structural paths		Path Estimate (<i>t</i> -value)
Sales orientation	→ Cross-functional integration	0.13(1.20)
Customer orientation	→ Cross-functional integration	0.67(3.37)***
Cross-functional integration	→ Individual performance	0.28(4.08)***
Sales orientation	→ Individual performance	0.63(5.11)***
Customer orientation	→ Individual performance	0.05(0.30)

* $p < 0.05$; ** $p < 0.01$; and *** $p < 0.001$

ral model, AMOS is used to examine model; the fits of the models ($\chi^2 = 135.609$, $d.f. = 59$, $p < 0.001$; CFI = 0.941; TLI = 0.923; and RMSEA = 0.074) were good. In terms of the effects of direct paths, four of the six relationships directly supported three of our hypotheses as shown in Table 3. Specifically, H1, which addresses the direct effect of SO on individual performance, was supported. The parameter estimate for the path was 0.627 ($t = 5.112$). H5, which also addresses the direct effect of CO on cross-functional integration, was supported, and the parameter estimate for the path was 0.670 ($t = 3.365$). In addition, H3, which deals with the direct effect of cross-functional integration on individual performance, was supported, and the parameter estimate for the path was 0.284 ($t = 4.082$). The other two structural parameters were non-significant; therefore, H2 and H4 were not supported in our model.

(5) Discussion

1. Theoretical and managerial implications

This research investigated the impact of SOCO on the individual performance of salespeople because most extant research on

the sales motivation of salespeople has underscored the positive effects of CO and neglected the impact of SO. It is also studied the direct and mediating effects of integration with other functional members on individual performance. These findings contribute to existing knowledge about sales organization. First, this research clarified how and why SOCO affects individual performance by showing that cross-functional integration mediates the effects of CO on individual performance. A significant result is that SO directly increases sales performance, but that CO indirectly increases it by prompting interaction and activities with individuals with different areas of expert knowledge.

This finding underscores the differences between the two components of SOCO, although previous research has reported that both positively influence performance (e.g., Bole et al., 2001).

In terms of function, the relevant literature has shown that CO stimulate innovativeness and information sharing (Lukas and Ferrell, 2000). For example, Lukas and Ferrell (2000) empirically showed that CO increases the introduction of new-to-

the-world products and reduces the number of me-too products launched. Moreover, Foss et al. (2011) reported that interaction with customers promotes the increased internal communication through delegating responsibility in the organization. Our study advances knowledge in this regard by suggesting that CO increases the performance of salespeople through their innovative behavior, such as interacting with other functional members and improving the value of their products and services by adopting a variety of perspectives.

From this perspective, it is possible that these two psychological states will lead to different customer service and products. Services and products provided from CO are likely be more higher quality than those provided from SO, as the former involves efforts to achieve superior customer value that derive from a combination of different perspectives and areas of expertise. This expectation should be discussed in further research. Second, our study expands on prior research regarding cross-functional integration by showing that personal CO stimulates this phenomenon. Internal and external facilitators, such as reward procedures, top management support, and environmental uncertainty have been identified as antecedents to cross-functional integration (e.g., Rouziès et al., 2005; Guenzi and Trolo, 2006). This research advances knowledge in this domain by suggesting that CO is critical for upper-tier cross-functional integration on the individual level and that the antecedents of cross-functional integration should be further explored. Finally, considering that few studies have

been conducted outside the United States and it is possible that this behavior has different effects in other countries (Guenzi et al., 2011), this research on salespeople in an industrial company of Japan contributes to expanding the existing knowledge on SOCO and its consequences outside the United States.

Findings of this research have managerial implications for sales managers and marketing executives. They should encourage salespeople to adopt both selling approaches and to adapt their management style in terms of salesforce selection, training, motivation, reward, and control systems accordingly (Weitz and Bradford, 1999). Although the importance of shifting strategies from hard selling to smart selling has been asserted (Guenzi, 2011), salespeople are still expected to attain short-term sales results in a competitive market. Achievement of superior short-term performance requires that the work and training curriculum of salespeople be based on sales. This may be more critical for salespeople who naturally prioritize the long-term prospective customer over short-term compensation. At the same time, salespeople with a high SO should also be encouraged to increase their integration with other functional members, such as R&D, marketing, and manufacturing personnel. For example, the use of cross-functional teams with common financial goals may be effective in this regard (Rouziès et al., 2005). In summary, sales managers must coach and support salespeople in attempts to maintain high levels of both components of SOCO and facilitate opportunities for salespeople, especially those with high SO, to interact with colleagues with different knowledge

bases.

2. Limitations and future research

Examinations of the additional conditions that reduce the negative dimension of SO and increase motivation for short-term performance will be critical. Although SO has a positive effect on individual performance as our findings suggest, it also presents considerable challenges, such as reducing customer loyalty, endangering the job satisfaction of salespeople, and fostering low levels of learning orientation (Boles et al., 2001; Schwepker, 2003; Harries et al., 2005); thus, this topic requires more discussion and careful consideration. Moreover, we used individual performance as the consequence of SOCO, which was measured by self-assessments completed in terms of comparison with colleagues. Future research should rely on objective data, which may be more effective for estimating individual effectiveness because it is likely that workers to do not have accurate information about their colleagues' performance.

References

- Arndt, Aaron. D., and Karande, Kiran (2012). Is It Better for Salespeople to have the Highest Customer Orientation or a Strong Fit with Their Group's Customer Orientation? Findings from Automobile Dealerships. *Journal of Retailing and Consumer Services*, 19, pp. 353-359.
- Auh, Seigyoung., and Menguc, Bulent (2013). Knowledge Sharing Behaviours of Industrial Salespeople: An Integration of Economic, Social Psychological, and Sociological Perspectives. *European Journal of Marketing*, 47, pp. 1333-1355.
- Boles, James. S., Babin, Barry. J., Brashear, Thomas. G., and Brooks, Charles (2001). An Examination of the Relationships between Retail Work Environments, Salesperson Selling Orientation-Customer Orientation and Job Performance. *Journal of Marketing Theory and Practice*, 9(3), pp. 1-13.
- Brown, Steven. P., Cron, William. L., and Slocum Jr, John, W. (1997). Effects of Goal-Directed Emotions on Salesperson Volitions, Behavior, and Performance: A Longitudinal Study. *Journal of Marketing*, 61, pp. 39-50.
- Chimhanzi, Jacqueline, and Morgan, Robert. E. (2005). Explanations from the Marketing/Human Resources Dyad for Marketing Strategy Implementation Effectiveness in Service Firms. *Journal of Business Research*, 58, pp. 787-796.
- Churchill Jr, Gilbert. A., Ford, Neil. M., Hartley, Steven. W., and Walker Jr, Orville. C. (1985). The Determinants of Salesperson Performance: A Meta-Analysis. *Journal of marketing research*, 22(2), pp. 103-118.
- Cross, Rob, and Cummings, Jonathon. N. (2004). Tie and Network Correlates of Individual Performance in Knowledge-Intensive Work. *Academy of Management Journal*, 47, pp. 928-937.
- Cross, Mark. E., Brashear, Thomas. G., Rigdon, Edward. E., and Bellenger, Danny. N. (2007). Customer Orientation and Salesperson Performance. *European Journal of Marketing*, 41, pp. 821-835.
- Ford, Robert. C., and Randolph, W. Alan

- (1992). Cross-functional Structures: A Review and Integration of Matrix Organization and Project Management. *Journal of management*, 18, pp. 267-294.
- Foss, Nicolai. J., Laursen, Keld, and Pedersen, Torben (2011). Linking Customer Interaction and Innovation: The Media-ting Role of New Organizational Practices, *Organization Science*, 22(4), pp. 980-999.
- Franke, George. R., and Park, Jeong-Eun (2006). Salesperson Adaptive Selling Behavior and Customer Orientation: A Meta-Analysis. *Journal of Marketing Research*, 43(4), pp. 693-702.
- Goad, Emily. A., and Jaramillo, Fernando (2014). The Good, the Band and the Effective: A Meta-Analytic Examination of Selling Orientation and Customer Orientation on Sales Performance. *Journal of Personal Selling & Sales Management*, 34(4), pp. 285-391.
- Guenzi, Paolo, and Troilo, Gabriele (2006). Developing Marketing Capabilities for Customer Value Creation Through Marketing-Sales Integration. *Industrial Marketing management*, 35(8), pp. 974-988.
- Guenzi, Paolo, Georges, Laurent, and Pardo, Catherine (2009). The Impact of Strategic Account Managers' Behaviors on Relational Outcomes: An Empirical Study. *Industrial Marketing Management*, 38(3), pp. 300-311.
- Guenzi, Paolo, De Luca, Luigi. M., and Troilo, Gabriele (2011). Organizational Drivers of Salespeople's Customer Orientation and Selling Orientation. *Journal of Personal Selling & Sales Management*, 31(3), pp. 269-285.
- Jaramillo, Fernando., Ladik, Daniel. M., Marshall, Greg. W., and Mulki, Jay. Prakash (2007). A Meta-Analysis of the Relationship between Sales Orientation-Customer Orientation (SOCO) and Salesperson Job Performance. *Journal of business & Industrial marketing*, 22(5), pp. 302-310.
- Kahn, Kenneth. B. (1996). Interdepartmental Integration: A Definition with Implications for Product Development Performance, *Journal of Product Innovation Management*, 13(2), pp. 137-151.
- Kahn, Kenneth. B. (2001). Market orientation, interdepartmental integration, and product development performance. *Journal of Product Innovation Management*, 18(5), pp. 314-323.
- Kahn, Kenneth. B., and Mentzer, John. T. (1998). Marketing's integration with other departments, *Journal of Business Research*, 42(1), pp. 53-62.
- Knoke, David (1990), *Organizing for Collective Action: The Political Economies of Associations*, in Rossi, P.H., Useem, M. and Wright, J.D. (Eds), *Social Institutions and Social Change*, Aldine de Gruyter, New York, NY, pp. 27-45.
- Le Meunier-FitzHugh, Ken, and Piercy, Nigel. F. (2007). Exploring Collaboration between Sales and Marketing. *European Journal of Marketing*, 41(7/8), pp. 939-955.
- Leigh, Thomas. W., and Marshall, Greg. W. (2001). Research Priorities in Sales Strategy and Performance. *Journal of Personal Selling & Sales Management*,

- 21(2), pp. 83-93.
- Lukas, Bryan. A., and Ferrell, O. C. (2000). The Effect of Market Orientation on Product Innovation. *Journal of the Academy of Marketing Science*, 28, pp. 239-247.
- Pettijohn, Charles. E., Pettijohn, Linda. S., and Taylor, A. J. (2007). Does Salesperson Perception of the Importance of Sales Skills Improve Sales Performance, Customer Orientation, Job Satisfaction, and Organizational Commitment, and Reduce Turnover? *Journal of Personal Selling & Sales Management*, 27(1), pp. 75-88.
- Podsakoff, Philip. M., MacKenzie, Scott. B., Lee, Jeong-Yeon, and Podsakoff, Nathan. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), pp. 879-903.
- Rouziès, Dominique., Anderson, Erin., Kohli, Ajay. K., Michaels, Ronald. E., Weitz, Barton. A., and Zoltners, Andris. A. (2005). Sales and Marketing Integration: A Proposed Framework. *Journal of Personal Selling & Sales Management*, 25(2), pp. 113-122.
- Saxe, Robert, and Weitz, Barton. A. (1982). The SOCO Scale: A Measure of the Customer Orientation of Salespeople. *Journal of marketing research*, 19(3), pp. 343-351.
- Schweperker Jr. Charles. H. (2003). Customer-Oriented Selling: A Review, Extension, and Directions for Future Research, *Journal of Personal Selling & Sales management*, 23(2), pp. 151-171.
- Song, Michael, and Montoya-Weiss, Mitzi. M. (2001). The Effect of Perceived Technological Uncertainty on Japanese New Product Development. *Academy of Management Journal*, 44(1), pp. 61-80.
- Storbacka, Kaj., Ryals, Lynette., Davies, Iain, and Nenonen, Suvi. (2009). The Changing Role of Sales: Viewing Sales as a Strategic, Cross-Functional Process. *European Journal of Marketing*, 43(7/8), pp. 890-906.
- Singh, Ramendra, and Koshy, Abraham. (2011). Does Salesperson's Customer Orientation Create Value in B2B Relationships? Empirical Evidence from India. *Industrial Marketing Management*, 40(1), pp. 78-85.
- Sujan, Harish., Weitz, Barton. A., and Kumar, Nirmalya. (1994). Learning Orientation, Working Smart, and Effective Selling. *Journal of Marketing*, 59(3), pp. 39-52.
- Thakor, Mrugank. V., and Joshi, Ashwin. W. (2005). Motivating Salesperson Customer Orientation: Insights from the Job Characteristics Model, *Journal of Business Research*, 58(5), pp. 584-592.
- Wachner, Trent., Plouffe, Christopher. R., and Grégoire, Yany. (2009). SOCO's Impact on Individual Sales Performance: The Integration of Selling Skill as a Missing Link. *Industrial Marketing Management*, 38(1), pp. 32-44.
- Weitz, Barton. A., and Bradford, Kevin. D. (1999). Personal Selling and Sales Management: A Relationship Marketing Perspective. *Journal of the academy of marketing science*, 27(2), pp. 241-254.
- Widmier, Scott. (2002). The Effects of Incentives and Personality on

Salesperson's Customer Orientation. 31(7), pp. 609-615.
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