

# Critical Issues of International Business Management Research in the 21st Century, and the Challenges Facing Japanese Companies

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## I Introduction

In the 21st century, not only will global political and economic integration continue to progress, but these same forces will also crash through a multitude of cultures on the world scale. At the same time, to the extent that this collision is accompanied by any signs of close-minded ethnocentrism, cultural superiority or cultural control over other cultures, fierce resistance can be expected to arise. However, the 21st century will also have two essential dimensions. First, this new era offers the opportunity for the creation of new international communities and cultures beyond existing national cultures. Second, in the same era, scientific and technological knowledge production will be further dispersed on a global scale. Cultural diversities could, therefore, become strategic resources as new competitive advantages for companies in the new historical era. Thus, great opportunities arise for far-sighted players who identify the positive factors of cultural diversities as strategic resources, and leverage them as the main source of sustained competitive advantage in the new historical era. Social and economic systems are sure to become ever more knowledge intensive in the 21st century. From this perspective, the new and main source of competitive advantages of companies in the current era will be multi-cultural organizational capabilities that transform ideas created by “synergy effects of cultural diversity” into new concepts. To meet that goal, each company

must engender organizational capabilities to get the most out of human resources beyond nationalities and cultures.

## II The internationalization of the Japanese manufacturing industry

The internationalization of the Japanese manufacturing industry can be considered to have entered a new phase, as is evidenced by the ratio of overseas production operations to entire production. The domestic sales ratios of the entire Japanese automobile industry’s production both inside and outside the country dropped to 21.8% in 2007. It is important to note that the automobile industry has the largest effect on the Japanese manufacturing sector, and for this reason these figures are of crucial importance. In contrast to the domestic sales, the overseas sales increased to 78.2%. In addition, with regard to the yearly production units of the Japanese manufacturing industry, overseas productions (11,555,000 units) surpassed domestic productions (11,059,000 units) in 2007 for the first time in history. For the entire Japanese manufacturing industry, overseas production ratios in 2005 posted a 17% average of the Japanese manufacturing industry and a 31.2% average of that with overseas manufacturing operations. This 17% average overseas production of the Japanese manufacturing sector in 2005 is essentially equal to the average value of that with overseas manufacturing operations in 1994, which suggests that the Japanese manufacturing industry has been becoming rapidly dependent on overseas activities over the past ten

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years.

Consequently, one major management challenge that Japanese companies are facing is how to construct a new Japanese-style multi-cultural management system. The biggest reason for this is that alien-nationality employees of globally operating Japanese companies outnumber Japanese employees. As notably observed in the sports business, the largest future challenge in securing the international competitive advantage of Japanese companies is how to recruit excellent people regardless of nationality and how to establish a robust management system for facilitating the utmost use of employees' talents.

In this context, this section examines the innovation and management styles of Western corporations as an ideal model for Japanese companies. The section takes a particular look at Proctor & Gamble (P&G) and Johnson & Johnson (J&J).

### III P&G's "Open Innovation" Model

First and foremost, this section looks at P&G's main business performance. The global corporation enjoys sales of 5.7 trillion yen in 2006 (Annual Report 2007), a 19.3% operating profits ratio to sales revenues, and a 3.4% research and development (=R&D) ratio to sales (R&D cost of 194 billion yen). Furthermore, the company has 22 original global brands producing more than 100 billion yen through three global business units (beauty, family health, and household). The enterprise's particularly unique strategy is the "connect-and-develop" strategy. This strategy can be expressed as P&G's "open innovation" model. Behind this distinctive model lies the following idea: P&G employs a total of 7,500 research staff members. A survey shows that there are 200 people who have the same R&D level as these researchers on a per basis all over the world. This means that there are a total of 1.5 million researchers with the same or superior level all over the world (*Harvard Business Review*, Aug. 2006). Based on this concept, the "connect-and-develop" strategy has been established as an entire corporate

structure of excellence by networking 7,500 in-house researchers and 1.5 million outside researchers. As a result, 45% of the company's projects have been constituted by product development that occurs outside the organization and more than 100 new products have been marketed by outside research activities. These achievements have created 22 global brands that generate annual sales of over 100 billion yen (HBR, op. cit. ).

As noted above, the "connect-and-develop" strategy is based on the open innovation model for brand creation through the systematic utilization of global knowledge.

#### 1 P&G's Research and Development Structure

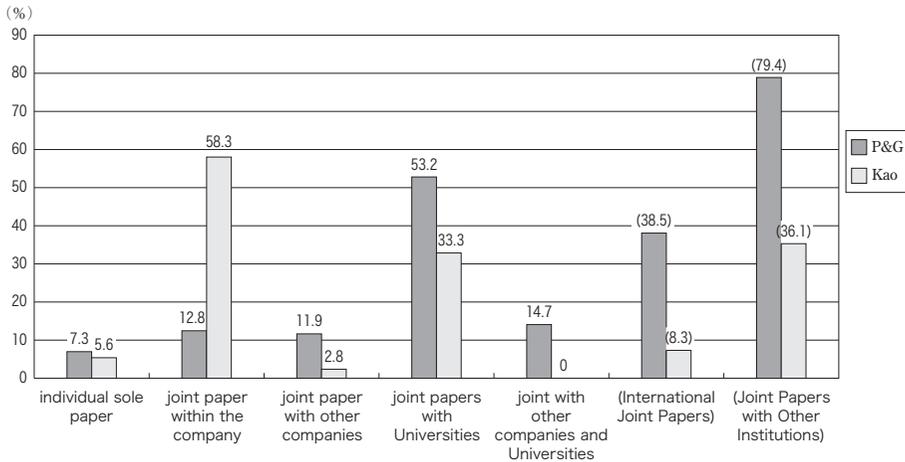
Now, this section closely examines how P&G's strategy is reflected in its R&D results. Figure 1 illustrates collaborative research patterns by examining US-published papers authored by researchers working for Kao and P&G.

As the figure illustrates, approximately 80% of P&G's papers were written in collaboration with outside researchers and almost 40% of these papers are international collaborative work. This suggests that many new knowledge creation activities have been conducted through international collaborative research networks with various researchers of various nationalities who are working in a great variety of overseas institutions.

In sharp contrast, only about 36% of Kao's papers have been written through collaboration with outside researchers. In particular, collaborative works with overseas institutions constitute only 8%. Though Kao is a pioneering company in Japan actively seeking the fusion of scientific & technological knowledge, the company tends to focus on R&D collaborations within the organization.

In addition, as Figure 2 shows, the nationalities of inventors who invented US patents for KAO, granted in 2005, should be noted: 82 were Japanese inventors working for Kao, four were German, one was Spanish, three joint patents were obtained through joint inventions of Japanese and German inventors, one collaborative case was taken on by

Figure 1 Breakdown of Papers by the Affiliation of Authors that P&G's and Kao's Researchers and Engineers Are Involved (published in the US in 2005-2006 : %)



Source: JSTPlus..

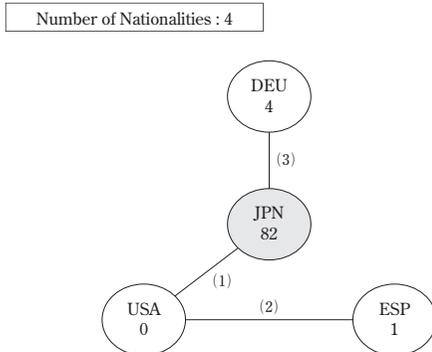
Japanese and American inventors, and two joint patents were obtained through the joint invention of Spanish and American inventors. Therefore, 88% of the US patents that Kao Corporation obtained in 2005 were Japanese inventions. Furthermore, Kao collaborated with inventors from only three other

nationalities in the same year.

## 2 P&G's Global Research and Development Network

In the meantime, Figure 3 illustrates details regarding the nationalities of inventors who

Figure 2 Nationalities of Inventors and the Number of US Patents Obtained by KAO (2005)



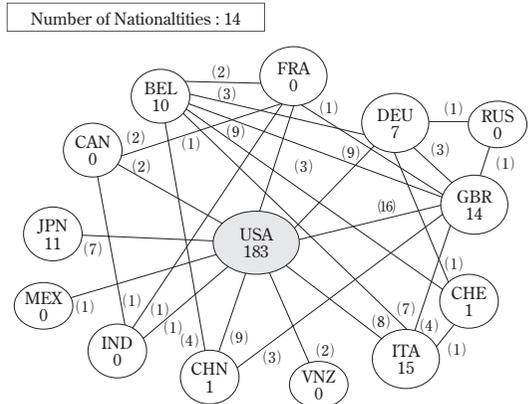
Notes: 1 The numbers in the circles show the number of inventions created by inventors from one country. For example, DEU (Germany) 4 means that there were four inventions by researchers of the German nationality.

The parenthesized numbers beside the lines show the number of joint inventions. For example, the (3) between DEU and JPN means that there were three joint inventions between the two nationalities.

2 Regarding the nationality codes, refer to the note of Figure 3.

Source: USPATFUL.

Figure 3 Nationalities of Inventors and the Number of US Patents Obtained by P&G (2005)



Note: The nationality codes are as follows: BEL (Belgium), CAN (Canada), CHE (Switzerland), CHN (China), DEU (Germany), ESP (Spain), FRA (France), GBR (Great Britain), IND (India), ITA (Italy), JPN (Japan), MEX (Mexico), RUS (Russia), VNZ (Venezuela), and USA (America).

Source: Hayashi and Nakayama (2009).

**Figure 4 The Globalization of the Research and Development Activities of 21 Japanese, US, and European Multinational Electronics Companies**

**Figure 4-1 The percentages of US Patents obtained by foreign national inventors**

	1980	1985	1990	1995	2000	2005
The Average of 7 US MNCs	6.4	12.1	10.8	13.1	13.9	17.4
The Average of 5 European MNCs	16.8	29.0	35.2	37.2	44.8	47.8
The Average of 9 JPN MNCs	1.1	0.9	1.3	2.6	6.0	5.2

**Figure 4-2 Number of Nationalities of US Patent Inventors (Number of Nationalities)**

	1980	1985	1990	1995	2000	2005
The Average of 7 US MNCs	3.9	4.3	7.4	11.7	14.3	19.0
The Average of 5 European MNCs	5.8	6.8	8.2	11.0	14.8	18.8
The Average of 9 JPN MNCs	1.9	2.1	3.8	4.4	6.6	8.6

Note: 7 US MNCs: IBM, Intel, HP, Kodak, Motrola, Xerox, and TI.

5 European MNCs: Philips, Siemens, Nokia, Thomson, and Ericsson.

9 Japanese MNCs: Sony, Canon, Fujitsu, Toshiba, Panasonic, Hitachi, Mitsubishi Electric, NEC, and Sharp.

Source: Serapio and Hayashi (2004), Hayashi and Serapio (2006).

obtained US patents for P&G in 2005 and the company's collaborative R&D networks with overseas institutions. The circled numbers in the figure represent patents invented by inventors of a sole nationality and the lined numbers represent joint patents. Focusing only on the US patents that the company obtained in 2005, it can be seen that there were a total of 345 patents, of which 47% of them were invented by overseas researchers. Moreover, inventors from 14 different nationalities contributed to the company's US patents in the same year.

#### IV The Globalization of the Research and Development Activities of 21 Multinational Electronics Companies

This section explores the internationalization of R&D activities in culture-free digital industries relative to industries closely related to our daily lives. Figure 4 illustrates trends toward the internationalization of R&D activities with a focus on the nationalities of inventors of the US patents that 21 Japanese, US, and European multinational electronics companies have obtained. As the figure shows, R&D activities of these electronics MNCs are steadily becoming globalized and the nationalities of the inventors are becoming particularly diversified. It is undeniable that the nine Japanese companies are gradually becoming

more aggressive in relation to increasing the percentages of multinational US patent inventors, but there is still much improvement to be made with regard to actively utilizing bright researchers regardless of nationality.

It is widely believed that utilizing knowledgeable human resources to their fullest potential, regardless of nationality, has an enormous impact on securing a globally competitive advantage in a time when markets and competitions are becoming increasingly borderless both in culture-free industries and in culture-bound industries.

The following section examines what measures Johnson & Johnson (J&J) are implementing in order to facilitate the sharing of a variety of values among employees who have diverse cultural backgrounds.

#### V J&J

##### 1 Global Vision Sharing System

Johnson & Johnson (J&J) is a global corporation with 122,000 employees in 57 different countries and about 250 corporate groups. This mega company has consistently been posting revenue growths for 75 consecutive years and profit increases for 24 consecutive years since 1932, showing a spectacular average growth rate of 11% since its establishment. What is the secret to this

company's amazing and globally competitive advantage?

The company has a unique system called "Our Credo." It also employs the "Credo Survey" and a division-based decentralization management style. In addition, the enhancement of its long-term technological capability (a research and development cost of 750 billion yen) plays an important role in its management strategy.

Under the system, the company's ideal vision is translated into 36 languages for all the employees in the 57 countries so that they can familiarize themselves with the company's fundamental concepts. The Credo Survey is useful for checking whether or not employees are actually embodying those ideals in their operations without de-emphasizing them as nominal slogans.

This ideal-sharing system is based on top management's basic policy of critical decision-making in every business operation, inspiring all employees to share corporate visions beyond the differences of time and place. The credos are comprised of the following four senses of responsibility: The first one is for customers; the second one is for all employees; the third one is for communities; and the fourth one is for stockholders. The second credo is as follows:

*We are responsible to our employees, the men and women who work with us throughout the world. Everyone must be considered as an individual. We must respect their dignity and recognize their merit. They must have a sense of security in their jobs. Compensation must be fair and adequate, and working conditions clean, orderly and safe. We must be mindful of ways to help our employees fulfill their family responsibilities. Employees must feel free to make suggestions and complaints. There must be equal opportunity for employment, development and advancement for those qualified. We must provide competent management, and their actions must be just and ethical.*

These rules are all expressed using the word must. I do wonder how many Japanese companies

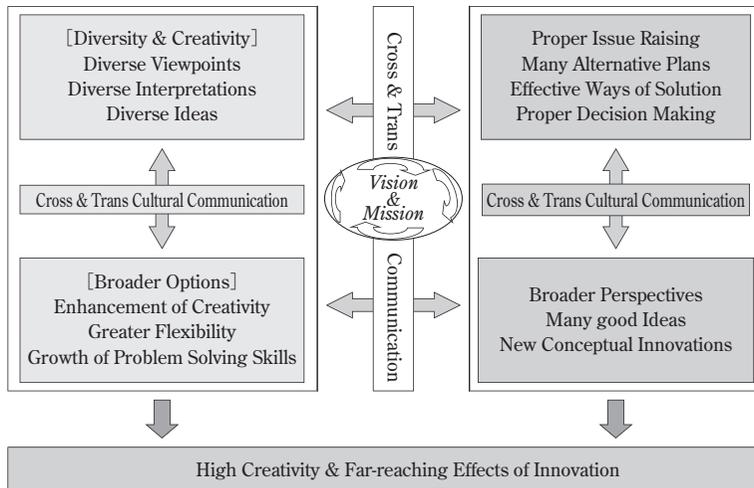
can clearly declare such corporate policies in their official websites and guarantee those ideals for all their employees, family members, and other stakeholders both inside and outside the country. As long as J&J is officially committed to such a policy, employees and their families are likely to file law suits against the company if it does not fulfill its duty to its employees. This second commitment can be regarded as J&J's firm resolution to make sure that all employees have a strong emotional attachment to their duties and perform their work with a sense of responsibility and pride.

This sharing of ideals and rules by employees working all over the world facilitates robust operational standardization, which eventually leads to a strict principle of providing customer services even if management conditions change. In addition, the establishment of this corporate ideal-sharing structure lays the foundation for the aforementioned division-based decentralization management style, which enables each corporate group to formulate distinctive strategies suitable for each country and region. Under this flexible system, the decentralized group companies are entrusted with the decision-making rights for each business environment and can act more quickly on their own initiative in accordance with unique regional cultures, business tendencies, and practices. However, generally speaking, as such a division-based management style becomes more independent, employees are more likely to lose their sense of solidarity. As a result, each section is only responsible for partial optimization, which in turn undermines optimization efforts as a group. Johnson & Johnson's Our Credo system and Credo Survey play a critical role in preventing this kind of problem from occurring and in smoothly implementing a division-based decentralized management strategy.

## 2 J&J and Credo Survey System

That helps make the Our Credo system more effective as an organizational slogan. This survey has been conducted every year since 2005 and involves about 80 questions. For example, the second credo stipulates that each and every employee must be respected as an individual and

Figure 5 Synergistic Effects by Multi-cultural Management and Leadership to Create Knowledge



Source: Compiled from Adler (1991), Hayashi and Hayashi Seminar (2006).

that their dignity and significance must be esteemed. In this survey, employees are requested to choose one of five value-based multiple choice answers for each question. This survey system is not just intended to examine how all the employees all around the world approach the credo. In fact, the system also seeks to comprehensively analyze how seriously family companies and corporate divisions are addressing J&J's vision and what employees think about their section managers' reactions to the initiative.

After the survey has been conducted, the results are disclosed to family companies, corporate divisions, and employees all over the world and are used to determine future goals, operations and measures, and promotions and raises. Therefore, the Credo Survey plays a vital role in boosting organizational dynamism by inspiring the entire company to reconsider its fundamental ideals through the cycle of planning, doing, checking, and action.

This means that the Our Credo system and the Credo Survey are strategically important for three reasons: the systems are effective for nurturing common values and a sense of solidarity among group companies and their employees as members of the J&J team; the systems work well with regard to connecting and consolidating J&J's independent group companies that are managed according to

their original division-based decentralized management style; and the systems facilitate the check-up and maintenance of organizational healthiness based on the Credo policy.

Based on these substantial systems, J&J conducts R&D activities focusing on basic research (at a cost of as much as 750 billion yen annually) with the objective of improving competitiveness in the long term. Indeed, the company also supports its division-based decentralized management strategy by emphasizing the importance of research and development activities.

#### VI Synergy effects of multicultural management and leadership to create knowledge

Figure 5 illustrates the common denominators of P&G and J&J from the perspective of multi-cultural management and leadership. Both corporations systematically and effectively promote organizational dynamism and innovation by utilizing diversity as a key management resource and sharing visions and missions. As the figure suggests, a cross-trans-cultural management and leadership style represents an attitude that recognizes and respects cultural differences and is able to realize the concept of creating new cultures beyond the walls of cultural differences.

Possessing great dynamic organizational capability, such a system facilitates the editing and synthesizing of ideas which are expressed by various members and transform them into new concepts and products. As is represented in Figure 5, in producing sustained and dynamic competitive advantages, it is vital for the company to create multicultural synergy effects. In this process, the role of leadership in facilitating the sharing of visions and missions among members through trans-cross cultural communication is critical in producing synergistic effects which leads to high creativity and innovation.

## VII Critical Issues Regarding International Business Management Research in the 21st Century, and the Challenges Facing Japanese Companies

Although comparing Japanese companies with J&J and P&G may be an oversimplification of the issue, it is obvious that Japanese enterprises lag far behind these US companies with regard to strategically utilizing global knowledge and establishing effective systems for sharing ideal visions and missions among all employees on a global basis. Amidst the recent conditions of increasing ratios of overseas employees and growing dependence on overseas profits, it is clear that solely utilizing Japanese employees is not sufficiently effective to elevate corporate international positions. That is, the future global competitiveness of Japanese companies depends heavily on the organizational capability of a multicultural management system to effectively utilize competent human resources with diverse cultural backgrounds. In this situation, Japanese companies must not only continuously secure international competitive advantage by learning lessons from J&J and P&G, but also develop new Japanese-style multicultural management systems.

The main source of the new sustained competitive advantage is the capability of the multicultural management to maximize the positive side of the cultural diversity and to minimize the negative side. Specifically, in the process of shortening the life

cycles of products and business methods, innovative companies have steadily employed cross-disciplinary and cross-functional new product development systems.

New knowledge in these innovation processes seems to be created at the boundaries between disciplines and functions through cross-cultural communications among project members. In this process, cross-trans cultural management leadership at the boundaries appears to be essential to inspire a variety of members to create and synthesize their ideas.

In the globalizing knowledge economy, therefore, the ability to manage boundaries dynamically to create new knowledge and conceptual framework by leveraging global open innovation networks is becoming a "main source of sustained competitive advantages".

Cross-border/cross-trans cultural boundary knowledge management is sure to emerge as one of the 'Critical issues of business management research in the 21st century', not only for Japanese companies, but others.

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