# Social Science Market M



# Commemorating Collaboration with Industry in People Analytics





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#### **Editorial Notes**

All Personal Names are given in the customary order in the native language of the person unless otherwise requested.

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#### Introduction

One of the most significant purposes of academics is to make use of the knowledge in the real world. Social Science Japan Newsletter 59 introduces one of these efforts to connect the university and the industries by featuring six reports from the Personnel Data Analytics Workshop.

Owan Hideo, the project head, summarizes the backgrounds of the recent growing interests toward data analyses and difficulties of using data in real companies according to his 5 years experiences of the project. Three Human Resource Departments analyze the personnel data of their own companies. Japan Airlines focus on employee's work-life balance and look at the effects of new human resource policies. To apply for the hiring process, Hitachi Chemical closes up the behavioral characteristics of high-performing employees. Persol examines the relationship between superiors and subordinates and offers scientific evidence on subordinates' performances. From the company's point of view, Matsumoto Kohki emphasized the importance of human resource management based not on instinct and experience but on a solid body of data. Sato Kaori presents her recent research with pointing out the concrete technical warnings when people use the personnel data kept in companies.

In the ISS research report, Ishida Kenji discusses incremental Japanese expatriates; focuses on their backgrounds and career perspectives from a sociological view. Ito Asei introduces his book recently published on the Asian Economy written in unprecedented viewpoints.

Lastly, we feature recent updates on lectures by the ISS Contemporary Japan Group and recently published books by ISS staff. Focus on ISS by Kenneth Mori McElwain shares the attempt to renew the ISS homepage. It would be greatly appreciated if you could visit the sophisticated and simplistic new homepage.

> Maki Yokoyama Managing Editor

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# From Personnel Economics to People Analytics

#### **OWAN Hideo**



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#### **Growing Interests in Data Analytics**

Looking back at the five years I have led the Empirical Analysis of Corporate Internal Data Project at ISS, I can't help but be amazed to see how people's interest in human resources (HR) data analyses, or so-called "people analytics," has grown over the past few years. We are receiving requests from an increasing number of firms to participate in our *Personnel Data Analytics Workshop*, which has entered its fourth year.

Why has there been a sudden rise in enthusiasm for data analyses? Is it real or just a fad that will fade away in a few years? I believe at least three changes reinforced by government initiatives have contributed to the increase in demand for people analytics.

The first is many firms renewed their commitment to promote women's advancement and utilize female employees' talent. Partly due to labor shortages and difficulties hiring and partly reacting to the 2015 passage of the Act on Promotion of Women's Participation and Advancement in the Workplace, a majority of Japanese large firms have reformed their HR policies related to hiring, job assignment, working hours, and practices to enhance work-life-balance in order to facilitate the continuous employment and advancement of women who tend to be more time-constrained after life events such as giving birth. Despite managerial efforts, the share of female managers or the assessed level of female employee engagement has not improved substantially in many firms. To identify effective policies and barriers to women's advancement, HR managers have turned to data to find clues.

The second change is the heightened awareness among many firms' top management about the importance of reducing working hours and paying more attention to employee health. Improving productivity is currently the most important managerial challenge. Long working hours are causing problems including deteriorating mental health of employees in demanding work environments, and firms known for long working hours are having difficulties in hiring. Upper limit regulations on overtime included in the "work style reform" bills will further pressure management, which needs to delicately balance motivating autonomous worker efforts to remove wasteful activities and centrally measure those impacts to reward effective practices. Although the buzz words have changed from work-life balance, hatarakikata kaikaku [work style reform], to kenko keiei [health management], the underlying goal of such management initiatives has been to improve productivity while making employees happier and healthier. People analytics can be used to measure the impact of policy changes on productivity, working hours, and employee satisfaction.

The third change took place on the supply-side. With the rapid penetration of enterprise resource planning (ERP) software and numerous HR applications and assessment tools in the areas of recruitment, training, evaluation, job assignment,

etc., more and more data accumulate in human resource departments. HR professionals wonder how they can utilize such rich information to make HR practices more effective. I have seen for the first time people with strong statistics backgrounds (e.g., those with graduate degrees in statistics and economics or those with marketing or R&D experience) entering HR positions where decision-making has rarely been made based on quantitative evidence.

#### **Barriers to People Analytics**

Despite the increasing interest in people analytics, I still see people struggling to ask appropriate research questions. There are at least three barriers. The first barrier is the most obvious—lack of statistical literacy. People who have no knowledge or experience in statistical analysis have little idea how to pose a hypothesis and how to test it. HR departments quite often have no one with a strong background in statistics because, traditionally, human resource management education has not emphasized quantitative skills as necessary for HR professionals. But, this barrier is relatively easily overcome by moving someone with such skills to the HR department.

The second barrier is the lack of a big picture. In firms where decisions are made in a top-down manner, employees' knowledge of the firm's operation and their functional skills are narrow. They are too narrowly focused on what they are asked to deliver. As a result, when they are told to find a research question using the firm's personnel data, they look for an issue related to their own responsibilities rather than the more critical challenges the firm faces. In contrast, in a firm where decisions are made in a bottom-up manner, employees are used to coordinating with colleagues to identify problems and find the best solution for the whole organization. HR managers in the latter type of firms are typically quick to set clear objectives for their people analytics—what they want to achieve by analyzing data.

The third barrier is the lack of a disciplinary framework. It is important to have a framework that allows you to interpret the results of your analysis—what mechanisms are generating the relationships you have found. I use personnel economics to guide participants in interpreting

the results we obtain in the workshop. You typically find multiple interpretations, each of which leads to a different managerial implication. Therefore, you will need to conduct additional analyses to identify which of the mechanisms is playing a more important role. A theoretical framework such as personnel economics helps you to interpret the results by directing attention to different mechanisms and identifying important channels.

There are no quick solutions to overcoming the second and third barriers. HR professionals will need to keep studying economics, management, organizational theories, and basic statistical knowledge while tackling managerial challenges and devising solutions to assist employees.

#### **Always Think of Putting People First**

As many human resources service providers flock to new technologies in human resource management, I am concerned more than ever about possible repercussions in the near future. Some workers may sue their employers complaining that artificial intelligence determined their dismissal, job assignment, or that the employer misused employees' personal information to their disadvantage without telling them about it, etc. because vendors frequently overemphasize their product benefits to management. Once the misuse of personnel records becomes a social issue, data analysis may face heavy regulation making it even harder to find solutions that benefit employees.

If the information stored in the HR department is used only to maximize firm profit without paying sufficient attention to employee welfare, employees will not cooperate with a firm's effort to accumulate reliable information. Employees may not perceive it to be optimal to tell the truth in an evaluation, assessment, or engagement survey. They may even attempt to manipulate productivity, sales, or behavioral data to their advantage. The quality of data collected by the firm will deteriorate, and so will the results of people analytics.

To avoid a Pareto inefficient outcome, management needs to commit to using personnel data only to improve employee welfare, more precisely to help employees improve their productivity, enhance their satisfaction, and assist in maintaining their health and overcoming life challenges. Such a commitment will develop trust with employees and maximize firm value in the long run.

#### **Commemorating Our Five-Year Project at ISS**

I believe our project has had a considerable impact on business people's perception of people analytics. The change is still underway, and we continue with our *Personnel Data Analytics Workshop*. But, since I, the organizer of the workshop, moved to Waseda University in April 2018, the workshop has also moved. With the courtesy of ISS, this SSJ Newsletter commemorates the five-year anniversary of this industry-academia collaboration, which has produced many analyses to improve participating firms' HR policies.

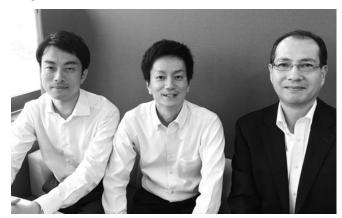
This newsletter contains summaries of selected studies from our workshop participants who received a Best Analysis Award at the final presentations. We also include memoirs from our partner, Mr. Kohki Matsumoto of Works Applications Co., Ltd. and an introductory article by Dr. Kaori Sato of Kokushikan University of her research project spun out from the collaboration with industry. The following three firms contributed to this newsletter. Japan Airlines Co., Ltd. (Mr. Takehiko Seki, Mr. Hitoshi Minami, Mr. Takuji Ikeda), Hitachi Chemical Co., Ltd. (Mr. Shun Ando, Mr. Koichi Taguchi, Mr. Hironori Watanabe, and Mr. Kohei Takahashi), and Persol Holdings Co., Ltd. (Mr. Masaru Fujisawa, Ms. Ryoko Yamazaki, Ms. Kana Sasaki, Mr. Takashi Ohiro, and Mr. Yuta Koretomo).

The Japan Airlines team studied how their policies promoting work-life-balance affected days worked and employee stress and satisfaction. Their study demonstrates how exploiting multiple outcome measures and the panel structure of personnel data help identify the effectiveness of different HR practices. Hitachi Chemical's study shows how non-cognitive skills identified in assessment tests are associated with employee performance in the organization. Such information about what kinds of people tend to perform better is particularly important in determining hiring standards. The next step, which can be used to develop a training program, is to reveal why people with certain noncognitive skills perform better. Finally, the Persol team examined how differences in personality and behavioral characteristics between superiors and subordinates affect subjective evaluations made by the former. Although it is always difficult to distinguish between bias and productivity effect, finding such persistent differences will help us to understand the importance of affinity in forming teams.

Finally, I would like to thank Works Applications for co-organizing the *Personnel Data Analytics Workshop* for five years. Our project would never have been possible without this industry-academia collaboration. I am also grateful to ISS for supporting our project. The organization's great research environment has made it possible to conceive and develop the idea of creating a place where academic researchers and business people interact and gain from each other.

# Let's Take a Scientific Approach to Work-life Balance

#### Japan Airlines Co., Ltd.



From left: Seki Takehiko, Minami Hitoshi, Ikeda Takuji

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#### Before, during, and after work style changes

In 2015, the top management of Japan Airlines (JAL) hammered out a plan for achieving a "work style revolution." Instead of expecting employees to be work-obsessed, the goal was to create a sustainable environment that accommodates a diverse workforce and concentrates group strengths. More specifically, the policies below are being phased in gradually.

#### Hardware changes

- Free address workspaces replaced assigned desks
- Land-line phones removed and company cell phones given to each employee
- Desktop PCs replaced with notebook PCs Software changes
  - New rules banning work-related calls and emails during evenings and weekends
  - New rules for meetings (meeting times, ground rules for meetings)
  - Introduction of policies to support flexible work arrangements such as flex-time and telework

Along with these new measures, monthly work record report meetings help management to visualize employees' working hours and attendance and understand the actual working conditions at JAL.

These efforts to limit the demands and constraints on the way employees work reduced the amount of overtime work in the company as a whole, but how much each of the changes contributed to that reduction was unclear. Also unknown was whether the changes had positive impacts on employees beyond the decrease in overtime. To answer these questions, we examined the effect of the policies in our "work style revolution" plan as our research theme in the Personnel Data Analytics Workshop held at ISS.

#### Identification of the effect

The first thing we needed to consider was how to measure the effects of work style reforms. It would be logical to expect higher labor productivity as a result of the company effort but, even if we could see the aggregated labor productivity as a whole company, for example, we cannot break it down to individual divisions and thus we are unable compare between divisions with and without such reforms implemented. A different type of indicator is therefore required.

Fortunately, JAL has other in-house sources of objective data to draw on. The first is the "stress check" assessment required in the employee assistance program (EAP) that began in 2016. Although this source does not reveal individual-level data, we can obtain aggregate statistics at the workplace level. Second, data on working conditions presented at the monthly work record report meetings (hours of overtime worked by non-managerial employees, days of paid holidays taken, and hours worked onsite by managers) are also available.

We set the goal of this study as to quantitatively show whether or not work style reforms have had a positive impact on employees—reducing overtime work and stress—which would presumably lead to improving organizational performance.

#### Statistical analysis

For this study, we prepared several years of depart-

ment panel data. Our dependent variables are stress-check assessment score, working hours (both overtime and total) and the number of paid holidays taken; independent variables are the incidence of specific practices in each department adopted in our work style reform such as the replacement of desktop PCs with notebook PCs, distribution of company-issued cell phones, freeaddress office design, and telework. One problem is that each division was given full discretion about whether and when to adopt each practice. Therefore, department-specific characteristics are likely to be correlated with both the changes in practices and the outcome variables. Fixed-effect model was used to mitigate the potential estimation bias due to this endogeneity.

To begin with, we present results using different items in the stress check assessment scores as dependent variables. "Stress response," "stress sources," and "mental toughness" were broad stress check categories that were comprised of narrower items. For example, the stress response category included "anger/irritation" and "anxiety/tension."

We found significant effects for changing to note-book PCs and free address offices. Stress check score is designed to increase when stress decreases, and vice versa. The switch to notebook PCs had a negative coefficient for "anger or irritation," "anxiety or tension," and "feelings of depression." Conversely, free address offices had a positive coefficient for "anger or irritation" and "feelings of depression." In other words, introducing notebook PCs tended to increase stress while free address offices tended to reduce stress.

Having portable devices like notebook PCs not only benefit employees because they can work anytime, anywhere but also may increase employees' psychological burden because they end up working whenever and wherever, perhaps due to the Japanese tendency to be diligent. In the case of free address offices, employees reported less stress in free address offices on average, but a gender difference was revealed—employees felt more stress on average in departments with a high percentage of women (negative regression coefficient).

In general, free address offices allow people to sit with coworkers assigned to the same task and let people in various groups in the same division work side-by-side, which should spur communication and reduce stress. Nevertheless, we cannot say this is true for all, especially in departments with a high ratio of women. According to interviews with several female employees, they worry how others interpret their every-day choices of seats, asking themselves where they should sit relative to senior employees, how often they should sit near each coworker, etc. These questions are non-trivial matters and could be a source of stress for some.

Next, we discuss the impact on working conditions. The dependent variables include monthly averages of overtime worked by non-managerial staff, number of paid holidays taken, and total hours worked per month. Total monthly hours worked equals the hours of regular work plus hours of overtime minus the number of days off multiplied by the number of regular working hours per day. Obviously, as more vacation days are taken, the total monthly hours worked falls. At JAL, the latter is one of the key performance indicator in assessing the progress made in the work style reforms.

We find that, when the number of paid holidays taken is used as the dependent variable, the introduction of telework had a significant negative coefficient. Similarly, the total number of hours worked rose after telework was introduced (i.e. significantly positive coefficient). These findings may seem to tell us that having the telework option inhibits employees from taking paid holidays—one of the goals of work style reform. How could it be true?

To understand why telework reduces paid holidays actually taken, we need to explain more in detail on JAL's telework system. Working days are divided into four-hour blocks—morning and afternoon. Under certain conditions satisfied, employees are allowed to have an interval of up to four hours between morning or afternoon blocks. Consider, for example, the case in which an employee wishes to attend a parent-teacher conference. Before telework started, the employee would likely have used their paid holiday. With

telework allowed, the employee can now work four hours in the morning, attend the conference, and then work four more hours from home without using any paid holidays.

Telework's negative impact on paid holidays used, and corresponding positive effect on total working house, presumably suggest that personal matters that employees used to take care of using a paid holiday are now handled during breaks in the workday.

#### Conclusion

We present only part of our study in this essay. At the start of this project, we additionally used the employee satisfaction (ES) survey results to assess the effects of work style reforms on employee satisfaction, but to our disappointment, no statistically significant results were found in the analysis. Part of the reason is that we only have access to the mean score at the workplace level for the ES survey, too. Furthermore, over two years had elapsed since work style reforms were first implemented. As a result, our sample from the two sources—stress-check assessments and ES surveys—suffered from small sample size which led to a very low statistical power insufficient for getting statistically meaningful results. Hence, compiling more data from an extended observation period would be desirable to measure thorough impacts of work style reforms, which are still underway.

Importantly, despite the limitations of the data, we have found that some work style reforms, no matter how well intentioned, can backfire. As several results demonstrate, changes meant to improve working conditions and reduce stress can paradoxically have the opposite effect. Although our research is only preliminary, our findings to date showing the pros and cons of new human resource policies may prove useful. The fact that we are left without clear-cut results needs to be addressed in the future, but it also shows how interesting and challenging using human resources information is for practitioners.

# **Characterizing High Performers**

#### Hitachi Chemical Co., Ltd.



From left: Ando Shun, Taguchi Koichi, Takahashi Kohei, Watanabe Hironori

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#### Introduction

"HR analytics" lately has become an important concept in human resources policies. Until recently, drawing inferences from HR data were the domain of veteran HR professionals whose assessments of cause and effect relationships depended on their own experience, intuition, and risk tolerance. The problem with this practice is that people hold varying preconceptions that may distort their judgment of causes and effects in the real world. HR analytics is intended as a data driven, objective analytical tool for developing precisely targeted HR policies.

This study looks at Hitachi Chemical Co., Ltd. (hereafter, HCC), a manufacturer of intermediate materials that spun off from Hitachi Co., Ltd. in 1962. Since its founding, HCC has supplied a range of high value-added products to businesses in Japan and around the world. In its current "10-year Strategy," the company announced its intention to become one that is "globally developing innovative solutions beyond the boundaries of chemistry." Achieving this goal requires work on many fronts

including "strengthening global operations" and "strengthening our management base."

To do its part in "strengthening our management base," HCC's human resources department is expanding the use of HR analytics. The first area of concern is the hiring process. Hiring was prioritized largely because all subsequent HR processes are designed with the quality of hires in mind. The purpose of recruitment is "acquiring the talent necessary for business growth." Finding a way to identify what type of people have the necessary talents would be a major contribution to hiring activity and the growth of HCC.

The research described here is an attempt to identify the behavioral characteristics of high-performing employees within the company through the application of statistical methods. Once these characteristics are identified, they can be included in the hiring process via job applications, online tests, and interviews. Recruiting people with these characteristics will effectively help the company to secure the workforce it needs to grow.

#### **Analytical methods**

Our sample includes 476 employees, ages 36-56, management track and non-management track, who were randomly selected. The employees are from five occupational categories: sales, management, planning, research and development, and production engineering.

The employees in our sample took the online personality and values tests given to job applicants to Hitachi Group companies and the results for their behavioral characteristics were analyzed. The test returns 61 characteristics related to personality, values, and professional aptitude, whose strengths were scored on a 10-point scale. Performance evaluation data from the two most recent years were compiled to construct the performance score.

To analyze what behavioral traits affect performance, we estimated the following equation using the least-squares method:



where  $X_i$  is a vector of explanatory variables including results of the web-based aptitude test and worker characteristics such as age (quadratic), tenure (quadratic), education, gender, and occupations.

This study examines which variables have significant effects on performance scores, but including all 61 behavioral characteristics from the webbased aptitude test in the regression equation causes multicollinearity. We took two approaches to compress the 61 dimensions of the behavioral

data into a smaller number of variables without losing information: principal component analysis (PCA) and cluster analysis (CA). Both help us to reduce the number of independent variables (PCA narrows it from 61 to 14 while CA does it to 4), but the latter, in which employees were grouped according to shared behavioral traits, allows easier interpretation in some of our analyses.

## Which characteristics make high performers different?

Table 1 shows the results of the regression analysis using the 14 principal components. Only the principal components that have significant coefficients are presented and all other individual characteristics controlled for are omitted from the table. Table 2 presents the correlation coefficients

Table 1. Multiple regression analysis

Variable	Coefficient	Std. error	t-value	p -value
Norm-following	-0.066	0.02	-3.376	0.001 ***
Problem-solving	0.06	0.021	2.812	0.005 ***
Leader qualities	0.111	0.026	4.263	0 ***
Grit	0.123	0.036	3.388	0.001 ***
System-minded	-0.123	0.059	-2.101	0.036 **

Notes: \*\*\* :1% statistical significance, \*\*: 5% significance, \*: 10% significance. Basic employee attributes are omitted.

Table 2. Principal components and behavioral characteristics correlation table

Component 1	Component 2	Component 3	Component 4	Component 12				
Norm-following	Problem-solving	Leader qualities	Grit	System-minded				
Positive correlation								
General duties	R&D	Management qualities	Pressure resistant	Data				
0.271	0.28	0.282	0.324	0.456				
Engineer	Problem-solving ability	Leadership ability	Toughness	Problem-solving ability				
0.25	0.243	0.224	0.258	0.237				
Worry-prone	Concept-oriented	Planning-oriented	Optimistic	Agreeable				
0.205	0.2	0.215	0.277	0.215				
Precise	Staff	Leadership	Poised	Culture				
0.204	0.189	0.201	0.221	0.21				
Negative correlation								
Sales	Client relations/sales	Pressure resistant	Competitive	Personable				
-0.232	-0.297	-0.293	-0.251	-0.344				
Sales	Teamwork	Toughness	Aesthetic values	Achievement				
-0.201	-0.259	-0.244	-0.233	-0.226				
Persuasive	Attitude	Poised	Creative thinking ability	Judgmental				
-0.198	-0.247	-0.243	-0.198	-0.2				

with four most positively correlated and three most negatively correlated behavioral characteristics for each significant component. As is shown. the first component is given the label "norm-following" because it is highly and positively correlated with "general duties," which refers to people who are adept at routine work and "precise" which is given to those who are highly organized, and highly negatively correlated with traits of those good at taking the lead and providing support ("sales" and "persuasive"). Similarly, component 2 is labeled "problem-solving thinker," component 3 is "leader qualities," component 4 is "grit," and component 12 is "systems-minded."

Note that the opposite of the norm-following would be "unconventional" and the opposite of systems-minded should be empathy-oriented. Therefore, the results imply that high performers tend to be unconventional problem-solving thinkers/leaders with high grits and emotional intelligence.

# How different types of high performers are found in the organization

Using cluster analysis to group employees' behavioral traits produced four clusters. Table 3 ranks the characteristics of employees belonging

to each cluster by mean values in descending order. For example, the characteristics with the highest mean values in cluster 1 are problemsolving ability, creative thinking ability, conceptual skills, decisiveness, and management qualities. In other words, these characteristics can be interpreted as facets of the "leader type." Likewise, cluster 2 is interpreted as "norm-following type," cluster 3 as "problem-solving thinker type," and cluster 4 as "team player type."

The cluster composition for each functional division is shown in Tables 4. Looking at the table we see that sales and planning departments have high numbers of leaders and problem-solving thinker types. Management has a high percentage of staff who tend to be norm-followers and problem-solving thinkers. Research and development and production engineering departments have a high percentage of norm-followers.

We also estimated the regression equation similar to the previous one but including cross-terms between cluster types and divisions to see if types of high-performers are different across divisions. The results (not presented in this article) show that leader types are more likely to be high performers in most divisions except for R&D.

Cluster 1: Leaders	Mean	Cluster 2: Norm-followers	Mean	Cluster 3: Problem-solving thinkers	Mean	Cluster 4: Team players	Mean
Problem-solving ability	7.9	Tendency to worry	8.62	Problem-solving ability	8.55	Concrete matters	7.15
Creative thinking ability	7.5	Orthodox	8.19	Conceptual skills	8.45	Data	7.11
Conceptual skills	7.44	Respectful	8.17	Data	8.03	Loyal	7.07
Decisiveness	7.38	Data	8.1	Organizing ability	7.78	Optimistic	7
Judgmental	7.02	Stability	8.03	Management qualities	7.39	Stability	6.99
Management qualities	6.87	Concrete matters	7.85	Loyalty	7.2	Orthodox	6.98

Table 3. Cluster analysis results

Table 4. Share by occupation type (%)

	Leaders	Norm-followers	Problem-solving thinkers	Team players	Total
Sales	36.8	13.2	31.6	18.4	100
Management	10.4	31.3	35.4	22.9	100
Planning	36.5	12.7	36.5	14.3	100
R&D	25.6	30.6	26.7	17.2	100
Production engineering	20.3	35.1	26.4	18.2	100

Although over 40% of problem-solving thinker types (higher than leader types) received the highest performance scores, such relationship disappears once we control for divisions. None of the cross-terms proved to be statistically significant either implying that high performers are not so drastically different between different functional divisions.

Lack of significant results may be interpreted as owing to the fact that organizations need all types of workers and ensure a proper balance when making work assignments, thus making it difficult to find a link between specific employee types and the likelihood of having high performers.

#### Conclusion

This study reveals that, among HCC employees, high performers are more likely to have the following qualities—unconventional, problemsolving thinker, leader, grit, and empathy-oriented. I recommend that these findings be shared with recruitment managers so they pay more attention to these qualities in their selection criteria.

To make the results more useful, we would like to study more about what combination of types leads to the highest performance. Leader types tend to be highly rated, but it seems very unlikely that performance would improve if all members of a team were leaders. In some circumstances, combining different types of employees would improve organizational performance. We will continue examining the relationship between behavioral characteristics and performance to develop human resources strategies that will maximize organizational performance.

# Applying people analytics to achieve "scientific HR"

#### Persol Holdings Co., Ltd.



From left: Fujisawa Masaru, Yamazaki Ryoko, Sasaki Kana, Ohiro Takashi, Koretomo Yuta

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#### Introduction

"People analytics" in Japan has been attracting more attention in recent years. The publication of Ben Waber's *People analytics* in 2013, the publication of Hideo Owan's *Nihon no jinji wo kagaku suru* in 2017, the establishment of the People Analytics and HR Technology Association in February 2018, and countless other examples demonstrate the high level of interest.

People analytics has been defined as "a series of processes for contributing to organizations' decision making by collecting and analyzing personnel information to accurately grasp the current state of the workforce and the company and predict future trends." "Personnel information" refers to personal attributes, health status, responses to questionnaires and interviews—the whole range of data collected by HR departments. Lately, employees' behavioral data have also been collected and analyzed, pioneering examples of which can be found in Waber's 2016 book on people analytics in the United States.

At our company, the usefulness of people analytics was quickly recognized, and in April 2016 an HR

information analysis team was formed. Instead of basing HR policies only on "experience, intuition, and decisiveness," applying personnel information allows managers to consider scientific reasoning, making it possible to develop more convincing policies. For example, a predictive model of which employees are at high risk of quitting is a useful resource and our company is experimenting with applying this type of analysis in HR policies.

Analyzing the personnel data has brought several benefits and issues to the fore. On the benefit of analyzing, the "experience, intuition, decisiveness" basis for decisions, which tends to vary from person to person, can be verbalized or visualized through statistical analysis, making it easier to accurately grasp information. Another positive aspect was the revelation of new insight that went undetected under the conventional experience or intuition evaluation process. Many results of the analysis are found to be valuable.

On the other hand, the lack of opportunities to learn about analytic methods and applications or exchange information are major issues. The goal of HR policies is to contribute to management and employees, but presenting an incorrect analytical result invites needless disruption within the company. To avoid this, HR departments must have the right know-how and correctly use analytical tools, but the opportunities to study how to properly collect and analyze personnel data are still far too few.

Another problem is the inability to share examples of analytical results with other companies because of the confidential nature of company personnel data. Confidentiality makes it difficult to compare methods and findings with other firms, which prevents close examination and delays improvements. Two issues in our own firm are "too few opportunities to learn how best to work with personnel information" and "sharing analysis examples across companies is difficult." Our participation in the "Personnel Data Analytics

Workshop" has resolved these issues.

In the next section of this essay, I present examples of data analyses our company conducted and presented at the workshop. The section presents some additional remarks on what types of analyses have been done in the workshop and what lessons our company has learned from them. In the final section, I also want to emphasize the importance of having more academic-industry collaborations, such as this workshop, to have further opportunities to deepen our understanding of HR information applications.

# Studies presented at the Personnel Data Analytics Workshop

To this point, our company has participated in the workshop for three consecutive years. In the regular sessions of the workshop, the participating companies learn knowledge of statistics and how to use statistical tools. Afterwards, we decide on a research topic and start analyzing our own personnel data, and then present our results at the final meeting.

Let us introduce the study we presented at the final meeting two years ago. Using HR data from one of our group companies, we posed the question, "what effects does the relationship between superiors and subordinates have on subordinates' performance?" Because supervisors train, assign tasks to, manage, and evaluate their subordinates, it seems likely that they have a major impact on their subordinates' actions and accomplishments. In addition, we had noticed that respondents to our exit survey of job leavers cited "superiors' organizational management" and "mentoring of

subordinates" most frequently as issues to be addressed. In other words, supervisor-subordinate relationships affect employee retention.

However, these relationships have countless variations and there is no easy way to define them based on intuition and experience. We used the results from quantitative assessment that evaluates personality traits of both supervisors and subordinates, and define the measure of relationships based on the degree of similarity between their personality traits and demographics as shown in Table 1 below. To gauge subordinates' performance, we focused on two of our company's evaluation measures, "performance evaluations" (how much employees achieved at work) and "behavior evaluations" (evaluation of the processes employees followed in performing their jobs).

The regression analysis applied a fixed effects model to data from 2009 to 2016, making it possible to account for the effects of time-invariant factors. We estimated a model with evaluation measures as dependent variables, the differences between the personality/demographic characteristics of subordinates and superiors as explanatory variables (the model also includes characteristics of subordinates and superiors as control variables). Survey year dummies are also added. We hypothesized that different departments would have different results and estimated the impacts of characteristics differences for the entire company, sales, and back office operations. The variables of particular interest are similarity measures of personality traits for supervisors-subordinates pair. Table 2 shows such variables that are statistically significantly correlated with performance and

Table 1. Personality test attribute types and relationship indicators

Personality characteristics			
Proactive	Alert		
Extroverted	Detail-oriented		
Flexible	Honest & responsible		
Considerate & service-oriented Cheerful			

\*Scored on a 100 point scale.

Superior-subordinate relationship scoring

Difference in personality test scores

\*Variables of interest expected to affect superior-subordinate relationship.

Demographic characteristics			
Gender	Quality of school attended		
Age	Liberal arts or Sciences degree		
Years of service	Marital status		
New graduate or mid-career hire Has children or not			

\*Control variables included in each model.

Superior-subordinate relationship scoring

Difference in demographics

\*Models include dummy variables for superior-subordinate difference.

Table 2. Superior-subordinate personality match correlated with employee evaluations

		All employees	Sales department	Back office	
Performance evaluation	Positive influence	ĺ	+ Cheerful (Superior > subordinate)	+ Honest & responsible (Superior > subordinate)	
Perfor evalu	Negative influence		<ul><li>Proactive (Superior &gt; subordinate)</li><li>Detail-oriented (Superior &lt; subordinate)</li></ul>	_	
avior lation	Positive influence	+ Extroverted (Superior > subordinate) +Cheerful (Superior < subordinate)		_	
Behavior evaluation	Negative influence			_	

Note: "+" indicates significantly a positive association while "-" indicates significantly a negative association

behavior evaluations.

For example, in the sales department, the higher a boss scores on cheerfulness relative to their subordinate, the higher the subordinate's performance review is likely to be. In addition, in sales, subordinates' performance reviews are likely to be lower if they are more proactive or less detailoriented than their supervisors. In back office departments, subordinates tend to be evaluated more favorably when their supervisors score higher than them on honesty and responsibility. As our initial hypothesis predicted, the model shows the effects of different character trait scores vary across department types and we now have some indication that evaluation results are affected by the degrees of affinity between superiors and subordinates.

The results of this analysis imply the possibility that the similarity/difference in personality, which affects the superiors-subordinates relationship, influences performance and performance evaluations. Regarding the latter, Owan (2017) finds evidence for "evaluation bias" in that some degree of affinity between supervisor and subordinate tends to lead to higher performance evaluations.

In any event, we cannot determine whether personality affinity affects performance itself or biases evaluation just based on this result. However, this study alerts us to the importance of superiors-subordinates relationship. It will become possible to deepen our understanding of these results by paying more attention to other

information sources and conducting face-to-face interviews with employees.

This is to say we can now visualize the actual conditions within the company in a way that would not be possible without this analysis. This study showing that the degree of affinity between superiors and subordinates affects performance and evaluations can be a stepping stone towards developing management training tools and guidelines for evaluators.

#### Conclusion

Until the analysis described above was carried out, there were not many opportunities within the company to discuss the affinity between superiors and subordinates and share our knowledge. This study adds a scientific auxiliary line to complete assessments based on experience, such as "that type of boss is incompatible with that type of employee." Analyzing personnel data brings a new perspective that can bolster our confidence in conclusions traditionally based on managers' experience, instinct, and decisiveness.

Implementing people analytics will energize debates within the company about employees and make it possible for HR departments to fulfill their role by developing policies that best fit their companies' needs and challenges.

It must be noted that this study, from research design to results analysis, was not accomplished with only our company's resources. In all honesty, this study was completed thanks to the academically informed advice and the exchange of information that members of the Personnel Data Analytics workshop provided. In the HR field in Japan, people who are well versed in analysis and statistical tools are in short supply, and, as noted above, the same is true for opportunities to share research across companies.

The Personnel Data Analytics workshop has increased the analytical literacy of HR practitioners and, contributed to the development of people analytics in Japan through the exchange of real world examples from each company. For our company, participation in the workshop has added momentum to our efforts to carry out "scientific HR" practices based on personnel information

analysis. Looking ahead, we are committed to continuing to work closely with universities and other companies to make HR policies that benefit both management and employees a reality.

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# Our Firm's Contribution to Addressing Challenges in Human Resource Management in Japan

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#### The Mission of Works Applications

Works Applications is a vendor of Enterprise Resource Planning (ERP) packages for large enterprises, established in 1996 with the aim of contributing to international business competitiveness. At the time of establishment, the ERP Package market was dominated by products from outside Japan, and many firms customized overseas ERP packages for themselves, adapting them to the non-standardized tasks and practices specific to Japanese firms. However, complex customization demanded massive expenditure on development, and information investment efficiency in Japan was substantially lower than that of other countries. At Works Applications we sought to address this problem by developing software packages that could handle the non-standardized tasks and practices specific to Japanese firms without requiring customization, and thereby raise information investment efficiency to a whole new level. Since then our products have built a reputation among firms across a variety of sectors and business categories, and today they have been introduced to more than 1,300 large group companies. Our human resource and payroll packages are especially notable for having the top market share\* for fifteen years in succession.

We also focus on supporting the autonomous growth of users in the personnel departments of numerous firms. Representative of our work in this area is the "User Committees" composed of firms using our products. The "User Committees" is membership organizations for informationsharing and discussion between us and our users, designed to achieve synergies between enhancement of product functionality and greater efficiency in the business operations of our users, thereby driving mutual growth on an ongoing basis. More than one thousand firms have joined this network to date. By sharing information and holding workshops on different products, industries, regions, business trends and other specific topics, the "User Committees" makes it possible for personnel managers in different firms to pool their knowledge, learning new ways to utilize our products and sharing information on the challenges they face at work. This kind of support is only possible because the same system functionality is offered to all users: by utilizing the system more effectively, users can pursue their own operational improvements autonomously.

New Needs and Challenges Arising from Changes in the Environment surrounding Personnel and IT Through our work with users in personnel departments in recent years, it has become clear that major changes are underway in terms of user needs and trends in personnel management. Traditional systems such as mass hiring of new graduates

<sup>\*</sup> License sales share (end user delivery price basis) for HR payroll management solutions for large corporations (annual sales of 100 billion yen or more) for 2002 to 2016

Yano Research Institute survey (as of December 2016)

and seniority-based pay scales have begun to collapse, and the priority is adaptation to a highly uncertain environment marked by developments such as globalization and growing levels of labor mobility and diversity. Firms need to formulate policies in areas such as talent management, human resource development and recruitment based not on instinct and experience, but on a solid body of data. Conventional storage and accumulation of personnel data are not enough: firms to analyze their own data, and thus require staff capable of handling data statistically.

As advances in information technology have made the "resources" and "tools" required for data analysis more readily available, data utilization needs have also grown. Systematization is taken for granted, and not only can firms store large volumes of personnel-related information digitally in their databases, but they also have the ability to collect types of data not previously obtainable, thanks to such technologies as smartphones, IoT and wearable devices. Moreover, developments in infrastructure such as cloud computing now allow large volumes of data to be stored and processed securely. Firms expect personnel management systems to function as sophisticated platforms enabling all sorts of data to be collected and stored efficiently, and analyzed from a variety of angles.

#### **Barriers to Utilization of Personnel Data**

Despite the growth in demand for data and the development of platforms for analysis, the utilization of personnel data by Japanese firms remains limited. This situation is attributable to both a lack of data suitable for analysis and a shortage of data scientists capable of specialized data handling. In practice, only a small number of firms use a unified platform for managing all their essential data: most have some information that is not yet digitized, and have separate systems for managing different types of data. A major barrier to progress is that data currently scattered across the firm must first be collected, inputted, and processed before it can be properly utilized. The shortage of data scientists is also impeding advancements in data utilization. The Ministry of Internal Affairs and Communications' 2014 White Paper on Information and Communications in Japan states that only around 3,000 university

graduates in Japan have undergone training in data analysis, compared to the world-leading figure of 24,000 in the United States. The number of firms employing data scientists and establishing departments dedicated to data analysis has been on the rise in recent years, but many firms still struggle with recruitment and training. Personnel departments are no exception: because they have traditionally not required knowledge of statistics, they have difficulty in knowing how to procure staff in this area. Expectations for the use of artificial intelligence (AI) in data analysis are growing, but proper interpretation of the results of AI analysis is difficult. Effective implementation of PDCA cycles in human resource management requires staff capable of determining the appropriate questions and methods for analysis, taking into account the firm's distinctive features and the environment in which it operates.

# Initiatives to Support the Evolution of Personnel Departments

We decided that in this context, the benefits of using our products could be maximized if we cooperated with academic researchers to explicate the mechanisms of human resource allocation in firms, and provided opportunities for users to acquire the statistical knowledge and analytical approaches needed to handle personnel data.

As a first step, we sought to contribute to research on the challenges facing Japanese firms. With the cooperation of our clients, we started providing personnel data managed using our products to the University of Tokyo, Institute of Social Science, and the Research Institute of Economy, Trade & Industry (RIETI). Later we entered into a joint research agreement with the University of Tokyo and also became involved in a RIETI research project on Economic Analysis of Human Resource Allocation Mechanisms within the Firm (hereafter referred to as the "industry-academia-government collaborative project"). As we provide personnel systems and support to many large firms, we are able to furnish, with our clients' support, longrange, detailed personnel data on employees' job assignment history since date of entry, their promotion, working hours, evaluations and remuneration - all of which are usually difficult for academic researchers to obtain. This has enabled research that brings together information on employee

attributes, work attendance, academic record, work history, and other matters that are not captured in government statistical sources and the like. Japanese government officials expressed great interest in this research when attending the international symposium on "The Science of Japanese Personnel Management – Rethinking employment systems in the era of globalization", held in 2013 to present findings from the industry-academia-government collaborative project.

With a view to supporting the development of data analysis skills in our clients' personnel departments, in 2014 we launched the Personnel Data Analytics Workshop in collaboration with the University of Tokyo Institute of Social Science. Led by Professor Hideo Owan, a leading authority on personnel economics, this workshop attempts to analyze human resource management issues in line with current trends, enabling participants to gain practical mastery of analytical methods using data from their own firms. Each participant performs analysis of challenges facing their firm and presents their findings to the group. This initiative has attracted the attention of various media outlets, and in October 2016 it was covered in Nikkei Joho Strategy, a specialist information magazine on the use of IT in management reform.

The study group's activities were also featured at Human Capital 2017, a personnel management conference hosted by the Nikkei Inc. and Nikkei Business Publications, Inc. in June 2017. Group members from Japan Airlines Co., Ltd., Toyo Ink SC Holdings Co., Ltd., and Temp Holdings Co., Ltd. (now PERSOL HOLDINGS CO., LTD.) appeared as panelists at this event, and explained why they

had embarked on personnel data analysis, the methods they used in the workshop to analyze their own personnel issues, and the impact and effects of the analysis findings within their firms. Meanwhile, Professor Owan, as a panelist, outlined the key points for successful analysis and utilization of personnel data, and highlighted the importance of developing skills through recurrent analysis processes in order to achieve more accurate interpretation of analysis results.

# Developing Products Responsive to Growing Demand for Data Analysis

We believe that the essential goal is to reflect the insights gained through the industry-academiagovernment collaborative project and the Personnel Data Analytics Workshop in our products and support, thereby developing platforms for efficient personnel data analysis and creating an environment in which personnel departments in Japanese firms can grow independently. The findings presented by firms participating in the workshop offered many hints on how we can enhance our products. Among the demands we identified are expanding the data structure including the range of variables and timeframes handled by the personnel management system, improving flexibility to enable data to be manipulated through linkage and combination with external data sources, and the development of statistical processing algorithms suited to personnel data analysis. We have communicated these needs to our dedicated research team and are presently working to examine ways to offer functions that facilitate data analysis. We will continue to support the growth of Japanese firms through product enhancement and development of our "User Committees" into the future.

# **People Analytics to Understand Mental Health Issues**

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#### Challenging yet rewarding personnel data analytics

The personnel data kept by companies extends from employees' first to last days on the job and covers their career histories, especially salaries, promotions, and transfers. All of this information is recorded as panel data. These employer-generated records are a type of "administrative data" (Angrist and Krueger 1999) and therefore not compiled with academic analysis in mind. As a result, data preparation is a prerequisite for quantitative analysis. For example, employees' demographic data, working hours, and assignment changes are kept in separate databases, so the first step was identifying and merging the relevant information from different files to generate panel data. Namely, personnel data needs to be cleaned and formatted prior to applying econometric methods for the study to have academic value.

Conversely, personnel data has a wealth of attribute information on individual employees related to their worksites and careers, making it possible to extract insights that cannot be found in other data sources. This article introduces results of a study using time and attendance data, promotions, and job applicant personality tests to assess the relationship between employees' mental health and their work styles. It also discusses the academic significance and practical value of the findings as well as how the data was adapted for this analysis.

#### Workers' mental health and working hours

Japan is known for having longer work hours than Europe and the United States, a practice that has resulted in social problems as severe as death from overwork and harm to workers' mental health. According to the Ministry of Health, Labour, and Welfare, the numbers of claims and payouts for workers' compensation for psychiatric disorders have steadily increased since 2004. In addition, the rate at which people quit after taking medical leave is higher for those suffering from mental health issues than for people who take leave for other health problems, a trend that corporations are taking seriously (Japan Institute for Labour Policy and Training 2013).

What have studies to date taught us about the relationship between working long hours and mental health? Theoretically, working longer hours means more exposure to job-related stress and less time for sleep and the other activities necessary to recover from such stress. This rest deficit produces a variety of health problems (Caruso et al. 2006). Many studies on the relationship between working hours and health have been conducted in the fields of epidemiology, occupational medicine, economics, and other social sciences. However, these studies have been criticized for having several methodological problems.

To begin with, the number of hours worked is affected by individual attributes and work characteristics, and many of these variables are confounding factors. In other words, a large number of factors relating to individuals and job sites must be controlled for (Van der Hulst 2003).

In their review of research by epidemiologists and economists, Kuroda and Yamamoto (2014) argue that the potential for selection bias and reverse causality has been inadequately addressed. For example, selection bias may result from the fact that people who are more capable of working long hours are likely to be overrepresented among those working long hours. Or it could be the case that people with pre-existing mental health problems have lower productivity and therefore are more likely to work longer hours.

When applying the fixed effect model to the estimation of panel data, it is possible to control for the time-invariant unobservable attributes but requires sufficient variations to identify the causal impact. Furthermore, dealing with reverse causality bias and the bias due to time-varying attributes requires quasi-experimental approaches such as the instrumental variable method (Denny 2015).

#### Benefits and challenges of using personnel data

One way to find solutions for the above methodological problems is to use human resources panel data that includes a wealth of information on individual workers' personal attributes and work histories. Especially, if workers' time and attendance data are available we can know not only how many hours they worked, but also their shift times and use of vacation and sick days. The comprehensive picture of working patterns and its variation within a worker that emerges from this level of detail allows us to examine more effectively how work styles affect mental health.

The data in this study, provided by a single Japanese manufacturing firm, includes workers' time and attendance data and results from employee satisfaction surveys, specifically survey items related to mental health.

The datasets include workers with standard and non-standard employment statuses. Only regular, full-time employees are used. And all others—contract employees, rehired, outplaced, and transferring employees—were excluded from the

analysis. In some cases, the variables representing employment status are identifying employees' job classifications, duties, and employment status correctly is often difficult for an outsider because company's personnel systems undergo multiple reorganizations. Even if a company's HR department provides an explanation when sharing their data, they may not correctly anticipate what information matters most to researchers.

Consequently, once the analysis is underway, it becomes necessary to ask the company's HR department for clarification. For this type of project to succeed, obtaining company data is not enough. Participating HR departments need to be willing to stay involved with the research and provide additional information on their personnel system and organization. Of course, the HR staff must carry out their regular duties while responding to researchers' questions.

As indicated above, it takes considerable time to get personnel data into shape for analysis. On the other hand, raw data that was collected due to business necessity offers the advantage of generating variables as the analysis requires. For example, in our study, being able to use time and attendance data made it possible to create multiple work style indicators.

Note that time and attendance data includes work start and end times, dates worked, and days of leave taken. The amount of overtime worked each day, the lengths of the intervals between the end of one working day and the start of the next, and the number of hours worked after midnight and on weekends are also tallied. For any given measurement period, such as one month, we can calculate the cumulative hours of overtime, how often employees had less than 11 hours off work between shifts, cumulative hours worked after midnight, and number of weekend days worked during that month.

After preparing and adjusting the data, the estimation process could begin. First, employees' demographic data (age, years continuously employed, and marital status) and work data (department, wages) were chosen as control

variables and a fixed-effects model was used to estimate the effects of cumulative overtime, cumulative midnight shift hours, number of short (less than 11 hours) between-shift intervals, and weekend days worked on mental health.

The dependent variables are employees' responses to mental health-related questions on the company's annual employee satisfaction survey. Because the effect varied by the length of measurement periods, four different time frames were used—50 days, one month, two weeks, and one week.

The results show that white-collar workers' mental health is significantly negatively affected by hours of overtime, long-term weekend work, and their most recent experience working midnight shifts. Among blue-collar workers, the cumulative amount of long-term midnight shift work and immediately preceding between-shift intervals of less than 11 hours had a significantly negative relation to mental health.

In addition, to verify the causal relationship, the study includes 2-stage least squares estimation using instrumental variables. For each of four work style indicators—overtime, midnight shift hours, short between-shift intervals, and weekend shifts—the mean levels of these indicators for coworkers in the same department and a dummy variable for whether employees had a coworker who consulted with a physician regarding mental health issues were used as instrumental variables.

The results indicate that between-shift intervals of less than 11 hours have significant negative impacts worsening mental health among white-collar workers. Among blue-collar workers, the amount of overtime had significant negative effects on mental health.

#### Conclusion

Empirical evidence of the causal relationship between employees' mental health and the shortness of time off work and the cumulative amount of overtime has been provided by our study. Cutting back on long working hours was a primary goal of the government's "Action plan for the realization of work style reform," released in March 2017. In addition to placing a limit on overtime and recommending penalties for companies that exceed that limit, the action plan also calls for employers to make efforts to ensure between-shift intervals are not too brief. It is possible that these reforms will be included in future revisions of Japan's labor laws.

However, little prior research has examined how between-shift interval length affects workers' mental health. Our study helps to fill that gap by using time and attendance data and other personnel data to reveal the finer details of variations in work styles, details that make it possible to begin drawing causal inferences. In addition to making an academic contribution, this study also offers insight into the possible effects of proposed regulations that are highly likely to be enacted.

Given that this study analyzes data from only one company, generalizability is an issue, but the advantages of being able to analyze this unique wealth of information are clear. Looking ahead, my hope is to continue to conduct innovative and thought-provoking research on a variety of work related issues.

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### **ISS Research Report**

# The Japanese Expatriate's Career and Perspective: Toward a Sociological Approach

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#### **Japanese Expatriates Today**

This report will briefly introduce Japanese expatriate career studies and discuss a sociological approach. According to the Ministry of Foreign Affairs' Annual Report of Statistics on Japanese Overseas Nationals, the number of Japanese expatriates has increased over the last 25 years and has reached 1.3 million as of 2017. This trend stems from two sources. The first is an expansion to Asia of Japanese firms, which often rely on corporate expatriates to manage local affiliates and maintain communications between the headquarters and local organizations (Belderbos and Heijltjes 2005). The other is an increase in "self-initiated expatriates" (SIEs), mainly from staffing agencies that specialize in providing overseas jobs. It is easier for Japanese SIEs to find a job outside Japan today than before.

Why and How Do Japanese Expatriates Emerge? Why do some Japanese people work overseas?

Corporate and self-initiated expatriates differ in this respect. Corporate expatriates, of course, have preferences, and many of them are satisfied with overseas assignments (JILPT 2008). Their expatriations, however, usually depend on organizational policies, and individual expatriates have little choice where they work or what they do. An empirical study using a data set of Japanese multinational firms found an assignment to managerial positions depends on circumstances in the local society. According to Belderbos and Heijltjes (2005), for example, Japanese firms increase the number of corporate expatriates when they increase the financial resources of their affiliates, and the size of the affiliate organization is large. These circumstances mean that Japanese firms need control over affiliates.

Meanwhile, SIEs must find host countries and jobs by themselves. Both motivations for expatriation and the opportunity structure for employment in the local society affect SIE's decision making. It is an economic motivation that is thought to be the primary reason for expatriation. The economic motivation perspective has been developed within a framework of the economics of migration, which assumes people leave origin countries because of economic incentives (Borjas 1989). But economic motivation cannot always explain the decision making of SIEs in higher-income societies, including Japan. Cultural anthropologists and some sociologists think socio-cultural motivations are more important for SIEs in higher-income societies, and they focus on SIE experiences before expatriation. Most higher-income SIEs move to another country for better living situations for themselves; this type of international mobility is called lifestyle migration (Benson and O'Reilly 2009).

Lifestyle migration is a broad concept whose meaning depends on socio-cultural contexts in origin societies. Japanese expatriates often have negative views about Japanese society, in which they suffer long work hours, restrictive human relationships, and gender- or age-based inequality before their expatriations (Thang et al. 2006; Nagatomo 2013). They avoid typical (or stereotyped) Japanese lifestyles and move to other countries which they think of as more individualistic.

In addition to negative images about Japanese society, Japanese SIEs have anxieties about their careers, which come from the long-term recession that started in the early 1990s. Their anxieties mainly result in two types of expatriation. The first is called *jibun-sagashi*, expatriation to look for those who seek to be who they wish to be (Kato and Kukimoto 2016). Because it has become difficult for Japanese youth to follow the typical Japanese life course trajectory, Japanese young people have had to find other role models. Some Japanese youth think there are opportunities for self-fulfillment in other countries.

The second type of expatriation is second-chance careers (Thang et al. 2006). In the 1990s recession, many Japanese young people took jobs that they would otherwise not have pursued at the start of their careers. Some young workers could find a job they wanted at first by luck, but they were likely to feel there were still negative aspects to Japanese employment practices. In both cases, they were not satisfied with their careers, but they thought they could not get better jobs within the Japanese labor market. Japanese youth believed there were more challenging and rewarding opportunities in other societies.

There are also studies focusing on the labor demand side. It is expensive for parent companies to dispatch staff outside of Japan, and it is difficult to fill vacant positions with corporate expatriates in the rapidly increasing number of local affiliates (Beamish and Inkpen 1998). Japanese firms can employ Japanese SIEs as substitutes for corporate expatriates in the local societies at a lower cost. Staffing agencies play a role connecting SIEs and firms (Nakazawa et al. 2012), and the SIE's transnational career can be embedded into

organizational networks of local affiliates and intermediaries.

# Japanese Expatriates' Daily Lives and Career Perspectives

Japanese corporate expatriates and SIEs are also different in their social and economic daily lives. Corporate expatriates tend to reside in segregated communities; local real estate agents with business links to Japanese parent firms introduce residential areas where many Japanese live (White 2003). There are Japanese stores in these communities and opportunities for corporate expatriates to make social connections with similar people. On the other hand, Japanese SIEs are more independent than corporate expatriates, and they often avoid expatriate communities (Nagatomo 2013).

The social boundary between corporate and self-initiated expatriates partially comes from differences in their socio-economic statuses. In most cases, corporate expatriates move to assigned countries and receive promotions at the same time (Ben-Ari 2003; JILPT 2008). Corporate expatriation is a part of Japanese multinational firm employment practices and necessary for staff career advancement. However, Japanese SIEs more often experience downward mobility than corporate expatriates. The difference in socio-economic situations generates a disparity of living standards and subjective distances among expatriates.

In respect to the career perspectives, both corporate and self-initiated expatriates have similar anxieties. Many corporate expatriates worry about their positions after returning to Japan (JILPT 2008). Considering that the length of work in local branches may be indeterminate, corporate expatriates cannot prepare for their career in Japan in advance. They are uncertain whether their experiences will benefit career advancement (Ben-Ari 2003). Japanese SIEs are, likewise, pessimistic toward their career perspectives in Japan because their working experiences deviate from the normative model of Japanese workers and do not contribute to career advancement in Japan (Kawashima 2010).

## Sociological Approaches toward Japanese Expatriates' Careers

In conclusion, we would like to discuss how sociol-

ogy can contribute to the development of Japanese expatriate career studies. From a sociological viewpoint, it would be effective to focus on institutional aspects and life course trajectories. Previous studies have not paid much attention to these factors, but they will help us understand how the meaning of working overseas is socially constructed in Japanese society.

Both economic and lifestyle migration approaches describe individual cases well but do not much consider expatriate opportunity structures. How Japanese expatriates are evaluated is based, however, on social interactions among various actors; those interactions will generate Japanese expatriate opportunity structures. DiMaggio and Powell (1983) view this social construction through the lens of sociological institutionalism, and Matsutani (2014), for example, points out the institutional aspects of the expatriate phenomenon. Institutional arguments can be further developed in future research.

In addition to the institutional process of expatriation, it would be useful to compare the Japanese expatriate's life course and attendant perspectives with those who stay in Japan. There is a selection process in expatriation, which also characterizes Japanese expatriates, but it has not been a focus of previous research. There has been an accumulation of career studies in sociology, and it is possible to collaborate with other research fields.

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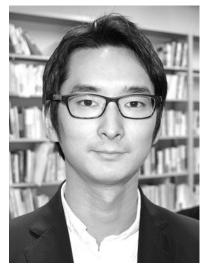
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## Rewriting the Asian economy textbook

#### ITO Asei



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#### Rewriting the Asian economy textbook

What should students born in the 21st century learn about Asian economies when they enter into universities? Descriptions of "Japan as an economic superpower," or stories of "industrialization," and "Asian financial crisis" fall flat for them. The topics that interest today's students in modern Asian economics are related to events that

took place after 2000, such as the global financial crisis and China's emergence as an economic superpower. How then can we teach them about the dramatic changes in the postwar Asian economies in a way that deepens their understanding of the economic tumult of this century?



These ideas motivated the writing of Asian Economy in the 21st Century (in Japanese, published by Yuhikaku. March 2018. Tamaki Endo, Asei Ito, Keiichiro Oizumi, and Kenta Goto, editors. http://www.yuhikaku.co.jp/books/detail/97846 41184428).

#### Abandoning the country-by-country format

To begin with, instead of discussing the economic structures and characteristics of particular countries, each chapter focuses instead on specific issues that Asian economies share.

In Japan, numerous textbooks on Asian economies have been published, a reflection of strong general interest in Asia. One approach typically used in writing these textbooks is to compile single nation case studies, for example, under a title such as "Chapter 4: Vietnam's economy—socialism and doi moi policies." The advantage of an area studies approach is that it can provide a "deep dive" into the specific historical experiences and conditions of individual countries.

On the other hand, most Asian economies have joined the ranks of middle-income countries and are facing changes and challenges that cross borders, which is why our book's contributors focus on a single shared challenge in each chapter. For instance, chapter 2, "Asianizing Asia," discusses deepening regional interdependence. Chapter 8, "Urbanizing Asia," focuses on the emergence of megaregions that sprawl across national borders. Such an approach has enabled the book to describe and examine new dynamics in Asia not just from the traditional nation-state-based point of view but also from the level of the firm, city, and region, which have become increasingly relevant and important as key units of analysis.

The table of contents is presented below. Having

read this far, you understand that, in fact, this essay has been written to persuade you to purchase this textbook!

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#### Part I: The new phase of Asian economies

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Chapter 2: Asianizing Asia—the rise of regional trade and economic integration (Keiichiro Oizumi and Kenta Goto)

Chapter 3: Asia reshaped by China—From economic liberalization to major economic power (Asei Ito)

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#### Part III: Dynamic Asia

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#### Part IV: Asia at a crossroads

Chapter 10: Aging Asia—From demographic dividend to demographic onus (Keiichiro Oizumi)

Chapter 11: Stratifying Asia—From poverty to inequality (Kunio Urakawa and Tamaki Endo)

Chapter 12: Environmentally challenged Asia—Delayed responses and diversifying problems (Fumikazu Ubukata)

Chapter 13: Sharing Asia—Development cooperation and interdependence (Jin Sato)

Conclusion: Competing Asia, Coexisting Asia (Kenta Goto, Tamaki Endo, Keiichiro Oizumi, and Asei Ito)

#### Part I—Broad sketches of major shifts

Part I reviews past debates on the Asian economy since the 1950s and outlines megatrends after 2000. First, we describe the intertwining of national economies that started with intra-Asian trade and investment. Chapter 2, "Asianizing Asia," discusses how after intra-regional trade made de-facto economic integration a reality, institutional integration followed.

Next, in chapter 3, the megatrend of China's strengthening economic power is taken up. As China's share of the Asian economy has grown, so has foreign investment by Chinese firms. Looking back to the start of China's economic liberalization in the 1980s, it is obvious that China pursued the same export-oriented industrialization strategy as Asian newly industrialized economies. In other words, Asia changed China.

In the 1990s and 2000s, trading ties between China and other Asian countries deepened. Since 2010 China's outbound investment and economic development projects in Asia have proliferated, reversing the roles so that now China changes Asia.

#### Part II—Focus on cross-border mobilities

The second part of the book looks at the flow of goods, money, and people across borders. "Factory Asia" (chapter 4) analyzes the production and trade of manufactured goods. The supply chains, known as "Asian production networks," that have been formed within Asia involve more than multinational corporations—local small and medium enterprises are also participating in the cross-border division of labor.

Chapter 5, "Circulating capital Asia," examines capital circulation in the form of intra-regional investment and financing. The 1997 Asian financial crisis was triggered by a rise in short-term debt that affected first Thailand, Indonesia, and then South Korea. Asia has learned from this experience and established mechanisms to maintain financial

stability. Chapter 6, "Migrating Asia," looks at the role of immigration, including the competition to attract highly skilled talent.

#### Part III—Delving into the engines of economic growth

Our section on 'Dynamic Asia' includes chapter 7, 'Innovating Asia.' It focuses on the development of a highly skilled workforce, growth in research and development, and other measures that stimulate business activity. The chapter features the reasons behind the success of Asian high-tech firms that now compete internationally—human resource development, industrial clustering, networks, and innovation policies.

Chapter 8 describes the rise of megaregions in many countries where residents pursue similar lifestyles. Whether in Bangkok, Shanghai, or Jakarta, young people are immersed in their smartphones and follow the same consumer trends. Chapter 9 presents a different and important aspect of Asian economies—the informal economy. This chapter sheds light on the slum area street vendors and entrepreneurship that are so striking to visitors.

#### Part IV—Facing the risks entailed in Asian economies

The last section of the book directly attends to challenges facing all Asian economies, starting with the demographic-structural change of aging populations. This rapid demographic shift is raising the costs of social security programs and causing both governments and communities to struggle with how to respond. Another major challenge is rising income inequality.

This problem is not limited to Asia. Growing income inequality is evident around the world. In addition, technological innovation and globalization are raising awareness of the issue. The environmental consequences of economic growth have reached critical levels in Asia and both "green agenda" matters such as deforestation and "brown agenda" issues like air pollution must be addressed.

Finally, as the wealth of the region increases, many Asian countries have shifted from being recipients of development aid to becoming donors, placing them in a position to decide how to distribute the gains from economic growth and determine their own process for choosing which development goals to pursue.

#### Limitations and Challenges

Some topics are not addressed in our textbook. First, economic development in South Asia—most notably in India—is not discussed. Second, we did not include a discussion of what to make of the new era of investment by Asian governments and corporations in developed countries and emerging economies in Africa and South America. These weighty topics will have to be taken up at a later date.

Despite these omissions, our textbook takes a bold approach to capture significant trends in Asia's economy. Our hope is this book will serve as a guide to understanding Asia's dynamic and transboundary economies at this pivotal time.



# ISS Contemporary Japan Group at the Institute of Social Science, The University of Tokyo

ISS Contemporary Japan Group seminar series provides English-speaking residents of the Tokyo area with an opportunity to hear cutting-edge research in social science and related policy issues, as well as a venue for researchers and professionals in or visiting Tokyo to present and receive knowledgeable feedback on their latest research projects. Seminars are open to everyone. Admission is free and advance registration is not required. For further information, please consult the CJG website: http://web.iss.u-tokyo.ac.jp/cjg/.



#### Steven R. Reed

(He has recently retired from Chuo University where he taught for 25 years)

April 19, 2018

Political Corruption and Scandals in Postwar Japan: A Historical Overview

Japan has been plagued with political corruption scandals throughout its history. However, a closer look reveals a great deal of change in the kind of corruption that caused those scandals. I will describe a surprisingly

wide variety of corruption scandals and trace the changes in type for the postwar period, from 1947 to date. I also analyze how corruption became public knowledge and trace the changing levels of transparency. I conclude that the political reforms of 1994 significantly enhanced transparency, which resulted in an increase in the number of scandals but a reduction in the levels of corruption. The lesson to be learned from postwar Japanese history is that one should worry about corruption when there are few scandals in the news. A dearth of scandals does not mean low corruption. It means that corruption is being successfully covered up.

#### **Dana Buntrock**

(The Chair of the University of California's Center for Japanese Studies and a Professor in the Department of Architecture)

May 31, 2018

Architectural Incentives: From Awards to Economics

What are the ways that societies goad architects to produce "good work"? How does the profession evolve in the face of an aging society, climate change and other challenges? Do incentives differ from place to place, and why? Local opportunities that drive architects result in



Japan's greater success in international awards like the Pritzker Prize and in its inability to respond as effectively to electricity shortages as it did to the Oil Shocks.



Saori N. Katada

(Associate Professor of International Relations at the University of Southern California)

July 12, 2018

Japan's Regional Economic Strategy: New TPP, the BRI and Geoeconomics in the Asia Pacific

One decade after the Global Financial Crisis, the Asia Pacific economic order is in flux. We see an increasingly confident China introducing alternative rules, approaches and institutions to the economic governance of the Asia Pacific region, while the United States with its precarious leadership struggles to balance domestic demands with the maintenance of a liberal international economic order. Geo-economic competition in the area of trade has taken place, as the Transpacific Partnership (TPP), despite the US withdrawal, lives on among the promoters. In the area of infrastructure investment, China's Belt-and-Road Initiative (BRI) has energized an investment boom, and the establishment of the Asian Infrastructure Investment Bank (AIIB) has conjured up reform at the Asian Development Bank. In both cases, Japan's role has been important and Japan's strategy has contributed to shaping the regional economic order. What kind of economic strategy has the Japanese government taken during this period, and what are the sources of its strategic choice? I argue that Japan's state-led liberal strategy has been guided by the country's changing political and economic institutions as the country has grown out of its developmental state model.



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#### Kathryn E. Goldfarb

(Assistant Professor of Anthropology at the University of Colorado at Boulder)

July 26, 2018

Materializing relationships: Embodying absent kinships in Japanese child welfare

This paper suggests that the lived meanings of kinship and family are sometimes best understood through exploring the absence of locally

meaningful kinship ties. Rooted in long-term ethnographic research in Japan, I consider kinship relationships as both culturally and biologically rooted, focused not on heterosexual reproduction or biogenetics, but on the ways that relationships—particularly their absences—are perceived and experienced in the body, in sometimes surprising ways. Data for this paper come from research in a child welfare institution outside of Tokyo (a "children's home"), research with foster and adoptive parents and families, workers within child welfare institutions, and people who themselves were raised in institutional and foster care. I show how Japanese child welfare caregivers interpret children's bodily signs to guide their own understandings of the care (and neglect) a child has received in the past. I then explore how one of my own research subjects takes up contemporary understandings of attachment, neuroscience, and interpersonal trauma, suggesting that cultural anthropologists should take "biology" as seriously as our interlocutors do in their efforts to understand the material ways social ties shape lived experience.

# Recent Publications by ISS and ISS Staff

佐藤香(うち9章を担当) 『聖カタリナ大学公開講座「風早の塾」 幸福づくりのヘルスプロモーション』 (ぎょうせい) 2017年12月



楜澤能生・佐藤岩夫・髙橋寿一・高村学人(編) 「現代都市法の課題と展望 一原田純孝先生古稀記念論集』 (日本評論社) 2017年12月



水町勇一郎(著) 『「同一労働 同一賃金」のすべて』 (有斐閣) 2018年2月



大内伸哉・川口大司(編著) 山本陽大・川田恵介(他著) 『解雇規制を問い直す一金銭解決の制度設計』 (有斐閣) 2018年2月



# Recent Publications by ISS and ISS Staff

玄田有史(著)

『雇用は契約―雰囲気に負けない働き方』 (筑摩書房) 2018年3月



大瀧雅之(著) 『**経済学**』 (勁草書房) 2018年3月

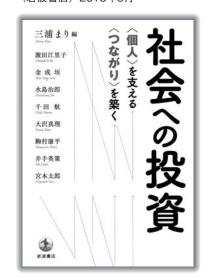


宍戸常寿・林知更(編) 『**総点検 日本国憲法の70年**』 (岩波書店)2018年3月



三浦まり(編)

濱田江里子・金成垣・水島治郎・千田航 大沢真理・駒村康平・井手英築・宮本太郎(著) 『社会への投資 <個人>を支える <つながり>を築く』 (岩波書店) 2018年3月



水町勇一郎(著) 『労働法 第7版』 (有斐閣) 2018年3月



遠藤環・伊藤亜聖・大泉啓一郎・後藤健太(編) 『現代アジアの経済論―「アジアの世紀」を学ぶ』 (有斐閣) 2018年3月

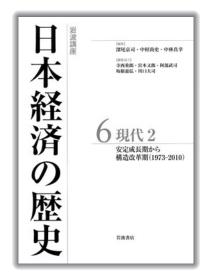


伊藤靖史・大杉謙一・田中亘・松井秀征(著)

『会社法 第4版』 (有斐閣) 2018年4月



深尾京司・中村尚史・中林真幸(編) 『岩波講座 日本経済の歴史 6 現代 2 一安定成長期から構造改革期 (1973-2010)』 (岩波書店) 2018年5月

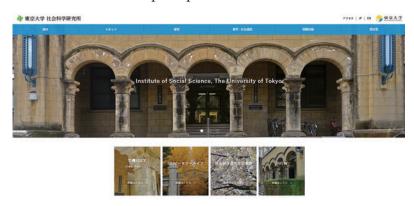


# Focus on ISS

#### Renewing the ISS Homepage: A Cultural Odyssey

#### Kenneth Mori McElwain

On April 2018, ISS completed the first major overhaul of its Homepage (HP) in over five years. In addition to modernizing the visuals, the structure of the HP was redesigned to better align its contents with the interests of visitors who access the page. As a member of ISS's Public Relations Committee, I have had the pleasure of spearheading this initiative over the last year. While much of the technical programming was outsourced to a professional web design firm, the process of deliberating, coordinating, green-lighting, and editing the final output involved the voices of the entire Institute. It also illuminated generational and cultural differences in perceptions of what the HP should be.



The first challenge was technological. In the last five years, access to the HP via smartphone increased exponentially. A layout that looked professional and manageable on a computer monitor was unwieldly and crowded on a 5-inch screen. As such, the PR committee agreed quickly on the need to simplify the top page's contents, while also updating the platform on which the HP had been built to ensure that text fonts and layouts would adapt automatically to different media.

In turn, this necessitated a second discussion about what SHOULD be on the HP. The former design was based on listing most of the major contents on the top page. The new design, by contrast, embodies a "less is more" philosophy. Based on an internal study of the main pages accessed over the last twelve months, we emphasized 1) ISS's main research projects, particularly the "Social Sciences of Crisis Thinking", 2) "access" information such as our geographical location and library hours, and 3) "news" links about seminars and publications. Most other information was moved to subpages, with intuitive labeling to facilitate access by visitors.

The third issue was deciding on the overall design philosophy. As discussed above, there appear to be cultural differences in the desired density of information on a single page. The typical "Rakuten" page that markets a product is longer and more complex than most "Amazon" pages. Since ISS maintains both a Japanese and English page, however, we wanted to ensure that the overall design philosophy was consistent across both. At the same time, unlike most other universities around the world, the University of Tokyo does not mandate a consistent homepage design in its departments, giving us more freedom to calibrate our HP to ISS's unique mission. The PR committee examined the homepages of a large cross-section of universities and departments, but one beneficial simplicity was that, as a research institute, we did not need to emphasize information desired by student enrollees or alumni. As such, we looked primarily at policy thinktanks and other institutes for inspiration.

Even after the HP renewal in April, we are continuously updating the design and contents to fit the preferences of our faculty and staff, as well as requests from visitors. If you have any suggestions about ways to improve the HP, please contact us at webmaster@iss.u-tokyo.ac.jp.