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Faculty Offices B425
1-1 Jumonjibaru, Beppu, Oita, 8748577, Japan
+81 977 78 1074
http://apbersociety.org/
perspectives@apbersociety.org

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An empirical study for visualizing failure-learning organization's culture of a Japanese company

Sanetake Nagayoshi
Shizuoka University
Shizuoka, Japan
nagayoshi@inf.shizuoka.ac.jp

Jun Nakamura
Shibaura Institute of Technology
Tokyo, Japan
jyulis@shibaura-it.ac.jp

ABSTRACT

Many organizations try to learn from failure to improve their business performance, and most of them are poor at it. Successful organization in organizational learning from failure could have a key success factor for it, which is hidden in their shared belief in the organization – called organizational culture. Organizational culture is intangible so that it is very difficult to express the organizational culture. This paper aims at proposing a new method to visualize an organizational culture, an organization of which is supposed to be a successful organization in organizational learning from failure. The authors built a method for finding appropriate words for expressing an organizational culture, collecting quantitative data, and visualizing an organizational culture with a statistical technique, multi-dimensional scaling with which a cognitive map was generated. The built method was examined twice in a Japanese company, which was good at organizational learning from failure. They found the two figures were similar. Organizational culture, as a rule, does not change in a short period so that the two figures should be similar. They concluded that the built method could be an acceptable method for visualizing an organizational culture, the organization of which is good at organizational learning from failure.

Keywords: organizational culture, visualization, cognitive map, multi-dimensional scaling, and organizational learning from failure

INTRODUCTION

Everyone could fail something, and organization could also fail something. Most of you would not deny that individual learning from failure is important and that organizational learning is also crucial for all organization to improve their performance.

Madsen & Desai (2010) show that organizations learn more effectively from their failure experience than their successful experience. Most companies are, unfortunately, in general, very poor at organizational leaning from failure (Cannon & Edmondson, 2005; Kanno, 2014). In the reality, serious accidents have repeatedly happened, even though the precedents of the accidents are reviewed in the organization.

Managers in company would want their subordinates to learn from precedent failures and to avoid repeating the failures for improving their business performance. Some companies invent significant resources including money, time and labor force on organizational learning from failure, but most of them would struggle with it and would not have enough satisfaction with it.

Generally, organizational learning from failure is more difficult than personal learning from failure. A person who fails would not repeat the same mistake by personally

reflecting the mistake. On the other hand, in the case of organizational failure, there is a possibility that someone else in the organization repeats the same failure. Of course, those who have experienced failures in the organization in the past are unlikely to repeat the same failure/mistake, but other people in the organization can commit the same failure/mistake unless they have learned from the failure.

We assume that there seems to be a stuck-in-the-middle issue between company manager's opinion and failed employee's opinion toward organizational learning from failure. Most company managers would be eager to deploy failure experience and prevention measure to all employees for improving their business performance. And they get their subordinates have these information and knowledge, and the employees also learn them for their own good performance and psychological safety. Hence they, in general, want a failed employee to disclose the detail of failure, for instance a process of the failure, and a trigger of the failure. On the other hand, most failed employee want to hide and dislike disclosing their failures and/or defects resulting in the failures. Some of them feel shame of their unexpected result, some feel fears to be blamed with the failure, and some have guilty feeling toward their colleague. And other employees think they can be stigmatized because they might think that it is not themselves that they made the cause but it was another person. They could feel fears with colleagues' schadenfreude that means you expects a successful someone's failure. In a failed employees' point of view, they think it the most crucial to keep their personal psychological safety among all the issues like organizational contribution. Consequently, there are few organizations that do learning from failure well (Edmondson, 2011), and it is enabled only when you feel psychologically safe (Carmeli, 2007).

Successful organization in organizational learning from failure could have a key success factor for it, which is hidden in their shared belief in the organization – called organizational culture. Organizational culture is intangible so that it is very difficult to express the organizational culture. Organizational Culture Inventory (OCI) and Competing Value Framework (CVF) are established methods for measuring an organizational culture and widely conducted for it, but they are not always good for visualizing it. The objectives of this paper is to propose a new method to visualize an organizational culture, an organization of which is supposed to be a successful organization in organizational learning from failure, and the proposed method is supposed to help you change your organization to be good at organizational learning from failure. The hypothesis in this paper is that the organizational culture can be drawn by a cognitive map created using perceptive distance between keywords extracted through discussion with executive management. This hypothesis is verified whether the organization culture is appropriately drawn through discussion with managers.

The authors build a method for finding appropriate words for expressing an organizational culture, collecting quantitative data, and visualizing an organizational culture with a statistical technique, multi-dimensional scaling with which a cognitive map is generated. The built method is examined twice through discussion with managers in a Japanese company, which is good at organizational learning from failure. They find the two figures are similar. Organizational culture, as a rule, does not change in a short period so that the two figures should be similar. Consequently, they conclude that the built method could be an acceptable method for visualizing an organizational culture, the organization of which is good at organizational learning from failure although it is needed to examine through further study.

The remainder of this paper is organized as follows: In the following chapter, we review existing literatures. Recognizing the existing studies, its feature and contribution, we show research questions. And we create a method for expressing and describing an organizational culture. Next, employing a case in a Japanese company, we examine the proposed method. We collect data and analyze the data and get result. Then we discuss the result and evaluate the proposed method. Finally, we conclude the study, showing limitation of the study and future research prospects.

LITERATURE REVIEW

Failure defined

According to Hatamura (2005) who studies failure and its countermeasure from engineering point of view, failure is defined as "a human act of not reaching the defined goal," "an unfavorable and unexpected result of human act." And he also indicates that there are an invaluable failure and a non-valuable failure. An invaluable failure is defined as "an unavoidable failure even with extreme caution," which is excursion into unknown. A non-valuable failure is defined as "a failure other than invaluable failure."

Failure, in organizations and elsewhere, is deviation from expected and desired results, which includes both avoidable errors and unavoidable negative outcomes of experiments and risk taking, and which also includes interpersonal failures such as misunderstanding and conflict (Cannon & Edmondson, 2001; Cannon & Edmondson, 2005).

Factors accelerating and inhibiting organizational learning from failure

Cannon & Edmondson (2005) define the process of organizational learning from failure, composed with identifying failures, analyzing failures and experimentation. Then they show barriers for organizational learning from failure, in each process, from the points of technical system and social system.

Regarding barriers embedded in technical systems, it is shown that, in the process of identifying failures, complex systems make many small failures ambiguous, and shown that it is recommended to build information systems to capture and organize data, enabling detection of anomalies, and ensure availability of systems analysis expertise. It is also shown that, in the process of analyzing failures, when there is a lack of skills and techniques to extract lessons from failures, it is recommended to structure after action reviews or other formal sessions that follow specific guidelines for effective analysis of failures, and ensure availability of data analysis expertise. And it is also shown that, in the process of experimentation, when there is a lack of knowledge of experimental design, it is recommended to identify key individuals for training in experimental design, who is used as internal consultants to advise pilot projects and other line (operational) experiments.

Regarding barriers embedded social systems, it is shown that, in the process of identifying failures, threats to self-esteem inhibit recognition of one's own failures, and corporate cultures that 'shoot the messenger' limit reporting of failures, and shown that it is recommended to reinforce psychological safety through organizational policies such as blameless reporting systems, through training first line managers in coaching skills, and by publicizing failures as a means of learning. It is also shown that, in the process of analyzing failures, when ineffective group process limits effectiveness of failure analysis discussions and/or when individuals lack efficacy for handling 'hot' issues. It is recommended to ensure availability of experts in group dialogue and collaborative learning, and invest in

development of competencies of other employees in these skills. And it is also shown that, in the process of experimentation, when organizations may penalize failed experiments inhibiting willingness to incur failure for the sake of learning, it is recommended to pick key areas of operations in which to conduct an experiment, and publicize results, positive and negative, widely within the company, and/or Set target failure rate for experiments in service of innovation and make sure reward systems do not contradict this goal.

Nagayoshi & Nakamura (2016a) suggest that when employees are engaged in and share a similar job with their colleague, they think it possible to fail with a same fault and to share their failure experience for their reciprocal benefit. Hence when there is sympathy among members in an organization, effective organizational learning from failure is carried out. Nagayoshi and Nakamura (2016b, 2016c, 2016d) also suggest that system efficacy recognition can be an accelerator and shame feeling can be an inhibitor for organizational learning from failure.

Nagayoshi & Nakamura (2017a), employing Huber (1991), also define the process of organizational learning from failure, composed with knowledge acquisition and information distribution. Then they show an inhibitory factor and its eliminator in the process of knowledge acquisition. And they also show an acceleratory factor and its augmenter in the process of information distribution.

In knowledge acquisition process, Nagayoshi & Nakamura (2017a) show that failed employee's shame feeling can be an inhibitory factor for organizational learning from failure, and altruism among employees and sympathy toward the failed employee can be eliminators of the inhibitory factor.

In information distribution process, Nagayoshi & Nakamura (2017a) show that failed employee's system efficacy recognition of organizational learning from failure can be an acceleratory factor for effective organizational learning from failure, and altruism among employees, personal growth intention and sympathy toward the failed employee can be augmenters of the acceleratory factor.

Culture for learning from failure in organization

Most of the studies mentioned above could suggest the importance of organizational circumstance like shared value and belief among members in organization. Nagayoshi & Nakamura (2017b) also suggest that "cognitive maps and framing (shared value)" and "media richness" could accelerate "information interpretation" in organizational learning from failure. Cannon & Edmondson (2001) also suggest shared beliefs about failure is important to boost experimental in which failure could be allowed.

The shared value and the shared beliefs are sometimes called and affected by organizational culture. We assume that common recognition about organizational culture could be crucial to success in organizational failure learning, and it's difficult to share common recognition about organizational culture because organizational culture is invisible.

Measuring Organizational Culture

We review two methods for expressing organizational culture. To our best, there are two established methods for expressing organizational culture. One is Organizational Culture Inventory (Cooke & Szumal, 1993), and the other is Competing Values Framework (Cameron & Quinn, 2006). These two methods are introduced respectively, and discussed

whether the methods are suitable for describing an organizational culture, a company with which is good at organizational learning from failure.

Organizational Culture Inventory. Human Synergistics Circumplex states "*The Organizational Culture Inventory is the world's most thoroughly researched and widely used culture assessment for measuring organizational culture. The Organizational Culture Inventory goes beyond corporate culture, company culture, and workplace culture, as the cultural dimensions it measures apply to all types of organizations,*" and "*The Organizational Culture Inventory is invaluable for: (1) Signaling and/or validating the need for cultural transformation, (2)Supporting programs to enhance strategy implementation, employee engagement and inclusion, quality and reliability, and/or customer service, (3)gauging and improving organizational readiness for culture change, (4)addressing barriers to (and enablers of) agility, adaptability, and innovation facilitating mergers, acquisitions, and strategic alliances, (5) evaluating the impact of change efforts — using the culture survey again and again to measure progress and identify what's working and what is not.*

Competing Values Framework. Cameron & Quinn (2006) propose a framework for classifying organizational culture types. They claim that four organizational culture types emerged with the framework: Clan culture, Adhocracy culture, Market culture and Hierarchy culture. They show two polarities by statistical analysis with data composed with thirty-nine indicators of effectiveness for organizations that make the difference when it comes to organizational effectiveness. The two polarities mean horizontal axis for 'internal focus and integration' or 'external focus and differentiation' and vertical axis for 'stability and control' or 'flexibility and discretion.'

Cameron stated: *"Leadership development experiences and executive education programs often focus on competencies and capabilities that reside in each of the four different quadrants of the Framework. The specific leadership tools and techniques that receive emphasis with leadership groups are often determined by the organization's own culture, aspirations for change, competencies of the senior leadership team, or the data feedback that individuals receive from various assessments."*

Short summary of the two methods. Both of the Organizational Culture Inventory (Cooke and Szumal, 1993) and the Competing Values Framework (Cameron and Quinn, 2006) are established methods for measuring an organizational culture from the pre-fixed perspectives. And both of these methods are characterized by organizational change in their intension.

These two methods, however, do not provide an answer for the question like what kind of organizational culture makes a company do well with organizational learning from failure.

Consequently, regardless the two respectful methods, we should create a new method for expressing and describing organizational culture, with which an organization does organizational learning from failure well.

Moreover, the relationship among the reviewed literatures is shown in the literature map as Figure1.

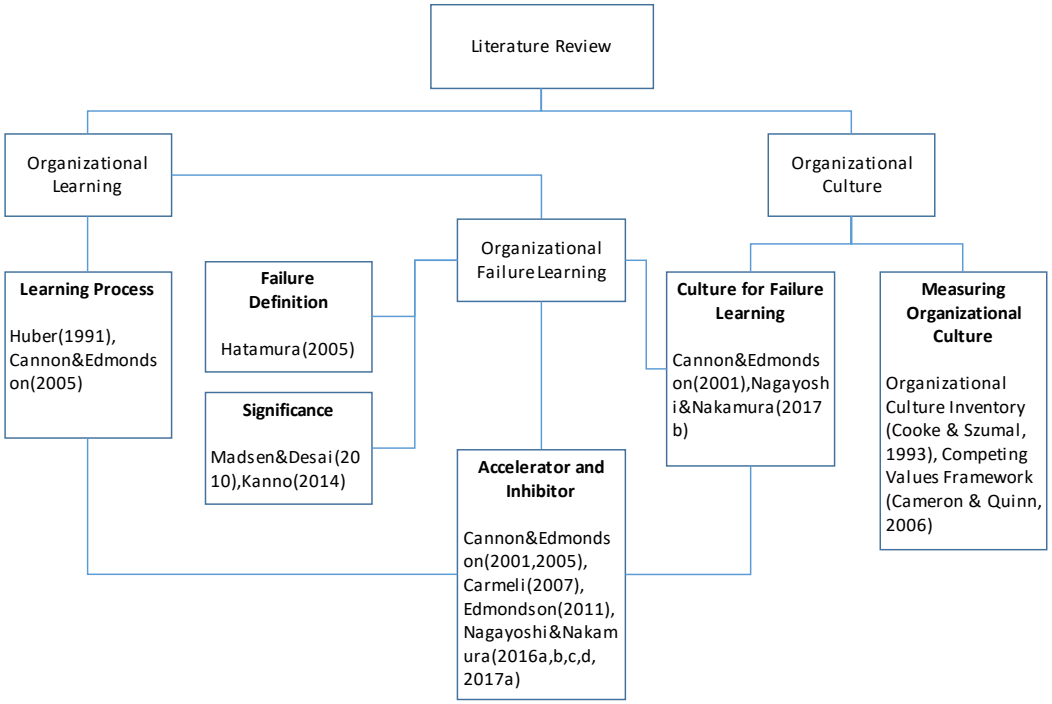


Figure1. *Literature Map*

RESEARCH QUESTION

Based on the preceding research mentioned above, we clarify the research question (RQ) in this paper.

Research Question (RQ): How can you express or draw organizational culture appropriate for learning from failure?

RESEARCH METHOD

Although methods measuring an organizational culture have been studied in the previous studies, we assume that there still lack enough existing literatures on expressing and drawing an organizational culture appropriate for failure learning. In this paper, we explore a method for expressing and drawing organizational culture suitable for learning from failure.

The hypothesis in this paper is that the organizational culture can be drawn by a cognitive map created using perceptive distance between keywords extracted through discussion with executive management. This hypothesis is verified whether the organization culture is appropriately drawn through discussion with managers.

First, we will consider a method of selecting words suitable for expressing an organizational culture, assuming that organizational culture is drawn using a statistical analysis method – multi-dimensional scaling.

Next, assuming that it is drawn the organization culture using the statistical analysis method - the multidimensional scaling method, we build a way to measure how the organization members recognize the relationship among the extracted words.

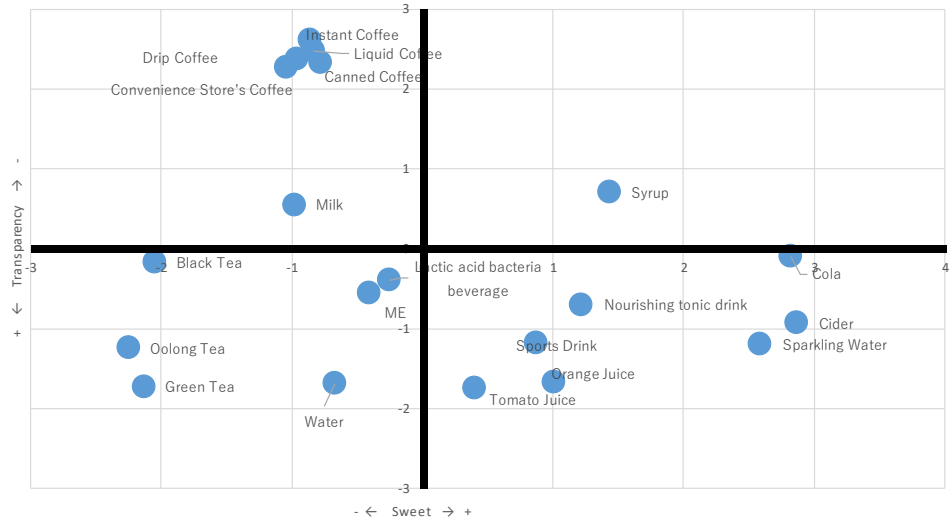
Then, we conduct a questionnaire survey and collect data in a Japanese company, which is good at organizational learning from failure. We analyze the collected data with the multidimensional scaling method. Then we interpret the analysis result.

Finally, we evaluate whether the proposed method is suitable for expressing and drawing an organizational culture, which is good at organizational learning from failure, through discussion with managers in the company.

BUILD A NEW METHOD EXPRESSING AND DRAWING AN ORGANIZATIONAL CULTURE

Multi-dimensional scaling

Multi-dimensional scaling is a method of dividing the position of each element into multidimensional space by measuring the distance between every two elements. The outcome, like Figure2, is often called cognitive map, which is often used for describing consumer recognition in marketing activity.



Source: Sugiyama, Ogasawara & Nagayoshi (2018).

Figure2. Sample of cognitive map describing soft drink, aged 25-59 in Japan

Element words expressing organizational culture

There are ways to select element words for expressing organizational culture. One is to employ an existing method. For instance, Competing Values Framework (Cameron & Quinn, 2006) has 39 element terms for measuring an organizational culture. The second one is to select element words through discussions with company executives, employees and/or stakeholders including their customers, suppliers and partner company. The third one is to do it through text mining for internal documents including meeting minutes.

The first one seems to be a good way because Competing Values Framework (Cameron & Quinn, 2006) is an established one for measuring an organizational culture. There can, however, be no different value between the outcome with Competing Values Framework (Cameron & Quinn, 2006) and the one with the multi-dimensional scaling.

The second one seems to be a common way when you do not have an good idea for doing something new. When you make a trial for doing something new, you often do a

trial and error with multiple discussions among colleague. There is, however, no guarantee to have a result satisfying you.

The third one seems to be a good way because we assume that organizational member often addresses elemental words expressing their organizational culture in an internal meeting and they should be recorded in the meeting minutes.

In this paper, we employ the second one, i.e., to select element words through discussions with company executives. We would have liked to employ the third one that is to select element words through text mining for internal documents including meeting minutes. Since it was, however, necessary to handle the meeting minutes, which could have confidential information in a company, and it was impossible to have such meeting minutes, we could not help giving up employing the third one. We eventually employ the second one in this paper, and we believe that we can have enough study with the second one although it may not be the best one.

Measure recognition of the distance between element words

Analyzing organizational culture with multi-dimensional scaling, it is necessary to measure the perception of distance between every two words. We build a web site to collect data from questioner respondents, which stands for the respondents' perception of distance between every two words. Figure3 shows the screen shot of the web site to collect data.

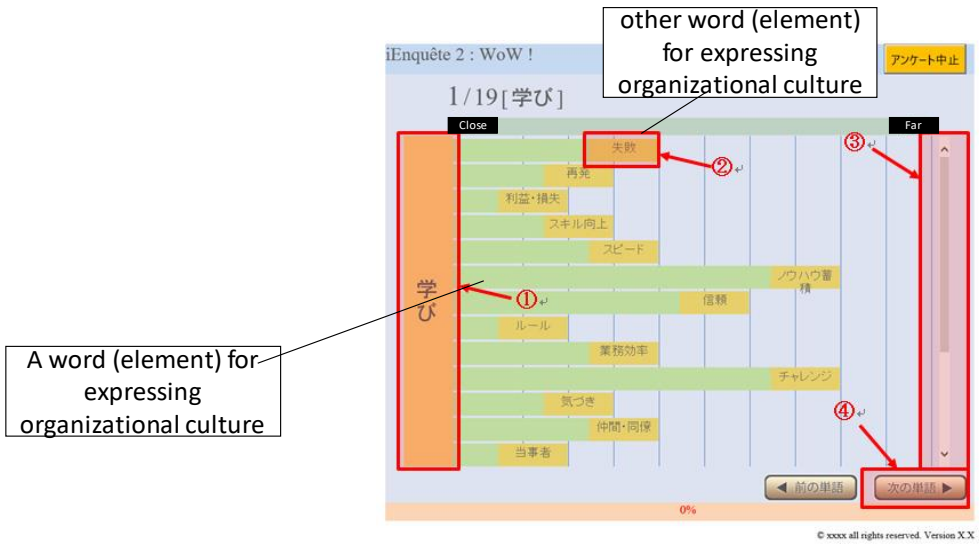


Figure3. Web site to collect data from questioner respondents

All respondents of the questioner answer their perception of distance between every two-element word through the website. If a respondent perceives a word, expressing the organizational culture and shown as ① in Figure3, and other word, also expressing the organizational culture and shown as ② in Figure3, are similar from the his/her organizational culture perspective, the respondent drugs and moves the yellow icon under the red rectangle shown as ② to left hand side. If a respondent, on the other hand,

perceives the two words are different from each other, the respondent drugs and moves the yellow icon to right hand side.

The ③ in Figure4 shows a scroll bar, and the ④ in Figure5 shows the icon moving to the next page.

Participants to the questioner are supposed to answer their perception of distance between every two-element word, which are selected through discussion among company executives as mentioned in the previous chapter.

Analysis of collected data

Collected data is supposed to be analyzed by the multi-dimensional scaling method with statistical computer software.

Then we get a result as a cognitive map, and we discuss and interpret the result.

TRIAL APPLICATION OF THE PROPOSED METHOD TO A COMPANY

The proposed method is applied to a Japanese company to examine whether it can describe the organizational culture well, which is good at organizational learning from failure.

Company Introduction

The company was established in 1965, and they have about 1,000 employees. They provide engineering service including installation and maintenance service of microwave communication systems.

Company executives in the company think that some new challenges bring them success and some fail them, and also think it very important to avoid repeating the same failure. They have established their own organizational learning system from failure to avoid repeating the same failure as they experience. The company executives claim that they have never repeated same failures once they review them through the organizational learning system, and they have maintained good business performance.

We employ the company to examine the proposed method. The examination is conducted twice with two-year interval, the first one is done in 2015 and the second one is in 2017.

Preparation for the examination

We had to retrieve words expressing their organizational culture; the words were set in the questioner web site. In addition, it was necessary to explain how to respond to questionnaires and be asked to cooperate with them.

Select words expressing their organizational culture. We selected 20 element words expressing their organizational culture through 3time-discussion with the company executives, although we had two other options that were to employ existing literatures and to conduct text mining. We could not help selecting discussion because we assumed that there was possibility to have affected the existing literatures' assumption so that we could not express the organizational culture appropriately, and because there possibly contained confidential information in the internal documents so that we should prevent from employing the text mining method.

We also needed to consider the number of terms. Because the respondents were busy and the number of terms increased in geometric progression, it was necessary to limit 20 terms in order for respondents to reliably answer.

We selected 20 words though discussion with two executive officers in the company before conducting the questioner survey in 2015, shown in Table 1.

Table1. Selected words expressing the organizational culture

Precipitating factors	Components of the working system	Expectations of the working system	Outcome variables
SEP (Somebody Else's Problem)	Working system (Hanseijuku)	Communication	Awareness
Failure	Recurrence	Learning	Skill Development
Unexpected event	Profit and loss	Know-how	Responsibility
Person concerned	Rule	Challenge	Trusted Peers
Speed	Operating effectiveness	Experiences	Confidence

Questioner web site preparation. We built a dedicated questionnaire site for that company and set the selected 20 terms. Then, we announced the address of the questionnaire site to all employees of the company and explained how to answer the questionnaire.

Data collection

The questioner survey was conducted twice. The first one was conducted from September 14 to October 6, 2015. We asked 900 employees to answer the questioner, and we collected 829 effective replies, meaning the response rate was above 92%. The second one was conducted from June 28 to August 7, 2017. We asked 730 employees to answer the questioner, and we collected 567 effective replies, meaning the response rate was above 77%.

Analysis and Interpretation

We analyzed the collected data on the multi-dimensional scaling method with statistical software products. Then the results are interpreted

Analysis of the data in 2015. We analyzed the collected data 2015 on the multi-dimensional scaling method with SPSS dealt by IBM Corporation. Figure4 shows the result of the analysis.

Interpretation of the result in 2015. We interpreted the result shown in Figure4. We interpreted the horizontal axis, and concluded that the right hand side meant causal factor and that the left hand side meant resultant element. And we also interpreted the vertical axis, and concluded that the topside meant organizational matter, and the bottom side meant individual matter. And we found the result was composed with five clusters. The experiences cluster was located in the center of the result, and the organization cluster surrounded it, the effectiveness cluster, the capabilities cluster, and the self-reflection cluster, shown as Figure5. This interpretation could imply that the core value in the company was "experience" and the other clusters were supported the core cluster, from the point of organizational culture perspectives.

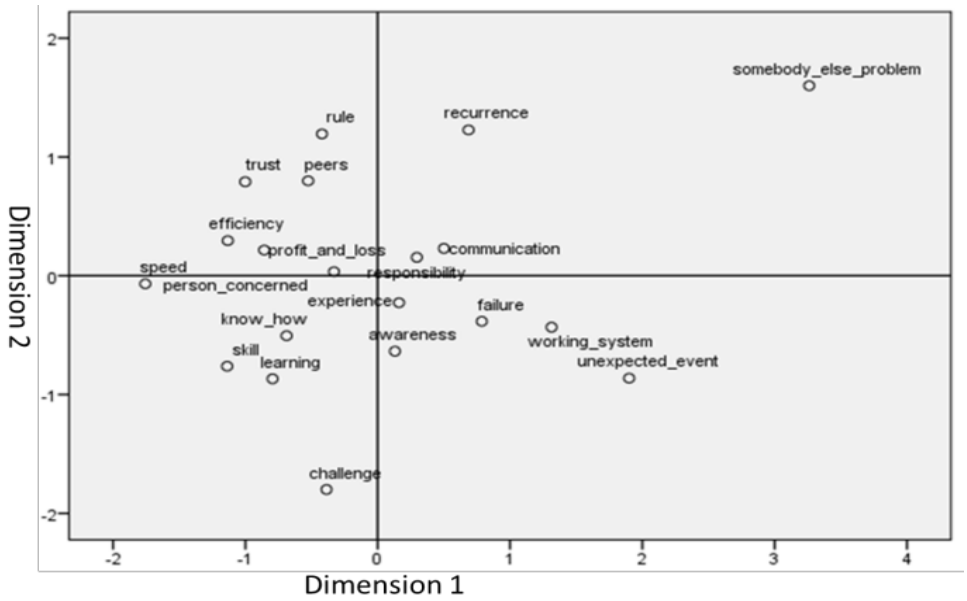


Figure4. Cognitive map with the collected data in 2015

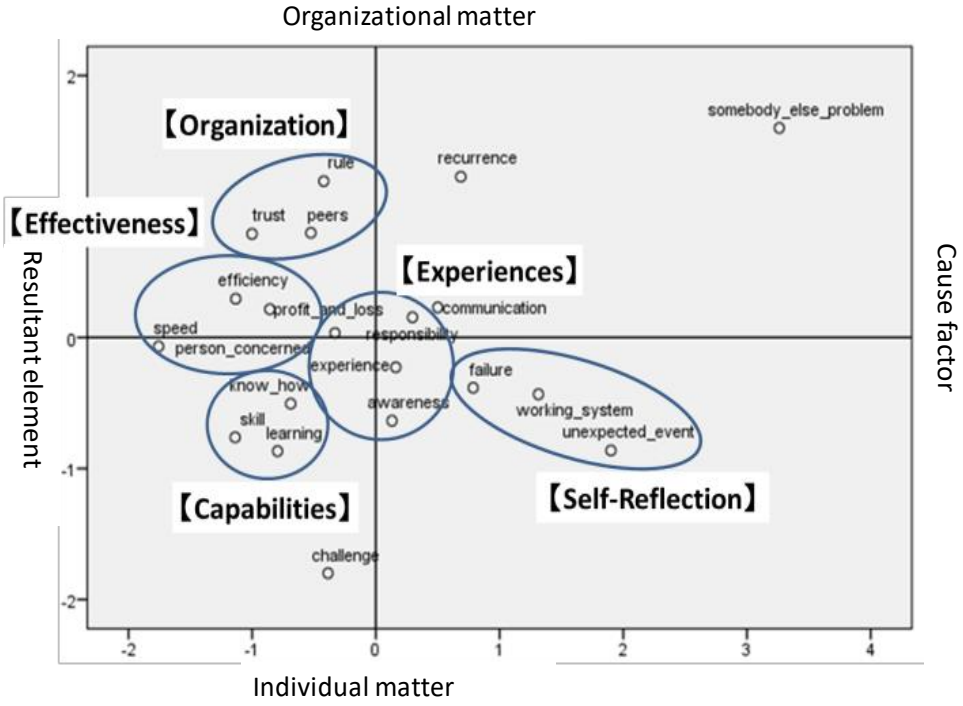


Figure5. Cognitive map interpretation with the collected data in 2015

Analysis of the data in 2017. We analyzed the collected data 2017 on the multi-dimensional scaling method with an add-in software to Microsoft Excel, named BellCurve for Excel developed by Social Survey Research Information Co., Ltd. Figure6 shows the result of the analysis. We tried employing the same statistical software for the analysis of 2017 data as the one of 2015, and we could not help employing the software for the analysis of 2017 data because we could not have an effective license due to our internal reason. We carefully examined which software to use instead. And we found that the software does not differ greatly from the software used in 2015 to analyze by the multidimensional scaling method. Consequently, we decided to use the software for the analysis of the data of 2017.

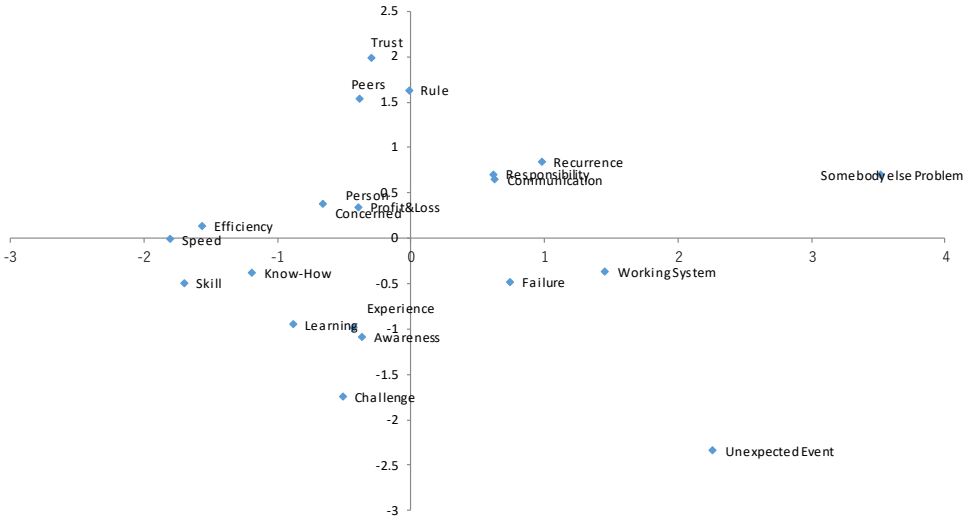


Figure6. Cognitive map with the collected data in 2017

Interpretation of the result in 2017. We interpreted the result shown in Figure6. Similar to for the result in 2015, we interpreted the horizontal axis, and concluded that the right hand side meant causal factor and that the left hand side meant resultant element. And we also interpreted the vertical axis, and concluded that the topside meant organizational matter, and the bottom side meant individual matter. And we found results in 2015 and 2017 were similar, and the result 2017 was also composed with five clusters. The experiences cluster was also located in the center of the result, and the organization cluster surrounded it, the effectiveness cluster, the capabilities cluster, and the self-reflection cluster, shown as Figure7. This interpretation could also imply that the core value in the company was “experience” and the other clusters were supported the core cluster, from the point of organizational culture perspectives.

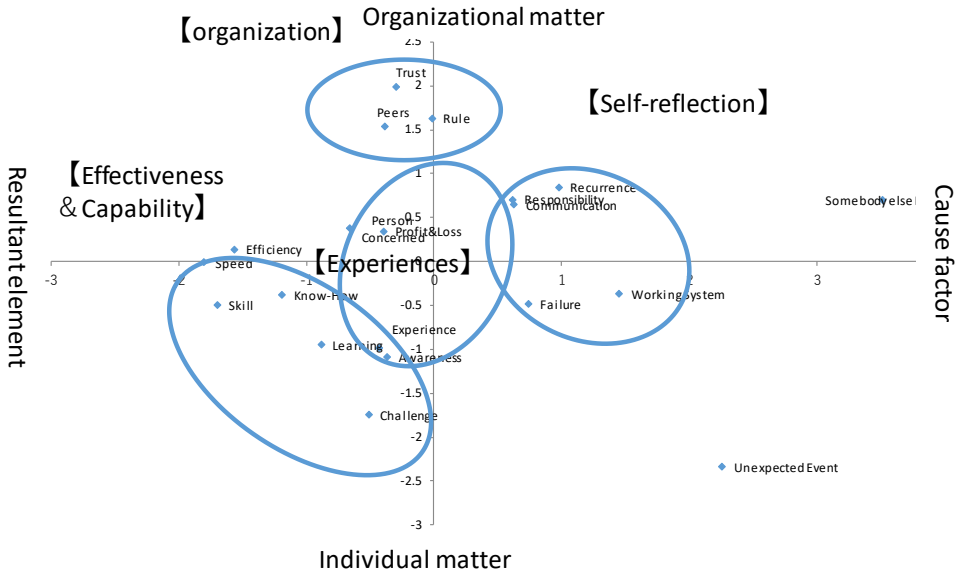


Figure7. Cognitive map interpretation with the collected data in 2017

DISCUSSION

We built a new method for expressing and describing an organizational culture, the company of which was good at organizational learning from failure, employing discussion and multi-dimensional scaling method. And we applied the method to a Japanese company, which is good at organizational learning from failure, to examine the method.

We conducted an interview survey for the company executives and employees to examine whether the cognitive maps describe the organizational culture well. And we compare with the two cognitive maps to evaluate the method.

How well do the cognitive maps describe the organizational culture in the company?

We conducted an interview as to each cognitive map for the company executives and employees.

The cognitive map in 2015. We asked the company executives and employees how well the cognitive map in 2015 described the organizational culture in the company. They, in general, answered that the cognitive map expressed well the organizational culture in terms of the composing words, and also described the organizational culture in terms of the clusters' position.

It should take it for granted that the cognitive map expressed well the organizational culture in terms of the composing element words since they were retrieved through discussion with the company executives. When measuring organizational culture with Organizational Culture Inventory (Cooke & Szumal, 1993) and Competing Value Framework (Cameron & Quinn, 2006), it is measured based on the predetermined factors, so the elements of the organization culture recognized by the organization members may not match the measured elements. Consequently, the proposed method could express the

organizational culture better than Organizational Culture Inventory (Cooke & Szumal, 1993) and Competing Value Framework (Cameron & Quinn, 2006).

In terms of the clusters' position, they recognized that their core value was "experience" and that their business performance could be acquired with the "experience". And they also thought that they could gain reliable experience by reflection and that the experience could improve organizational performance, competitive advantage and organizational capabilities. Figure5 drew the "reflection" cluster on the right side showing the cause, drew the "organization," "effectiveness" and "capability" clusters on the left side showing the result, and drew the "experience" cluster surrounded by these clusters. The arrangement of each cluster in Figure5 was consistent with the recognition of the company's organizational culture as revealed by the interview.

The cognitive map in 2017. We also asked the company executives and employees how well the cognitive map in 2017 described the organizational culture in the company. They, similarly, answered that the cognitive map expressed well the organizational culture in terms of the composing words, and also described the organizational culture in terms of the clusters' position.

The cognitive map in 2017 expressed well the organizational culture in terms of the composing element words, same as in 2015.

In terms of the clusters' position, they still recognized that their core value was "experience" and that their business performance could be acquired with experience. Figure7 also drew the "reflection" cluster on the right side showing the cause, drew the "organization" and "effectiveness and capability" clusters on the left side showing the result, and drew the "experience" cluster surrounded by these clusters. The arrangement of each cluster in Figure7 was also consistent with the recognition of the company's organizational culture as revealed by the interview.

Based on the discussions on the cognitive map in 2015 and in 2017, we could conclude the cognitive maps expressed and described the organizational culture in the company.

Comparison with the cognitive maps in 2015 and in 2017

Grazing at Figure5 and Figure7, we could find that the two cognitive maps are very similar. We could say that organizational culture hardly changes in short time, and it changes gradually even if change, so that it should take it for granted that the two cognitive maps describing the organizational culture have little gap between them.

IMPLICATIONS

The proposed method could be good for visualizing an organizational culture, not for measuring it.

An organizational culture is intangible so that you hardly reach common recognition about it. If we have a good method to visualize an organizational culture, it should be helpful to have common recognition about it and should make it easier to achieve organizational change.

The existing methods like Organizational Culture Inventory (Cooke & Szumal, 1993) and Competing Value Framework (Cameron & Quinn, 2006) partially aim at organizational change and are good to measure organizational culture in the predefined aspects. There could, however, be discrepancy between the perceived organizational

culture of member in the organization and the one measured by the methods. The proposed method could minimize the gap.

The existing methods like Organizational Culture Inventory (Cooke & Szumal, 1993) and Competing Value Framework (Cameron & Quinn, 2006) provide us a radar chart as a result of measuring an organizational culture. It should be useful to recognize one aspect of the organizational culture. We have, in this paper, believed that there is other way to visualize an organizational culture. Employing the proposed method, you could describe an organizational culture visually and find what is/are core value(s) in the organization.

The proposed method could be helpful for describing an organizational culture in general, although this paper aims at proposing a new method to visualize an organizational culture, a company of which is good at organizational learning from failure.

CONCLUSION

Organizational learning from failure is crucial to improve business performance, and a lot of organizations and/or companies are poor at it. Reviewing the related literature, we found that one of the key factors for successful organizational learning from failure, which is hidden in organizational culture. An organizational culture is invisible so that it is difficult to find what kind of organizational culture leads you successful organizational learning from failure. Organizational Culture Inventory (OCI) and Competing Value Framework (CVF) are established methods for measuring an organizational culture, and there seems, however, to be few methods to visualize an organizational culture for failure learning. The purpose of this paper is to propose a new method for expressing and describing an organizational culture, a company and/an organization of which is good at organizational learning from failure. The authors also aim that the proposed method help you change your organization to be good at learning from failure.

The hypothesis in this paper has been that the organizational culture can be drawn by a cognitive map created using perceptive distance between keywords extracted through discussion with executive management. This hypothesis has been verified whether the organization culture is appropriately drawn through discussion with managers.

This paper has created a new method for expressing and describing an organizational culture, a company and/or an organization is good at organizational learning from failure, employing discussion method and a multi-dimensional scaling method. The created method has been tested in a Japanese company, which is good at learning from failure. We have found, consequently, that the proposed method could express and describe their organizational culture well.

In order to do well with learning from failure, it can be inferred that the organization culture is important. However, it is not clear what organizational culture is the organizational culture that is suitable for learning from failure. Hence we tried to clarify the organization culture, but it turned out that there was not established a method to clearly indicate the organization culture appropriate for learning from failure. For this reason, in this paper, we have developed a method to clarify organizational culture. The contribution of this paper is to clarify the method to demonstrate organizational culture suitable for learning from failure. This makes it possible to explicitly grasp what kind of organizational culture is suitable for learning from failure, so that we can expect organizational learning from failure is promoted and organizational performance improves.

There are limitations and necessity for further studies to overcome the limitations. The company that is good at organizational learning from failure has tested the proposed method, but companies that are not good at organizational learning from failure have not tested it. Hence, at this moment, it cannot be said that it is effective for expressing the organizational culture of companies that are good at organizational learning from failure. For this reason, it is needed to compare and verify the proposed method through empirical test in a company and/or organization, which is not good at organizational learning from failure.

It is necessary to verify whether learning from systematic failure is promoted by clarifying the organization culture appropriate for learning from failure. In addition, it is necessary to carefully examine whether revealing organizational culture promotes organizational change.

And this study focuses on verifying the effectiveness of the proposed method and does not clarify the preconditions for incorporating this method. In other words, we are verifying internal validity, but we have not mentioned verification of external validity. It is necessary to make the preconditions for employing the proposed method clear.

In addition, we, in this paper, showed three methods for selecting element words expressing organizational culture, and tested one method of the three. We should examine the rests of the three methods in our future research, such as employing existing methods and text mining method.

Moreover, this is just a single case study in the company, and it is necessary to do further study for generalizing the proposed method, employed multiple cases.

Finally, in this research, we made a visualization of the culture of the company that is good at organizational learning from failure, but we have not found the relationship between the organizational culture and the successful organizational learning from failure. It is necessary to clarify the relationship in the future.

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REFERENCES

Cameron, K. S., An Introduction to the Competing Values Framework. Haworth. Retrieved from http://www.thercfgroup.com/files/resources/an_introduction_to_the_competing_values_framework.pdf , April 2018.

Cameron, K. S. & Quinn, R. E. (2006). *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework*, John Wiley and Sons.

Cannon, M. D. & Edmondson, A. C. (2001). Confronting failure: antecedents and consequences of shared beliefs about failure in organizational work groups, *Journal of Organizational Behavior*, 22, 167-177.

Cannon, M. D. & Edmondson, A. C. (2005). Failing to Learn and Learning to Fail (Intelligently): How Great Organizations Put Failure to Work to Innovate and Improve, *Long Range Planning*, 38, 299-319.

Carmeli, A (2007). Social Capital, Psychological Safety and Learning Behaviors from Failure in Organizations, *Long Range Planning*, 40, 30-44.

Cooke, R. A., & Szumal, J. L. (1993). Measuring normative beliefs and shared behavioral expectations in organizations: The reliability and validity of the Organizational Culture Inventory. *Psychological Reports*, 72(3, Pt 2), 1299-1330.

Edmondson, A. C. (2011). Strategies for learning from failure, *Harvard Business Review*, April 2011.

Hatamura, Y. (2005). *Shippaigaku No Susume* (in Japanese), Kodansha Bunko, Tokyo.

Huber, G. P. (1991). Organizational Learning: The Contributing Processes and the Literatures. *Organization Science.* 2(1), 88-115. doi: 10.1287/orsc.2.1.88

Human Synergistics Circumplex, Retrieved from https://www.humansynergistics.com/about-us/the-circumplex, April 2018.

Kanno, H. (2014). *Management with Learning from Failure (Shippai No Keieigaku)*, Nihon Keizai Shinbunsha, Tokyo. (in Japanese)

Madsen, P. M. & Desai, V. (2010). Failing to learn? The effects of failure and success on organizational learning in the global orbital launch vehicle industry. *Academy of Management Journal*. 53 (3), 451-476.

Nagayoshi, S. & Nakamura, J. (2016a). One's Fault Is Another's Lesson: What Motivates the Employees to Participate in the Leaning Activity? *Proceedings of Industrial Engineering and Engineering Management (IEEM)*, 2016 IEEE International Conference.

Nagayoshi, S. & Nakamura, J. (2016b). What subdues shame in learning from failure? Empirical study on a company in Japan. *Proceedings of The 20th Pacific Asia Conference on Information Systems (PACIS)*. http://aisel.aisnet.org/pacis2016/154

Nagayoshi, S. & Nakamura, J. (2016c). What Arouses Rationality Recognition of Learning from Failure? Self-Interest or Altruism? *Proceedings of The 3rd Multidisciplinary International Social Networks Conference on Social Informatics 2016, Data Science 2016*, Article No. 17, ACM New York, NY, USA. doi: 10.1145/2955129.2955145

Nagayoshi, S. & Nakamura, J. (2016d). Does sympathy to colleague overcome shame of defect? *Procedia Computer Science*, 1720-1729. doi: 10.1016/j.procs.2016.08.220

Nagayoshi, S. & Nakamura, J. (2017a). How Accelerate Knowledge acquisition and Information Distribution in the Organizational Learning from Failur. *PACIS 2017 Proceedings*. 207. http://aisel.aisnet.org/pacis2017/207

Nagayoshi, S. & Nakamura, J. (2017b). How Computer Help the Organizational Memory in the Failure Learning? : A Case Study on a Japanese Company. *Proceedings of The 4th International Conference on Finance and Economics (ICFE2017), September 21st– 22nd, 2017, Ho Chi Minh City, Vietnam*. 417-426.

Sugiyama,K., Ogasawara,K. & Nagayoshi,S. (2018) Image analysis of coffee in youth generation: Creation of cognitive map by multidimensional scaling. *The Japan Society for Management Information.*

A theoretical study of silence, voice and psychological safety in organizations

Hidetaka Hemmi
Graduate School of Business Administration, Kobe University
Kobe, Japan
hidetaka.henmi@gmail.com

ABSTRACT

This paper discusses the impacts of silence, voice and psychological safety on an organization. Today, a frequent problem is found when employees find themselves in a difficult situation, unable to advocate for their opinions, relevant information, and new ideas in a workplace. It is a problem for employees and the workplace when an employee cannot speak up to his supervisor or manager. I describe "employee silence", "employee voice", "organizational silence", "voice climate", and "psychological safety" as key concepts. Although there are many studies regarding silence, voice, and psychological safety in Europe and America, few deal with Japan. Notably, Japanese offices have a unique norm: Kuki is a criterion of judgment linked with very strong and absolute dominance. Therefore, I present main research questions; why do employees silence? I have four sub-questions; (1) What is the structure of silence and voice? (2) How do employees avoid silence? (3) What are the limits of psychological safety? (4) How does Japanese culture influence silence and voice? Therefore, I describe implications of this study including the theoretical framework pertaining to silence, voice, and psychological safety in an organization and suggest areas for future research.

Keywords: silence, voice, psychological safety, and Japanese culture

INTRODUCTION

The purpose of this paper is to theoretical review the scholarly and theoretical literature on silence, voice (speaking up), and psychological safety, with the goal of clarifying both the construct and my knowledge about its antecedents and outcomes. In addition to this is proposed silence/voice and Japanese culture for the first time.

This paper focuses on structure of silence and voice and psychological safety. Brinsfield (2013) illustrates that defensive silence, diffident silence, and relational silence are all significantly negatively related with psychological safety. However, psychological safety has certain limitations. Furthermore, there is a unique nature in Japanese workplace. I cannot find a paper of silence in Japan. Thus, I suggest a relationship between silence/voice and Japanese culture.

The fact that Japanese employees cannot speak up to their managers and supervisors with relevant information, ideas, and opinions about the workplace is a problem for employees and managers alike. Employee silence causes a decrease in organizational commitment, a decrease in innovation, an increase in corruption, and undesirable behavior, such as absenteeism or emoloyee turnover (Dedahanov & Rhee, 2015; Vokola & Bouradas, 2005; Ashforth & Anand, 2003).

Congruently, I suggest main research questions: Why do employees silence? I also suggest four sub-questions: (1) What is the structure of silence and voice? (2) How do

employees avoid silence? (3) What are the limitations of psychological safety? (4) How does Japanese culture influence silence and voice?

REVIEW OF RELATED LITERATURE

Employee silence and employee voice

There are various definitions of employee silence and voice. First, I clarify what definitions have predominated in the existing research. Employee silence is defined by Pinder & Harlos (2001, p. 334) as "the withholding of any form of genuine expression about the individual's behavioral, cognitive and/or affective evaluations of his or her organizational circumstances to persons who are perceived to be capable of effecting change or redress." Based on this definition, the following two types of communications are also included under employee silence category: "(1) does not reflect a desire to alter circumstances, or that (2) is not directed to persons perceived as capable of ameliorating those circumstances does not comprise an attempt to break silence" (Pinder & Harlos, 2001, p. 334). For Van Dyne, Ang, & Botero (2003), employee silence is defined as employees withholding their ideas, information, and opinions based on three distinct underlying motives: acquiescence, defensive posturing, and prosocial intentions. Therefore, it might make the most sense to define of employee silence broadly. Accordingly, in this paper, employee silence is viewed as being practiced by those who might be expected to be able to make effective changes to the workplace and organization but do not do so, recognizing that employers are unfair and thus lack have a motivation to change, causing employees to refrain from conveying the situation, ideas, information, opinions.

I also define employee voice. In response to dissatisfaction, customers and organizational members may exercise three options: exit, voice, or loyalty (Hirschman, 1970). Voice was first used to signify "any attempt at all to change rather than escape from an objectionable state of affairs, whether through individual or collective petition to the management directly in change, through appeal to a higher authority with the intention of forcing a change in management, or through various types of actions and protests, including these that are meant to mobilize public opinions" (Hirschman, 1970, p. 34). Hirschman (1970) discusses not only employee voice but also related customers' behavior. The study of voice within organizational behavior theory is defined as "the discretionary provision of information intended to improve organizational functioning to someone inside an organization with the perceived authority to act, even though such information may challenge and upset the status quo of the organization and its power holders, is critical to organizational well-being yet insufficiently provided by employees, who see the risks of speaking up as outweighing the benefits" (Detert & Burris, 2007, p. 869). Based on the definitions found in both studies, the definition of employee voice in this study shall be "any employee dissatisfaction, for which deliberate ideas are brought up for improving the functions of organizations and groups, concerns, concerns, opinions."

In terms of theoretical assumptions, voice involves certain risk. As a result of resisting current workplace processes and decisions, employees run up against some risk (Detert & Burris, 2007). However, some employees are willing to undertake constructive voice for workplaces and organizations (LePine & Van Dyne, 1998). Therefore, before employees speak up, they evaluate potential the risks for doing so and compare them with the expected benefits from acting (Detert & Burris, 2007). Leaders have made significant

efforts to build a framework of current views and practices, so that employees may feel positive meaning emanating from existing that framework. Thus, employees who voice concerns and indicate possible improvements must understand that they are counteracting the established system of shared beliefs and routines of the workplace (Gao, Janssen, & Shi, 2011).

Morrison (2011) framed the relationship between employee voice and employee silence has been framed differently. Employees might be able to share valuable information, but they will remain silent if there is a feeling of fear, negative influences, or a belief that speaking up will be futile (Milliken, Morrison, & Hewlin, 2003). Morrison & Milliken (2000) focused on suppression of group-level information. However, subsequent silence studies tend to focus on the individual level (Milliken et al., 2003). Conclusions regarding employee silence were divided between researchers who perceive silence and voice as opposite concepts versus separate structures. Many studies show silence and voice to be opposite concepts (cf. Frazier & Bowler, 2015). In other words, employees might well have important information to offer, e.g., suggestions or concerns, yet must choose between voice or silence. From this perspective, a high level of silence (or voice) implies a low level of voice (or silence). However, some studies deal with voice and silence as separate structures. Silence is not an arbitrary choice but rather an automatic inhibitory reaction, habitual behavior, or deep state of resignation (Kish-Gephart et al., 2009; Pinder & Harlos, 2001). Nonetheless, as mentioned above, the closest definition of silence is to refrain from speaking, which is also a failure of voice, implying a conscious choice. Another relationship between silence and voice is seen in that employees generally engage in a high degree of voice but tend to refrain from bringing up certain types of information. Thus, employees may speak up about one problem and be silent about another; yet doing so does not indicate a mixing of structures. In other words, silence and voice are not perfect, and employees take into account various considerations over time depending on the particular problem in question. Therefore, in this study, silence is treated in the sense of the inhibition of shared ideas over against the assertion of those ideas.

Some researchers suggest that certain types of employee silence and voice exist. Table 1 shows the classification of employee silence and employee voice by researchers.

First, Pinder & Harlos (2001) distinguished acquiescent from quiescent silence. Next, Van Dyne, et al. (2003) showed acquiescent silence/voice, defensive silence/voice, pro-social silence/voice. On the one hand, they define acquiescent silence as the withholding of relevant ideas, information, or opinions, based on their resignation. On the other hand, defensive silence is defined as the withholding of those things based on fear, while pro-social silence is defined as withholding them with the goal of benefiting other people or the organization—based on altruism or cooperative motives.

Congruently, they define pro-social voice as the expression of work-related ideas, information, or opinions based on cooperative motives. A defensive voice expresses them based on fear—with the goal of protecting oneself. Acquiescent voice is defined as the verbal expression of such things based on feelings of resignation.

Furthermore, Brinsfield (2013) categorizes six forms of silence; deviant silence, relational silence, defensive silence, diffident silence, ineffectual silence, and disengaged silence. In terms of being a form of deviant workplace behavior, silence has received little attention in the management literature. However, this behavior certainly exists and may lead to negative consequences. The nature of relational silence is that people often remain silent because they do not want to harm a relationship or general relational structures.

Defensive silence is described deliberate omission on the basis of fear of the consequences associated with speaking up. Diffident silence is composed of items related to one's insecurities, self-doubts, or uncertainties regarding a given situation or what to say. Ineffectual silence is related to the general belief that speaking up would not be useful in effecting change relative to the focal issue, situation, or concern. Disengaged silence indicates a kind of reticence based on feeling unable to make a difference. Plus, such silences are empirically distinct.

Knoll & Dick (2013) suggest four types of silence, including acquiescent silence, quiescent silence, pro-social silence, and opportunistic silence. They define opportunistic silence as strategically withholding work-related ideas, information, or opinions with the goal of achieving an advantage for oneself while accepting harming others.

Liang, Farh, & Farh (2012) classify promotional and prohibitive voice. Promotive voice is defined as an employee's expression of new ideas or suggestions for improving the overall functioning of their work unit or organization. In contrast, prohibitive voice describes an employee's expressions of concern about work practices, incidents, or employee behavior that are harmful to the organization.

Burris (2012) suggests that there are both challenging and supportive voice. Challenging voice is characteristic of employees who are agentic and anticipatory in their actions, being inherently change-oriented in that it calls for modifications to "the way things are done" in the organization (Detert & Burris, 2007). In contrast, supportive forms of voice become easier for managers to endorse the ideas of those who simply stay involved in decision-making processes and make only incremental suggestions that are still consistent with the managers' strategic agenda (Burris, 2012).

Table 1. Classification of employee silence and employee voice

Researcher	Employee silence and employee voice
Pinder & Harlos (2001)	acquiescent silence, quiescent silence
Van Dyne, Ang, & Botero (2003)	acquiescent silence/ acquiescent voice, defensive silence/ defensive voice, pro-social silence/ pro-social voice
Brinsfield (2013)	deviant silence, relational silence, defensive silence, diffident silence, ineffectual silence, disengaged silence
Knoll & Dick (2013)	acquiescent silence, quiescent silence, pro-social silence, opportunistic silence
Liang, Fath, & Fath (2012)	promotive voice, prohibitive voice
Burris (2012)	challenging voice, supportive voice
Morrison (2011)	suggestion-focused voice, problem-focused voice, opinion-focused voice

Finally, Morrison (2011) categorizes three voices: suggestion-focused, problem-focused, and opinion-focused voice. On the one hand, suggestion-focused voice is defined as the communication of suggestions or ideas for how to improve one's work unit or organization. Problem-focused voice, on the other hand, is defined as an employee's

expression of concern about work practices, incidents, or behaviors that he regards as harmful, or potentially harmful, to the organization, while a third type, opinion-focused voice, reflects communicating points of view on work-related issues that differ from those held by others (Morrison, 2011, p. 398).

Organizational silence and voice climate. Organizational silence will be used a collective-level phenomenon reflecting the fact that there are powerful forces in many organizations that cause widespread withholding of information about potential problems or issues by employees (Morrison & Milliken, 2000). Also, Morrison & Milliken (2000) have provided a definition of climate of silence: "widely shared perceptions among employees that speaking up about problems or issues is futile and/or dangerous" (2000, p. 708). Organizational silence shows the dynamics in which workplaces and organizations are silenced. The nature of organizational silence is as contagious as a vertical spiral. Contagion is a dynamic wherein one may observe that silence related to opinion claims about specific issues not only gradually become general but also generate further silence possibilities regarding other problems (Bowen & Blackmon, 2003). In other words, if employees are unable to comment on one problem, organizational silence has the property of being silent about other problems, too.

The study of organizational silence shows complex organizational and contextual factors that create and promote a climate of silence. These factors include the policy and structure of the organization, its demographic characteristics, the structure of the beliefs of the top management team, its collective sense making and communication processes. Organizational factors and contextual factors are incorporated into models that explain the structural conditions that make low status employees feel disillusioned or fear voice. The implicit belief of organizational structure, policy, management creates climate of silence (Morrison & Milliken, 2000). Therefore, such a climate increases the silence caused by fear and resignation such as acquiescent and quiescent silence (Knoll & Dick, 2013).

Voice climate is defined as "shared beliefs about speaking up on voice behavior within work groups" (Morrison, 2011, p. 184). Unlike the climate of silence, voice climate focuses on promoting employee thoughts and shared beliefs regarding the safety and effectiveness of arguing one's opinion (D'Innocenzo, Luciano, Mathieu, Maynard, & Chen, 2016).

Early empirical studies of voice climate clarify that it is effective to raise people's willingness to indicate changes that improve employees' voice climate and thus willingness to speak up (Morrison, Wheeler-Smith, & Kamdar, 2011). There are two aspects of voice climate. First, it is a shared belief about whether to speak is safe or dangerous. In other words, it is a safety belief pertaining to group voice. This cognition is used to predict outcomes (Ashford, Rothbard, Piderit, & Dutton, 1998), as well as to point out whether employees think they are being punished by subtle problems or fear of some present situation (Detert & Burris, 2007). The second aspect of a collective voice climate is a shared belief about whether an employee is effective in suggesting changes. That is, it is the effectiveness of group voice that matters. The concept of group effectiveness is defined as having a group belief regarding the ability to do specific tasks (Gibson & Earley, 2007). Therefore, the effectiveness of group voice is a shared belief about its ability (Morrison et al., 2011).

Independent variables and dependent variables of silence and voice. Silence has dependent variables such as leader behavior, power, and trust. Transactional leadership creates a voice climate because it promotes commitment and responsibility of employees toward group goals (Detert & Burris, 2007; Morrison, 2011). The strength of power

recognized by employees affects silence. Employees who feel that they have low power are more sensitive to organizational factors than employees who feel that they have high power (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008). When employees sense organizational trust, they tend to speak up freely about what is going on in the organization (Binikos, 2008). Dependent variables of silence and voice are job satisfaction, organizational commitment, and burnout (Morrison & Milliken, 2000; Dedahanov & Rhee, 2015; Akin & Ulusoy, 2016).

Psychological safety

The term psychological safety is used here to refer to a shared belief held by members of a team that the team might safely undertake interpersonal risks (Edmondson, 1999). In their study of psychological safety, Schein & Bennis (1965) claimed that psychological safety is essential for protecting people's safety and changing behavior in response to organizational changes. Subsequent psychological safety studies showed that psychological safety enhances personal engagement in the workplace. Personal engagement is used to refer to "the harnessing of organization member's selves to their work roles; in engagement people employ and express them physically, cognitively, and emotionally during the performance" (Kahn, 1990, p. 694). In addition, it has been shown that employees are more likely to receive the benefits of psychological safety if there is trust and respect in the relationship within the group (Edmondson & Lei, 2014).

Relationship of psychological safety and silence/voice. Psychological safety has been demonstrated to increase the likelihood of voice in the workplace. Communication with higher positions in the organization is an important force to help organizational learning and to succeed by such means as improving the existing situation at the workplace to facilitate suggesting new ideas. These actions are risky for employees. Psychological safety can mitigate such risk (Edmondson & Lei, 2014). In addition, psychological safety has a negative impact on defensive, diffident, and relational silence (Brinsfield, 2013).

Independent variables and dependent variables. Hierarchical feelings are given to employees based on their status in the social system and reduce psychological safety (Nembhard & Edmondson, 2006). The difference in status implies that an employee is evaluated at work, resulting from a system of formal evaluation and confidence (Edmondson, Higgins, Singer, & Weiner, 2016). Edmondson, et al. (2016) show the relationship between hierarchy and psychological safety of professional doctors and teachers. In both the workplace of the doctor and the teacher, a hierarchical job environment may interfere with psychological safety when it is most needed. Edmondson (2003) suggests that a climate of psychological safety is necessary to do organizational learning. In the empirical study, when introducing new technologies in cardiac surgery, we observed the teams that achieved results and those that did not. As a result, it was clarified that psychological safety within the team encouraged employee learning and resulted in significant achievements. The study also points out that a leader needs to promote and instruct the collective learning process in order to create an environment of psychological safety.

Limitation of psychological safety and Japanese culture

As mentioned earlier, psychological safety promotes voice behavior. However, previous studies of psychological safety have not dealt with the negative effects on groups and individuals. Pearsall & Ellis (2011) suggest that psychological safety can lead unethical

team behavior. This utilitarian orientation and unethical decision is moderated by the extent of psychological safety within the team, and a team with high psychological safety is highly likely to undertake unethical behavior. Employees usually have strong social norms that oppose unethical behavior such as deceiving employees within the group. However, when teamed up with a high degree of psychological safety, group members may be over protected and unethical behavior may pass beyond social constraints.

Furthermore, Edmondson, Kramer, & Cook (2004) suggest several limitations on psychological safety. First, empirical research on psychological safety has been conducted for relatively small groups. For example, when a team must deal with 200 members for its planning and executing, the importance of one-to-one interaction is reduced. Then the role in team learning by psychological safety will not function well. Furthermore, in the case of large groups of people, the common recognition of psychological safety will be reduced, too, as there are many relationships and complicated interdependences and the interaction repeated among members is thus reduced (Sole & Edmondson, 2002).

Second, psychological safety may not be enough to promote learning behavior, because excessive psychological safety is harmful for the team. If the workplace is too comfortable, a team member may inadvertently chat with other members, instead of spending time on their duties. In other words, excessive psychological safety can generate waste that harms both employees and their workplace, and may even produce a loss of motivation necessary for learning (Edmondson & Lei, 2014). “Excessive psychological safety could be detrimental. If people are too comfortable with each other, they may spend an inappropriate amount of time in casual conversation at the expense of their work. A complete lack of censorship could create such a low barrier to seeking feedback and help or speaking up with concerns that valuable time is wasted on unimportant things” (Edmondson et al., 2004, p. 34). As a result, managers must find a balance between promoting close and open communication about tasks and showing constructive feedback that limits meaningless questions, comments and discussion (Edmondson & Lei, 2014).

The third limitation of psychological safety is that excessive team psychological safety may put strain on groups in the organization. The active team is struggling to enjoy a strong friendship but such cooperative relations give an arrogant impression to another organization group, perhaps being interpreted as self-satisfaction seeking. Thus, as psychological safety increases, conflicts between in-groups and out-groups are likely to occur. In order to cope with conflicts between groups, the role of a spokesperson is required in the workplace. The spokesperson has an effective strategy and has a role in his organization and a representative from outside organization to achieve his mission goal (Frey & Adams, 1972). Thus, in the case of high psychological safety, the role of employee voice may be expanded.

Finally, situations with few interpersonal barriers to voice can exacerbate workplace problems. “People fundamentally disagree about task-related issues is that psychological safety may open the door for getting stuck in counterproductive discussions, which they lack the interpersonal skill to resolve” (Edmondson, 2004, pp. 35-36). It goes without saying that it is difficult to imagine that employees who fundamentally oppose a problem will not easily change their opinions. This suggests the necessity of psychological safety by interpersonal skills (Argyris, 1993) in order to maximize learning.

Research on psychological safety has been found to lower the risks of voice. However, that research fails to acknowledge the significance of other elements for voice. That is, a safe situation for voice may not avoid silence with all employees (Knoll & Dick,

2013). For example, in previous studies on psychological safety, the effectiveness of voice is overlooked. In other words, the effectiveness of voice (i.e., collective beliefs as to whether or not an employee's voice is valid) has been overlooked (Morrison, 2011). Also, studies on employee silence and motivation of employee voice are diverse. Therefore, in the workplace, not only a climate of psychological safety is required to encourage employee voice, but other climates must be created, too. For example, sense making for employee voice is necessary for enhancing the effectiveness of voice.

Japanese culture. Based on the spiral of silence theory, Ho, Chen, & Sim (2013) showed how to express cultural predispositions, news attention, the theoretical bases of opinion by investigating whether offering a rationale for their opinion related to opinions and argumentation. Cultural predispositions such as power distance and saving face had been shown to form individual attitudes and behaviors (Hofstede, 1983). Existing research dealt with the issue of legitimization of same-sex marriage in Singapore. There was no influence on asserting employees' real intention within the power distance. Especially when paying attention to the news coordinated a fear of isolation by stating one's real intention in public places and the influence of protecting one's confidences.

The concept of face is defined as an individual's claimed sense of positive image in the context of social interaction (Oetzel & Ting-Toomey, 2003, p. 600). Saving face is defined as a concern for protecting one's reputation and social image (Oetzel & Ting-Toomey, 2003). In addition, "keeping face" means enhancing honor and prestige in China and Japan (Hofstede, Hofstede, & Minkov, 2010). Faces are commonly used in Japan, and it is a different concept than self-esteem. Self-esteem focuses on the individual's position, while face is determined by one's position within the social environment.

Employees who wish to keep saving face want to reduce conflicts to avoid losses due to confrontations, expressing how important maintaining their images is for them in social situations (Ting-Toomey & Kurogi, 1998). At an individual level, the cultural values that students in educational psychology do not want to lose face-to-face, or in front of others, is one of the main reasons that many students fear to ask questions in class (Hwang, 1987). The fear of losing face is related to Singaporean students hesitating to ask questions in the classroom (Hwang, Francesco, & Kessler, 2003). Employees who are strongly concerned about losing face have little desire to search for negative feedback about others in the workplace (Ashford, 1986; Morrison & Bies, 1991). This fact may interfere with the will of the employee to assert his opinion in a hostile situation. As mentioned above, the fear of losing face diminishes voice.

Yamamoto (1983) showed that Japan's *"kuki"* rule, or "criteria of judgment," has a very strong and nearly absolute dominating power (p. 22). He points out that *kuki* will be one of the judgment criteria for group decision-making. In addition, the Japanese insisted that, "Always live under a double standard of criteria for logical judgment and *kuki* judgment" (Yamamoto, 1983, p. 22). And it is necessary to thoroughly investigate what is restraining my spirit—to escape from the rule of *kuki*, to get out of the normality norm and to become free.

Tsuda (1994) refers to Japanese organizational philosophy and *kuki*, focusing on Japanese historical high culture and low culture. Japanese companies often emerge through decision making by circumstantial ethics, and those situations often become *kuki*-dominated. *Kuki* dominates the organization. For example, employees was deeply impressed by Konosuke Matsushita's *Suido-tetsugaku* (philosophy of supplying large quantities of high quality goods at low price like supplying water) at Matsushita Electric

Industrial Co., Ltd.. Such empathy is contagious in whole company. Moreover, there is a conference related to socializing with neighbors and the importance of decision making. Employees cannot speak up in important decision-making situations because they are afraid. There is also a reason that employees should be afraid of harming their boss's authority. Yet, the reason why employees cannot speak up is that nemawashi (laying the groundwork) is at the very core of large Japanese companies by nature. In other words, voice is impossible because entire consent has already been established before the meeting begins. It seems that such a foundation represents a double standard for Japanese organizations. Based on the suggestions of Yamamoto (1983) and Tsuda (1994), Japanese can discuss the nature of this double standard emerging on account of the *kuki* concept. For example, as a matter of organizational behavior, we discuss the relationship between informal and formal organizational leaders and employee behavior in the workplace.

Furthermore, Tobe, Teramoto, Kamata, Suginoo, Murai, & Nonaka (1991) analyzes the organization of the Japanese army during the Great East Asian War. He described the essence of the Japanese military's failure as, "The Japanese military strategy formulation is always a tendency for empathy and *kuki*-dominated rather than based on certain principles and logic. That is scientific thinking did not be lead to share as a habit of the organization's thinking (Tobe et al., 1991, p. 283). Furthermore, it is pointed out that the characteristics of the Japanese army were collectivistic in their organizational structure. Collectivism does not mean that individuals are not allowed to do something; it means that dedication and devotion to the group has the highest value. Individualism here is a Japanese collectivism that interpersonal relationships themselves are considered to be the most valuable in order to orient coexistence between an organization and its members (Tobe et al., 1991).

Consequently, *kuki* may be divided into three main characteristics. First, decision-making by leaders and employees is sometimes done on *kuki* basis rather than being based on a logical judgment. In other words, leaders and employees make group decisions according to situation with the surrounding employees and the leader (as the decision maker). Second, *kuki* has a collectivistic nature based on employee values that human relations are the most valuable aspect of any organization. Employees prioritize good human relationships with other employees, and they go along with the opinion of peers because they are afraid to generate conflict. Third, the nature of *kuki* places a double standard on the workplace and the organization. In the Japanese workplace, formal organizations and informal organizations are combined to make decisions. For example, in making one decision, preliminary guidance is provided by informal organizations (reception and computation, drinking party, etc.), so that during the formal meeting, existing procedure will be followed and no objections made. In other words, although true intentions such as employee's suggestions and ideas can be related in informal organizational communication, during formal organizational meetings, employees act according to what is appropriate for the situation rather than stating their own opinions. Thus, in the Japanese workplace, the interaction between the formal and informal organization is close.

It is thought that the nature of *kuki* affects both silence and voice, but empirical research does not bear out this notion. Therefore, there is a theoretical and practical implication to be drawn from the way business is approached that future research should focus on when considering Japanese organizations.

DISCUSSION

I have four sub-questions; (1) What is the structure of silence and voice? (2) How do employees avoid silence? (3) What are the limits of psychological safety? (4) How does Japanese culture influence silence and voice? I answer these research questions. (1) I suggest a type of employee silence and employee voice. I also propose organizational silence, voice climate, independent variables and dependent variables of silence/voice. (2) Psychological safety has been demonstrated to increase the likelihood of voice in the workplace. (3) A safe situation for voice may not avoid silence with all employees. (4) In Japanese workplace, the interaction between the formal and informal organization is close.

Theoretical implications

Two theoretical implications may be gleaned from this study. First, psychological safety has limitation. There is a negative aspect to psychological safety; existing research mainly focuses on its positive one. Second, I suggest the unique Japanese concept of *kuki* because I cannot find a paper of relationship between silence and Japanese culture.

Managerial implications

There are two managerial implications of this study. First, managers make it possible to study various possibilities of silence. If there are few clues about employees, managers tend to stereotype impressions of employee behavior. Alternatively, this research systematically shows what kind of employee motivation results in silence or voice. Second, the unique nature of the Japanese workplace is pointed out in this study. Silence and voice in Japanese workplaces are not necessarily logical judgments. They may actually be necessary to manage the workplace by considering the propriety of the Japanese workplace.

Limitations and Directions for future research

There are three limitations and directions for future research of this study. First of all, the limitation of this study is that the subject is the individual and group level. Therefore, in the future research, I will focus on the organizational level (ex. organizational systems and institutions). Second, because this study is the theoretical paper, I will use the empirical study, especially the Japanese property.

CONCLUSION

This study describes the implications of the theoretical framework of silence, voice, and psychological safety on organizations and suggests areas for future research. A framework is presented in Figure 1, where independent variables silence and voice affect the leader's behavior, power, and trust. Dependent variables for silence and voice include job satisfaction, organizational commitment, and burnout. Independent variables for psychological safety are perception of the hierarchical constraints on the leader's behavior. Finally, I suggest a relationship between silence/voice and Japanese culture.

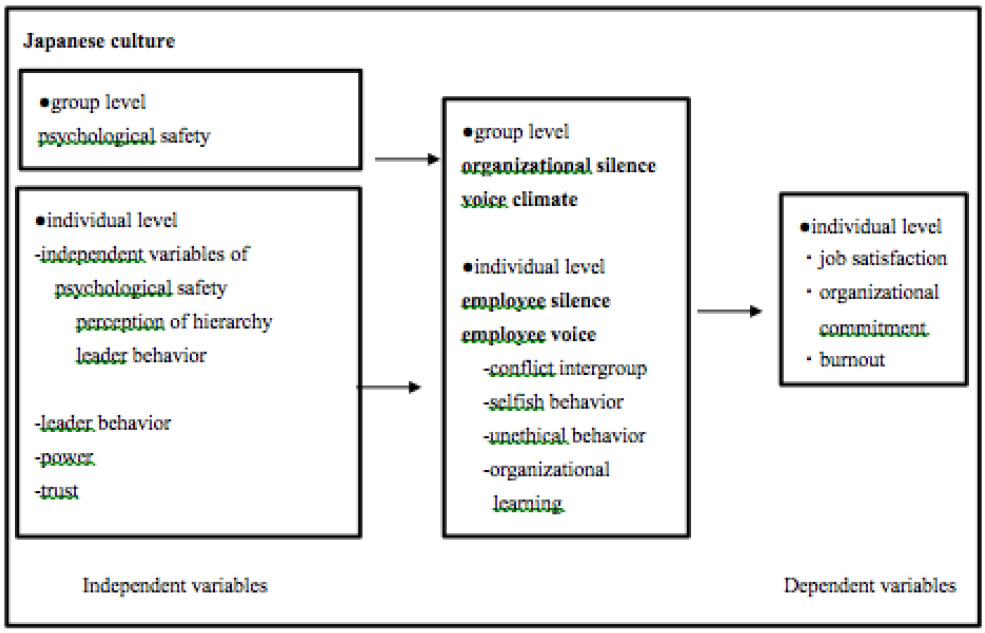


Figure 1. Framework of this paper

REFERENCES

Akın, U., & Ulusoy, T. (2016). The relationship between organizational silence and burnout among academicians: a research on Universities in Turkey. *International Journal of Higher Education*, 5(2), 46.

Argyris, C. (1993). Knowledge for action: A guide to overcoming barriers to organizational change. *Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104*.

Ashford, S.J. (1986). Feedback-seeking in individual adaptation: A resource perspective. *Academy of Management Journal*, 29(3), 465-487.

Ashford, S.J., Rothbard, N.P., Piderit, S.K., & Dutton J.E. (1998). Out on a limb: The role of context and impression management in selling gender-equity issues. *Administrative Science Quarterly*, 23-57.

Ashforth, B. E., & Anand, V. (2003). The normalization of corruption in organizations. *Research in organizational behavior*, 25, 1-52.

Binikos, E. (2008). Sounds of silence: Organisational trust and decisions to blow the whistle. *SA Journal of Industrial Psychology*, 34(3), 48-59.

Bowen, F., & Blackmon, K. (2003). Spirals of silence: The dynamic effects of diversity on organizational voice. *Journal of Management Studies*, 40(6), 1393-1417.

Brinsfield, C.T. (2013). Employee silence motives: Investigation of dimensionality and development of measures. *Journal of Organizational Behavior*, 34(5), 671-697.

Burris, E. R. (2012). The risks and rewards of speaking up: Managerial responses to employee voice. *Academy of Management Journal*, 55(4), 851-875.

Dedahanov, A. T., & Rhee, J. (2015). Examining the relationships among trust, silence and organizational commitment. *Management Decision*, 53(8), 1843-1857.

Detert, J.R., & Burris, E.R. (2007). Leadership behavior and employee voice: Is the door really open? *Academy of Management Journal*, 50(4), 869-884.

D'Innocenzo, L., Luciano, M. M., Mathieu, J. E., Maynard, M. T., & Chen, G. (2016). Empowered to perform: A multilevel investigation of the influence of empowerment on performance in hospital units. *Academy of Management Journal*, 59(4), 1290-1307.

Edmondson, A.C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44(2), 350-383.

Edmondson, A.C. (2003). Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies*, 40(6), 1419-1452.

Edmondson, A.C., Higgins, M., Singer, S., & Weiner, J. (2016). Understanding psychological safety in health care and education organizations: a comparative perspective. *Research in Human Development*, 13(1), 65-83.

Edmondson, A.C., Kramer, R.M., & Cook, K.S. (2004). Psychological safety, trust, and learning in organizations: A group-level lens. *Trust and Distrust in Organizations: Dilemmas and Approaches*, 12, 239-272.

Edmondson, A.C., & Lei, Z. (2014). Psychological safety: The history, renaissance, and future of an interpersonal construct. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 23-43.

Frazier, M.L., & Bowler, W.M. (2015). Voice climate, supervisor undermining, and work outcomes: A group-level examination. *Journal of Management*, 41(3), 841-863.

Frey, R.L., & Adams, J.S. (1972). The negotiator's dilemma: Simultaneous in-group and out-group conflict. *Journal of Experimental Social Psychology*, 8(4), 331-346.

Galinsky, A. D., Magee, J. C., Gruenfeld, D. H., Whitson, J. A., & Liljenquist, K. A. (2008). Power reduces the press of the situation: implications for creativity, conformity, and dissonance. *Journal of personality and social psychology*, 95(6), 1450.

Gao, L., Janssen, O., & Shi, K. (2011). Leader trust and employee voice: The moderating role of empowering leader behaviors. *The Leadership Quarterly*, 22(4), 787-798.

Gibson, C.B., & Earley, P.C. (2007). Collective cognition in action: Accumulation, interaction, examination, and accommodation in the development and operation of group efficacy beliefs in the workplace. *Academy of Management Review*, 32(2), 438-458.

Hirschman, A.O. (1970). Exit, voice, and loyalty: Responses to decline in firms, organizations, and states. *Harvard University Press, Cambridge, Massachusetts.*

Ho, S.S., Chen, V.H.H., & Sim, C.C. (2013). The spiral of silence: Examining how cultural predispositions, news attention, and opinion congruency relate to opinion expression. *Asian Journal of Communication*, 23(2), 113-134.

Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of International Business Studies*, 14(2), 75-89.

Hofstede, G., Hofstede, G.J., & Minkov, M. (2010). Cultures and organizations: Software of the Mind, *3rd ed., Geert Hofstede BV*.

Hwang, K.K. (1987). Face and favor: The Chinese power game. *American Journal of Sociology*, 92(4), 944-974.

Hwang, A., Francesco, A.M., & Kessler, E. (2003). The relationship between individualism-collectivism, face, and feedback and learning processes in Hong Kong, Singapore, and the United States. *Journal of Cross-Cultural Psychology*, 34(1), 72-91.

Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724.

Kish-Gephart, J.J., Detert, J.R., Treviño, L.K., & Edmondson, A.C. (2009). Silenced by fear: The nature, sources, and consequences of fear at work. *Research in Organizational Behavior*, 29, 163-193.

Knoll, M., & van Dick, R. (2013). Do I hear the whistle…? A first attempt to measure four forms of employee silence and their correlates. *Journal of Business Ethics*, 113(2), 349-362.

LePine, J.A., & Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology*, 83(6), 853-868.

Liang, J., Farh, C. I., & Farh, J. L. (2012). Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management Journal*, 55(1), 71-92.

Milliken, F.J., Morrison, E.W., & Hewlin, P.F. (2003). An exploratory study of employee silence: Issues that employees don't communicate upward and why. *Journal of Management Studies*, 40(6), 1453-1476.

Morrison, E.W. (2011). Employee voice behavior: Integration and directions for future research. *Academy of Management Annals*, 5(1), 373-412.

Morrison, E.W., & Bies, R.J. (1991). Impression Management in the Feedback-Seeking Process: A Literature review and Research Agenda. *Academy of Management Review*, 16(3), 522-541.

Morrison, E.W., & Milliken, F.J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *Academy of Management Review*, 25(4), 706-725.

Morrison, E.W., Wheeler-Smith, S.L., & Kamdar, D. (2011). Speaking up in groups: a cross-level study of group voice climate and voice. *Journal of Applied Psychology*, 96(1), 183-191.

Nembhard, I.M., & Edmondson, A.C. (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *Journal of Organizational Behavior*, 27(7), 941-966.

Oetzel, J.G., & Ting-Toomey, S. (2003). Face concerns in interpersonal conflict: A cross-cultural empirical test of the face negotiation theory. *Communication Research*, 30(6), 599-624.

Pinder, C.C., & Harlos, K.P. (2001). Employee silence: Quiescence and acquiescence as responses to perceived injustice. *Personnel and Human Resources Management, Emerald Group Publishing Limited,* 331-369.

Pearsall, M.J., & Ellis, A.P. (2011). Thick as thieves: The effects of ethical orientation and psychological safety on unethical team behavior. *Journal of Applied Psychology*, 96(2), 401.

Schein, E. H., & Bennis, W. G. (1965). Personal and organizational change through group methods: The laboratory approach. *Wiley*.

Sole, D., & Edmondson, A. (2002). Situated knowledge and learning in dispersed teams. *British Journal of Management*, 13(S2).

Ting-Toomey, S., & Kurogi, A. (1998). Facework competence in intercultural conflict: An updated face-negotiation theory. *International Journal of Intercultural Relations,* 22(2), 187-225.

Tobe Ryouichi, Teramoto Yoshiya, Kamata Shinichi, Suginoo Yoshio, Murai Tomohide, Nonaka Ikujiro (1991). Sippai no honshitsu: Nihongun no soshikirontekikenkyu. *Chukokouronshinsya*.

Tsuda Masumi (1994). Nihon no keieibunka: Nijyuisseiki no sosiki to hito. *Minervashobo*.

Van Dyne, L.V., Ang, S., & Botero, I.C. (2003). Conceptualizing employee silence and employee voice as multidimensional constructs. *Journal of Management Studies*, 40(6), 1359-1392.

Vakola, M., & Bouradas, D. (2005). Antecedents and consequences of organisational silence: an empirical investigation. Employee Relations, 27(5), 441-458.

Yamamoto Shichihei (1983). “Ku-ki” no kenkyu. *Bunsyunbunko*.

Effects of tax and nontax characteristics on corporate groups' selection of overseas subsidiary locations

Emi Iwasaki
Kobe University
Kobe, Japan
e_iwasaki@people.kobe-u.ac.jp

ABSTRACT

This study investigates how tax and nontax characteristics affect location selection among corporate groups. Since the FY2009 tax reform in Japan, the tax burden of corporate groups could be reduced when the withholding tax rate of the foreign subsidiary country was lower, by changing the treatment of withholding tax on dividends from foreign subsidiaries. Furthermore, as multinational companies strive to develop international businesses that relate to foreign systems and culture, nontax characteristics are significant factors for the corporate organizational structure. Therefore, I conduct logistic regression analysis using data on the worldwide subsidiaries of Japanese parent companies to examine whether Japanese multinational companies structure their global supply chains strategically according to tax and nontax characteristics. As a result, this study asserts that Japanese multinational companies have an organizational structure for the entire group of companies with respect to non-tax characteristics and withholding tax on dividends from foreign subsidiaries. The findings also suggest that Japanese multinational companies establish third-country holding companies between the parent company and foreign terminal subsidiaries to decrease the withholding tax rate, corruption risk, and investment risk. These findings contribute to the international tax planning of companies and the tax policy reform by the government.

Keywords: withholding tax, corruption risk, investment risk, international tax planning

INTRODUCTION

In this study, I reveal whether tax and nontax characteristics affect the selection of corporate groups regarding their overseas subsidiary locations. This study is motivated by the changes brought about by the FY2009 tax reform, specifically those regarding Japanese multinational companies.

The FY2009 tax reform enforced the exemption of dividends paid by foreign subsidiaries to Japanese parent companies. Prior to the reform, there was no difference in companies' tax burden ratio as a result of the differences in the withholding tax rate because the foreign tax credit or deduction was applied to withholding tax on the dividends paid by foreign subsidiaries. However, following the reform, this practice was abolished, and corporate groups' tax burdens started to differ depending on each subsidiary country's ratio of the withholding tax rate. Therefore, I investigate whether Japanese multinational companies select the location of their foreign subsidiaries to minimize the withholding tax on the dividends paid by these subsidiaries. I assume that foreign subsidiaries pay dividends to their Japanese parent companies.

Furthermore, multinational companies establish subsidiaries worldwide to conduct actual business activities, not just reduce the tax burden. However, overseas investments and economic environments, owing to unfair measures from the exporting countries' governments, may be unstable. For example, in Venezuela, companies face the risk of political expropriation (Dyreng et al. 2015). Therefore, nontax characteristics are also important factors in selecting a country for a foreign subsidiary, because companies develop foreign businesses while considering the different Japanese systems and cultural aspects. Therefore, I analyze the influences of tax and nontax characteristics on Japanese multinational companies' organizational structures.

The research results show that Japanese parent companies use foreign equity holding companies in third countries (i.e., countries other than Japan and terminal subsidiary countries). Therefore, if the withholding tax rate on dividends paid by the terminal subsidiary to the Japanese parent company is high, the corporate group's withholding tax decreases because the foreign equity holding company's country has concluded a tax treaty with Japan and terminal subsidiary countries. However, this finding presents only circumstantial evidence, and I cannot assert that Japanese companies use foreign holding companies to reduce their withholding tax. Therefore, I further investigate whether the countries of foreign holding subsidiaries have indeed concluded tax treaties with Japan and terminal subsidiary countries, and find that some companies have organizational structures that enable them to reduce their withholding tax by establishing subsidiaries in countries that have concluded a tax treaty with third countries.

Moreover, I identify that Japanese multinational companies use foreign equity holding companies when terminal subsidiaries are located in countries with high corruption or investment risks. This finding suggests that Japanese parent companies choose countries for their subsidiaries based not only on whether they can decrease their tax burden but also on nontax factors, such as corruption and investment risks.

The rest of this paper proceeds as follows. The next section explains the Japanese tax exemption of dividends paid by foreign subsidiaries and the third section outlines the research design. The subsequent section presents the results and additional analyses, and the final section concludes the paper.

BACKGROUND AND HYPOTHESES DEVELOPMENT

Japanese tax exemption of dividends paid by foreign subsidiaries

The FY2009 tax reform in Japan introduced a tax exemption for the dividends paid by foreign subsidiaries. Prior to the reform, there was no difference in companies' tax burden ratios as a result of the difference in the withholding tax rate because the foreign tax credit or deduction was applied to the withholding tax on the dividends paid by foreign subsidiaries. However, following the reform, domestic corporations have been able to exempt 95% of dividends from their foreign subsidiaries. Foreign subsidiary corporation is a foreign corporation that satisfies the requirements specified by the Cabinet Order, such as the requirement that the number of stock contributions held by such domestic corporations amounts to 25/100 or more of the total number or amount of issued stocks or contributions to the said domestic corporation (Corporate Tax Act Article 23-2).

Additionally, the foreign tax credit or deduction is no longer applied to withholding tax on the dividends paid by foreign subsidiaries (Corporate Tax Act Articles

39-2 and 69). Therefore, tax cost is determined by the ratio of the withholding tax rate of the countries where subsidiaries are located.

Since the FY2009 tax reform, the dividend amount is no longer applicable to the tax exemption for dividends paid by foreign subsidiaries and must be included in corporate income taxes when a domestic corporation claims a tax deduction for all or some of the dividends received from a foreign subsidiary (Corporate Tax Act Article 23-2). In this case, the tax credit or deduction can be applied to the withholding tax on the dividends.

The FY2015 tax reform was applied from the fiscal year beginning in FY2016, but the previous tax treatment (i.e., tax treatment before the tax reform) can still be applied until FY2018.

In other words, the Japanese tax exemption of the dividends paid by foreign subsidiaries changed between FY2009 and FY2015. As such, the withholding tax on dividends paid by foreign subsidiaries from FY2009 to FY2015 was to be considered as tax cost, and it was possible for Japanese parent companies to use the tax exemption as an international tax burden reduction strategy.

Additionally, no withholding tax is imposed if dividends were not paid. However, tax exemption for the dividends paid by foreign subsidiaries has been enforced to return the profits from foreign countries to Japan. Moreover, such a tax exemption enables companies to reduce their tax burden because the tax exemption excludes dividends in the corporate taxable income. Further, companies use the withholding tax to mitigate the tax burden rather than for excessive tax avoidance, which tax authorities may deny. Therefore, I assume that foreign subsidiaries pay dividends to Japanese parent companies.

Determinants of country selection for subsidiary locations

There are some studies on mitigating the tax burden by multinational companies, which show that multinational companies distribute profits among companies to taxable income of multinational companies are recognized with low tax jurisdictions (Collins and Shackelford 1997; Klassen and Shackelford 1998; Takahashi et al. 2015). These studies are designed to minimize corporate tax payments and examine the relationship between two affiliates within a company, not direct ownership links. However, their research purpose is to determine whether Japanese parent companies construct a global supply chain to mitigate tax efficiency on dividends from terminal subsidiaries to the Japanese parent company. Therefore, this research focuses on the determinants of country selection for subsidiary locations. Previous research on this topic includes studies such as those by Mintz and Weichenrieder (2010), Lewellen and Robinson (2013), and Dyreng et al. (2015). Although Takahashi et al. (2015) find that Japanese multinational companies reduce their tax burden by international profit shifting; there is no previous research on the relationship between Japanese companies' ownership structure and withholding tax.

Further, Mintz and Weichenrieder (2010) empirically investigate the tax and nontax motivations for establishing subsidiaries in third countries and find evidence of the increasing role of holding companies and ownership chains. They analyze Deutsche Bundesbank's foreign direct investment data from 1989 to 2001 and determine that tax factors are indeed important for ownership chains in international investment. If taxes on dividends from a destination country to the investors' home country are high, the probability that the foreign affiliate is held via a conduit entity in a third country is significantly higher than in the case where there are no withholding taxes on dividends.

Lewellen and Robinson (2013) examine the effect of affiliate-level characteristics on the likelihood that a foreign affiliate is used as a holding company and subsequently analyze the pair-level characteristics that determine the likelihood that a country pair forms an ownership link. Their research investigates the black box represented by complex companies to determine the forces that drive internal ownership choices. Therefore, they use data from 1994, 1999, 2004, and 2009 from the U.S. Bureau of Economic Analysis, and their testing focuses on understanding the connections between foreign affiliates and is based on a sample of 668 firms and 1,114 firms-year observations for at least one ownership chain.

They document several tax and nontax determinants of the choices that add complexity to ownership structures and find that companies select countries with low average withholding tax rates on inbound dividends as host countries for their owned subsidiaries. Additionally, they investigate the relationship between company ownership and economic partnership, investment contracts, and taxes, respectively. They also find that subsidiaries located in countries that are geographically closer to each other and have a common official language, religion, and colonizer are more likely to exhibit links. Further, they determine that a bilateral investment treaty (BIT) makes it more likely for two countries to be connected through an ownership link. Particularly, this finding suggests a BIT is important for subsidiaries with significant assets and high expropriation risk.

Dyreng et al. (2015) conducted a complementary study to that of Lewellen and Robinson (2013). Specifically, they examine the global equity supply chains of U.S. multinationals to determine how tax and nontax characteristics affect whether firms use foreign companies and where they locate them. They thus focus on the choices companies make to facilitate the flow of equity to and from foreign operating subsidiaries. Therefore, their research purpose is not to examine the profit shifting of U.S. multinational companies.

Their analysis of ownership data from 25,044 terminal subsidiaries controlled by 916 ultimate U.S. parent companies from the Orbis database shows that U.S. multinationals supply equity from their headquarters to their foreign operating companies through foreign holding companies in countries with low tax equity distributions. Particularly, they find that the Netherlands is a popular location for foreign equity holding companies. Additionally, they determine that foreign holding companies tend to be located in countries with lower corruption and investment risk than countries in which their own operating companies are located.

Hypotheses development

As mentioned in the previous section, foreign tax credit cannot be applied to withholding tax on dividends received from foreign subsidiaries, owing to the FY2009 tax reform (Corporate Tax Act Articles 39-2 and 69). In other words, if the withholding tax rate in each country where the foreign subsidiary is located is low, the corporate group's tax burden decreases. Therefore, as international taxation strategy, Japanese multinational companies select countries for their equity holding companies there dividend taxes are minimized as the dividends flow up the ownership chain to the ultimate parent companies.

Previous research revealed the relationship between companies' ownership structure and withholding tax. Mintz and Weichenrieder (2010), Lewellen and Robinson (2013), and Dyreng et al. (2015) find that firms select countries with low average withholding tax rates on inbound dividends as hosts for their subsidiaries.

When a foreign subsidiary pays dividends to the Japanese company and there is a tax treaty between the foreign subsidiary's country and Japan, the Japanese company applies a different withholding tax rate from the dividends stipulated by domestic laws. As the effects of cross-border tax barriers on cash movements within an organization have important tax policy implications (Collins and Shackelford 1997), a tax treaty contributes to sound investment and economic exchanges between two countries through the elimination of double taxation, tax evasion, and tax avoidance (Ministry of Finance 2018). If the tax treaty differs from domestic laws, the treaty is applied preferentially. Therefore, if the withholding tax rate in the tax treaty is lower than that in the domestic laws, the former applies. Meanwhile, among countries that do not share a tax treaty, each country's domestic laws apply. In this way, a corporate group's withholding tax decreases when the parent company establishes a foreign holding company in the country with the lower withholding tax rate by concluding a tax treaty with that country, even given a high withholding tax rate on the dividends from the subsidiary's country to Japan. Therefore, my first hypothesis is as follows:

Hypothesis 1: A company is more likely to use foreign equity holding companies when the withholding tax rate on the paid by a terminal subsidiary to the Japanese company increases.

Nontax costs may arise for overseas operations. For instance, operating in a more corrupt country creates uncertainty about the costs of doing business, which could increase the risk that not all profits ultimately return to company owners. The ability to transfer profits out of a more corrupt country into an equity holding company in a less corrupt country in a timely and predictable way, while still retaining the profits overseas, may be a valuable tool for multinational companies (Dyreng et al. 2015).

Therefore, companies that conduct business overseas locate their foreign equity holding companies in countries with low corruption to avoid the risks that result from operating in a corrupt environment. Foreign subsidiaries in a corrupt country can avoid the risks due to the country's corruption by directly transferring cash and intangible assets to Japan. However, equipment and land cannot be relocated to Japan; thus, when Japanese companies face the risk of expropriation for their equipment and land, they establish equity holding companies close to the subsidiaries located in countries with low corruption risk. Therefore, my second hypothesis is as follows:

Hypothesis 2: A company is more likely to use foreign equity holding companies as the level of corruption in the terminal subsidiary's country increases.

When Japanese multinational companies survey the global landscape for investment opportunities, they may be willing to operate in countries with high investment risk if the profits justify the risk. One way to manage investment risk is to establish a foreign holding company in a less risky country, which owns the risky terminal operating subsidiary. When profits are realized, moving them to the foreign equity holding company in a timely fashion can preserve them. Dyreng et al. (2015) reveal that U.S. multinational companies are more likely use foreign equity holding companies as the level of foreign investment risk in the terminal subsidiary country increases.

Additionally, Urata (2015) analyzes the impacts of Japan's free trade agreements and of BITs on the locational choice of Japanese companies' foreign direct investment (FDI), finding that important characteristics of the host countries for Japanese small- and medium-sized corporations are low wages, low macroeconomic risk, depreciated local currency, high degree of agglomeration, well-developed infrastructure, and open trade regime. Therefore, this result suggests Japanese companies select countries with low investment risk as locational choices. Therefore, my third hypothesis is as follows:

Hypothesis 3: A company is more likely to use foreign equity holding companies as the level of foreign investment risk in the terminal subsidiary's country increases.

RESEARCH DESIGN

Empirical model

To test hypotheses 1-3, I employ logistic regression to model the choice of Japanese multinational companies to consider a foreign equity holding company as a function of the characteristics of the foreign terminal operating subsidiary's country as follows:

$$HOLDCO\_FOR_{i,j} = \beta_0 + \beta_1 WH\_TO\_JP_j + \beta_2 CORRUPTION\_T_j + \beta_3 INVESTRISK\_T_j + \beta_4 JP\_TREATY_j + \beta_5 CORPORATE\_T_j + \varepsilon_{i,j} \quad (1)$$

Where: $HOLDCO\_FOR_{i,j}$ is an indicator variable that equals 1 if terminal subsidiary i in country j has at least one foreign equity holding company. This is the dependent variable, which refers to whether Japanese multinational companies establish an organizational structure that considers tax and nontax characteristics. $WH\_TO\_JP_j$, $CORRUPTION\_T_j$, and $INVESTRISK\_T_j$ are independent variables, and JP_TREATY_j and $CORPORATE\_T_j$ control variables. Table 1 presents the detailed definitions of the independent and control variables.

$WH\_TO\_JP_j$ is the withholding tax rate on the dividends from terminal subsidiary country j to Japan. A corporate group's tax burden decreases by using foreign equity holding companies when the withholding tax rate on dividends from the terminal subsidiary's country to Japan increases. Therefore, if a company uses foreign equity holding companies when the withholding tax rate on dividends coming from the terminal subsidiary's country to Japan increases, I expect a positive relationship between $HOLDCO\_FOR_{i,j}$ and $WH\_TO\_JP_j$.

$CORRUPTION\_T_j$ is the corruption score of terminal subsidiary country j (a lower score means higher corruption). Non-corrupt countries (i.e., those with large corruption scores) tend to have freedom of press, strong civil servants, and an independent judicial system. Therefore, if a company uses foreign equity holding companies when the level of corruption in the terminal subsidiary's country increases, I expect a negative relationship between $HOLDCO\_FOR_{i,j}$ and $CORRUPTION\_T_j$.

$INVESTRISK\_T_j$ is an indicator variable that equals 1 if there is a BIT or economic partnership agreement (EPA) between subsidiary country j and Japan. Therefore, companies use foreign equity holding companies when the level of foreign investment risk in the terminal subsidiary country increases, and I expect a negative relationship between $HOLDCO\_FOR_{i,j}$ and $INVESTRISK\_T_j$.

JP_TREATY_j is an indicator variable that equals 1 if there is a BIT between subsidiary country *j* and Japan. Such a treaty has provisions on interest, royalty, real estate income, business income, and other items. Therefore, I control for the tax treaty because companies select countries where their foreign subsidiaries are located to receive benefits other than those on dividends from the tax treaty's provisions. Therefore, if companies use foreign equity holding companies when there is a tax treaty between Japan and the terminal subsidiary country, I expect a negative relationship between $HOLDCO\_FOR_{i,j}$ and JP_TREATY_j.

Table 1. Description of variables

Variable	Definition	Sign
WH_TO_JP	The withholding tax rate on dividends coming from terminal subsidiary country *j to* Japan.	+
CORRUPTION_T	The corruption score of the terminal subsidiary country *j* (a lower score means higher corruption).	−
INVESTRISK_T	An indicator variable that equals 1 if there is a BIT or EPA between subsidiary country *j* and Japan.	−
JP_TREATY	An indicator variable that equals 1 if there is a BIT between subsidiary country *j* and Japan.	−
CORPORATE_T	The corporate tax rate in terminal subsidiary country *j.*	+

$CORPORATE\_T_j$ is the corporate tax rate in terminal subsidiary country *j.* Companies may establish subsidiaries in countries with low corporate tax rates to decrease their corporate tax burden. Such companies can reduce their tax burden by transferring the profits generated by the terminal subsidiary to foreign equity holding companies located in countries with low corporate tax rates. Therefore, I control for the corporate tax rate to avoid the situation in which a difference in the corporate tax rates between countries affects the selection of the country where the foreign subsidiaries are to be located. As such, if companies use foreign equity holding companies when the corporate tax rate in the terminal subsidiary country is high, I expect a negative relationship between $HOLDCO\_FOR_{i,j}$ and $CORPORATE\_T_j$.

RESULTS

Sample

The sample was updated on March 21, 2016, as shown in Panel A of Table 2. I collected ownership data from Orbis (Bureau van Dijk). Each country's withholding tax rate and corporate tax rate were obtained from the *2016 Worldwide Corporation Tax Guide* by EY Advisory & Consulting Co., Ltd. (http://www.ey.com/gl/en/services/tax/worldwide-corporate-tax-guide---country-list).

The corruption score was obtained from Transparency International (https://www.transparency.org/news/feature/corruption_perceptions_index_2016).
Investment risk was obtained from the website on the Ministry of Economy, Trade and Industry (http://www.mofa.go.jp/mofaj/gaiko/fta/index.html).

The information of tax treaty was obtained from the website of Ministry of Finance (http://www.mof.go.jp/tax_policy/summary/international/182.html).

Table 2. Sample selection

Panel A	Companies
All Japanese companies from the database	65,244
Companies related to finance, securities, and insurance	(16,148)
Companies with direct or total ownership of foreign subsidiaries below 25%	(47,432)
Number of parent companies in Japan	1,664
Worldwide number of subsidiaries owned by Japanese parent companies	286,689
Number of subsidiaries owned by Japanese parent companies that only have subsidiaries located in Japan, or only in Japan and one other country	(2,828)
Number of subsidiaries owned by Japanese parent companies that do not have subsidiaries with terminal subsidiaries	(45,557)
Number of holding companies that mediate between Japanese parent companies and terminal subsidiaries	(37,143)
Number of subsidiaries owned by Japanese parent companies that have terminal subsidiaries located in Japan	(95,573)
Number of subsidiaries for which the data necessary for analysis could not be obtained	(771)
Number of terminal subsidiaries	104,817

Panel B Sample of terminal subsidiaries

Country	Obs.	Country	Obs.	Country	Obs.	Country	Obs.
Total	**104,81**	DZ	45	LK	128	RW	12
AE	282	EC	34	LT	51	SA	95
AF	12	EE	47	LU	150	SE	395
AM	2	EG	87	LV	25	SG	2,307
AO	55	ES	1,249	LY	15	SI	64
AR	172	ET	12	MA	128	SK	207
AT	366	FI	251	MD	1	SN	27
AU	2,928	FJ	21	ME	1	SR	12
AW	12	FR	1,988	MG	35	SS	1
AZ	18	GA	19	MK	7	ST	2
BB	14	GB	4,629	MM	144	SV	20
BE	570	GE	31	MN	22	SZ	8

BG	48	GH	33	MO	26	TD	14
BH	25	GN	16	MR	16	TH	7,650
BM	98	GR	115	MT	46	TN	65
BN	20	GT	32	MU	116	TO	19
BO	24	HK	2,702	MW	27	TR	1,716
BR	1,934	HN	12	MX	1,554	TW	4,548
BS	81	HR	55	MY	2,621	TZ	8
BW	12	HU	398	NA	10	UA	97
BY	5	ID	2,028	NG	63	UG	16
CA	1,178	IE	371	NI	32	US	17,500
CD	14	IL	42	NL	1,458	UY	34
CG	21	IN	2,230	NO	359	UZ	4
CH	350	IQ	3	NZ	1,317	VE	70
CI	32	IS	59	OM	58	VG	381
CL	551	IT	2,071	PA	594	VN	1,720
CM	23	JM	14	PE	249	ZA	380
CN	18,270	JO	25	PG	23	ZM	28
CO	115	KE	81	PH	1,363	ZW	26
CR	25	KH	148	PK	258		
CV	25	KR	1,749	PL	693		
CW	15	KV	2	PT	673		
CY	97	KW	22	PY	26		
CZ	721	KY	411	QA	51		
DE	3,582	KZ	83	RO	247		
DK	570	LA	103	RS	29		
DO	20	LB	61	RU	1,228		

The initial sample of 65,244 companies was derived when all Japanese companies were selected from the Orbis ownership data and updated in March 2016. I then excluded companies from the banking, securities, and insurance industries, resulting in a sample of 49,096 companies. According to Article 23-2, paragraph 1 of the Corporation Tax Law, a foreign subsidiary is a foreign corporation of which at least a domestic corporation holds 25%. Therefore, the sample that excludes Japanese companies with direct or total ownership of foreign subsidiaries of less than 25% has 1,664 observations.

Additionally, I selected a sample of these Japanese parent companies' 286,689 worldwide subsidiaries according to the following criteria to investigate whether Japanese parent companies establish foreign equity holding companies in third countries. First, I selected the subsidiaries owned by Japanese parent companies that only have subsidiaries in Japan or only in Japan and one other country. Second, I selected those owned by Japanese parent companies that do not have subsidiaries with terminal subsidiaries. Third, I selected the subsidiaries owned by Japanese parent companies that have terminal subsidiaries located in Japan. Finally, I selected the subsidiaries for which the data necessary for analysis cannot be obtained. The number of terminal subsidiaries is 104,817.

Descriptive statistics

Table 3 the reports the descriptive statistics of the regression variables. All continuous variables are trimmed at the 1st and 99th percentiles.

The mean and median of the withholding tax rate on dividends from terminal subsidiary countries to Japan (WH_TO_JP) are 15% and 10%, respectively, being lower than the 20% withholding tax rate on dividends from domestic subsidiaries. The mean and median of the corruption scores in terminal subsidiary countries (CORRUPTION_T) are 57.41 and 58.00, respectively. The mean of the investment risk in terminal subsidiary countries (INVESTRISK_T) is 47, and that of the percentage of tax treaties in terminal subsidiary countries (JP_TREATY) is 95%, which indicates that 95% of terminal subsidiary countries concluded a tax treaty with Japan. The mean and median of the corporate tax rate in terminal subsidiary countries (CORPORATE_T) are 26% and 25%, respectively.

Table 3. Descriptive statistics

Variable	n	Mean	Std. dev.	25th	Median	75th
HOLDCO_FOR	104,817	0.28	0.45	0.00	0.00	1.00
WH_TO_JP	104,817	0.15	0.11	0.10	0.10	0.27
CORRUPTION_T	104,817	57.41	19.11	40.00	58.00	74.00
INVESTRISK_T	104,817	0.47	0.50	0.00	0.00	1.00
JP_TREATY	104,817	0.95	0.22	1.00	1.00	1.00
CORPORATE_T	104,817	0.26	0.08	0.20	0.25	0.31

All continuous variables are trimmed at the 1st and 99th percentiles. The detailed definitions of the variables are provided in Table 1.

Table 4 reports the Pearson correlations among the regression variables used to estimate Eq. (1). There are no high correlations between the independent and control variables that would affect the analysis.

Table 4. Pearson correlations

	(1)	(2)	(3)	(4)	(5)	(6)
HOLDCO_FOR	1.00					
WH_TO_JP	-0.01***	1.00				
CORRUPTION_T	0.05***	0.44***	1.00			
INVESTRISK_T	-0.12***	-0.59***	-0.68***	1.00		
JP_TREATY	-0.08***	0.05***	0.09***	0.11***	1.00	
CORPORATE_T	-0.12***	0.64***	-0.24***	-0.38***	0.18***	1.00

This table reports the Pearson correlations between the variables used in the regression analysis. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively (two-tailed). The detailed definitions of the variables are provided in Table 1.

Results from estimating Eq. (1)

As shown in Table 5, WH_TO_JP is positively and significantly associated with HOLDCO_FOR (z-statistic = 1.94), which is consistent with my assumptions, indicating that companies are more likely to use foreign equity holding companies when the withholding tax rate on dividends from terminal subsidiary countries to Japan increases. CORRUPTION_T is negatively and significantly associated with HOLDCO_FOR (z-statistic = -12.79), which is also expected, indicating that companies are more likely to use foreign equity holding companies as the level of corruption in terminal subsidiary countries increases. INVESTRISK_T is negatively and significantly associated with the HOLDCO_FOR (z-statistic = -45.45), which is expected, indicating that companies are more likely to use foreign equity holding companies when the level of foreign investment risk in the terminal subsidiary countries increases.

Table 5. Logistic regression

	Exp. sign	dy/dx	z-stat
WH_TO_JP	+	0.034	1.94*
CORRUPTION_T	−	-0.001	-12.79***
INVESTRISK_T	−	-0.181	-45.45***
JP_TREATY	−	-0.034	-5.55***
CORPORATE_T	+	-0.976	-44.40***
Pseudo R^2		0.038	

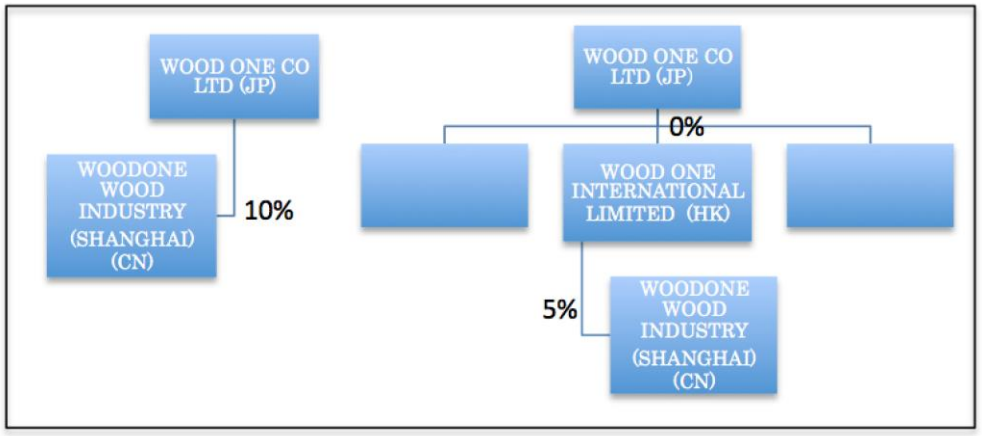
***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. The detailed definitions of all variables are provided in Table 1.

The coefficients of the other control variables in Table 5 are also significant and consistent with my predictions. JP_TREATY is negatively and significantly associated with HOLDCO_FOR (z-statistic = -5.55), which is consistent with my hypotheses, indicating companies are more likely to use foreign equity holding companies to reduce their tax burden through tax treaty provisions on interest, royalty, real estate income, and business income. CORPORATE_T is positively and significantly associated with HOLDCO_FOR (z-statistic = -44.40), which is expected, showing that companies are more aggressive in reducing their tax burden and selecting countries with a low corporate tax rate for their foreign subsidiaries' location.

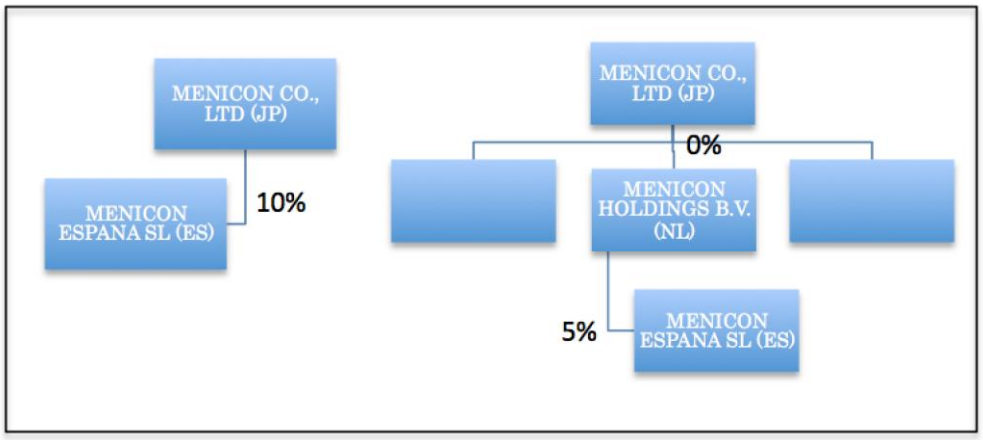
Additional analysis

Figure 1 shows some companies' ownership structures. These companies have organizational structures that reduce the withholding tax on dividends paid by foreign subsidiaries to Japanese parent companies. The left-hand side of each panel in the figure shows one part of the organizational structure (the Japanese parent company and its terminal subsidiary) and the right-hand side one part of the actual organizational structure. Panel A shows an example of a company in a corporate group with a low effective tax rate (below 20%), while Panels B and C show examples of a company in a corporate group with a high effective tax rate (above 40%).

Panel A: Wood One Co., Ltd.



Panel B: Menicon Co., Ltd.



Panel C: Zeria Pharmaceutical Co., Ltd.

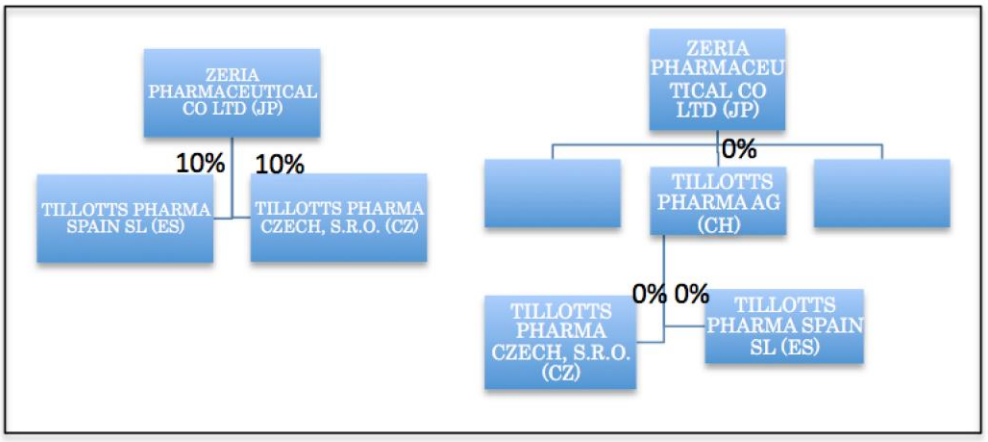


Figure 1. *Withholding tax rate on dividends paid by foreign subsidiaries.*

Panel A shows the case of Wood One Co., Ltd. When dividends flow directly from Woodone Wood Industry (Shanghai, China) to Wood One Co Ltd. (Japan), the withholding tax rate on the dividends paid by the foreign subsidiary is 10%. However, when dividends flow from Woodone Wood Industry (Shanghai, China) to Wood One International Limited (Hong Kong), the withholding tax rate on dividends coming from China to Hong Kong is 5%. Additionally, the withholding tax rate is 5% on the actual ownership structure, since the withholding tax rate is 0% in Hong Kong and, thus, the withholding tax rate is reduced by 5%. Further, the risks due to corruption decrease by establishing foreign equity holding companies in Hong Kong, which has a low level of corruption, because China, where the terminal subsidiaries is located has a lower corruption score than the average (i.e., it has a higher level of corruption than the average).

Panel B shows the case of Menicon Co., Ltd. When considering the part of the organization that includes the foreign subsidiary, Menicon Espana S.L. (Spain), and the Japanese parent company, Menicon Co., Ltd. (Japan), the withholding tax rate on dividends paid by the foreign subsidiary is 10%. However, when the dividends flow from Menicon Espana S.L. (Spain) to Menicon Holdings B.V. (Netherlands), the withholding tax rate on dividends coming from Spain to the Netherlands is 5%. Additionally, the withholding tax rate is 5% on the actual ownership structure since the withholding tax rate is 0% in the Netherlands and, thus, the withholding tax rate is reduced by 5%.

Panel C shows the case of Zeria Pharmaceutical Co., Ltd. When considering the part of the organizational structure that includes the foreign subsidiary, Tillotts Pharma Spain S.L. (Spain), and the Japanese parent company, Zeria Pharmaceutical Co., Ltd. (Japan), the withholding tax rate on dividends from foreign subsidiaries is 10%. However, when considering the part of the actual organizational structure that includes Tillotts Pharma Spain S.L. (Spain) and Tillotts Pharma Spain AG (China), the withholding tax rate on the dividends coming from Spain to Switzerland is 0%. Additionally, the withholding tax rate is 0% on the actual ownership structure since the withholding tax rate is 0% in Switzerland and, thus, the withholding tax rate is reduced by 10%.

When considering another part of the organizational structure, which includes Tillotts Pharma Czech, S.R.O. (Czech Republic) and Zeria Pharmaceutical Co., Ltd. (Japan), the withholding tax rate on the dividends coming from foreign subsidiaries is 10%. However, when considering another part of the actual organizational structure, which includes Tillotts Pharma Czech, S.R.O. (Czech Republic) and Tillotts Pharma Spain AG (China), the withholding tax rate on dividends coming from the Czech Republic to Switzerland is 0%. Additionally, the withholding tax rate is 0% on the actual ownership structure since the withholding tax rate is 0% in Switzerland and, thus, the withholding tax rate decreases by 10%.

Moreover, the corruption scores of Spain and Czech Republic are either at or below the average. However, investment risk is also reduced by establishing foreign equity holding companies in Switzerland, which has a low investment risk because the terminal subsidiaries are in Spain and Czech Republic, which have not concluded BITs or EPAs with Japan.

CONCLUSIONS

The research results suggest that companies are more likely to use foreign equity holding companies when the withholding tax rate on dividends from the terminal subsidiary countries to Japan increases. Therefore, it is possible that the corporate groups'

withholding tax rate has decreased as a result of tax treaties between subsidiary countries and Japan. However, I did not investigate whether the countries where foreign equity holding companies are located have concluded tax treaties with the subsidiary countries and Japan. Therefore, the research results cannot assert whether Japanese parent companies reduce their tax burden by establishing foreign equity holding companies that mediate between subsidiary and parent companies. However, I find that some companies have an organizational structure that includes foreign equity holding companies in countries that have concluded tax treaties with subsidiary countries and Japan, and I thus conducted an additional analysis on such companies.

Furthermore, the research results suggest that companies use foreign equity holding companies considering not only whether they can decrease their tax burden, but also nontax factors such as corruption and investment risks. In other words, companies are more likely to use foreign equity holding companies when the corruption and foreign investment risks in the terminal subsidiary countries increase.

This paper adds to the literature by pointing out the possibility that Japanese companies reduce their tax burden using complex schemes.

However, this study has several limitations. First, it assumes that dividends are paid by the terminal foreign subsidiary to the Japanese parent company. However, the withholding tax does not arise if the terminal foreign subsidiary does not pay dividends to the Japanese parent company. Second, the research cannot identify how companies' ownership structures changed after the tax system reform of FY2015, although the withholding tax on the dividends paid by foreign subsidiaries changed after the revision. Therefore, I will investigate this issue in a future study.

REFERENCES

Collins, J., & D. Shackelford. (1998). Global organizations and taxes: An analysis of the dividend, interest, royalty, and management fee payments between U.S. multinationals' foreign affiliated. *Journal of Accounting and Economics*, 24, 151-173.

Dyreng, S., B. Lindsey, & K. Markle. (2015). The effect of tax and nontax country characteristics on the global equity supply chains of U.S. multinationals. *Journal of Accounting and Economics,* 59 (2-3), 182-202.

Klassen, K., & D. Shackelford. (1998). State and provincial corporate tax planning: Income shifting and sales apportionment factor management. *Journal of Accounting and Economics*, 25, 385-406.

Lewellen, K., & L. Robinson. (2013). Internal ownership structures of U.S. multinational firms. SSRN Scholarly Paper no. ID 2273553. Social Science Research Network, Rochester, NY.

Mintz, J., & A. Weichenrieder. (2010). The indirect side of direct investment, CESifo. MIT Press.

Ministry of Finance. (2018). Sozeijyouyaku Ni Kansuru Siryou. [https://www.mof.go.jp/tax_policy/summary/international/tax_convention/index.htm] (accessed August 3, 2018)

Takahashi, T., M. Noma, & D. Suga. (2015). Kokusaitekisyotokkuiten no Jisyobunseki. *Kaikei*, 187 (6), 100-112.

Urata, S. (2015). Impact of FTAs and BITs on the locational choice of foreign direct investment: The case of Japanese firms. RIETI Discussion Paper Series 15-E-066.

A management framework for strategic asset management system for an Indonesian governmental institution

Reza Aditya Rahmat
Shizuoka University
Shizuoka, Japan
reza.aditya.rahmat.17@shizuoka.ac.jp

Sanetake Nagayoshi
Shizuoka University
Shizuoka, Japan
nagayoshi@inf.shizuoka.ac.jp

ABSTRACT

Indonesian government has spent more and more money to purchase and maintain fixed assets. In 2017, assets of Indonesian governmental institution recorded more than US$420 billion containing more than 350.000 items. These assets do not always seem to be optimally used because the current asset management framework is only accounting record. One of the goals of asset management is to optimize the life cycle of assets and maximize the utilization of assets. To achieve the goals of asset management, not only financial data, but every data from the life cycle assets is needed such as technical asset data, asset performance data, asset location data, schedule of maintenance asset data and operational asset data. However, since the current asset management system framework in Indonesia focuses on budget control and accounting records, they do not seem to be optimized. Nowadays the Indonesian government institution is focusing on optimizing all assets with the goals are to increase or earn non-tax revenue, reduce asset costing and maximize the utilization of asset. However, it can be a challenging task due to the ineffectiveness of the framework that is currently employed. Achieving the asset management goals, improving the existing asset management framework is needed, with Kaizen approach means continuous improvement is the best approach to improve the existing asset management framework of Indonesian government institution. We, in this paper, propose an appropriate asset management system framework for Indonesian government institutions to optimize their asset by employing a reliable asset management system framework in Australia.

Keywords: asset management, management framework, asset public, public asset management effectiveness

INTRODUCTION

Asset management implementation in the government institution or business organization is a topic of interest for both businessperson and policymakers in many fields. However, the objective of asset management is different for each institution, for example, in one governmental institution, the main objective is to achieve reporting or recording asset objectives, while in other governmental organization is to maximizing performance of the assets in organization (Maheshwari, 2006). To maximizing asset performance, the term Asset Management have been proposed to give information about lifecycle of the asset such as purchasing, operation, maintenance, disposal and making strategic decision asset planning for next year (Hastings, 2015).

Asset management for Indonesian government can be a challenging task. According to Hasting (2015), good asset management does not only revolve around the data recording aspect of the asset but also in the ability to provide enough information for the decision maker, so the asset can be used optimally. For instance, the asset management (system/framework) in Indonesian government is based on the regulation released by the Ministry of Finance. That regulation asks keeping the users information and provides a report of asset management to Ministry of Finance, but the report only contains financial information of asset and total asset owned. Therefore, since the report does not correspond with the actual asset condition, the government has been suffering in their attempt to optimizing their assets (Septarini, Fitri, & Manuhuntu, 2017). So far, the government is managing assets under the provision of Minister of Finance Regulation number 87/PMK.06/2016 about the procedures of the use of government assets and Minister of Finance Regulation number 181/PMK.06/2016 about administration of government assets as the principal regulation to managing government asset. The Indonesian government has implemented asset management based on the regulation, but it has not been implemented as expected to achieve utility and maximum results. The main problem in the way government managing the asset is that the assets data is still recorded as manual data (paper based) with the data only providing financial report resulting the current assets management tend not to be optimal due to the fact that it is difficult for the government to determine exactly which and what assets to be controlled or managed. On the other hand, the government will have difficulties in making decisions on how to manage and optimize the use of assets in the future.

In 2017, the assets owned by Indonesian governmental institution is recorded to be about US$420 billion, with the total asset of 365.242 items consist of physical assets and non-physical assets and consume 36 percent of the income tax/year. Physical assets have a portion of more than 40 percent of the total assets (Liputan 6, 2018). Because of that, since 2016 the Indonesian governmental institution has started to update the data of the assets by re-tracing assets directly to get the accurate data related to the life cycle of the asset (physical condition, operation cost, maintenance cost etc.) and succeed in optimizing 126 item Indonesian governmental assets out of 365.242 item assets, results in the gain of US$20.000.000 revenue (Liputan 6, 2017). Re-tracing assets is one of the government's effort to solve the problem of asset management, in that way the government is able to update and improve the reliability of the assets data. Improving the reliability of assets data is important. Every detail of the asset data should be recorded, not only financial data but physical asset data, operation asset data, maintenance asset data until disposal asset data (life-cycle asset) must be well recorded (Siregar, 2004), which is accommodated in an information system that can help the decision-makers in making decisions (Septarini, Fitri, & Manuhuntu, 2017). In other words, information about the life cycle of an asset becomes very important because it is very useful in decision-making process of asset optimization (Ouertani, Parlikad, & McFarlane, 2008). Therefore, an organized asset management framework should be developed. A framework that can identify each asset's life cycle well from procurement to asset disposal and also data recording method that record as much detail as possible so that asset management will be more optimal. An Australian Department Planning, Transport, and Infrastructure framework, ISO 55000 framework and the Institute of Asset Management framework have inspired the writer to propose a new asset management system framework in accordance with Indonesia government. Strategic Asset management system will provide access to actual and forecast the cost and revenue

over the lifetime of the asset. Data on significant capital and the recurrent cost will include acquisition, maintenance, operation, refurbishment and disposal activities, with the consequence of this data will be maintained by another business process in the organization (DPTI, 2017).

The findings of the research conducted by Maheshwari (2006) indicate that the "development and implementation of a strategic asset management framework is critical for long-term success of asset intensive organizations" (Maheswari, 2006, p. 10). However, previous studies have not directly disclosed the purpose of strategic asset management framework yet. Previous studies recommend disclosing the importance of applying the strategic asset management framework in asset management in organization (non-government) and explain in general what components support the implementation of asset management to be more optimal. This is an opportunity to propose the strategic asset management framework to be implemented in government institution. The strategic asset management framework development, implementation and continual review will help organizations to optimize assets owned, maximize the utilization and asset value, also deliver best returns to its stakeholder (Maheswari, 2006). Therefore, a good asset management framework should have a comprehensive step that integrates between financial, management, engineering, operation and maintenance to gain the best performance asset, lifetime-effective asset, return of physical asset and reduce the cost of asset (Charles & Brent, 2005). We, in this paper, propose a new Strategic Asset Management System framework for managing assets in Indonesian government institution, by integrating the relevant elements, such as asset strategic planning, asset planning, asset operation, maintenance of asset and asset life-cycle costing. The limitation of this paper is that the assets management framework for managing fixed assets proposed is designed to be suitable in managing Indonesian government assets and the writer take sample on one of government institution in the ministry level as the object of this research, so that in the future this framework will be implemented in that government institution. The writer believes, this paper can give contribution to support government programs in re-tracing assets, so that the asset data collected by the government becomes more reliable and can be used to provide advice for the development of strategic asset management framework in the future instead of only for evaluation purpose.

REVIEW OF RELATED LITERATURE

Asset management according to Sutrisno and Young (2004), and Afandi, Nur, and Khairani (2013) is a systematic process that maintains, upgrades and operates assets in the most cost-effective way through the creation, acquisition, operation, maintenance, rehabilitation and removal of assets related to identifying need, identifying funding needs, acquiring assets, providing logistical support and maintenance support systems for assets, disposal or revitalization assets to effectively and efficiently meet the objectives.

The purpose of asset management can be determined from different dimensions or point of view (Maheswari, 2006). In general, the purpose of asset management is to make the right decisions so that the managed assets function effectively and efficiently (Ouertani, Parlikad, & McFarlane, 2008). In asset management, Effective means that managed assets can achieve the goals that the organization expects, and efficiency is always inherent in every stage of asset's lifecycle, especially to achieve high efficiency in time, effort and cost (Shabrina & Nur, 2014) (Akbar & Wijaya, 2008) (Akbar, & Lukman, 2010). According to Siregar (2004) and Sugiyama (2013) if the assets objectives are more

specific than general objectives, then the more detailed asset management objectives are to be able to be minimizing the whole life cost of assets, generate maximum profit, and achieve optimum use and utilization of assets.

Strategic asset management is an ongoing process for determining the range and level of assets needed to achieve strategic goals (Jeff, Roorda, & Associates, 2007) or define of Strategic asset management as "a process of developing, creating, maintaining and disposing assets through a complex series of interlinked well-defined processes that are continually improved, over the life cycle of an organization, with an aim of achieving the objectives of the organization" (Maheswari, 2006, p. 1). According to Maheswari (2006) a good strategic asset management framework is a framework that can link the entire process of the asset management. Therefore, to serve that purpose, strategic asset management framework needs to balance these three elements: people, process, and technology. People are the most important element of this framework as people contribute to think and act on how the organization will apply the technology/system or improve the system. The process in this context means using a framework as a tool to measure the performance of these processes and evaluation, also to know when the good timing is to modify the processes or keep assets at the peak performance. Technology is a tool for collecting, recording and providing asset data, also helping the user to make a good decision for managing asset. The various tools deployed by an organization need to be thoroughly integrated to ensure a good transition between each process and deliver maximum efficiencies and effectiveness. Maheswari (2006) has found this tool can also be called as Asset Management Information System (AMIS), with this tool, the entire process of managing asset can be monitored and the data can be used as a strategic decision.

Strategic development of asset management is expected to produce an information such as determining asset needs, evaluate existing assets to support service provision, conduct a gap analysis between the existing assets and the required assets, and develop a strategy to managing assets in every stage of the life cycle of assets such as procurement, operation, maintenance and disposal plans (Hariyono, 2007). The ideal concept of asset management framework is the framework not only should be able to keep the asset at best performance but also to help the managerial in making decisions. Therefore, to achieve these ideal conditions, the asset data collection must be very detailed and accurate. With the current condition where the government asset management framework only provides financial report, the government has difficulty in managing its assets. Therefore, an asset management framework is needed to be able to achieve optimal asset management process and also in accordance with Indonesian government regulations in the management of government assets.

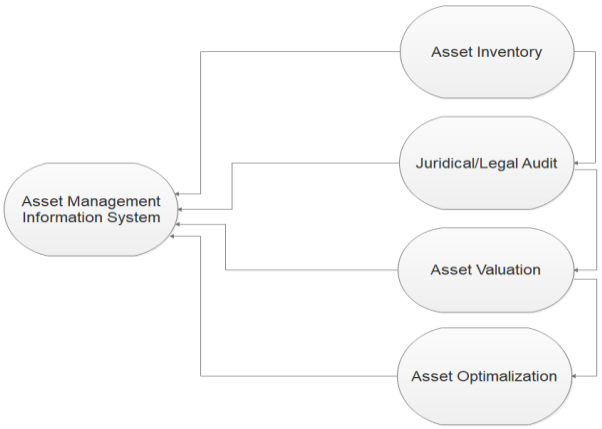
METHODOLOGY

Based on the research objective, to get a comprehensive explanation of asset management strategy framework, inductive approach and qualitative method is used in this research. Eisenhardt (1989) reminded that have a little of theory related to strategic asset management, government asset management, and framework development of asset management, the researcher is suggested to use inductive approach and case study. This type of research method means we use qualitative approach with research model of case study, where the emphasis on a limited system to a case and more and including with data excavation that involving of information sources which have a lot of context. (Creswell, 2007). The using of qualitative method in this research is relevant because this method is

able to explain something in a practical manner (Silverman, 2010). In implementation, the single case study is used because this method produces extra and better theory also makes the writer to have a deeper understanding in exploring the purpose of strategic asset management framework for governmental institution of Indonesia (Gustafsson, 2007). The information and data which are needed for this research are related in asset management framework in one of government institution Indonesia, ISO 55000 Framework, British Standard Institution (BSI) Publicly Available Specification 55 asset management (PAS 55) Framework, Department of Planning, Transportation and Infrastructure (DPTI) Framework (DPTI, 2017) and related information in the form of: Number and assets details of land and building of the government, the mechanism for technical details of assets management, asset management policy land and building the government asset (related to management strategy) and others information. The information and data obtained through the data collection method, consisting of observation, open interview, analyzing data, shaping hypotheses enfolding literature and reaching the closure (Eisenhardt, 1989).

ANALYSIS AND RESULT

Current Framework. The essence of asset management is technical review, financial judgements and management practices to decide what do assets need to meet organization objectives, and then to acquire and keep performance of assets until these assets is disposed. Asset management in Indonesian government institution can be divided into five working phases that include; asset inventory, legal audit, asset valuation, optimization of utilization and development of AMIS (asset management information system), where the five stages are connected and integrated with each other (Akbar & Wijaya, 2008) (Akbar & Lukman, 2010).



Source: (Akbar & Wijaya, 2008), (Akbar & Lukman, 2010) (Sugiama, 2013) (Siregar, 2004).
Figure 1. *Stages of asset management in Indonesia*

Asset Inventory. Asset inventory is an activity that consists of two aspects, namely physical inventory and juridical/legal. The physical aspect consists of the shape, size, location, volume/quantity, type, address, and others. Meanwhile, the juridical aspect is the status of mastery, legal issues owned, the ultimate limit of mastery. The process of asset

inventory involves data collection, codification/ labeling, grouping and bookkeeping/administration in accordance with the purpose of asset management.

Juridical/Legal Audit. Legal audit is the scope of asset management in the form of inventory of asset control status, system, and procedure of asset control or transfer. After that, identify and seek solutions to legal issues, and strategies to solve various legal issues related to asset control and transfer. Problems are often encountered in the legal audit, regarding the status of the weak control of the assets controlled by other parties, unmonitored transfer of assets, etc.

Asset Valuation. The next stage of asset management is the asset assessment activities that are usually done by independent assessment consultant to the assessment of the assets held by the local government. The results of that assessment will be used to determine the value of wealth and pricing information for the asset.

Asset Optimization. Furthermore, the optimization of assets is an activity to optimize the physical potential, location, value, and amount/volume, legal and economic assets owned. In this activity, the assets controlled by the local government are identified and grouped into potential and unutilized assets. Potential assets can be grouped by leading sectors that can become the foundation of national economic development strategies, both in the short term, medium and long-term. To determine whether it should be measurable and transparent, assets that cannot be optimized should be sought as a factor, whether legal, physical, low economic or other factors so that each asset will give its own value. The result of this stage is the recommendation of targets, strategies, and programs to optimize the controlled assets.

Asset Management Information System. The final activity of asset management is the asset management information system as a monitoring and control and this is often become the blind spot in the government. The most effective way to improve the performance of this aspect is the AMIS expansion. Through AMIS, work transparency in asset management is ensured without the need for fears of weak monitoring and control. In AMIS, the four aspects above are accommodated in the system by adding supervision and control aspects. Thus, every handling of an asset is clearly monitored, ranging from the scope of handling to the person who is responsible of handling it. It is expected to minimize assets losses in service delivery by the government. The Indonesian government institution developed a framework for managing government assets from the stage of asset management listed in the Minister of Home Affairs Regulation No. 17 of 2007: Asset Planning, Asset Budgeting, Procurement, Distribution (including Inventory), Utilization, Operation, Maintenance and Disposal (Simanjuntak, Manlian & Rezi Munizar, 2017) (Republik Indonesia, Permendagri No. 17, 2007) and is described with chart below.

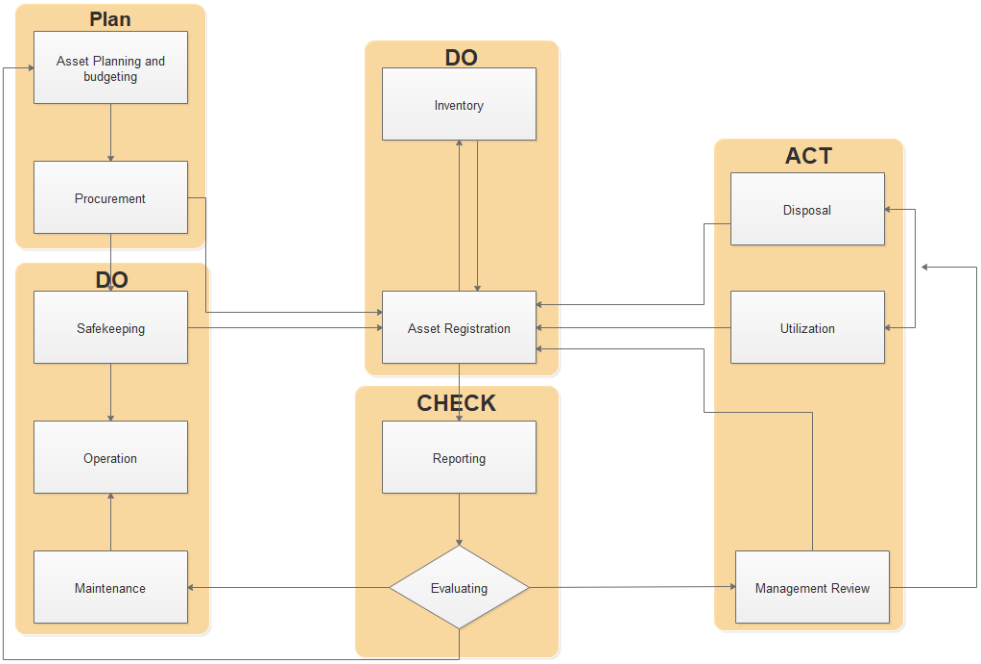


Figure 2. *Asset Management Framework of Indonesia Government*

1. Asset Planning and Budgeting
   Asset procurement should be budgeted in the capital expenditure plan and documented in the Asset Government Needs Plan (RKBMN). The planning of asset needs as reported in RKBMN is then budgeted in the Work Plan and Budget document of Ministries and Institutions (RKAKL). Planning needs of local assets should be guided by standard goods, standard requirements, and price standards set by the government.
2. Procurement
   Procurement of local assets should be based on economic, efficient, and effective (value for money) principles, transparent and open, competitive, fair and accountable. Procurement of local goods must also follow the provisions of legislation on the procurement of goods and services of government agencies.
3. Utilization
   Every time when asset used, they should be made a list of goals and purposes use of assets (asset usage status), which work unit to use, location, and other relevant information. Mutations and dispositions of property and equipment should be recorded. Maintenance and depreciation costs should also be recorded in an orderly manner. For the optimization of existing assets, the government may utilize excessive or idle assets by:
   a. Leasing for a maximum period of five years and can be extended;
   b. Borrowing to other government institution with a maturity of two years and may be extended;

c. Utilization cooperation with a maximum period of thirty years and may be extended;
d. building operate transfer and build transfer operate with a thirty-year mask time.

The utilization of government assets in addition to aim to utilize assets is also intended to increase local revenue and reduce the cost of asset maintenance budget.

4. Operation and Maintenance (Asset secure)

Government assets need to be secured. Security of necessary assets includes administrative safeguards and records, legal safeguards, and physical security.

a) Administration Security and Notes
Administrative safeguards and records are accomplished by supplementing local assets with administrative documents, records, and goods reports, such as Goods Inventory Card, Goods Inventory List, Accounting Note Assets, Goods Movement Report, Annual report.

b) Legal Security
Legal safeguards for regional assets shall be performed by supplementing such assets with evidence of legal ownership, including Proof of Goods Ownership; Land certificate; Receipt or Purchase Invoice; News of the handover of goods.

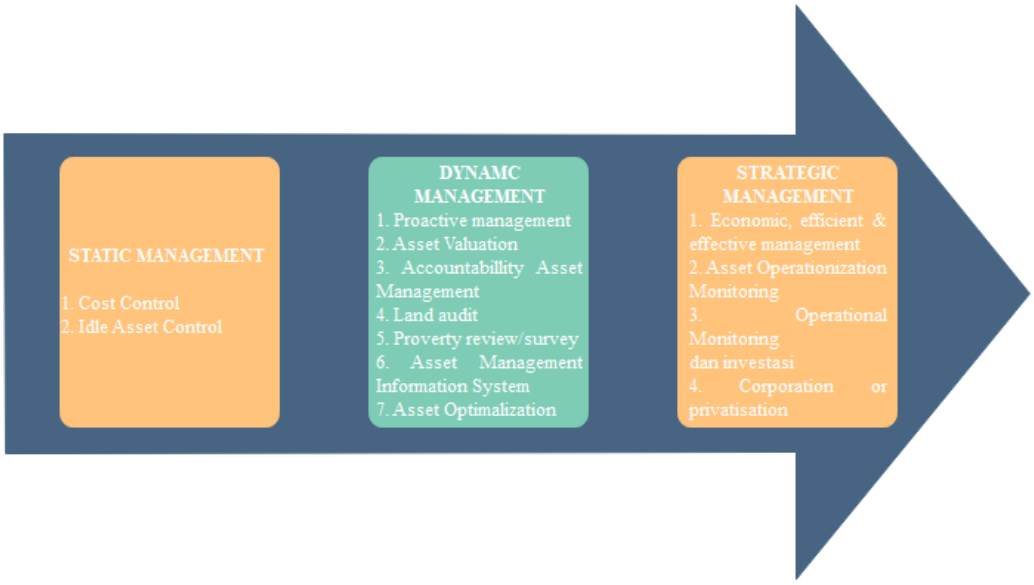
c) Physical Security
Physical security of a regional asset is performed by providing physical protection to ensure the existence of the asset is safe from theft or loss and its condition is maintained without damage. Physical security of regional assets can be done, among others by:
1. storing in local goods warehouse;
2. fencing;
3. door coating;
4. alarm installation;
5. installation of CCTV in vital and vulnerable places;
6. hiring security guard

5. Asset Disposal
The asset can be disposed from the list of government assets if the asset has no economic value, is severely damaged, or lost. Disposal of assets can be done in two ways, namely destruction and transfer. Destruction is done by burning, planted to the ground, or drowned into the sea. Destruction is done because it is not sold, damaged, expired, endanger the public interest, or because of the provisions of legislation that requires being destroyed. Transfer can be done by sales; exchange; grant; government equity participation.

From the above explanation, it can be concluded that the current Asset Management framework in Indonesia is still based on the management lifecycle assets that have not been comprehensive. In terms of reporting, the report provided usually lack of

information due to the fact that the report is based on financial record and mainly focuses only on the amount, type and price of the asset.

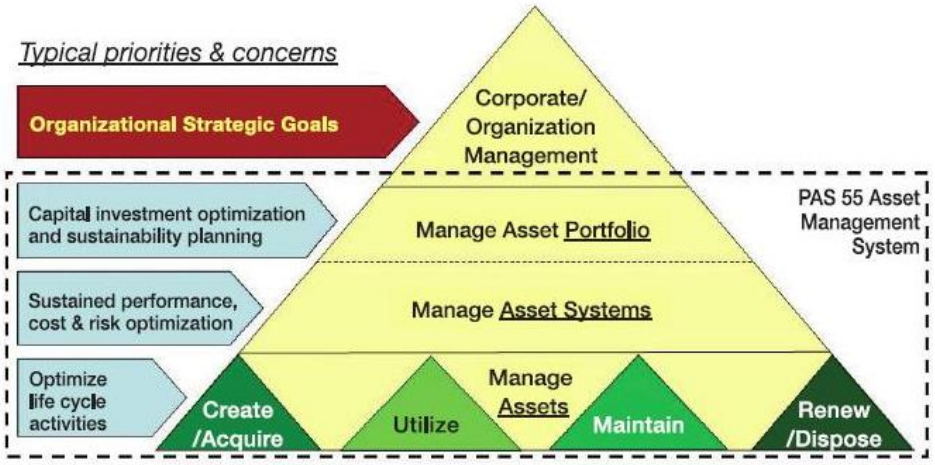
In its development, asset management begins with an orientation static management, then developed into dynamic management, initiative, and strategic management, which can be explained through Figure 3 as follows:



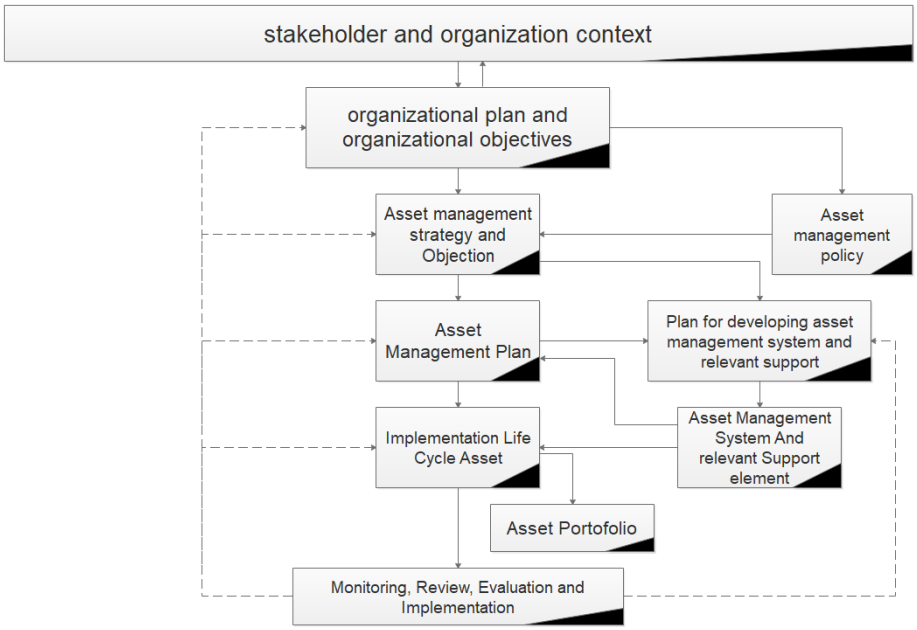
Source: (Siregar, 2004).
Figure 3. *The Development of Local Authority Property Management.*

The design of a new framework for asset management in Indonesian government institutions is expected to add strategic management function in the system so that asset management in Indonesia can be optimized based on The Development of Local Authority Property Management that is Economic, efficient & effective management, asset operationalization Monitoring, Operational Monitoring and investment that can provide information to support decision-making for managerial within an institution.

ISO, DPTI and The IAM Framework. The definition of asset management is the life cycle management of physical or non-physical asset and have a strategic comprehensive step that integrates between financial, management, engineering, operation and maintenance to gain the best performance asset, lifetime effectiveness asset, return of physical asset and reduce the cost of asset to achieve the stated output of the enterprise because it is called “a strategic comprehensive step” it needs a framework that guides the management of asset itself (Schuman & Brent, 2005). A framework which is an international standard for asset management is ISO 55000, the framework called Publicly Available Specification for the optimal management of physical assets (PAS 55) was released in 2014 for covering management of physical assets as can be seen in the figure below:



Source: (British Standards Institution, 2008) (Woodhouse, 2014)
Figure 4. *PAS 55 Asset Management Framework.*



Source: (Hastings, 2015) (ISO 55000, 2014) (ISO 55001, 2014) (ISO 55002, 2014)
Figure 5. *ISO 55000 Asset Management Framework.*

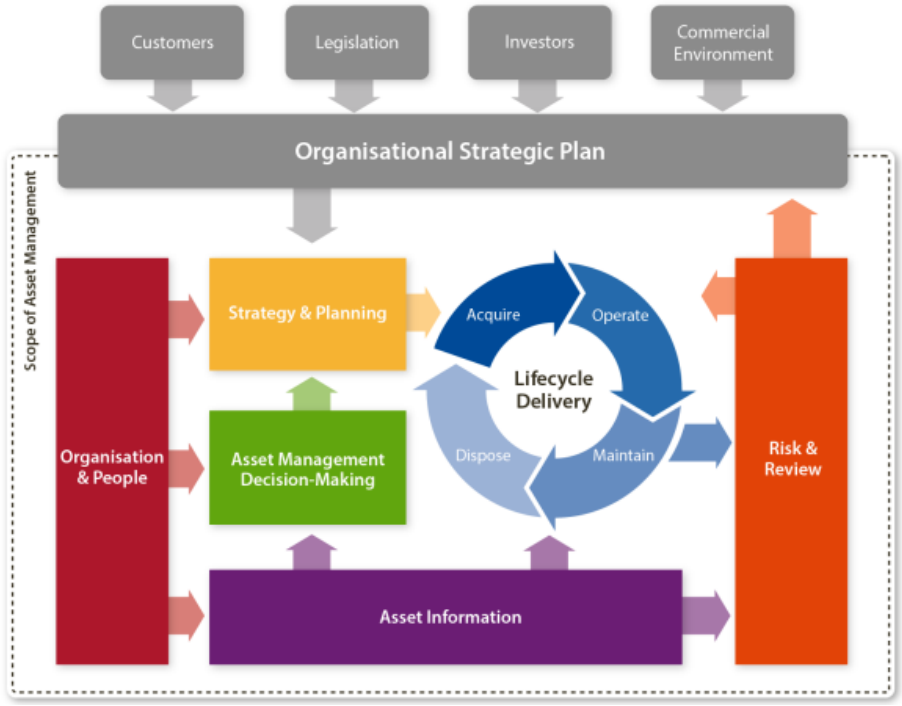
Based on the diagram above, to achieve the strategic goals of organization stages, the first step that must be done is to optimize asset lifecycle activities. Next, we must have sustained performance, cost and risk optimization and the last step is capital investment optimization and sustainability planning. From there, it can be concluded that we must build three frameworks that can occupy the three stages required above and it must be

integrated to become a strategic asset management framework. In 2014, ISO develop a new framework for asset management with a similar concept with PAS 55 framework. They create a managing asset process using strategic approach and use this new approach to gain the optimization of the asset as can be seen in Figure 5.

After ISO 55000, The Institute Asset Management launched their framework to managing asset using ISO 55000 as their foundation. Many industries and business company develop the asset management framework based on six topics and 39 subject areas documented in the IAM Anatomy (Institute of Asset Management, 2015) (Attwater, Wang, Parlikad & Russell, 2014) (Global Forum on Maintenance and Asset Management, 2014) as listed below (see Figure 6):

1. Asset Management Strategy and Planning
    - Asset Management Policy
    - Asset Management Strategy and Objectives
    - Demand Analysis
    - Strategic Planning
    - Asset Management Planning
2. Asset Management Decision Making
    - Capital Investment Decision-Making
    - Operations & Maintenance Decision-Making
    - Lifecycle Value Realization
    - Resourcing Strategy
    - Shutdowns & Outage Strategy
3. Lifecycle Delivery Activities
    - Technical Standards & Legislation
    - Asset Creation & Acquisition
    - Systems Engineering
    - Configuration Management
    - Maintenance Delivery
    - Reliability Engineering
    - Asset Operations
    - Resource Management
    - Shutdown & Outage Management
    - Fault & Incident Response
    - Asset Decommissioning and Disposal
4. Asset Knowledge Enablers
    - Asset Information Strategy
    - Asset Information Standards
    - Asset Information Systems
    - Data & Information Management
5. Organization and People Enablers
    - Procurement & Supply Chain Management
    - Asset Management Leadership
    - Organizational Structure
    - Organizational Culture
6. Risk and Review

- Risk Assessment and Management
- Contingency Planning & Resilience Analysis
- Sustainable Development
- Management of Change
- Assets Performance & Health Monitoring
- Asset Management System Monitoring
- Management Review, Audit & Assurance
- Asset Costing & Valuation
- Stakeholder Engagement

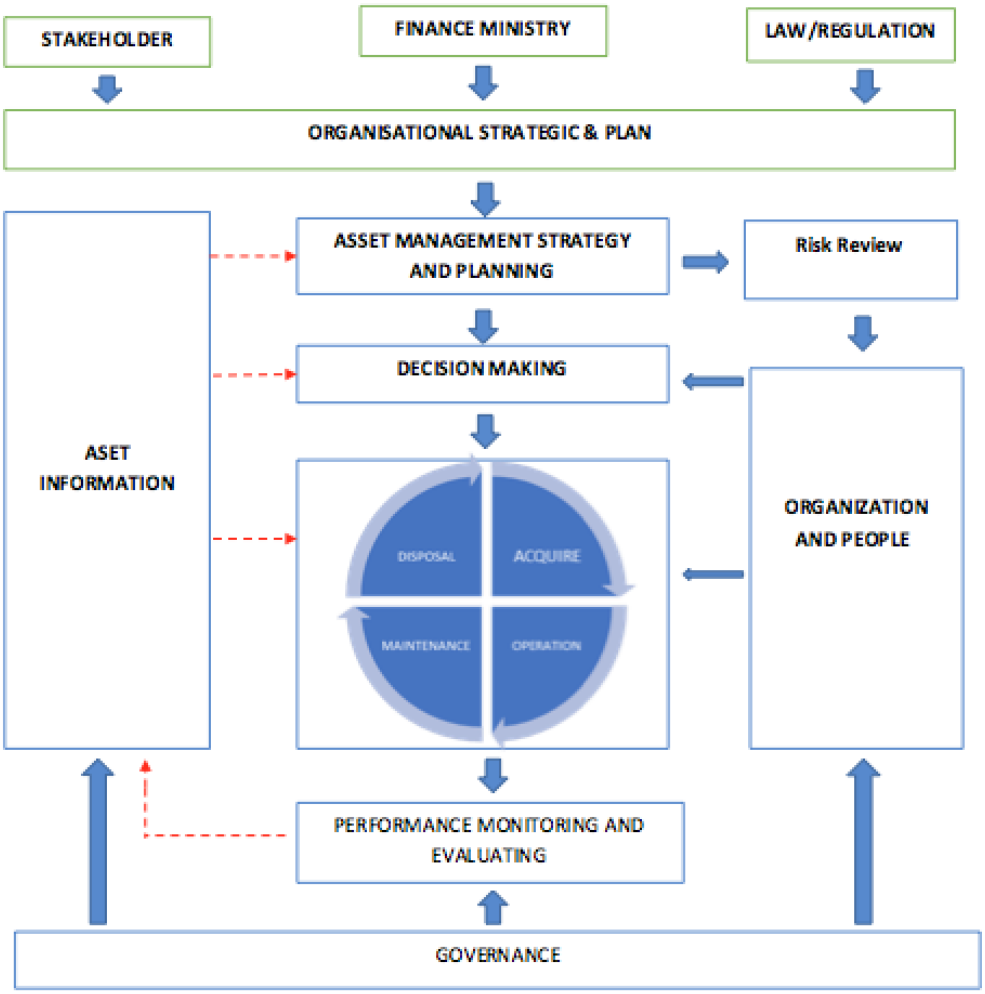


Source: (Institute of Asset Management, 2015) (Attwater, Wang, Parlikad & *Russell, 2014) (Global Forum on Maintenance and Asset Management, 2014)*
Figure 6. *The IAM's Conceptual Asset Management model 2015*

Based on PAS 55, ISO 55000 and The IAM framework, Department Planning Transport and Infrastructure of Australian Government develop a Framework for managing asset in the governmental institution. The framework adopted three of them with the difference is that DPTI add in the governance to control all the asset management system framework. The Strategic Asset Management Framework (SAMF) is a guide for managing South Australian government buildings and establishes a flexible and non-prescriptive guidance to agencies to assist in the appropriate management of their building asset portfolios. It only applies to non-current assets (physical and intangible) controlled by agencies (Department of Planning, Transport, and Infrastructure south Australia, 2017). Governance approach in DPTI framework representative to make the state government owned all the asset, the institution representing the owner of the asset and have the

responsibility of managing these assets to the public interest. The similar condition occurs in Indonesian government becomes the main reason on why we choose the DPTI framework as a foundation to create a suitable framework. In the proposed framework, we put the mandatory information from the Indonesian government regulation and we put a new approach explained below:

1. **Strategic & Planning**
   - Maintenance schedule.
   - Short and long-term investment program for refurbishments, renewals, and new assets.
   - Program for rationalization and disposal of assets.
   - Prioritisation, optimization.
2. **Risk review**
   - Asset Costing and Valuation
   - Asset Performance and health monitoring
   - Sustainable Development
3. **Organization and people**
   - Procurement and Supply Chain Management
   - Resource
   - Awareness
   - Competence Management
4. **Decision Making**
   - Operation and Maintenance
   - Decision Making
   - Life Cycle Value Realization
   - Capital Investment Decision Making
   - Disposal Decision Making
5. **Life cycle delivery**
   - Asset Registration
   - Asset Codification and classification
   - Juridical/Legal Inventory
   - Asset Operation delivery
   - Maintenance Delivery
   - Asset Disposal delivery
6. **Monitoring and evaluating**
   - Monitoring Asset Performance
   - Evaluation of asset performance
   - Critical Asset Failure
   - Asset Labeling
   - Asset Utilization
7. **Governance**
   - Monitoring and Control
   - Financial Audit
   - Asset Function Audit



Source: Inspired by DPTI, 2017.

Figure 7. *Asset Management System Framework for Governmental Indonesia*

CONCLUSION

Asset management has become the main focus of the Indonesian government over the last 2 years. The government has aware that asset has big potential to increase state revenues or to minimize costs if these assets can be managed well. The Indonesian government has implemented asset management based on the regulation but has not been implemented as expected to achieve utility and maximum results because the framework can handle at all. However, when asset management is implemented in the government there are some problems arise, such as the difficulty in knowing exactly which and what assets are being controlled or managed as well as the difficulties in making decisions to managing asset and optimization of assets in the future. These problems are caused by the reporting and data recording method of the current asset management

process where the report only contains of financial data with no detail on other important parameter of the asset, such as asset location, asset detail condition, who take the responsibility of asset and the data is also being recorded manually (paper based). For that reason, an asset management framework is expected to help the government manage the assets optimally, and also in accordance with Indonesian government regulations regarding the management of government assets.

Using this Asset Management System Framework expected can help Indonesian government to optimizing governmental asset, with this framework information about Assets data inventory is more powerful than before because the proposed framework uses strategic approach that can provide all of the information of asset lifecycle. It can also consider the sustained performance, cost and risk optimization, capital investment optimization and sustainability planning. In this research, we proposed a new framework that is suitable to Indonesian government condition and can solve the previous unresolved issues about the effectiveness of the current government assets management framework. The new strategic asset management framework proposed in this research is limited to the objective of managing Indonesian government asset. Detail and standard of each group will be designed in future researches and this proposed framework is still on the process to be tested at one government institution.

REFERENCES

Afandi., Nur, M., & Khairani. (2013). The analysis fixed assets management in the department of revenue financial and assets management regional Tanjung Balai. *Journals of Administrative Science, 10*(3), 391-413.

Akbar, R., & Wijaya, I. K. (2008). Asset management as an effort to preserve historic buildings in Bandung city. *Journals of Regional and Municipal Planning, 19*(1), 13-33.

Akbar, R., & Lukman, A. (2010). Bandung city government park management based on asset management approach. *Journals of Regional and Municipal Planning, 17*(3), 171-180.

Atikoh, N., Febrian, E. & Hendrawan, R., (2017). Fixed asset management in the Indonesian government agencies: a case study at The Ministry of Trade. *International Journal of Economics, Commerce, And Management, 5*(12), 674-696.

Attwater, A., Parlikad, A., Wang, J., & Russell, P. (2014). Measuring the performance of asset management systems. *Asset Management Conference 2014*. Doi:10.1049/Cp.2014.1046

Creswell, J. W. (2007). *Qualitative inquiry and research design: choosing among five traditions*. Thousand Oaks: Sage

Department of Planning, Transport, and Infrastructure South Australia (DPTI). (2017). (DPTI) *Introduction to strategic asset management information system*. Retrieved December 20, 2017, from www.dpti.sa.gov.au

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review, 14*(4), 532-550

Global Forum on Maintenance and Asset Management. (2014). *The asset management landscape second edition. Retrieved December* 20, 2017, from www.gfmam.org

Gustafsson, J. (2017). *Single case studies vs. multiple case studies: A comparative study* (dissertation). Halmstad University. Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:hh:diva-33017

Hastings, N. A. (2015). *Physical asset management - with an introduction to ISO 55000*. Springer International Publish.

Hariono, A. (2007). *Prinsip & teknik manajemen kekayaan negara* (Departemen Keuangan Republik Indonesia Badan Pendidikan Dan Pelatihan Keuangan Umum).

Indonesia, Kementerian Dalam Negeri. (2007). *Permendagri no. 17 tahun 2007 tentang pedoman pengelolaan barang milik daerah*.

Institute of Asset Management (IAM), & British Standards Institution (BSI). (2008). *Asset management*. London: BSI.

ISO 55000: Asset management - overview, principles and terminology. (2014). International Organization for Standardization.

ISO 55001: Asset management - management systems - requirements. (2014). International Organization for Standardization.

ISO 55002: Asset management - management systems - guidelines for the application of ISO 55001. (2014). International Organization for Standardization.

Jeff, Roorda & Associates. (2007). *Asset management strategy*. Retrieved January 5, 2018, From www.jr.net.au

Liputan 6. (2017) LMAN ambisi kelola aset tidur milik pemerintah di 2018. *Liputan 6 Economic and Bussiness*. Retrieved December, 2017, from https://www.liputan6.com/bisnis/read/3207689/lman-ambisi-kelola-aset-tidur-milik-pemerintah-di-2018

Liputan 6. (2018). Sri Mulyani: LMAN harus bikin aset tidur jadi produktif. *Liputan 6 Economic and Business*. Retrieved January, 2018, from https://www.liputan6.com/bisnis/read/3222090/sri-mulyani-lman-harus-bikin-aset-tidur-jadi-produktif

Maheshwari, A. (2006). Development of a strategic asset management framework. *Engineering Asset Management,* 596-605.

Miles, M. B., & Huberman, A. M. (1991). *Qualitative data analysis: a sourcebook of methods*. Newbury Park, CA: Sage

Ouertani, M. Z., Parlikad, A. K., & Mcfarlane, D. C. (2008). Towards an approach to select an asset information management strategy. *International Journal on Computational Science & Applications, 5*(3b), 25-44.

Schuman, C. A., & Brent, A. C. (2005). Asset life cycle management: towards improving physical asset performance in the process industry. *International Journal of Operations & Production Management, 25*(6), 566-579.

Septarini., Fitri, D., & Manuhutu, F.Y. (2017). Management development of fixed assets in local government environment of Merauke regency Papua. *IOSR Journal of Economics and Finance. 8*(5), 18-23.

Shabrina., & Nur, K. (2014). Efektivitas pengamanan aset dalam mewujudkan akuntabilitas di pemerintah kota Surabaya*. Kebijakan Dan Manajemen Publik*. *2(*1), 1-9.

Silverman, D. (2017). Doing qualitative research. Thousand Oaks, CA: SAGE Publications.

Simanjuntak., Manlian R. A., & Munizar, R. (2017). Preliminary study of optimization model of local government infrastructure asset management to improving the sustainable development performance. *International Journal of Scientific and Research Publications*. *7*(12), 588-597.

Siregar, D. D. (2004). *Manajemen aset: Strategi penataan konsep pembangunan berkelanjutan secara nasional dalam konteks kepala daerah sebagai CEOs pada era globalisasi & otonomi daerah*. Jakarta: Gramedia Pustaka Utama.

Sugiama, A.G. (2013). *Manajemen aset pariwisata: Pelayanan berkualitas agar wisatawan puas dan loyal*. Bandung: Guardaya Intimarta.

Sutrisno, M., & Young, R. J. (2004). *An investigation of private sector participation project appraisal in developing countries using elements of value and risk management* (Unpublished doctoral dissertation). PhD.

The Institute of Asset Management (TheIAM) (2015). TheIAM *Asset management: An anatomy*. Retrieved November 2017, from https://theiam.org

Woodhouse, J. (2014). Briefing: Standards in asset management: PAS 55 to ISO 55000. *Infrastructure asset management, 1*(3), 57-59.

Factors that explain corruption in the United States of America: A regression analysis

Rebecca G. Casimbon
John J. Rivera
John E. Ruane
Maria Claret M. Ruane
University of Guam
Guam, USA
ruanem@triton.uog.edu

ABSTRACT

Transparency International defines corruption as "the abuse of entrusted power for private gain." It is not a victimless act as it affects individuals and communities - politically as it threatens democracy and the rule of law; economically as it depletes the national wealth and encourage inefficient use of budget resources; socially as it corrodes the social fabric of society and destroys trusts; and environmentally as it degrades natural resources. Consequently, addressing corruption goes a long way in enhancing the quality of life of those affected by it. As such, addressing corruption requires understanding what factors affect or correlate with it, which is the goal of this study. This study examines several factors that impacted corruption among the 50 States of the United States of America using the United States Department of Justice's data on Federal Public Corruption Convictions Rate (FCCR) during a 10-year period (2007-2016) as a measure for corruption and an Ordinary Least Squares (OLS) regression technique. This study finds that higher economic growth, a lower incidence of poverty, and more available resources allocated toward law enforcement (toward police and corrections specifically) reduce corruption. These findings are used to draw policy implications for the parts of the United States that are not included in this study, namely, the territories, with particular interest in the U.S. territory of Guam.

Keywords: Corruption, United States, 50 states, OLS, Regression, Guam

INTRODUCTION

Transparency International defines corruption in general terms as "the abuse of entrusted power for private gain." Corruption is further classified into "grand, petty and political, depending on the amounts of money lost and the sector where it occurs." (transparency.org)

One measure of corruption that Transparency International publishes on an annual basis is the Corruption Perception Index (CPI), another is the Global Corruption Barometer (CGB), which measure country-level corruption. In the past 10 years, between 2007 and 2017, the CPI for the U.S. has ranged from 71 to 76 out of a maximum score of 1 This score has ranked the U.S. between 14th and 24th out of 165 to 180 countries for which estimates are available. Although there was some variation in corruption perceptions in the U.S. as a whole, the year-to-year fluctuations in the CPI estimates are most likely not significant. More importantly, these country-level estimates mask a greater variation in corruption incidences that exists at the state-level and prompt the question of why

corruption might be more prevalent in some U.S. states than in others. What factors explain or correlate with this greater variation is the focus of this study.

Research Question

The main research question addressed by this study is "What are the factors that explain or correlate with corruption among the 50 States of the United States of America?" Consistent with earlier studies, this study will use the United States Department of Justice's data on Federal Public Corruption Convictions Rate (FCCR) as a measure for corruption during the latest 10-year period (2007-2016) during which data is available. Along with data on several factors identified from the literature review that explain or correlate with corruption, an Ordinary Least Squares (OLS) regression technique will be used.

Significance Of The Study

Dass, Nanda, and Xiao (2016) and Johnson et al. (2013) agree that corruption is a critical area of study. The importance of this research is due, in large part, to the harmful, negative effects that corruption has on an economy, effects that can then compound and be transmitted systemic-wide and affect individuals and communities in a multifaceted manner. Thereby, understanding corruption is vital toward contributing to the continued and successful growth of an economy (Dass, Nanda, & Xiao; 2016). While there is a good amount of research on the cause and consequence of corruption (Johnson et. al., 2013), there is still a strong need for data that is more reliable and detailed with regard to said cause and consequence of public corruption (Cordis & Milyo, 2016).

The existing literature on what factors may explain a greater variation in corruption incidences that exists at the state-level and prompt the question of why corruption might be more prevalent in some U.S. states than in others is limited to two studies. One study by Alt & Lassen (2011) explored the impact of prosecutorial resources on corruption convictions measured using the U.S. Department of Justice's Federal Corruption Conviction Rates (FCCR). The authors found that greater prosecutorial resources, such as the number of attorneys, resulted in greater conviction numbers. Their research reported significant estimated coefficients regarding the attorney and conviction relationship. This result is notably congruent with system capacity theory. Their research also found that the division of government (separation of power through the party and branches of government) seemed associated with lower corruption incidences while term limits with higher corruption incidences. Lastly, their work affirmed known political and economic causal corruption correlates such as checks and balances, income, education, population, and the fiscal scale.

The second study that looked at corruption among the 50 states of the U.S. is by Ruane (2015). Like Alt & Lassen (2011), Ruane used the FCCR during a 10-year period between 2004 and 2013 as a measure for corruption, 16 explanatory variables, listed below, and an Ordinary Least Squares (OLS) regression technique to identify which factors explain or correlates to state-level corruption.

- Economic Growth
- Unemployment Rate
- Poverty Rate
- Population Density
- Urban Population
- Population Married 2 or more times

- Number of Interstate Miles
- Graduation Rate for 2-4 Year College Education
- Suicide Rate
- Federal Government Funding Per Capita
- State Spending as percent of Gross State Product
- Government Employment as percent of Total Employment
- Political Party of the State Governor (1=Democrat; 0=Republican)
- Percent of Democrats in the State Senate
- Percent of Democrats in the State House of Representatives
- Average Temperature Throughout the Year

Limitations

Alt & Lassen (2011) and Ruane (2015) point to the difficulty of finding U.S. state-level corruption and used the FCCR as the measure of state-level corruption as a substitute. However, the FCCR measure itself has limitations and caution must be taken when interpreting empirical analysis that used it, including this study. The FCCR reflects the number of public corruption cases that had been convicted in the U.S. Federal courts per 100,000 residents. As such, this measure represents a lower-end or conservative estimate of corruptions, as it requires: 1) that corruption has occurred and 2) that evidence of such corruption existed at the level that was acceptable to the Federal court. This narrow definition does not include public corruption in the U.S. that did not lead to legal prosecution as well as those that led to legal prosecution but did not lead to convictions. This means that there is a higher number of actual corruption incidences, only some of which get reported, among which only some offenders are caught and prosecuted in the court of law and only some of which are ultimately convicted and included in the FCCR.

Furthermore, the FCCR is different from measures of corruption that reflect individual's perception of corruption such as Transparency International's Corruption Perception Index (CPI) or Global Corruption Barometer (CGB).

REVIEW OF RELATED LITERATURE

Existing studies on the topic of corruption fall in four main categories: those that identify what causes, explains or correlates with corruption; those that focus on the consequences of corruption; those that design, propose or evaluate anti-corruption measures; and those that focus on and evaluate existing measures of corruption.

In the first category, studies use microeconomic theories (often, based on a cost-benefit analysis framework) or macroeconomic theories (e.g., by identifying systemic factors such as socio-economic, cultural/institutional, demographic and political, public administration or legal factors that lead to greater or lesser corruption activities) or a combination of both theories. Several studies use these theories to formulate testable hypotheses and design empirical studies using different levels of data, ranging from national (involving one country) or international (involving many countries), with some including all countries at any level of development while others focus on developed countries (DCs), less-developed countries (LDCs), or other country groupings, e.g., small island developing states (SIDS). Among national studies of corruption for the United States, only two studies identified earlier used state-level data.

As the heavily marked d sections of the literature map in Figure 1 shows, this study will contribute to the existing literature on the causes of corruption, will use

macroeconomic theories to derive several testa on ble hypotheses and design an empirical study that uses state-level U.S. data and a quantitative/statistical approach (OLS-regression analysis).

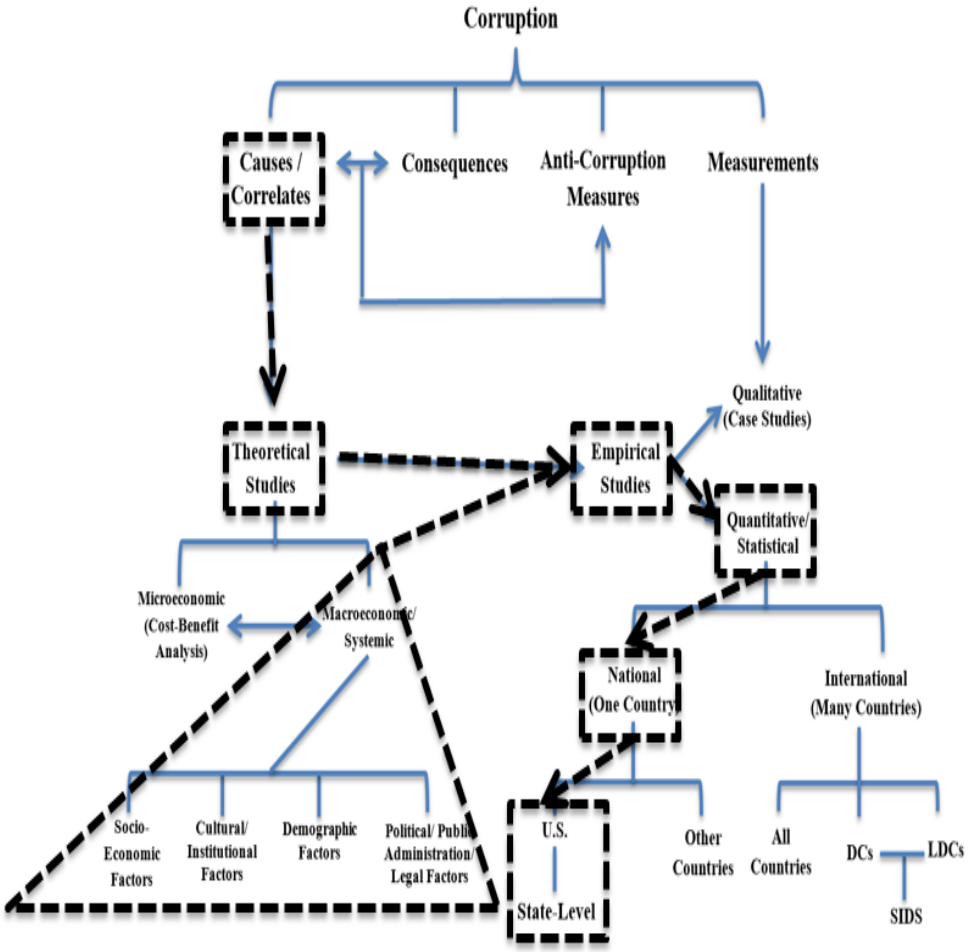


Figure1. *Literature Map on the Topic of Corruption*

In reviewing existing studies on the causes of corruption, several factors had been identified that explain or correlate with corruption incidences. These factors and their effects on corruption are discussed below.

***H1**: Higher GDP reduces corruption.*

The first variable identified to explain corruption is the size of the economy, as measured by Gross Domestic Product or GDP (Brown & Shankman, 2007; Treisman, 2007; and Alt & Lassen, 2011). According to Brown and Shankman (2007) most of the exisitng studies regarding corruption have focused on the economic costs or socialeconomic variables of corruption. Moreoever, much of this prior research was done through a cross-sectional framework. Brown and Shankman (2007) and Treisman (2000) both agree that there is a negative correlation between GDP and the rate of corruption.

To test, Brown & Shankman (2007) used a Granger methodology on panel data, to

include a time series regression analysis taking into account a time lag. Treisman (2000) used a regression procedure that started with nested regressions using first plausibly exogeneous variables and then adding other variables depending on the change. While the direction of the causality is not always clear Brown & Shankman (2007) found that the time frame of analysis matters. Their work concluded that an increase in GDP can affect corruption differently, i.e., a short-term increase in GDP tends to increase corruption while a long-term increase in GDP tends to lower corruption. Treisman (2000) found that, compared to lower income economies, higher income economies tend to have lower rates of corruption.

***H1a**: Higher economic development reduces corruption.*

A related variable was identified by Shabbir and Anwar (2007) who focused on corruption in developing economies. They hypothesized and found statistically significant support for the negative relationship between an economy's level of development (measured in their study as per-capital real GDP measured in purchasing power parity (PPP) terms) and corruption. Their review of related literature summarized a number of studies whose empirical findings showed a negative relationship between the level of economic development and corruption (Brown, et al. (2005), Kunicova & Rose-Ackerman (2005), Lederman, et al. (2005), and Damania, et al. (2004)). However, Shabbir and Anwar also found studies (Braun & Di Tella (2004) and Frechette (2001)) that show a positive relationship between the level of economic development and corruption. Similarly, Goel & Nelson's (2010) literature review asserted that greater economic prosperity reduces corruption. This is consistent with a study by Alt & Lassen (2011) which looked at corruption among the 48 states in the continental U.S. and used per capita real GDP as a control variable, citing previous studies for justification (Meier & Holbrook (1992); Goel & Nelson (1998); Adserà et al. (2003); Boylan & Long (2003); Alt & Lassen (2003, 2008); and Glaeser & Saks (2006)).

***H1b**: Higher economic growth reduces corruption.*

In his study of corruption among the 50 U.S. states, Ruane (2015) found that states with faster economic growth tend to have lower corruption and explained that a growing economy creates more opportunities for gainful and legitimate employment. In such a growing economy corruption activities are comparatively less rewarding and riskier.

***H2**: Larger population increases corruption.*

The second variable found to explain corruption is population. Alt & Lassen (2011), referencing the work of Maxwell & Winters (2004), hypothesized that larger populations tend to increase corruption. On the other hand, using regression analysis, Lecuna (2011) found insignificant strength regarding the direct association of population and corruption.

***H2a**: Higher population density increases corruption.*

A related variable is population density. Chowdhury (2007), who studied corruption among Asia-Pacific economies using an Ordered Probit model, hypothesized and found support for a positive correlation between population density and corruption (measured by CPI). More specifically, stating that the pressures of a more congested population put a strain on governance and therefore increasing corruption. Similarly,

Ruane (2015) also hypothesized and concluded that states in the U.S. with higher population density tend to have higher corruption. Ruane's (2015) use of the Federal Public Corruption Convictions Rate (FCCR) to measure corruption also purported that higher population density suggests more tipsters, more tipsters thereby lead to an increase in the reporting of corruption crimes. In this way, higher population density represents individuals operating in "close quarters." The idea of close quarters suggests that it is easier to keep a close eye on each other and each other's activities. Should those activities be acts of corruption then the reporting of those acts becomes more likely.

***H2b**: Higher urban population increases or decreases corruption.*

Related to total population and population density is the degree of urbanization. The degree of urbanization is usually measured by the share of the total population who reside in the urban area, i.e., a merged and incorporated area, like a city, town, or village. While, Alt & Lassen (2011) and Goel & Nelson (2010) both supported the notion that higher population density increases corruption the former identified this variable as one of several control variables. The latter associated urbanization with the need for a larger government scale, which increased the opportunity for corruption activities. Ruane (2015) suggested that the larger the population living in an urban setting, the more impersonal relationships are and the greater the temptation to engage in acts of corruption. On the other hand, Churchill, Agbodohu & Arhenful, P. (2013) noted that urban citizens tend to be more educated than rural citizens and therefore have greater civic involvement, including pushing for greater government accountability, which reduces corruption.

***H3**: Higher poverty increases corruption.*

The third variable identified to explain corruption is the rate of poverty. Unver & Koyuncu (2016), using unbalanced panel data and a multivariate fixed time effects model (FEM), found a positive correlation between poverty rate and the rate of corruption. Here, places with higher poverty levels tend to experience higher levels of corruption. Although Ruane (2015) included poverty rates as an explanatory variable for corruption and hypothesized a positive relationship, his regression result based on data for the 50 U.S. states did not find statistical significance to this hypothesis.

***H4**: Higher educational attainment reduces corruption.*

The fourth variable identified in the literature to explain corruption is the level of higher education. Goel & Nelson (2010) referred to "greater" education as a level of education after high school to include associates, bachelors, masters or doctoral degrees, which they found to reduce corruption. Measuring higher education differently to include high school education or higher, Alt & Lassen (2011) followed earlier studies such as Meier & Holbrook (1992); Goel & Nelson (1998); Adserà et al. (2003); Boylan & Long (2003); Alt & Lassen (2003, 2008); and Glaeser & Saks (2006) and Maxwell & Winters (2004) and found that higher education negatively affects state-level corruption.

***H5**: Higher overall government employment increases corruption.*
***H5a**: Higher government employment in law enforcement positions reduces corruption and/or increases corruption convictions.*

The fifth variable found in the literature to explain corruption is the size or scale of the government. One measure of this is level of government employment, which Goel &

Nelson (2009) hypothesized to reduce corruption, although their findings show that overall government employment had a statistically significant effect on corruption but that government employment in law enforcement, including police and corrections employees, reduces corruption. Along the same lines, Alt & Lassen (2011) included the court or legal system, which they referred to as "prosecutorial resources" and found evidence that show these resources to deter corruption, in general. However, given that they measured corruption using the FCCR (corruption convictions), prosecutorial resources were expected to lead to increased successful convictions of corruption cases, thereby increase this measure of corruption. Ruane (2015) looked at the share of government employment to total employment in the U.S. states and hypothesized a positive correlation, i.e., in states where the share of government employment is higher, corruption tends to be higher, as government employment presents the opportunity to engage in corruption. His findings did not support this hypothesis.

***H5b**: Higher overall government revenues or expenditures increase or decrease corruption (or corruption convictions).*

Another measure of the scale or size of the government is the amount of government revenues or expenditures calculated on a per-capita basis. Following an earlier study by Goel & Nelson (1998) as well as their own earlier studies in 2003 and 2008, Alt & Lassen (2011) hypothesized that corruption increases with the revenues or expenditures of the government as higher budgetary resources represented higher temptation for government employees to engage in corruption. On the other hand, Churchill, Agbodohu & Arhenful, P. (2013) noted the opposite, i.e., that larger public budget reduces corruption, cited an earlier study by Elliot (1997).

Related to H5a, Ruane (2015) used the state's government spending as a proxy for the state's resources to support law enforcement, pointing out that the more resources the state has to prevent, investigate or prosecute corruption, the more successful it will be to get a conviction against corruption cases.

***H5c**: Higher federal funding going to state governments increases corruption.*

Among state government's budgetary resources, Ruane (2015) focused specifically on the amount of U.S. federal funding received by the states, which are subjected to complex procurement laws. As such, there is great temptation to not follow these laws, which increases corruption. Similarly, Goel & Nelson (2010) argued that higher federal funding leads to higher corruption. Because military spending is funded through the U.S. federal budget, a study by Gray and Kaufmann (1998) cited in Chowdhury (2007) suggested, "politicians and bureaucrats favor large-scale defense projects, as their value and secretive nature allow more opportunities for rent seeking behavior" (p.3). Consequently, higher military spending or budget tends to be associated with higher corruption.

***H6**: Higher employment rate (lower unemployment rate) reduces corruption.*

The sixth variable identified to explain corruption is employment rate, or its opposite, unemployment rate. Saha (2009) pointed out that high level of employment discourages corruption. Ruane (2015) hypothesized that higher unemployment rate increases corruption, although his findings showed the opposite.

***H7**: Higher religiosity (or stronger religious belief) reduces corruption.*

In addition to economic factors, Shabbir & Anwar (2007) included non-economic factors such as democracy, press freedom and religion, following earlier studies that identified these variables to explain corruption. Because the level of democracy and the press freedom are expected to not have much variation among the U.S. states, this study will focus on how religion affects corruption, hence, the seventh (and last) variable will the some measure of religion. As cited in Shabbir & Anwar, studies by Chang & Golden (2004) as well as by Herzfeld & Weiss (2003) found a negative relation between the share of population affiliated with particular religion and corruption while studies by Paldam (2001) and La Porta, et al. (1999) found evidence of the opposite relation. Treisman (2000) described how religious traditions can affect corruption in two ways: First, in countries where 'hierarchical religions' dominate, citizens are less likely to challenge public officials, which reduces the pressure against corruption; and Second, religious traditions condition an individual's loyalty and where loyalty to family is stronger than loyalty to others in the community, corruption increases. In this study, we will measure religion differently based on self-identification of how religious an individual considers himself/herself to be and hypothesize a negative relation.

***H8**: Higher number of women government officials reduces corruption.*

Liu (2016) cited a study by Dollar et al. (2001) that looked at the effect of gender on corruption (measured using the PRS Group's International Country Risk Guide's corruption index) and found that "the larger the number of women in the total number of government officials is, the lower the degree of corruption is" (p. 174).

The hypotheses discussed above are summarized in Table 1 and in a Conceptual Framework in Figure 2.

Table 1. *Test Hypotheses*

***H1**: Higher GDP reduces corruption.*
***H1a**: Higher economic development reduces corruption.*
***H1b**: Higher economic growth reduces corruption.*
***H2**: Larger population increases corruption.*
***H2a**: Higher population density increases corruption.*
***H2b**: Higher urban population increases/decreases corruption.*
***H3**: Higher poverty increases corruption.*
***H4**: Higher educational attainment reduces corruption.*
***H5**: Higher overall government employment increases corruption.*
***H5a**: Higher government employment in law enforcement positions reduces corruption and/or increases corruption convictions.*
***H5b:** Higher overall government revenues or expenditures increase/decrease corruption (or corruption convictions).*
***H5c:** Higher federal funding going to state governments increases corruption.*
***H6**: Higher employment rate (lower unemployment rate) reduces corruption.*
***H7**: Higher religiosity (or stronger religious belief) reduces corruption.*
***H8**: Higher number of women government officials reduces corruption.*

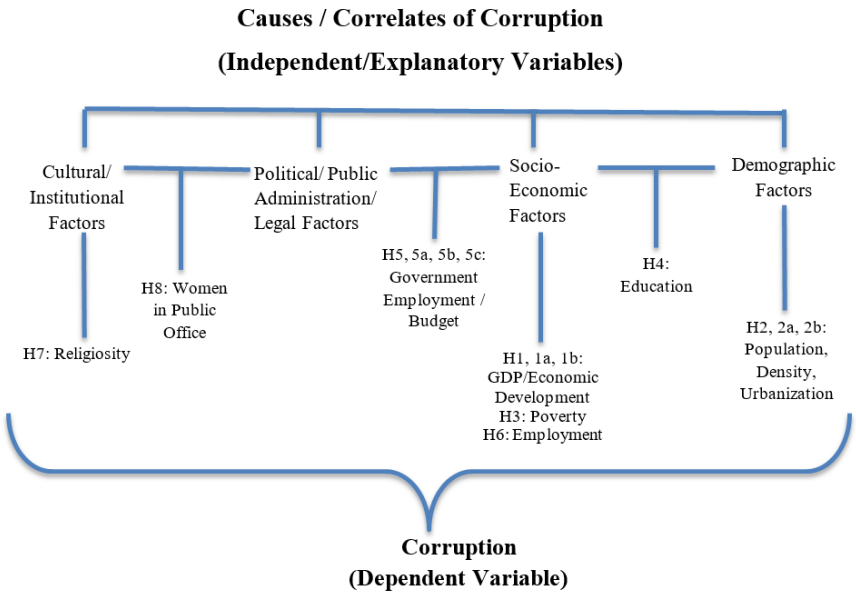


Figure 2. *Conceptual Framework*

METHODOLOGY

Definition of Variables and Sources of Data

As summarized in Table 1 and Figure 2, this study uses a regression model with corruption as the dependent variable and is measured using the FCCR, due to the limited available data at the state-level in the U.S. as noted earlier.

Based on the hypotheses presented in the previous section and summarized in Table 1 and Figure 2 and combined with the available data, the independent or explanatory variables in this study consist of the following:

- Gross State Product (GSP) in the year 2016 taken from the U.S. Department of Commerce, Bureau of Economic Analysis.
- Gross State Product per capita (GSPPC) in the year 2016 was calculated using the GSP in 2016 divided by the total population data from the U.S. Census Bureau.
- Economic growth (ECONGROWTH) represents the percent-growth in GSP between 2016 and 2017 using data from the U.S. Department of Commerce, Bureau of Economic Analysis.
- Population density (POPDENSITY) in the year 2010 was taken from the U.S. Census Bureau (2010, October 05).
- Urban population (URBANPOP) as percent of the total population in the year 2010 was taken from the Iowa State University of Science and Technology, Urban Percentage of the Population for States, Historical.
- Poverty rate (POVERTYRATE) in 2016 was taken from the U.S. Census Bureau.
- Graduation rates for 2 and 4-year college education (COLLEGEGRADUATE) for the school year 2009-2010 were taken from the U.S. Department of Education (2012, July 12).
- Government employment (GOVJOBS) was calculated using data on employees on nonfarm payrolls by state and selected industry sector for the year between December

2015 and December 2016 from the U.S. Bureau of Labor Statistics (2017, January 24) and divided by the total employment.

- Government spending per capita (GOVSPENDINGPC) for the year 2016 was taken from The Henry J. Kaiser Family Foundation.
- POLICECORRSPENDINGPC was the average state and local government spending on police and corrections departments over the period 2007-2016 taken from Urban Institute-Brookings Institution Tax Policy Center (2017, December 15), and divided by the population.
- Federal funding per capita (FEDFUNDINGPC) was measured by the total amount of U.S. federal government contracts awarded for work performed in the 50 U.S. states over the period between fiscal year 2008 and 2015 from the USAspending.gov, divided by the total population.
- Unemployment rate (UNEMPLRATE) was the average over the period 2007-2016 using data from the U.S. Department of Labor, Bureau of Labor Statistics.
- Religious belief (RELIGIOSITY) was measured by the percent of adults who indicated in a Pew Research survey that they are "highly religious" (Lipka and Wormald, 2016 February 29).
- Women in legislature (WOMENLEGISLATURE) was measured by the percent of women in the state legislature average over the period 2009-2016 and taken from the National Conference of State Legislature (NCSL).

Due to multicollinearity with POPDENSITY and URBANPOP, total population was not included as an independent/explanatory variable in the regression model nor was test hypothesis H2.

Regression Model

This study uses an Ordinary Least Squares (OLS) regression analysis technique to estimate the following regression equation using variables defined earlier:

$$FCCR = b_0 + b_1\,GSP + b_2\,GSPPC + b_3\,ECONGROWTH + b_4\,POPDENSITY + b_5\,URBANPOP + b_6\,POVERTYRATE + b_7\,COLLEGEGRADUATE + b_8\,GOVJOBS + b_9\,GOVSPENDINGPC + b_{10}\,POLICECORRSPENDINGPC + b_{11}\,FEDFUNDINGPC + b_{12}\,UNEMPLRATE + b_{13}\,RELIGIOSITY + b_{14}\,WOMENLEGISLATURE$$

The expected signs on the coefficients correspond to the *a priori* hypotheses H1 to H8 presented earlier and summarized in Table 1:

- GSP reduces FCCR: $b_1 < 0$ (H1)
- GSPPC reduces FCCR: $b_2 < 0$ (H1a)
- ECONGROWTH reduces FCCR: $b_3 < 0$ (H1b)
- POPDENSITY increases FCCR: $b_4 > 0$ (H2a)
- URBANPOP increases FCCR: $b_5 > 0$ (H2b)
- POVERTYRATE increases FCCR: $b_6 > 0$ (H3)
- COLLEGEGRADUATE reduces FCCR: $b_7 > 0$ (H4)
- GOVJOBS increases FCCR: $b_8 > 0$ (H5)
- GOVSPENDINGPC increases FCCR: $b_9 > 0$ (H5b)
- POLICECORRSPENDINGPC increases FCCR: $b_{10} > 0$ (H5a, a variant of H5 and H5b)
- FEDFUNDINGPC increases FCCR: $b_{11} > 0$ (a variant of H5c)

- UNEMPLRATE increases FCCR: $b_{12} > 0$ (H6)
- RELIGIOSITY reduces FCCR: $b_{13} < 0$ (H7)
- WOMENLEGISLATURE reduces FCCR: $b_{14} < 0$ (H8)

EMPIRICAL RESULTS AND DISCUSSION

The regression equation presented earlier was estimated using OLS and processed using Eviews 9. Results are presented in Table 2. Although not presented in Table 2, the regression model yielded acceptable estimates for other statistics, including the R^2, adjusted R^2 and F-test. Diagnostic tests were performed to ensure that the regression analysis results satisfied the assumptions of the Classical Linear Regression Model, especially in terms of testing to make sure that problems of multicollinearity, heteroskedasticity and model specification do not exist.

Table 2: OLS Regression Results

Dependent Variable: FCCR

Method: Least Squares

Date: 05/20/18 Time: 07:21 Sample: 1 50

Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.644831	7.473231	0.487718	0.6288
GSP	-3.23E-07	7.74E-07	-0.417000	0.6792
GSPPC	-3.12E-05	6.08E-05	-0.513116	0.6111
ECONGROWTH	**-50.40393**	**28.29923**	**-1.781106**	**0.0836 ***
POPDENSITY	0.001207	0.001532	0.787514	0.4363
URBANPOP	0.011486	0.022097	0.519813	0.6065
POVERTYRATE	**0.325042**	**0.156709**	**2.074171**	**0.0455 ****
COLLEGEGRADUATE	3.108396	9.454536	0.328773	0.7443
GOVJOBS	-0.199598	0.429109	-0.465146	0.6447
GOVSPENDINGPC	-0.000266	0.000217	-1.229411	0.2271
POLICECORRSPENDINGPC	**0.011803**	**0.005653**	**2.088056**	**0.0441 ****
FEDFUNDINGPC	-3.68E-06	2.47E-06	-1.489586	0.1453
UNEMPLRATE	-0.184649	0.296528	-0.622703	0.5375
RELIGIOSITY	-1.047918	5.030144	-0.208328	0.8362
WOMENLEGISLATURE	-2.745289	6.783689	-0.404690	0.6882

R-squared	0.492403	Mean dependent var	3.237314
Adjusted R-squared	0.289364	S.D. dependent var	2.042824
S.E. of regression	1.722085	Akaike info criterion	4.168274
Sum squared residuals	103.7952	Schwarz criterion	4.741881
Log likelihood	-89.20685	Hannan-Quinn criteria	4.386707
F-statistic	2.425164	Durbin-Watson stat	2.184803
Prob(F-statistic)	0.016872		

** The coefficient is statistically significant at the 5% level. *** The coefficient is statistically significant at the 10% level.

The results reported in Table 2 show statistically significant support for the role of three factors, all primarily economic, in explaining corruption in the 50 U.S. states. The first factor supported by evidence at the 10% significance level is shown by a positive value for b_3 (-50.41), suggestive that states with faster economic growth tends to have lower corruption as measured by the FCCR. This result is consistent with *a priori* hypothesis ***H1b**: Higher economic growth reduces corruption.* More specifically, the estimated coefficient indicates that, for every one-percentage point growth in the state's economy, the FCCR is reduced by 50, most likely reflecting the more plentiful economic opportunities that exist when an economy is growing and the higher rewards that these opportunities offer dissuade individuals from engaging in corruption acts in the first place. With a smaller number of corruption acts committed, an even smaller number will be apprehended, of which only some of them will lead to convictions.

The results reported in Table 2 also suggest a positive effect of poverty rate on corruption as shown by the estimated value of b_6 of +0.325, to be interpreted as, for every one percentage point increase in poverty rate increases the FCCR by 0.325 convictions, or better yet, an additional ten percentage point in the poverty rate would result in an additional 3 corruption convictions. This result was found to be statistically significant at the 5% level and supports *a priori* hypothesis ***H3**: Higher poverty increases corruption.* Part of this result reflects the fact that the poor are often marginalized and less empowered than those with higher incomes, thus limiting their participation in the economy and their ability to improve their access to higher-paying opportunities and better livelihood. Even worse, the poor also are less likely to engage in civic and political participation, if not for the simple fact that a segment of the poor are busy working just to earn enough to "get by". This reduces their desire or availability, or both, to monitor the behavior of public officials and to take measures to prevent or discourage them from engaging in corruption.

The last explanatory variable found to have statistically significant effect on the dependent variable, FCCR, is the POLICECORRSPENDINGPC, or the average amount spent by state and local governments toward police and corrections departments expressed on a per-capita basis. This is represented by the estimated value of b_{10} (+0.0118), which is statistically significant at the 5% level, and suggest that an additional budget equivalent to $100 per person that state and local governments allocate to support law enforcement in

general and police and corrections departments in particular will lead to an increase in the apprehension and prosecution of corruption activities, increasing corruption convictions by 1 per 100,000 residents. This provides indirect support to two *a priori* hypotheses, namely ***H5b****: Higher government employment in law enforcement positions reduces corruption and/or increases corruption convictions*, and ***H5c****: Higher overall government revenues or expenditures increase/decrease corruption (or corruption convictions)*.

CONCLUSION

Given the limitation of state-level corruption data, this study followed two earlier studies in their use of the only data available, which is the United States Department of Justice's data on Federal Public Corruption Convictions Rate (FCCR), for which the latest data available is for the 10-year period between 2007 and 2016. The FCCR is used as the dependent variable of the OLS regression model.

As for the independent/explanatory variables, several factors were identified from the literature review to explain or correlate with corruption and a total of eight general hypotheses or its 14 variants were tested in the empirical study. This study using 50 U.S. states pointed to only three factors, all primarily economic in nature with aspects of social and political/public administration/legal aspects, were found to significantly affect corruption (FCCR): higher economic growth, a lower incidence of poverty, and more available resources allocated toward law enforcement (toward police and corrections specifically) reduce corruption. These findings answer the research question posed by this study: What are the factors that explain or correlate with corruption among the 50 States of the United States of America?

Implications For Guam

Guam is an unincorporated and organized territory of the United States and is one of five permanently inhabited U.S. territories. A part of the United States but apart from most of the considerations of the U.S. mainland Guam, and other territories like it, is often excluded in a significant amount of U.S. studies. While the available data is focused on the 50 United States there are opportunities for policy implications for Guam. Our findings show that higher economic growth reduces corruption, poverty increases corruption, and budget resources going to law enforcement (to police and corrections specifically) increase corruption; mindful that corruption is measured as federal corruption convictions. The following are policy implications for each of the three economic factors found significant in this study.

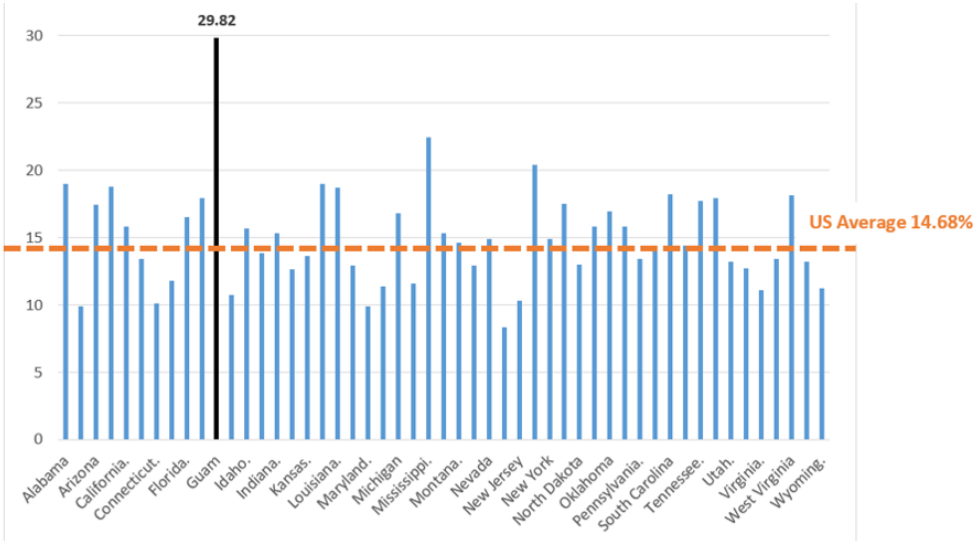
Economic Growth and Corruption

Spector (2016) argues that there is an intrinsic benefit toward having effective anti-corruption programs. His research points out that strong anti-corruption initiatives are "more important to achieving social, political, economic, and human development benefits for society..." (p.421). This is significant because this positive perspective can amass, compound, and yield significant benefits. Simply put, if higher economic growth reduces corruption then reducing corruption increases economic growth, produces economic gain, and exemplify good governance, thus creating a virtuous (as opposed to vicious) cycle that is socially desirable. This, he adds, is in line with sound motivation for policymakers.

That Guam's economy grew an average of 1% annually between 2007 and 2016 suggests slow economic growth, although admittedly better than zero or negative growth. (U.S. Department of Commerce, Bureau of Economic Analysis, 2017) Given our finding that a faster economic growth tends to reduce corruption, the opposite applies to Guam.

Poverty and Corruption

Negin, Rashid, & Hesam (2010) assert that developing communities are more prone to marginalization and exclusion. This, in context, lends to a higher tendency for corruption. To this end, the authors report that successful anti-corruption initiatives must be linked to alternative basic needs interventions and strategic inclusion of social, political and cultural capital. Criticisms of the "trickle-down" approach may be correct in highlighting cases where economic growth failed to reduce poverty incidences but the experience with poverty targeting programs has taught us of the difficulty of identifying the targeted beneficiaries of these programs and ensuring that these programs designed to alleviate poverty in fact do so and not distort the overall incentive system encouraged by the market and regulated by the government. Since such programs involve the government, they are subjected to inefficiency in the use of limited resources, especially in cases where corruption is present. These issues favor a broad-based approach to poverty alleviation through employment programs primarily created by the market while finding role for the government to create and maintain economic conditions and infrastructure that are conducive to the creation of remunerative employment opportunities, which includes strategies that promote political and economic opportunities for decision-making and creating a fair and rewarding incentive system. Such effective community interventions thereby include the promotion of inclusiveness, the promotion of lawfulness, and the promotion of accountability.



Source: U.S. Census Bureau (50 states); author's own calculation for Guam

Figure 3. *Poverty Rates in the 50 U.S. States and Guam (2010)*

Since Guam's poverty rate estimate is not available, it has been calculated in this study to facilitate comparison with poverty rates in the 50 U.S. states, which are published by the U.S. Census Bureau. The calculation was for the year 2010, which was the last year that data for household income distribution in Guam was available. Using the 2010 U.S. federal poverty threshold of $22,113 for a family of four, including two children and applying the same figure to Guam (some would argue this figure should be higher to reflect the higher cost of living in Guam), it was found that 29.82% of household in Guam had incomes below the poverty threshold. As Figure 3 shows, this is higher than the poverty rates in any of the 50 states and more than twice the average poverty rate of 14.82%. Hence, our finding that higher poverty tends to be associated with higher corruption does not predict favorably for Guam.

Budget Resources and Corruption

Gutierrez-Garcia and Rodríguez (2016) cite anti-corruption policies as one of four strategies in the prevention and control of law enforcement. Internal controls, human resource management, and external environmental/external controls make up the other three. These authors maintain that anti-corruption law enforcement policies should design and promote a code of ethics, empowering supervisory level ombudsman, create an ethics commission, and reward ethical behavior. Citing Punch (2000), Gutierrez-Garcia and Rodríguez (2016) also advocate for policies that combine multiple anti-corruption strategies.

Guam's government is one of many faced with limited budget resources. Economic wisdom suggests using these limited budget resources to maximize the social benefits, including the reduction of corruption opportunities and incidences. Our finding suggests that higher budget resources specifically allocated toward law enforcement (in this case, police and corrections) have the effect of discouraging public officials from pursuing opportunities to engage in corruption activities as these resources promote the apprehension and conviction of corruption incidences.

While all three factors found to affect corruption in the 50 U.S. states present Guam with the challenge as these factors combine to predict a higher incidence of corruption for Guam, they also provide stakeholders in Guam with useful information with regard to which areas must be targeted or which issues addressed as anti-corruption strategies are identified.

Future Agenda for Measuring Corruption

A final note is in order with regard to how corruption is measured, which has been highlighted as a limitation of this study. Goel & Nelson (2009) caution against a singular analysis as an appropriate measure of corruption. Similarly, they warn against the illusion of an ideal corruption measure. None exist and there is no one measure that is superior over the other. In this way, policy must not be bound by such fallacies either. On the other hand, although Treisman (2000) would have agreed and also pointed to the challenges of measuring corruption and that existing measures tend to be "subjective", he later acknowledged that these measures tend to correlate with each other. This correlation is important, despite subjectivity and measurement errors in each corruption measure, as it indicates that collectively, these measures suggest a picture that increase our understanding of the factors that affect corruption, however it is measured. Using statistical techniques to check for the robustness of results and their sensitivity to the

corruption measure used (Treisman used three measures of "perceived" corruption) further shed light to the study of corruption. His statement that "(w)hile the complexity of the issues and the weakness of available statistical techniques makes it essential to be cautious, the analysis does suggest some interesting results." Analyses by Treisman and others cited in this study, along with our findings, are based on multiple measures and constitute a multidimensional approach to study corruption and provide the proper grounding for the design of effective anti-corruption policies.

Efforts must continue to improve upon existing measures of corruption as well as introduce new and better measures of corruption. This will allow researchers in future studies to check for the sensitivity of findings to the measurements of corruption used by the different studies. As for Guam, the FCCR used in this study is currently not available for Guam only but combines data for Guam and the Commonwealth of the Northern Mariana Islands. Future studies must attempt to calculate the FCCR for each of these economies. On the other hand, one positive development in regard to measuring corruption in Guam was the survey conducted by the University of Guam-Regional Center for Public Policy (RCPP) in late-2015. This survey adopted Transparency International's Global Corruption Barometer (GCB) methodology, was the first one of its type to be conducted for Guam, and would allow one to compare Guam's survey results with more than 100 countries around the world for which the GCB was calculated in 2015.

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REFERENCES

Alt, J.E., & Lassen, D.D. (2011). *Enforcement and public corruption: evidence form us states*. Retrieved December 28, 2017, from http://epstein.wustl.edu/research/LPE.Alt.pdf

Brown, S. F., & Shackman, J. (2007). Corruption and Related Socioeconomic Factors: A Time Series Study. Kyklos, 60(3), 319-347. doi:10.1111/j.1467-6435.2007.00374.x

Casimbon, R.G. (2018). "Corruption in the 50 States of the United States, Guam and the Northern Marianas", Presentation at the International Conference on Business, Economics and Information Technology, March 22-23, 2018, Osaka, Japan.

Chowdhury, N.M. (2007). "An Empirical Analysis of Selected Factors Affecting Corruption in the Asia-Pacific Region", Presentation at the 6th East-West Center International Graduate Student Conference, East-West Center, Honolulu, Hawaii, February 15-17, 2007.

Churchill, R.Q., Agbodohu, W. & Arhenful, P. (2013, November). "Determining Factors Affecting Corruption: A Cross Country Analysis", *International Journal of Economics*, Business and Finance, 1 (10): 275-85 Economics Library, 3(4), 632-642.

Cordis, A. S., & Milyo, J. (2016). Measuring Public Corruption in the United States: Evidence From Administrative Records of Federal Prosecutions. *Public Integrity*, *18*(2), 127-148. doi:10.1080/10999922.2015.1111748

Dass, N., Nanda, V., & Xiao, S.C. (2016). Public Corruption in the United States: Implications for Local Firms. *Review Of Corporate Finance Studies*, *5*(1), 102-138. doi:10.1093/rcfs/cfv016

Goel, R. K., & Nelson, M. A. (2011). Measures of corruption and determinants of US corruption. Economics of Governance, 12(2), 155-176. http://dx.doi.org/10.1007/s10101-010-0091-x Retrieved from https://search.proquest.com/docview/863408522?accountid=36783

Guam Department of Labor, Bureau of Labor Statistics (2011, July 15). Household and Per Capita Income: 2010. Retrieved May 24, 2018 from http://bls.guam.gov/household-and-per-capita-income/

Guth, A. (2012, September 06). The Need for an Appropriate Corruption Measurement Tool for the U.S. Retrieved December 8, 2017, from http://traccc.gmu.edu/2012/03/01/the-need-for-an-appropriate-corruption-measurement-tool-for-the-u-s/

Gutierrez-Garcia, J. O., & Rodríguez, L. (2016). Social determinants of police corruption: toward public policies for the prevention of police corruption. *Policy Studies*, 37(3), 216-235. doi:10.1080/01442872.2016.1144735

Hutchenson, G.D. (1999). The multivariate social scientist. *SAGE Publications Ltd.* doi: 10.4135/9780857028075

Johnson, N. D., Ruger, W., Sorens, J., & Yamarik, S. (2014). Corruption, regulation, and growth: An empirical study of the United States. *Economics of Governance, 15*(1), 51-69. doi:http://dx.doi.org.library.capella.edu/10.1007/s10101-013-0132-3

Lecuna, A. (2012). Corruption and Size Decentralization. *Journal of Applied Economics*, 15(1), 139-168.

Liu, X.X. (2016). "A literature Review on the definition of corruption and factors affecting the risk of corruption", *Open Journal of Social Sciences*, 4, 171-177. http://dx.doi.org/10.4236/jss.2016.46019

Maxwell, A. Winters, R. (2004) "A Quarter Century of (data on) Political Corruption." Presented to MPSA Meetings. Database available at http://www.dartmouth.edu/~rwinters/Datasets.html

Negin, V., Rashid, Z. A., & Nikopour, H. (2010, September 10). "The Causal Relationship between Corruption and Poverty: A Panel Data Analysis". Munich Personal RePEc Archive MPRA Paper No. 24871. Retrieved January 1, 2018, from https://mpra.ub.uni-muenchen.de/24871/1/MPRA_paper_24871.pdf

Ruane, J. (2015). "Corruption in the 50 U.S. States", Presentation at the Western Pacific Conference on Public Administration and Policy Solution, University of Guam-School of Business and Public Administration, Master in Public Administration Program, November 24-25, 2015, Tumon, Guam

Shabbir, G. & Anwar, M. (2007, Winter). "Determinants of Corruption in Developing Economies", *The Pakistan Development Review* 46, 4 (Part II): 751–64.

Spector, B. I. (2016). The benefits of anti-corruption programming: Implications for low to lower middle income countries. Crime, Law and Social Change, 65(4-5), 423-442. doi:http://dx.doi.org.library.capella.edu/10.1007/s10611-016-9606-x

Suleiman, N. (2017, February). Corruption Typology: A Review of Literature. Retrieved March 28, 2018, from https://www.davidpublisher.org/Public/uploads/Contribute/5923f2667b062.pdf

Transparency International (n.d.). "What is corruption?". Retrieved May 20, 2018, from https://www.transparency.org/what-is-corruption

Transparency International (n.d.). "Corruption Perception Index (CPI)". Retrieved May 20, 2018, from https://www.transparency.org/research/cpi/overview

Transparency International (n.d.). "Global Corruption Barometer (GCB)". Retrieved Augsut 5, 2018, from https://www.transparency.org/news/feature/global_corruption_barometer_citizens_voices_from_around_the_world

Treisman, D. (2000). "The causes of corruption: a cross-national study". *Journal of Public Economics* 76: 399–457

Unver, M., & Koyuncu, J. Y. (2016). The Impact of Poverty on Corruption. Journal of Economics Library 3(4): 632-42.

University of Guam-Regional Center for Public Policy (2018). Guam's Corruption Perception Survey: 2015 by Rivera, J.J. & Ruane, M.C.M.

U.S. Census Bureau (n.d.). Poverty Thresholds. Retrieved May 24, 2018, from https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html

U.S. Department of Commerce, Bureau of Economic Analysis (2017, September 4). Gross Domestic Product for Guam Increases in 2016. Retrieved May 24, 2018, from https://www.bea.gov/newsreleases/general/terr/2017/guamgdp_090417.pdf

Sources of Data

Iowa State University of Science and Technology. (2018). Urban Percentage of the Population for States, Historical. Retrieved February 25, 2018, from https://www.icip.iastate.edu/tables/population/urban-pct-states

The Henry J. Kaiser Family Foundation (n.d.) Total State Expenditures per Capita SFY 2016. Retrieved January 1, 2018, from https://www.kff.org/other/state-indicator/per-capita-state-spending/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

Lipka, M. & Wormald, B. (2016, February 29). How religious is your state? Retrieved May 20, 2018, from http://www.pewresearch.org/fact-tank/2016/02/29/how-religious-is-your-state/?state=alabama

National Conference of State Legislatures (various years). Women in the state legislatures for various years. Retrieved May 19, 2018, from http://www.ncsl.org/legislators-staff/legislators/womens-legislative-network.aspx

New State-by-State College Attainment Numbers Show Progress Toward 2020 Goal. (2012, July 12). Retrieved December 26, 2017, from https://www.ed.gov/news/press-releases/new-state-state-college-attainment-numbers-show-progress-toward-2020-goal

Urban Institute-Brookings Institution Tax Policy Center (2017, December 15). State and Local General Expenditures, Per Capita. Retrieved May 20, 2018, from https://www.taxpolicycenter.org/statistics/state-and-local-general-expenditures-capita

USAspending.gov (various fiscal years). Federal Contracts by location of performance FY 2008-2015.

U.S. Census Bureau, 2010 Census. (2010, October 05). Population, Housing Units, Area, and Density: 2010 - United States -- States; and Puerto Rico Results. Retrieved February 25, 2018, from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk

U.S. Department of Commerce, Bureau of Economic Analysis (2017, May 11). Gross Domestic Product by State, 4nd Quarter and Annual 2016. Retrieved January 31, 2018, from https://bea.gov/regional/histdata/releases/0517gdpstate/index.cfm

U.S. Department of Justice. (2016). Report to congress on the activities and operations of the public integrity section for 2016. Retrieved on January 8, 2018, from https://www.justice.gov/criminal/file/1015521/download

U.S. Department of Labor, Bureau of Labor Statistics. (2017, January 24). Table 6. Employees on nonfarm payrolls by state and selected industry sector, not seasonally adjusted. Retrieved February 25, 2018, from https://www.bls.gov/news.release/laus.t06.htm

U.S. Department of Labor, Bureau of Labor Statistics. (various years). Unemployment rates for states, seasonally adjusted. Retrieved February 25, 2018, from https://www.bls.gov/web/laus/laumstrk.htm

Analysis of Taiwanese tourists' choices and perceptions of travel destinations in Chugoku and Shikoku regions in Japan

Xinyun Miao
National Institute of Technology,
Ube College, Yamaguchi, Japan
miao@ube-k.ac.jp

Yoshihiko Muto
National Institute of Technology,
Ube College, Yamaguchi, Japan

Kanako Negishi
National Institute of Technology, Ube College
Yamaguchi, Japan
negishi@ube-k.ac.jp

ABSTRACT

In Japan, the number of foreign tourists is increasing annually. However, tourist destinations tend to be biased to specific big cities. Such bias indicates the lack of capacity of government tourism promotion policies to facilitate equal regional revitalization. This indicates an urgent need to reveal the perceptions and feelings of Japan's local regions. Few studies, however, provide insights into the destination image of local regions in Japan such as Chugoku and Shikoku regions. Therefore, the objective of this study is to investigate Taiwanese tourists' destination images of these two regions. In particular, we first identify the popular destinations for the tourists who traveled the two regions. Then we examine the tourists' perceptions on 21 factors in order to clarify the factors affecting the tourists' choice of the regions as their travel destinations. To achieve the objective, we apply content analysis of tourists' travel blogs. The results show that the Shikoku region is more popular than Chugoku region. Moreover, we find that the major motivators to travel in the two regions are meeting new people, novelty seeking, culture exploration, and self-actualization. This study contributes to the literature regarding destination images by focusing on Japan's local regions. The findings also have applications for enhancing tourism policies aiming at attracting foreign tourists to local regions in Japan.

Keywords: foreign tourists, destination choice, perceptions of sightseeing destinations, content analysis, tourist motivation

INTRODUCTION

In recent years, the number of international tourists is increasing worldwide. Accordingly, the tourism industry has become important for a country's economy and regional revitalization. According to the United Nations World Tourism Organization (UNWTO), international tourists arrivals in 2016 reached about 1.2 billion, continuing a growth streak of seven years; its consecutive growth since the 1960s has been recorded, with the

strongest being observed in Africa and Asia and the Pacific regions (UNWTO, 2017). International tourist arrival is strongly correlated to world real GDP (Ministry of Land, Infrastructure, Transport and Tourism:MLIT, 2016); meaning, the growth of tourism industry is necessary for the progress of not only developing but also developed countries.

In Japan, the number of foreign tourists increased by 21.8%, from 19.74 million in 2015 to 24.04 million in 2016; this growth has been sustained for four consecutive years (MLIT, 2017). Japanese government announced the goals to increase the number of the tourists from abroad to 40 million in 2020 and 60 million in 2030 (MLIT,2016).

However, according to the MLIT, the destinations choices of foreign tourists tend to be biased to certain big cities, such as Tokyo, Osaka, and Kyoto. For example, the MLIT reported the statistics of 2016 regarding hotel registers of foreign tourists, and showed that there were about 1.35 billion guest nights in the Kanto region; its most popular city, Tokyo, was also the most populous. Additionally, the Kinki region with Osaka and Kyoto cities gains 748 million guest nights, and was ranked the second largest as to the number of the guest nights. As such, the Kanto and Kinki regions, in which most of Japanese biggest cities are concentrated, were the most popular travelling destinations for foreign tourists. In contrast, other regions were relatively inferior in the ability to attract foreign tourists. Specifically, Chugoku and Shikoku regions had 25.4 million guest nights and 12.7 million guest nights in 2016, respectively, and placed 8th and 10th in the ranking of hotel registers within the 10 regions in Japan (MLIT, 2017).

This bias toward big cities indicates that Japanese government's tourism promotion policies could not facilitate equal regional revitalization. In order to further promote foreign tourists to visit Japan's local regions, the Japan Tourism Agency's (JTA's), in 2015, initiated a plan called Wide Area Tourism Round Route Formation Promotion Project (see http://www.mlit.go.jp/common/001212543.pdf). Regarding the Chugoku and Shikoku regions, the JTA shows a plan to utilize tourism resources, such as natural environment, historical heritage, and food, in Chugoku and Shikoku regions, to attract foreign travelers, especially those from Taiwan and Hong Kong. Whether these resources are attractive to foreigners remains unclear. This indicates an urgent need to reveal the perceptions and feelings of travelling in Japan, specifically, in Japan's local regions.

Destination image has been examined extensively in the tourism literature (see Choi et al., 2007; Magnini et al., 2010; Li and Wang, 2011; Tseng et al., 2015). However, few studies focus on Japan, which is a significant global tourism destination and is attracting increasing foreign tourists. It is hard to find studies that reveal foreigners' perceptions of travelling in Japan. Especially, few studies provide insights into the destination image of Japan's local regions, such as the Chugoku and Shikoku regions. In order to fill this gap, the objective of this study is to identify Taiwanese tourists' destination images of the Chugoku and Shikoku regions in Japan. Specifically, we first identify the popular destinations for Taiwanese tourists who have traveled independently to Chugoku and/or Shikoku regions in Japan. We then examine Taiwanese tourists' perceptions on 21 factors (e.g., self-actualization, transportation, culture, shopping) in order to clarify the factors affecting Taiwanese tourists' choice of Chugoku and/or Shikoku as their travel destinations.

We conducted a content analysis to examine the popular destinations in Chugoku and Shikoku regions, and determine the motivations of Taiwanese travelers for choosing these regions as their tourist destinations. We found that, relative to the Chugoku region, Shikoku region is more popular among Taiwanese travelers. We further found that meeting new people, novelty seeking, culture exploration, and self-actualization are the major

motivators that created their desire to travel to Shikoku and Chugoku regions. The tourist infrastructure, abundant cultural and historical resources, high quality of food, and rich natural environment are the most highly commended factors.

By providing empirical evidence on Taiwanese tourists' perceptions of Japan's Chugoku and Shikoku regions, this study contributes to the tourism literature regarding destination image. Findings of this study are also helpful for Japanese governments' tourism policy making.

LITERATURE REVIEW

Numerous previous studies have investigated tourism motivation, which explains why people travel. Uysal and Jurowski (1994) noted that "push" and "pull" factors affect destination choices. The former indicates internal motivators, such as the desire to escape, rest and relaxation, prestige, health and fitness, adventure, and social interaction. In contrast, the latter includes external motivators, including tangible resources and tourists' perceptions and expectations, such as novelty, benefit expectation, and marketing image. Based on these factors and the Canadian Tourism Attribute and Motivation Survey data, they clarified that considering simultaneously the attribute of the destination and motivation of tourists would be useful for promotion programs and package designs, as well as the development of policy decisions.

Crompton (1979) proposed a model for push and pull factors, and identified motives empirically. He stated that "push" motives are socio-psychological, which include escape from a perceived mundane environment, exploration and evaluation of self, relaxation, prestige, regression, enhancement of kinship relationships, and facilitation of social interaction; "pull" motives are cultural, which include novelty and education.

Hsu et al. (2009) summarized 22 key factors that were found useful for explaining tourist decision-making processes. Of the 22 factors, the following 11 factors are internal forces that create the desire to travel: psychological (2 factors: escape and self-actualization), physical (3 factors: rest and relaxation, medical treatment, and health and fitness), social interaction-related (2 factors: visiting friends and/or relatives, meeting new people), seeking/exploration (4 factors: novelty seeking, cultural exploration, adventure seeking, and enjoying night life and shopping). Additionally, nine tangible factors (transportation facilities, friendliness of people, quality and variety of food, accommodation facilities, personal safety, price, cultural and historical resources, shopping, and environmental safety and quality) and two intangible factors (destination image and benefits expectations) are external forces, which are considered useful for explaining the actual choice of destination.

Travel motivation is analyzed based on many cases. Based on the hierarchy of destination selection, Hst et al. (2009) explored Taiwanese inbound tourists to identify factors influencing tourists' destination choice, and found that visiting friends and/or relatives and personal safety are the most important factors.

Focusing on Japanese tourists, Hayashi et al. (2008) examined a five-factor motivation structure of Japanese tourists using a questionnaire, and found certain features of Japanese outbound tourists. Sirakaya et al. (2003) studied Japanese tourists to Turkey, and based on motivation, classified them into three categories, namely, sports, novelty, and family/relaxation seeker.

As the number of foreign tourists increases in Japan, identifying their motivational factors is also becoming an important subject. Previous studies have used Twitter data of

foreign tourists (Tanaka, 2016; Saeki et al., 2015), and showed the differences of motivation between Japanese, foreigner residents in Japan, and foreign tourists. However, only few studies have examined quantitatively the travel motivations of foreign tourists to Japan, particularly to specific regions.

Table 1. *Motivating Factors in Tourism*

	Factor	Definition
1	Escape	Escape from a perceived mundane environment (Crompton, 1979) or crowded travel destinations
2	Self-actualization	Re-evaluation and discovery of selves, or acting out self-images and refining or modifying them (Crompton, 1979)
3	Rest and relaxation	Mental refreshment and relaxation (Crompton, 1979), and physical relaxation
4	Medical treatment	Seeking treatment from health professionals
5	Health and fitness	Sports participation
6	Visiting friends and/or relatives	Tourism related to visits to friends and/or relatives
7	Meeting new people	Meeting new people in different locations (people- and not place-oriented trips); visiting characters, authors, or scenes/locations in films, dramas, or novels; watching sport events or concerts
8	Novelty seeking	Having new experiences, not necessarily new knowledge; related to curiosity, adventure, being new and different
9	Culture exploration	Experience of different cultures
10	Night life and shopping	Enjoying night life and shopping
11	Transportation facilities	Transport convenience, including easy movements to/from abroad and between attractions; transport costs
12	Friendliness of people	Friendliness of the local people
13	Food quality and variety	Enjoying quality (e.g., taste, freshness) and various local food
14	Accommodation facilities	Convenience and/or comfortableness of accommodation facilities (e.g., hotels, guest houses)
15	Personal safety	Security related to one's life and properties
16	Price	Price level of, among others, transportation, food, and accommodation
17	Cultural and historical resources	Availability of cultural and historical resources, such as historic-cultural buildings and works of art
18	Good shopping	Availability of shopping facilities
19	Environmental safety and quality	Availability of natural attractions (e.g., sceneries, beaches, mountains)
20	Information	Accessibility and/or understandability of information on destinations
21	Language	Communication-related issues (e.g., the use of English or Chinese)

The present study aimed to determine factors (or motivations) affecting people's choice of travel destination by employing the hierarchy of destination selection developed by Hsu et al. (2009). However, distinct from Hsu et al. (2009), we merged novelty and adventure seeking into one factor called novelty seeking, as novelty was deemed synonymous with adventure, meaning new experience (Crompton, 1979).

Additionally, we excluded two intangible factors (i.e., destination image and benefits expectations). According to Milman and Abraham (1995), destination image means a sum of the images of the individual elements or attributes that make up the tourism experience. Such experience consists of a mixture of the product (i.e., quality and variety of attractions, price, uniqueness, categories of users, etc.); the behavior and attitude of the employees who come in direct contact with the tourists; and the environment, such as the weather, scenery, landscape, and physical layout of the destination, the quality and type of accommodations, restaurants, and other facilities, and physical safety. In this study, to measure tangible factors, we only weighted the ones that tourists evaluated positively. Thus, we considered the intangible factor regarding destination image to be included in tangible factors. Moreover, as our analysis was based on travel blogs written by tourists who have completed their trips, we considered as immeasurable the intangible factor regarding benefits expectations (i.e., expectations rather than real experience).

Moreover, we added two more tangible factors (i.e., accessibility and/or understandability of information regarding destination, and language) that have been demonstrated as important for the attractiveness of tourist destinations (Mutinda & Mayaka, 2012; Salim et al., 2012). Therefore, as shown in Table 1, we used 21 factors to examine the motivations of Taiwanese tourists' destination choices regarding Chugoku and Shikoku regions in Japan.

OVERVIEW OF CHUGOKU AND SHIKOKU REGIONS

Both Chugoku and Shikoku regions are in the west of Japan. Chugoku region comprises five prefectures, namely, Tottori, Shimane, Okayama, Hiroshima, and Yamaguchi, whereas Shikoku region, four prefectures, namely, Tokushima, Kagawa, Ehime, and Kochi.

As shown in Table 2, compared with other regions, the Chugoku and Shikoku regions have relatively smaller economic power and population size. These regions, however, possess adequate tourism resources. Therefore, tourism is essential to revitalize these regions.

Regarding transportation facilities, there is no popular international airport in these regions, but direct flights from countries, such as Taiwan, Hong Kong, Korea, and Singapore, are available. The representative transportation facility in these regions is Shinkansen, which runs along the Seto Inland Sea in Chugoku region. The All Shikoku Rail Pass is famous among travelers.

The tourism resources in these regions feature a lush natural environment, a rich history, and an abundant cultural heritage. Regarding natural environment, both regions are famous for the views overlooking the Seto Inland Sea, as well as the sea route and seacoast around it. For example, the public tourist associations in Tokushima and Hiroshima recommend the whirlpool in Naruto and cycling around the sea route, respectively. These regions are also well known for their rich natural resources, such as the Shimanto River in Kochi, sand dunes and Mt. Daisen in Tottori, Shodo Island in Kagawa, and

gorges in Ehime. Additionally, hot springs and parks are promoted the most in these prefectures.

Table 2. *Economic and Population Size of Prefectures in Japan (2014)*

Prefectures	GDP (in millions, JPY)	GDP (Ranking in 47prefectures)	Population (in thousands)	Population (Ranking in 47prefectures)
Tokyo	94,902,086	1	13,390	1
Kyoto	10,053,754	13	2,610	13
Osaka	37,933,987	2	8,836	3
Tottori	1,779,178	47	574	47
Shimane	2,382,265	45	697	46
Okayama	7,242,774	21	1,924	21
Hiroshima	11,237,887	12	2,833	12
Yamaguchi	5,969,042	23	1,408	27
Tokushima	3,012,328	43	764	44
Kagawa	3,672,273	36	981	39
Ehime	4,756,495	27	1,395	28
Kochi	2,349,510	46	738	45

Note: Economic and Social Research Institute (2017, pp. 2-3); GDP indicates gross domestic product.

The long history in these regions makes them the home to many museums, temples, and castles. For example, the tourist association in Kochi indicates 25 museums related to the Meiji Ishin (Meiji Restoration), and the Matsuyama (in the Ehime Prefecture) and Kochi (in the Kochi Prefecture) Castles are registered as cultural properties. Other promoted cultural tourist destinations are the Kotohira-gu Srine in Kagawa, which is among the most popular shrines in Japan; the Kurashiki Bikan Historical Quarter in Okayama; the Motonosumi Inari Shrine in Yamaguchi, which is famous for its many Torii gates; the Iwami-Ginzan Silver Mine in Simane, which is a world heritage site; and the Shikoku Pilgrimage, which is among the important historical resources in these regions. The Shikoku Pilgrimage's 88-temple route is a sacred place where Kukai (Kobo-Daishi) is believed to have trained or spent time in the 9th Century. The 1,200-km-long route boasts Shikoku's rich natural surroundings and presents one with many opportunities to mix with the local people (see http://www.tourismshikoku.org/henro/).

Regarding cultural heritage, the Awa Dance Festival in Tokushima is famous among Japanese for many years. Nowadays, it is also popular worldwide and became a representative event of the prefecture. The Atomic Bomb Dome in Hiroshima symbolizes and reiterates Hiroshima as a world heritage site. Aside from the festival and the dome, many modern cultural resources are also available. The tourist association in Tottori recommends the Mizuki Shigeru Road. Tottori is the home of Mizuki who is best known for his manga series titled Kitaro. Gosho Aoyama Manga Factory also located in Tottori where is the birthplace of Aoyama, the author of the popular anime titled Detective Conan.

Finally, because of the regions' rich nature, food is recommended by each prefecture's agency. Examples are *katsuo no tataki* (which is a kind of popular fish) in Kochi, noodles in Tokushima, olive in Kagawa, a variety of sake in Okayama, cab in Shimane and

Tottori, balloon fish in Yamaguchi, and *okonomiyaki* (which is a Japanese pancake containing a variety of ingredients) and oyster in Hiroshima, and *mikan* (orange) in Ehime.

DATA COLLECTION AND METHODOLOGY

Data Collection

We collected data from backpackers.com.tw, an online forum founded in 2004 in Taiwan. According to Alexa (See https://www.alexa.com/siteinfo/backpackers.com.tw#ckpackers.com.tw#), as of July 2013, it is the largest travel forum in Taiwan. It contains travel articles that provide detailed information on certain travel destinations for backpackers who are planning their trips. About 790,000 are registered members; 62.3% of them are from Taiwan.

We downloaded all 430 blogs, posted from September 28, 2005 to December 27, 2017, that contained travel experiences in Chugoku and Shikoku regions in Japan. We saved them into one text file (.txt file) covering qualitative data of about one million Chinese characters.

We consider travel blogs as proper data for our analysis on Taiwanese tourists' choices and their perceptions of travel destinations based on the following reasons. First, travel blogs are "equivalent of personal online diaries", and are "commonly written by tourists to report back to friends and families about their activities and experiences during trips" (Puhringer and Taylor, 2008, p.179). As such, travel blogs offer the opportunity to examine tourists' understandings and assessments of traveling destinations, tourism products and services. We read carefully and thoroughly every blog included in our data to secure its relevance to the objective of our study. Therefore, all blogs in our data have been written to express writers' experiences, perceptions, thoughts, impressions, and feelings during their travel to Japan's Chugoku and/or Shikoku regions. Second, travel blogs on the Internet are free from external constraint and influence (Banyai and Glover, 2012). Tourists can faithfully express their perceptions and impressions of travelling destinations. Thus, we consider travel blogs provide the most reliable information for revealing the factors that have driven tourists to travel to certain destinations. Third, because of the popularity of writing travel blogs, we got a big sample size including 430 blogs and one million Chinese characters for analysis.

Given abovementioned advantages, numerous studies (e.g., Choi et al., 2007; Pan et al., 2007; Wenger, 2008; Magnini et al., 2010; Murakami and Kawamura, 2011; Tseng et al., 2015) investigate tourists' destination images, positive and/or negative perceptions of the destinations by using travel blogs. For example, Choi et al (2007), using travel blogs as one of information sources, examine the online image representations of Macau and find that Macau' destination image expressed online varies across the different groups of online travel information. They suggest this result shows that Macau tourism authorities have not successfully deliver the intended or desired image of Macau to the English-speaking tourists. Tseng et al (2015), using travel blogs written by 630 bloggers, examine the main image themes about China shown by foreign travelers in their travel blogs, and explore the inter-relationships among these themes. They found Beijing and Shanghai as the most frequently mentioned cities, additionally; language and interpersonal communication barriers are the biggest problems for foreign travelers in China. They also find that tourists' images of China are influenced by various factors, such as culture, history, accommodation and transportation.

Content Analysis

We employed the content analysis method to investigate the destination choice motivations of Taiwanese travelers. The content analysis method can be defined as "an observational research method that is used to systematically evaluate the symbolic content of all forms of recorded communications" (Kolbe and Burnett, 1991, p.243). Specifically, by using this method, researchers can transfer, by applying categorization rules, communications content into data that can be quantitively summarized and compared (Paisley, 1969).

Content analysis is a widely used method in tourism research, especially in research analyzing the content of online travel blogs (see Banyai and Glover, 2012; Camprubí and Coromina, 2016). One of content analysis' advantages is that researchers can capture every detailed aspect of a tourist' trip, such as destination choice, activities undertaken in the destination, and impressions about the destination. Thus, content analysis has been used to achieve various objectives, such as examining popular travelling destinations and sightseeing spots, as well as revealing positive and negative perceptions of the travelling destinations (Banyai and Glover, 2012). For example, Wenger (2008), using 114 travel blogs narrating trips to Austria, analyzes the content of blogs and reveals positive images (e.g., nature and scenery, food, friendliness of residents, and safety) and negative perceptions (e.g., high prices, unpredictable weather, and poor nightlife) of Austria as a travelling destination. Li and Wang (2011), conducting content analysis to 89 blogs related to trips to China, examine foreign tourists' images of China. They find positive perceptions of foreign tourists on scenery, festivals, friendliness of the Chinese, and historic sites, as well as negative impressions, such as the crowdedness and poor transportation.

As such, we consider that content analysis is a proper methodology to achieve our objective in this study. That is to identify Taiwanese tourists' destination images of the Chugoku and Shikoku regions in Japan. Specifically, we first identify the popular destinations for Taiwanese tourists who have traveled independently to Chugoku and/or Shikoku regions in Japan. We then examine Taiwanese tourists' perceptions on 21 factors (e.g., self-actualization, transportation, culture, shopping) in order to clarify the factors affecting Taiwanese tourists' choice of Chugoku and/or Shikoku as their travel destinations.

RESEARCH PROCESS AND RESULTS

Travel Destinations

To investigate the travel destination choices of Taiwanese tourists, we employed the content analysis using KH Coder, a free software for statistically analyzing qualitative data and social survey data (e.g., free description of questionnaires, interview records, and newspaper articles). It can analyze qualitative data in Japanese, English, Chinese, and German. We conducted the morphological analysis using the automatic extraction function of KH Coder. This function can avoid arbitrary extraction and display the original state of the data. This function is a kind of morphological analysis, which separates the whole text data into minimum units (single words) that have meaning and classifies them into classes, such as noun, proper noun, adjective, adverb, and verb. Our objective is to clarify the destination choices of Taiwanese visitors, that is, what places, including prefectures, cities, and sightseeing spots, in Chugoku and Shikoku regions had been mentioned frequently in blogs. It is reasonable to suppose that the more frequently mentioned places are, the more they were preferred by tourists as travel destinations. As KH Coder as noun or proper noun

recognizes names of places, we focused on these two classes. Because KH Coder extracted nouns and proper nouns, including words that indicate places, as well as other words, we identified those that may suggest sightseeing spots in Chugoku and Shikoku regions. After that, for every word, we returned to the text and searched every word, to confirm the meaning of the word and ensure that it is used in blogs to represent a place. Finally, we obtained the list of places that were mentioned in blogs more than 50 times (see Table 3).

We assumed that the more frequent a place is mentioned in blogs, the more people have traveled to or are interested in this place. Table 3 shows that, in order, "hot spring" and "Buddhist temple" are the two most frequently mentioned words in blogs, indicating that they are popular tourist attractions in Chugoku and/or Shikoku regions for Taiwanese tourists. Specifically, the Shikoku Pilgrimage (see Table 3), consisting of 88 Buddhist temples, is a popular itinerary for Taiwanese tourists. Moreover, "parks," especially the Korakuen in Okayama, and "Shindo shrines," especially the Miyajima Shrine in Hiroshima and the Kotohira-gu Shrine in Kagawa, are popular among Taiwanese travelers. Other tourist destinations in these regions that attract Taiwanese travelers are architectures, art museums, castles (specifically, the Matsuyama Castle in Ehime and the Kochi Castle in Kochi), seacoast, and museums. These findings are consistent with the tourism resources available in these two regions, which are, abundant natural resources (e.g., views around the Seto Inland Sea, sand dunes), historical properties (e.g., Japanese traditional culture, such as Buddhist temples, Shindo shrines, castles, and the Awa Dance Festival; Ryoma), and cultural assets (e.g., the anime Detective Conan and manga series Kitaro).

Moreover, we found that Taiwanese traveler' interests in tourist spots are consistent with the tourist promotions emphasized by the national government, local governments, and local tourist associations. For example, the Miyajima Shrine and the Korakuen are among the most recommended tourist destinations in Hiroshima and Okayama, based on their respective official travel websites. This may be due to the fact that tourist promotions increase the awareness of people of these tourist spots, thereby motivating them to choose these spots as their travel destinations.

As shown in Table 3, the prefectures in the Shikoku region (i.e., Kochi, Kagawa, Ehime, and Tokushima) were more frequently mentioned than the ones in the Chugoku region (i.e., Hiroshima, Okayama, Tottori, Shimane, and Yamaguchi). This suggests that Shikoku region attracted more Taiwanese travelers compared with Chugoku region. Additionally, in the Chugoku region, Taiwanese tourists' interests appear to be biased to three prefectures, namely, Hiroshima, Okayama, and Tottori.

Table 3: *Places Mentioned in Blogs over 50 times by Occurrence Frequency*

No.	Words	Prefecture or Region	No.	Words	Prefecture or Region
1	溫泉 (Hot spring)	-	28	土佐 (Tosa)	Kochi
2	寺 (Buddhist temple)	-	29	鳴門 (Naruto)	Tokushima
3	高知 (Koshi)	Koshi	30	愛媛 (Ehime)	Ehime
4	高松市 (Takamatsu City)	Kagawa	31	和平 (Peace)	Hiroshima
5	公園 (Park)	-	32	納經 (Dedicated copies of sutras at Shikoku temples)	

6	神社 (Shindo shrine)	-	33	櫻花 (Cherry blossom)	-
7	松山市 (Matsuyama City)	Ehime	34	後樂園 (Korakuen)	Okayama
8	遍路 (Pilgrimage)	Shikoku	35	山口 (Yamaguchi)	Yamaguchi
9	廣島 (Hiroshima)	Hiroshima	36	琴平 (Kotohira)	Kagawa
10	四國 (Shikoku)	Shikoku	37	大橋 (Big bridge)	-
11	宮島 (Miyajima)	Hiroshima	38	市場 (market)	-
12	德島 (Tokushima)	Tokushima	39	兔子 (Rabbit)	-
13	岡山 (Okayama)	Okayama	40	步道 (Walking path)	-
14	建築 (Architecture)	-	41	龍馬 (Ryoma)	Kochi
15	美術館 (Art museum)	-	42	博物館 (Museum)	-
16	松山城 (Matsuyama Castle)	Ehime	43	海道 (Sea route)	-
17	鳥取 (Tottori)	Tottori	44	高知市 (Kochi City)	Kochi
18	尾道 (Onomichi)	Hiroshima	45	柯南 (Conan)	Tottori
19	海岸 (Seacoast)	-	46	大洲 (Ozu)	Ehime
20	倉敷(Kurashiki)	Okayama	47	空海 (Ku-Kai)	Shikoku
21	鳥居 (Torii gate)	-	48	阿波舞 (Awa dance)	Tokushima
22	瀨戶內海 (Seto Inland Sea)	-	49	鬼太郎 (Kitaro)	Tottori
23	松江市 (Matsue City)	Shimane	50	本堂 (Main hall)	-
24	野宿 (Camp)	Shikoku	51	小豆島 (Shodo Island)	Kagawa
25	砂丘 (Sand dunes)	Tottori	52	高野山 (Kouya Mountain)	Shikoku
26	金刀比羅宮 (Kotohira-gu Shrine)	Kagaya	53	小屋 (Hut)	-
27	高知城 (Kochi Castle)	Kochi	54	青山剛昌 (Aoyama Gousho)	Tottori

Factors Affecting Tourists' Destination Choice

Tourists' decisions are complex and multi-faceted in which the choices for different elements are interrelated and evolve in a decision-making process over time. The decision-making process is influenced by several psychological (internal) and non-psychological (external) variables. In this study, we investigated the factors (or motivations) affecting Taiwanese travelers' choice of a travel destination.

Based on the 21 factors (see Table 1) that were considered to influence tourists' travel destination choice, we organized our raw text data into meaningful categories through human coding. Although there are two ways of organizing raw data (i.e., computer-aided and human coding), we adopted a human-coded process because it enabled us to abstract the latent meanings rather than only the manifest or literal content. First, we divided the text into meaning units, holding the study objectives and questions in focus. Then, we adopted the 21 factors as descriptive labels for the meaning units. A sample of the raw data were processed into results is shown in Table 4.

Table 4. *An Analysis Schedule Example*

No.	Meaning Unit	Coding Rule	Code	Prefecture
1	The few people here is just what I hoped. I have never liked crowded cities; this quiet place is suitable for me.	Desire to escape a crowded destination	Escape	Tottori
2	I was sincerely satisfied with this extraordinary journey… Only by fulfilling our dream and completing a special journey that we can truly learn to be modest, grateful, and contended, and become a more "kind-hearted" person.	Seek self-actualization to be a better person	Self-actualization	Ehime
3	The Shikoku region is very quiet… There are natural sceneries, and life is comfortable and relaxed.	Engage in physical relaxation	Rest and relaxation	Shikoku
4	None[a]	-	Medical treatment	-
5	This is a repeat visit to Miyajima, so, I have already been familiar with the place. This time, I want to hike the mountain to exercise.	Engage in sports	Health and fitness	Hiroshima
6	There is even more reason for taking another pilgrimage, because I want to meet Mr. Shao.	Visit a friend	Visiting friends and/or relatives	Tokushima
7	To fulfill my dream, I joined a tour on "revisiting the drama filming locations" of Tokyo Love Story. The most important part of this tour is visiting the Ehime Prefecture, which is the leading actor's hometown.	Visit scenes in a drama	Meeting new people	Ehime
8	I think staying a night in a Japanese traditional house in the countryside and helping pick up the harvest of orchards are very special experiences for me.	Having a new experience	Novelty seeking	Ehime
9	After several considerations, I decided to go to Shikoku for the Awa Dance Festival in Tokushima. As I was searching for information, I learned about the Naruko Dance Festival in Kochi, which is among the best three festivals in Japan. Thus, I decided to attend both festivals.	Experience Japanese traditional culture	Culture exploration	Shikoku
10	Afterwards, we went to a shopping mall and purchased many items.	Enjoy shopping	Night life and shopping	Okayama
11	Now, many travel agencies provide	Transport	Transportation	Ehime

	charter flights from Taipei Songshan Airport to Matsuyama Airport in Matsuyama City. Thus, a trip to Matsuyama City is quite convenient.	convenience	facilities	
12	He drove me to the Tsuyama station and gave me a bottle of water, saying, "(This is)[b] a gift for you. Good luck" in English. It was probably the longest sentence he ever said in English. A heartfelt conversation is beyond language anyway.	Experience the friendliness of the local people	Friendliness of people	Okayama
13	Honestly, I went to Kagawa just for its udon noodles… I must say they are really delicious.	Delicious local food	Food quality and variety	Kagawa
14	The room made me feel very comfortable. The most important thing is that the decoration of this hotel caught my fancy.	Feeling comfortable in an accommodation facility	Accommodation facilities	Tokushima
15	Soon, we received a call informing us that my wallet was already found… Thank God! No money was lost in my wallet.	Property safety	Personal safety	Kochi
16	(In the Matsue Castle) we can take photos of us wearing armors and Kimono for free. Considering that the tickets were discounted at half price, (a trip to the castle) was a value for money.	Cheap price	Price	Shimane
17	Korakuen is worthy to be one of Japan's three most celebrated gardens! It is definitely worth a visit.	Positive assessment of a cultural resource	Cultural and historical resources	Okayama
18	This retro-market street (the Onomichi shopping street) is full of new goods. I could not help but slow down and be present. I like the shopping streets of Japan's small cities because they show a full view of the local customs…	Positive assessment of a shopping facility	Good shopping	Hiroshima
19	The whirlpool was super spectacular.	Positive assessment of a natural attraction	Environmental safety and quality	Tokushima
20	There is a tourist information center next to the station, where I bought a Conan Guide Book. The guide book includes a complete map of Conan-cho.	Easy accessibility and understandability of information	Information	Tottori

21	The service staff can speak Chinese, Japanese, and English.	Ability to communicate in Chinese	Language	Tottori

Note: [a]Results indicate no meaning unit that can be labelled under the medical treatment factor. [b]Additional texts in brackets were provided by the authors for clarity.

Following the suggestion of Bengtsson (2016), we invested efforts in improving the validity and reliability of analysis. First, we adopted a deductive reasoning design and created a coding list, and then organized the raw data. The 21 variables used for coding the raw data have been demonstrated useful to explain destination choice motivation in previous studies. Second, two native Chinese investigators performed separately the coding procedure for the full data; then they compared and discussed their results until they obtained consensus that the results reflected truthfully every unit's hidden meanings as intended by the blogs writers. Finally, we summarized the motivational factors, which were identified through the coding process, with respect to each prefecture. However, for certain meaning units, blog writers stated that they went to Shikoku or Chugoku region, but did not specify the prefecture. For these meaning units, we summarized the results in the categories termed "Shikoku (other)" and "Chugoku (other)." The analysis results are shown in Table 5.

First, we focused on the 10 factors related to internal forces, which create the desire to travel to a destination. Table 5 shows that meeting new people, including visiting places related to the characters, authors, or scenes in films, dramas, or novels, as well as watching sports or concerts, which are considered people-oriented rather than place-oriented in this study, is the most frequently noted motivation for traveling to Chugoku and Shikoku regions. Specifically, Ehime in the Shikoku region was the most frequently mentioned (13 times) prefecture for meeting new people. In examining the text, we found that certain Taiwanese travelers went to Ehime to visit the scenes in Tokyo Love Story, an influential Japanese drama. Ehime is followed by Tottori in the Chugoku region (8 times), which is famous for its comic arts called *Comic Kingdom*. Many comic authors were born in this prefecture and used their hometowns as the stages of the characters in their works. The comic-related sightseeing spots attracted Taiwanese travelers.

The second most frequently noted motivation for traveling is novelty seeking, with 37 mentions. Ehime and Hiroshima in the Shikoku and Chugoku regions, were both mentioned eight times, suggesting that Taiwanese travelers sought to gain new experiences during their trips to these regions. A popular experience is cycling the Shimanami Sea Route, which connects various islands in the Seto Inland Sea. The route can be started either in Ehime or Hiroshima.

The third most important motivation for traveling is culture exploration. Among the oldest historical structures in Japan, many are in the Chugoku region, whereas many traditional Japanese cultures have been protected in the Shikoku region. Local governments in these two regions have implemented tourism policies that enhance the utility of the regions' history and culture, to attract Taiwanese and Hong Kong travelers (MLIT, 2017). Specifically, traditional Japanese festivals, such as the Awa Dance Festival in Tokushima, have attracted many Taiwanese travelers.

Self-actualization and escape are two major factors that motivate Taiwanese travelers to visit the two regions. The self-actualization factor is related mainly to the Shikoku Pilgrimage, to which a visit involves reflecting and finding oneself. Meanwhile, the

escape factor is related mainly to the fact that both regions have a small population size and weak economy, compared with other regions. As both are not yet popular destinations for foreign visitors, they are relatively undeveloped and thus provide an area to get away from the city life.

Next, we focused on the 11 factors that are considered external force and useful for explaining the actual choice of certain places as tourist destinations. During the coding process, we only rated the factors that were assessed positively in the blogs. Table 5 shows that Taiwanese travelers gave the highest number of positive evaluations (602 times) to the cultural and historical resources in the Shikoku and Chugoku regions. This result is consistent with the feature of these regions, that is, a long history and abundant cultural heritages.

The second most evaluated factor (275 times) is the quality and variety of food. Many kinds of local food, such as the Sanuki *udon* in Kagawa and the oysters in Hiroshima, are famous. In fact, local governments have enhanced the promotion of the local food to attract travelers.

The third most frequently mentioned factor (235 times) is the environmental safety and quality. This result provides an empirical evidence for the rich natural environment in these regions that attracts Taiwanese travelers.

The friendliness of people, price, accommodation and transportation facilities are also frequently evaluated by Taiwanese travelers. The local people were characterized as having peaceful and kind hearts. Compared with big cities in Japan, Taiwanese travelers found the prices of food, transportation, and accommodation to be lower in these areas. They also noted that using the All Shikoku Rail Pass in visiting the Shikoku region is cost efficient. The accommodation facilities were positively assessed for their location convenience, spacious rooms, and clean surroundings, among others. Hot spring as part of the accommodation was highly regarded. They also appreciated the convenience of traveling through the regions' efficient transportation system. We found that railway is the most frequently used transport method for a long-distance travel. Using the All Shikoku Rail Pass not only reduces railway costs but also provides other deals, such as lower bus or ferry prices, free ride on a Ferris wheel, and timesaving ticket booking. In fact, the local governments have been addressing inner-city traffic by various means. For example, in Tottori, all-day taxi rides at a low and given price are provided to foreign travelers; and in other prefectures, free bicycles are provided.

Table 5 shows that shopping facilities are relatively less noted. This is consistent with the feature of these two regions, where there are more natural and culture resources than commercial facilities. Moreover, information factor was mentioned only 61 times, probably, owing to the blogs' lacking reference of this fact that is enumerated in this study or these regions' lacking offer of understandable tourist related information.

We added the language factor to explain Taiwanese travelers' motivations to visit Chugoku and Shikoku regions, because language could be utilized to enhance the attractiveness of destinations. However, Table 5 shows that the chances to communicate in Chinese or English in these regions were limited (28 times).

The safety factor was mentioned only four times, indicating that this is not an important factor affecting the destination choices of Taiwanese travelers. That is mainly because Japan is considered a safe country.

Table 5. Motivating Factors of Taiwanese Tourists to Shikoku and Chugoku Regions

	Shikoku Region						Chugoku Region							
	Kochi	Kagawa	Ehime	Tokushima	Shikoku (Other)	Shikoku (Total)	Hiroshima	Okayama	Yamaguchi	Tottori	Shimane	Chugoku (Other)	Chugoku (Total)	Total
Escape	0(0.0%) (0.0%)	2(10.5%) (0.8%)	2(10.5%) (0.6%)	1(5.3%) (0.5%)	5(26.3%) (4.4%)	10(52.6%) (0.8%)	4(21.1%) (1.4%)	1(5.3%) (0.6%)	1(5.3%) (1.6%)	1(5.3%) (1.6%)	0(0.0%) (0.0%)	2(10.5%) (50.0%)	9(47.4%) (1.0%)	19(100.0%)
Self	0(0.0%) (0.0%))	3(15.0%) (1.1%)	2(10.0%) (0.6%)	3(15.0%) (1.5%)	8(40.0%) (7.0%)	16(80.0%) (1.3%)	3(15.0%) (1.1%)	1(5.0%) (0.6%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	4(20.0%) (0.6%)	20(100.0%)
Rest	0(0.0%) (0.0%)	1(6.7%) (0.4%)	2(13.3%) (0.6%)	2(13.3%) (1.0%)	3(20.0%) (2.6%)	8(53.3%) (0.7%)	3(20.0%) (1.1%)	2(13.3%) (1.3%)	2(13.3%) (3.1%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	7(46.7%) (1.0%)	15(100.0%)
Medical	0(-) (0.0%)	0(-) (0.0%)`	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-) (0.0%)	0(-)
Health	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	1(100.0%) (0.4%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	1(100.0%) (0.2%)	1(100.0%)
Friends	0(0.0%) (0.0%)	0(0.0%) (0.0%)	1(25.0%) (0.3%)	2(50.0%) (1.0%)	0(0.0%) (0.0%)	3(75.0%) (0.3%)	1(25.0%) (0.4%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	1(25.0%) (0.2%)	4(100.0%)
Meeting	4(9.5%) (1.6%)	4(9.5%) (1.5%)	13(31.0%) (3.6%)	1(2.4%) (0.5%)	1(2.4%) (0.9%)	23(54.8%) (1.9%)	5(11.9%) (1.8%)	1(2.4%) (0.6%)	2(4.8%) (3.1%)	8(19.1%) (3.1%)	3(7.1%) (2.7%)	0(0.0%) (0.0%)	19(45.2%) (2.3%)	42(100.0%)
Novelty	3(8.1%) (1.2%)	1(2.7%) (0.4%)	8(21.6%) (1.9%)	2(5.4%) (1.0%)	2(5.4%) (1.8%)	15(40.5%) (1.3%)	8(21.6%) (3.2%)	4(10.8%) (2.6%)	0(0.0%) (0.0%)	5(16.2%) (1.6%)	3(8.1%) (2.7%)	0(0.0%) (0.0%)	22(59.5%) (2.5%)	37(100.0%)
Culture	2(9.5%) (0.8%)	1(4.8%) (0.4%)	1(4.8%) (0.3%)	8(38.1%) (4.0%)	3(14.3%) (2.6%)	15(71.4%) (1.3%)	3(14.3%) (1.1%)	2(9.5%) (1.3%)	0(0.0%) (0.0%)	1(4.8%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	6(28.6%) (0.7%)	21(100.0%)
Night life	0(0.0%) (0.0%)	1(25.0%) (0.4%)	0(0.0%) (0.0%)	1(25.0%) (0.5%)	0(0.0%) (0.0%)	2(50.0%) (0.2%)	1(25.0%) (0.4%)	1(25.0%) (0.6%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	2(50.0%) (0.2%)	4(100.0%)
Transportation	19(19.0%) (7.5%)	12(12.0%) (4.6%)	14(14.0%) (3.9%)	8(8.0%) (4.0%)	5(5.0%) (4.4%)	58(58.0%) (4.9%)	15(15.0%) (5.2%)	5(5.0%) (3.2%)	3(3.0%) (4.7%)	12(12.0%) (6.3%)	7(7.0%) (6.2%)	0(0.0%) (0.0%)	42(42.0%) (5.0%)	100(100.0%)
Friendliness	35(19.1%) (13.7%)	17(9.3%) (6.4%)	44(24.0%) (12.2%)	23(12.6%) (11.6%)	31(17.0%) (27.2%)	150(82.0%) (12.6%)	11(6.0%) (3.9%)	5(2.7%) (3.2%)	5(3.3%) (9.4%)	4(2.2%) (4.7%)	7(3.8%) (6.2%)	0(0.0%) (0.0%)	33(18.0%) (5.0%)	183(100.0%)
Food	46(16.7%) (18.0%)	40(14.6%) (15.2%)	49(17.8%) (13.6%)	25(9.1%) (12.6%)	10(3.6%) (8.8%)	170(61.8%) (14.3%)	42(15.3%) (14.7%)	26(9.5%) (16.7%)	5(2.2%) (9.4%)	20(7.3%) (3.1%)	10(3.6%) (8.9%)	1(0.4%) (25.0%)	105(38.2%) (12.5%)	275(100.0%)
Accommodation	19(13.7%) (7.5%)	18(13.0%) (6.8%)	36(25.9%) (10.0%)	16(11.5%) (8.1%)	15(10.8%) (13.2%)	104(74.8%) (8.7%)	11(7.9%) (3.9%)	7(5.0%) (4.5%)	0(0.0%) (0.0%)	13(9.4%) (6.3%)	4(2.9%) (3.5%)	0(0.0%) (0.0%)	35(25.2%) (3.8%)	139(100.0%)
Safety	1(25.0%) (0.4%)	0(0.0%) (0.0%)	2(50.0%) (0.6%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	3(75.0%) (0.3%)	0(0.0%) (0.0%)	1(25.0%) (0.6%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	0(0.0%) (0.0%)	1(25.0%) (0.3%)	4(100.0%)
Price	23(15.1%) (9.0%)	23(15.1%) (8.7%)	21(13.8%) (5.8%)	21(13.8%) (10.6%)	12(7.9%) (10.5%)	100(65.8%) (8.4%)	9(5.9%) (3.2%)	15(9.9%) (9.6%)	4(2.6%) (6.3%)	15(9.9%) (6.3%)	8(5.3%) (7.1%)	1(0.7%) (25.0%)	52(34.2%) (5.8%)	152(100.0%)
Resources	61(10.1%) (23.9%)	83(13.8%) (31.4%)	110(18.3%) (30.5%)	41(6.8%) (20.7%)	7(1.2%) (6.1%)	302(50.2%) (25.3%)	107(17.8%) (37.4%)	56(9.3%) (35.9%)	32(5.3%) (50.0%)	54(9.0%) (39.1%)	51(8.5%) (45.1%)	0(0.0%) (0.0%)	300(49.8%) (39.4%)	602(100.0%)
Shopping	2(4.0%) (0.8%)	14(28.0%) (5.3%)	9(18.0%) (2.5%)	4(8.0%) (2.0%)	0(0.0%) (0.0%)	29(58.0%) (2.4%)	11(22.0%) (3.9%)	7(14.0%) (4.5%)	0(0.0%) (0.0%)	2(4.0%) (1.6%)	1(2.0%) (0.9%)	0(0.0%) (0.0%)	21(42.0%) (2.9%)	50(100.0%)
Environment	28(11.9%) (11.0%)	27(11.5%) (10.2%)	36(15.3%) (10.0%)	32(13.6%) (16.2%)	9(3.8%) (7.9%)	132(56.2%) (11.1%)	38(16.2%) (13.3%)	17(7.2%) (10.9%)	5(2.6%) (9.4%)	26(11.1%) (15.6%)	16(6.8%) (14.2%)	0(0.0%) (0.0%)	103(43.8%) (12.7%)	235(100.0%)
Information	10(16.4%) (3.9%)	10(16.4%) (3.8%)	7(11.5%) (1.9%)	4(6.6%) (2.0%)	3(4.9%) (2.6%)	34(55.7%) (2.9%)	9(14.8%) (3.2%)	4(6.6%) (2.6%)	2(3.3%) (3.1%)	10(16.4%) (6.3%)	2(3.3%) (1.8%)	0(0.0%) (0.0%)	27(44.3%) (2.9%)	61(100.0%)
Language	2(7.1%) (0.8%)	7(25.0%) (2.7%)	5(17.9%) (1.4%)	4(14.3%) (2.0%)	0(0.0%) (0.0%)	18(64.3%) (1.5%)	3(10.7%) (1.1%)	1(3.6%) (0.6%)	0(0.0%) (0.0%)	5(17.9%) (4.7%)	1(3.6%) (0.9%)	0(0.0%) (0.0%)	10(35.7%) (1.2%)	28(100.0%)
Total	255 (100.0%)	264 (100.0%)	361 (100.0%)	198 (100.0%)	114 (100.0%)	1192 (100.0%)	286 (100.0%)	156 (100.0%)	64 (100.0%)	177 (100.0%)	113 (100.0%)	4 (100.0%)	800 (100.0%)	1,992(100.0%) (100.0%)

Note: “Self” refers to “Self-actualization;” “Rest” refers to “Rest and relaxation;” “Medical” refers to “Medical treatment;” “Health” refers to “Health and fitness;” “Friends” refers to “Visiting friends and/or relatives;” “Meeting” refers to “Meeting new people;” “Novelty” refers to “Novelty seeking;” “Culture” refers to “Culture exploration;” “Night life” refers to “Night life and shopping;” “Transportation” refers to “Transportation facilities;” “Friendliness” refers to “Friendliness of people;” “Food” refers to “Food quality and variety;” “Accommodation” refers to “Accommodation facilities;” “Safety” refers to “Personal safety;” “Resources” refers to “Cultural and historical resources;” “Shopping” refers to “Good shopping;” “Environment” refers to “Environmental safety and quality.”

CONCLUSION

We conducted a content analysis to examine the Taiwanese tourists’ destination image of the Chugoku and Shikoku regions in Japan. Specifically, we clarified the popular destinations (e.g., cities, sightseeing spots) in Chugoku and Shikoku regions, and determined the motivations of Taiwanese travelers for choosing these regions as their tourist destinations. We found that natural (e.g., hot spring, seacoast) and historical resources (e.g., Buddhist temples and Shindo shrines) mostly attracted Taiwanese travelers. Comparing the two regions, the Shikoku region is more popular than the Chugoku region among Taiwanese travelers.

For factors affecting Taiwanese travelers’ destination choices, we found that meeting new people, novelty seeking, culture exploration, and self-actualization are the

major motivators that created their desire to travel to Shikoku and Chugoku regions. The tourist infrastructure, abundant cultural and historical resources, high quality of food, and rich natural environment are the most highly commended factors.

As online travel blogs play as an important information source, offering a great potential to influence tourists' perceived images, it can be assumed that these factors also play an important role in Taiwanese tourists' destination image and expectation formation toward the Chugoku and Shikoku regions.

By providing empirical evidence, this study allows destination marketers, including the Japanese government and local governments, to understand better how tourists and potential tourists view and choose their destinations. The empirical examination of tourist motivation helps to identify the attributes that must be promoted to match tourist motivations.

This study has the following limitations. First, this study focused only on the Chugoku and Shikoku regions, and examined tourists' motivations to choose these two regions as travel destinations. As the number of foreign tourists in these two regions is smaller than those in other regions (e.g., the Kando region, including the Tokyo city; the Kinki region, including the Osaka and Kyoto cities; Hokkaido; and the Kyushu region, including the Fukuoka city), future studies must clarify the factors that constrict foreign tourists' preference of Chugoku and Shikoku regions by comparing the motivations for traveling to these two regions with those for traveling to other regions. Second, the validity of the results in this study is limited by the data resource (travel blogs of Taiwanese tourists). Thus, future studies must collect data from more and different resources, such as questionnaires and interviews.

REFERENCES

Banyai, M., & Glover, T. D. (2012). Evaluating research methods on travel blogs. *Journal of Travel Research*, 51(3), 267-277.

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2, 8–14.

Buhalis, X. (2000) Marketing the competitive destination of the future. *Tourism Management*, 21, 97-116.

Camprubí, R., & Coromina, L. (2016). Content analysis in tourism research. *Tourism Management Perspectives*, 18, 134–140.

Choi, S., Lehto, X. Y., & Morrison, A. M. (2007). Destination image representation on the web: Content analysis of Macau travel related websites. *Tourism Management*, 28(1), 118-129.

Crompton, J. L. (1979). Motivations for pleasure vacation. *Annals of Tourism Research*, 6(4), 408–424.

Economic and Social Research Institute. (2017). National Accountings Statistics 2014, 1-12. (in Japanese)

Erlingsson, C., & Brysiewicz, P. (2017). A hands-on guide to doing content analysis. *African Journal of Emergency Medicine*, 7(3), 93–99.

Hayashi, Y., & Fujihara, K. (2008). Sightseeing motives of Japanese overseas tourists as a function of destination, tour type and age. *Research of Experimental Social Psychology*, 48(1), 17–31. (in Japanese)

Hsu, T., Tsai, Y., & Wu, H. (2009). The preference analysis for tourist choice of destination: A case study of Taiwan. *Tourism Management*, 30, 288–297.

Kolbe, R. H., & Burnett, M. S. (1991). Content-analysis research: An examination of applications with directives for improving research reliability and objectivity. *Journal of Consumer Research,* 18, 243–250.

Li, X., & Wang, Y. (2011). *Depicting image of China as a tourism destination: A travel blog approach*. Available at https://scholarworks.umass.edu/cgi/viewcontent.cgi?referer=https://www.google.co.jp/&httpsredir=1&article=1090&context=gradconf_hospitality.

Magnini, V. P., Crotts, J. C., & Zehrer, A. (2010). Understanding customer delight: An application of travel blog analysis. *Journal of Travel Research*, 50(5), 535-545.

Milman, A., & Abraham, P. (1995). The role of awareness and familiarity with a destination: The Central Florida Case*. Journal of Travel Research*, 33, 21–27.

Ministry of Land, Infrastructure, Transport and Tourism: MLIT. (2016) The Tourism vision supporting Japanese future. Retrieved from http://www.mlit.go.jp/common/001126601.pdf. (in Japanese)

Ministry of Land, Infrastructure, Transport and Tourism: MLIT. (2017). White paper on tourism in Japan. *The Tourism Situation in FY 2016*. Retrieved from http://www.mlit.go.jp/common/001211721.pdf. (in Japanese)

Murakami, K., & Kawamura, H. (2011). Travel in Japan from foreigners' perspectives: Analysis of destination image through English blogs. *Journal of the Japanese Society for Artificial Intelligence*, 26(3), 286-293. (in Japanese)

Mutinda, R., & Mayaka, M. (2012). Application of destination choice model: Factors influencing domestic tourists destination choice among residents of Nairobi, Kenya. *Tourism Management*, 33(6), 1593–1597.

Pan, B. P., MacLaurin, T., & Crotts, J. C. (2007). Travel blogs and the implications for destination marketing. *Journal of Travel Research*, 46(1), 35-45.

Saeki, K., Endo, M., Hirota M., Kurata, Y., Yokoyama M., & Ishikawa, H. (2015). Analysis by tourist destination of foreign Twitter users by attribute. *DEIM Forum*, C4-3. (in Japanese)

Salim, M., Ibrahim, N., & Hassan, H. (2012). Language for tourism: A review of literature. *Procedia Social and Behavioral Sciences,* 66, 136–143.

Sirakaya, E., Uysal, M., & Yoshioka, C. F. (2003). Segmenting the Japanese tour market to Turkey. *Journal of Travel Research*, 41(3), 293–304.

Tanaka, T. (2016). *Research on Twitter user recommendation as an adviser of foreigner sightseers*. Available at https://tsukuba.repo.nii.ac.jp. (in Japanese)

Tseng, C., Wu, B., Morrison, A. M. Zhang, J., Chen, Y. (2015). Travel blogs on China as a destination image formation agent: A qualitative analysis using Leximancer. *Tourism Management*, 46, 347-358.

Turnbull, D. R., & Uysal, M. S. (1995). An exploratory study of German visitors to the Caribbean: Push and pull motivations. *Jurnal of Travel & Tourism Marketing,* 4(2), 85–92.

Paisley, W. J. (1969). Studying style as deviation from encoding norms. In Gerbner, G., Holsti, O. R., Krippendorff, K., Paisley, W. J., & Stone, P. J. (Eds.), *The analysis of communications content: Developments in scientific theories and computer techniques* (pp. 133–146). New York: John Wiley.

Puhringer, S., & Taylor, A. (2008). A practitioner's report on blogs as potential sources for destination marketing intelligence. *Journal of Vacation Marketing,* 14(2), 177-87.

United Nations World Tourism Organization: UNWTO. (2017). *UNWTO tourism highlights: 2017 edition*. Retrieved from http://mkt.unwto.org/publication/unwto-tourism-highlights. (in Japanese)

Uysal, M., & Jurowski, C. (1994). Testing the push and pull factors. *Annals of Tourism Research,* 21(4), 844–846.

Wenger, A. (2008). Analysis of travel bloggers' characteristics and their communication about Austria as a tourism destination. *Journal of Vacation Marketing,* 14(2), 169-176.

Contributors

Rebecca G. Casimbon earned her Master's Degree in Public Administration and her Bachelor's degree in Business Administration with a Concentration in Human Resource Management and a Minor in Public Administration from the University of Guam. In her graduate program she was awarded the School of Business and Public Administration's Graduate Program's highest honor, the Overall Outstanding Scholar Award. She was named a Harry S. Truman Scholar, one of the United States' most competitive and premier graduate fellowships for those pursuing careers as public service leaders and selected to represent Guam as an Ambassador in the Mosaic Taiwan Fellowship Program. Rebecca is currently a Research Fellow at the Regional Center for Public Policy, an educational consultant and a certified Emotional Intelligence Practitioner.

Hidetaka Hemmi is a doctoral student of management at the Department of Business Administration, Kobe University, Kobe, Japan. He graduated from the faculty of business administration, Hokkai Gakuen University, Sapporo, Japan. He holds a master's degree in Business Administration, and his primary research interests are business administration. The title of his master's thesis is A theoretical study of silence and voice and psychological safety in organizations. He is currently researching organizational behavior, especially employee silence, employee voice, organizational silence, voice climate, and leadership silence. Currently, he is conducting a qualitative research, for example, fieldwork on a hospital and a Japanese firm.

Jun Nakamura is Professor at Shibaura Institute of Technology, in Japan. He is a visiting professor at Kanazawa Institute of Technology, in Japan, and executive vice president of AVC Technology Co., Ltd., and AVC Multimedia Software Co., Ltd., as well as a board member of Panasonic Excel Technology Co., Ltd. He was granted Ph.D. in Engineering from University of Tokyo with highest honors. The area of his research interest is to figure out human cognitive process and visualize it by means of gamification in order to develop software to support one's generating awareness of new ideas. These activities have been awarded by FOST, Foundation for the Fusion Of Science and Technology, in respect of his innovative result and promising potentiality of gamification. He is an executive board member of IASM, the International Academy of Strategic Management.

Sanetake Nagayoshi is a lecturer at Department of Informatics, Graduate School of Integrated Science and Technology, Shizuoka University in Japan. He was granted Ph.D in Industrial Engineering and Management from Tokyo Institute of Technology. His major is Management Information Systems for improving business performance with information technology. His current research topic is related to knowledge management, for example, organization learning from failure. It includes enterprise transformation, business process management, and alignment between business system and IT system. He has fifteen-year consultancy experience in practice to optimize alignment between business and Information Technology. He has provided lectures based on his practical and academic background in Tokyo Institute of Technology, Egypt-Japan University of Science and Technology, and Waseda University. He has also provided his lectures with

businesspersons not only from Japan but also overseas countries such as in EU Executive Training Program (ETP).

Reza Aditya Rahmat is a master student at the Department of Informatics, Graduate School of Integrated Science and Technology, Shizuoka University, Japan. He earned his bachelor program at Polytechnic Negeri Bandung, Bandung Indonesia. His major is information system and have focused to Management Information System for improving effectivity and efficiency business process in the organization with information technology. He worked at the Ministry of Public Works of Indonesia and currently working with the Indonesian National Institute Aeronautics and Space in the asset management division.

John J. Rivera earned his Ph.D. in Organization and Business with a Leadership Specialization from Capella University and his Professional MBA and MPA from the University of Guam. Currently, he is the University of Guam's School of Business and Public Administration (SBPA) Graduate Program Chair (responsible for the MPA/PMBA Programs) and Co-Founder and Director for the Regional Center for Public Policy. John has over 15 years of diverse professional and academic experience, including 20 years in non-profits. Other credentials include: Accredited Investment Fiduciary (AIF), Certified Fraud Examiner (CFE), Certified Manager (CM), SHRM Senior Certified Professional (SHRM-SCP), Senior Professional in Human Resource – International (SPHRi), Professional in Human Resources (PHR), and LERN Certified Faculty Developer (CFD).

John E. Ruane earned his Master's degree in Public Administration and his B.S. degree in Criminal Justice from the University of Guam. He is currently a Certified Fraud Examiner and was previously certified as a Project Management Professional. He has more than 10 years of military experience, more than 20 years of industry experience in the area of Systems Integration and is currently employed in the field of Aviation.

Maria Claret M. Ruane earned her Ph.D. in International Economic Development from the University of California-Riverside and her B.S. and M.A. in Economics from San Jose State University in California. She is currently Full Professor of Economics at the University of Guam-School of Business and Public Administration, a Research Coordinator/Contributor for the University of Guam-Regional Center for Public Policy and the Resident Development Economist for the University of Guam-Pacific Center for Economic Initiatives. She has more than 20 years of research and advisement experience in International Macroeconomic Development, with special interest in policy formulation and the Asia-Pacific region.

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For correspondence, contact:

THE EDITOR
Asia Pacific Business & Economics Perspectives
Ritsumeikan Asia Pacific University
Faculty Offices, B425
1-1 Jumonjibaru, Beppu, Oita, 8748577, Japan
Telephone No. +81977 78 1074
perspectives@apbersociety.org