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# **The Effect of Management Philosophy understandings by Labors on their Productivity**

**7,317Words**

## [Abstract]

COVID-19 is causing a severe downturn in the global economy. To achieve sustainable GDP growth, increasing labor productivity is needed. Literatures have suggested that labor productivity is affected by employee satisfaction and the degree of management philosophy understandings. In this study, we used the theoretical model of Service Profit Chain to examine the relationship between understanding management philosophy and labor productivity. We surveyed workers in Japan and the U.S. to test two different processes from understanding management philosophy to their productivity via top management or the training system. Through comparative research between Japan and the U.S., our data suggested that the most effective way to improve labor productivity is to increase understanding of management philosophy through the training system in Japan and top management in the U.S. We also confirmed that understanding of management philosophy directly increases labor productivity in Japan.

**Keywords:** Management philosophy, Labor productivity, Uncertainty avoidance, The Service profit chain model

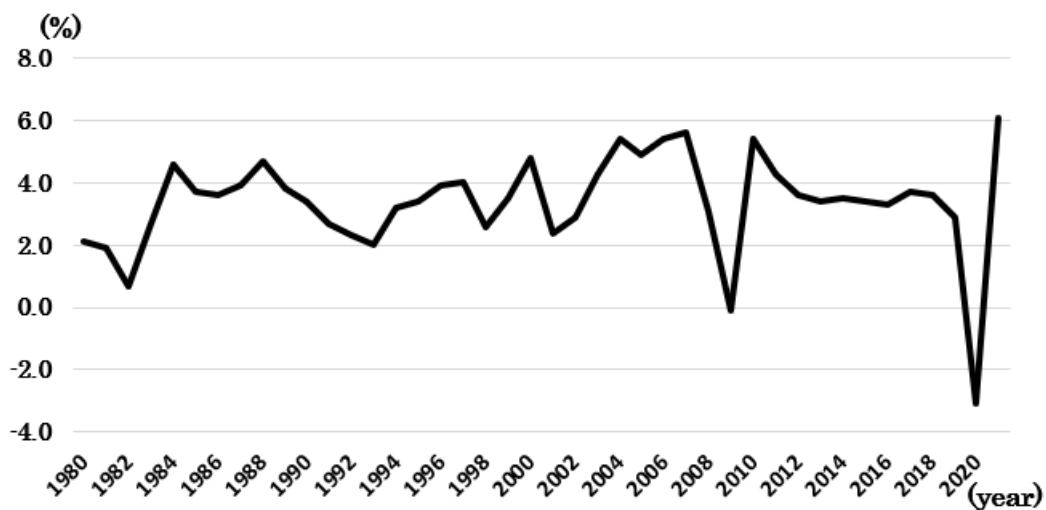
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## 1. Introduction

The coronavirus (COVID-19), which became more severely infectious in early 2020, has caused a severe downturn in the global economy as shown in figure 1. On the other hand, increasing labor productivity is essential to achieve sustainable economic growth, and labor productivity has been the focus of public attention (The Wall Street Journal, 2022). Inna et al. (2019) indicate that the higher the labor productivity, the higher the GDP growth rate.

Figure 1: World GDP Growth Rate



Source: Based on International Monetary Fund (2022), by the authors.

In addition, labor productivity growth in seven major industrialized countries (G7) has been slowing since before the spread of COVID-19, indicating the need for labor productivity growth (Nakamura et al., 2017).

To increase labor productivity, IT (information technology) investments and the introduction of the latest technology for capacity building are suggested (Inna et al., 2019). This demands a large amount of cost for enhancing performance. We believe measures for improving productivity without spending a lot of money are needed. The purpose of this study is to clarify the mechanism of how understanding management philosophy increases labor productivity. This research is significant for two reasons.

First, increasing labor productivity is expected to lead to sustainable economic growth. While the financial situation around the world is worsening due to COVID-19, business reforms and the declining birthrate and aging population are causing a labor shortage in the labor market (Ando & Yoshikawa, 2019). In some regions, the labor force has begun to decline, and this problem is becoming more apparent and serious (Liu, 2020). Against this background, there is a need to improve employee and management capacity.

Second, productivity at the company level must be increased. We believe that increasing the productivity of each business can lead to reductions in running costs, such as electricity and overtime working, and will also strengthen international

competitiveness (Takizawa, 2020). In addition, by clarifying the factors that increase labor productivity through international comparisons, countries with low labor productivity can improve their situation by referencing countries with high labor productivity. Even countries with high labor productivity, need to identify factors for increasing sustainable productivity in the future.

## **2. Literature Review**

### **2-1. Corporate Culture**

According to Heskett et al. (1994), labor productivity is affected by employee satisfaction. Considering this situation, we analyzed factors increasing employee satisfaction. In analyzing the data, we compared the U.S., which has the highest labor productivity among G7, with Japan, which has the lowest (Japan Productivity Center, 2021). Using the "Indeed", corporate word-of-mouth website, we conducted multiple regression analysis to identify the factors that influence employee satisfaction in prior to main analysis. Indeed is a job search engine offering services in more than 50 countries and regions around the world. Scoring criteria and scoring items are the same in Japan and the U.S. Reviews are written by employees who have worked or are currently going to work for the company. On the company review page, reviewers score the company's overall rating on a 7-point scale in five categories: Work & Life balance, Compensation & Benefits, Job Security & Advancement, Management and Corporate Culture. 480

randomly selected samples of reviews posted over four years from 2017 to 2021 were investigated in this pre-research. We used random sampling, so our sample was not restricted to age, personality, or industry, but the evaluation scores were collected from individuals who have been full-time employees at the respective companies in Japan and the U.S. To examine the major factors of employee satisfaction, we used the value of overall evaluation as the dependent variable and all other values taken up in Indeed are used as independent variables: Work & Life balance, Compensation & Benefits, Job Security & Advancement, Management and Corporate Culture. The results are shown in Table 1.

Table1: Antecedent Factors of Employee Satisfaction

		Regression coefficients	t-value	Standardized regression coefficients
Japan (n=240)	Work & Life Balance	0.16	1.91	0.15
	Compensation & Benefits	0.10	1.36	0.10
	Job Security & Advancement	0.38 **	3.17	0.41 **
	Management	0.02	0.21	0.02
	Coporate Culture	0.34 **	2.98	0.34 **
F-value=242.66, p < .001, R <sup>2</sup> =.95, Adjust R <sup>2</sup> =.95				
the U.S. (n=240)	Work & Life Balance	0.17	1.97	0.14
	Compensation & Benefits	0.07	1.70	0.09
	Job Security & Advancement	0.08	1.02	0.07
	Management	0.34 **	3.70	0.31 **
	Coporate Culture	0.41 **	4.50	0.43 **
F-value=236.73, p < .001, R <sup>2</sup> =.95, Adjust R <sup>2</sup> =.95				

\*\*  $p < .01$ , \*  $p < .05$

Source: Authors.

The model is significant in both countries and the VIF value is below 5, so the validation results are reasonable (Hair et al., 2017). Our data indicates that corporate culture contributes significantly to an overall evaluation in both countries, though Job Security & Advancement and Management are effective only in Japan or the U.S. Abdullah et al. (2017) suggests corporate culture promotes corporate sustainability and has a positive impact on the work of employees. Given them, corporate culture is an important factor to strengthen the connection between a company and its employees (Luigi et al., 2015). Management philosophy has been suggested as the source of "corporate culture" in companies (Collins & Porras., 1994). It is equally attracting attention as the "global glue" that binds together employees of different nationalities and cultures in international management (Furusawa, 2008). Thus, management philosophy has long been considered important in corporate management (Kitahara, 2010; Soga, 2021; Watanabe, 2011). Management philosophy promotes the desire and motivation of employees, and the increased understanding of management philosophy by employees leads to the maintenance and survival of the organization.

Based on these facts, we considered that the impact on labor productivity can be enhanced by the degree of understanding of management philosophy. In addition to the impact of COVID-19, especially in regions with low birth rates and population aging, there will be a growing need to improve and increase labor productivity to continue economic growth (Ministry of Health, Labor, & Welfare, 2016).



## **2-2. Management Philosophy**

Management philosophy was often captured as a message from the company to employees (Ishii et al., 1996). However, nowadays, its role as a message to external stakeholders is becoming more important (Shibata, 2014). In other words, management philosophy has been recognized as a tool for socially justifying the actions of company activities. This means that management philosophy is the verbalization of beliefs, values, and codes of conduct on an organizational basis (Kitai & Matsuda, 2004). Based on these considerations, we define management philosophy as "a set of values and codes of conduct for company management that are presented to customers, employees, and other stakeholders of a company". These elements are at the heart and core of a company's culture. By understanding the management philosophy of the employees of a company, a strong corporate culture can be formed.

## **2-3. The theoretical model of the Service Profit Chain**

Based on our research objectives, we use the theoretical model of the service profit chain as a useful concept for improving labor productivity. Heskett et al. (1994) proposed the service profit chain (SPC) as a concept relating profitability, customer loyalty, employee satisfaction, employee loyalty, and productivity. The main perspective of the SPC model is shown in figure 2.

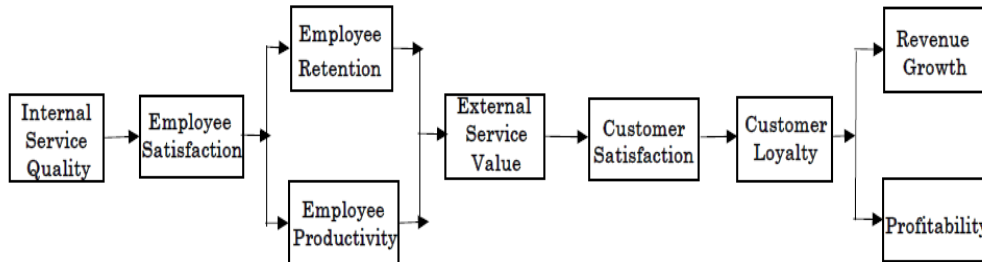
The SPC model has been demonstrated to be valid in several previous studies (Vermeeren et al., 2014; Atkins et al., 1996; Richter & Muhlestein, 2017). Specifically, when employee satisfaction increases, external service value increases, leading to higher customer satisfaction (Vermeeren et al., 2014). A positive relationship has also been observed between employee satisfaction and customer loyalty (Atkins et al., 1996). In addition, it has been confirmed that the higher level of customer satisfaction, the higher the profitability (Richter & Muhlestein, 2017). Then, a good cycle is created in which the increased profitability further improves the quality of internal services. As noted, we assume that employee satisfaction is enhanced by employees' understanding of the management philosophy. Therefore, we investigate how the understanding of management philosophy is working within this model.

However, most of the studies on the understanding of management philosophy have mainly investigated the relationship between the existence and degree of understanding of management philosophy and corporate performance (Takao et al., 2009; Turan, 2021). Based on these studies, we set the following research question.

*RQ: How does understanding management philosophy work in the service profit chain model?*

We consider the process of how the understanding of management philosophy increases labor productivity. It is, however, assumed that the process differs from country to country due to national culture.

Figure 2: The theoretical model of the Service Profit Chain

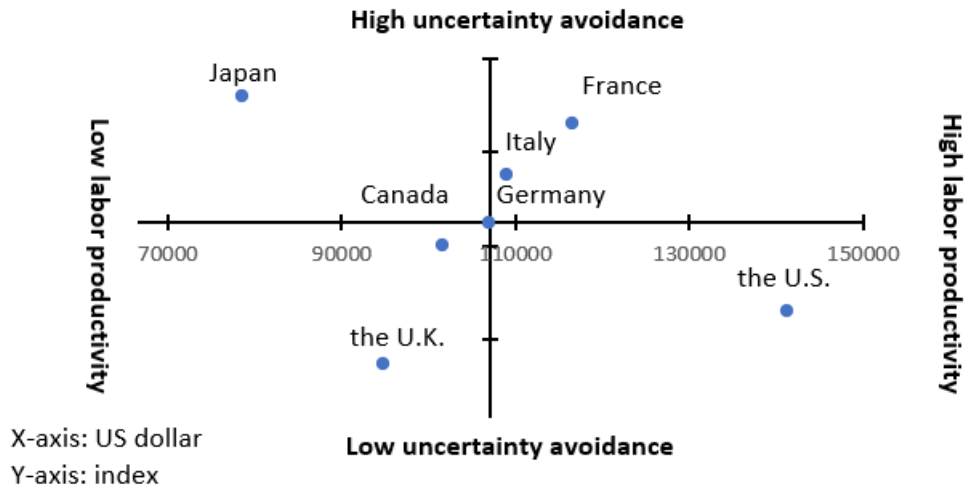


Source: Heskett et al. (1994), p.166.

#### 2-4. Uncertainty Avoidance

The process of increasing labor productivity varies from country to country. Minkov et al. (2013) mentioned cultural dimension of "uncertainty avoidance" is one of the factors contributing to cross-country differences in job freedom. For companies in countries where uncertainty avoidance is high, a multitude of different rules exists to avoid unforeseen events (Ward & Chapman, 2003). This is believed to increase labor productivity because of the clarity of the way they work (Stowers, 2013). On the other hand, companies in countries with low uncertainty avoidance tend to value flexibility in the way they work. This has resulted in low labor productivity due to a lack of clarity about how to work (Hofstede et al., 2010; Stowers, 2013).

Figure3: Uncertainty Avoidance and Labor Productivity in G7 countries



Source: Based on Hofstede et al. (2010) and Japan productivity center (2021), by the authors.

Labor productivity and uncertainty avoidance for G7 are shown in figure 3. We found positive correlations between them, and this trend is the same as Hofstede et al. (2010)'s findings. However, Japan and the U.S. are out of this relationship. Japan has high uncertainty avoidance but low labor productivity. On the other hand, labor productivity is high in the U.S. despite low uncertainty avoidance. Although this trend is observed among G7, it is assumed that there are other countries with similar trends like Japan and the U.S. all over the world. Therefore, improvements can be found by examining the process of understanding Japan's management philosophy as representative of a country with high uncertainty avoidance and low labor productivity. On the other hand, by

examining the U.S., we can acquire meaningful implications about the country where labor productivity is high despite low uncertainty avoidance. Therefore, we examine the process of understanding management philosophy for increasing labor productivity in Japan and the U.S.

Employee's understanding of management philosophy is based on the opportunity for the top management themselves to set a clear management philosophy and share it within the organization, and on the opportunity for educated employees to voluntarily communicate the management philosophy (Seto, 2015). According to Schein (1985), there are two mechanisms of understanding management philosophy: primary and secondary understanding. Primary understanding includes the opportunity to understand the management philosophy from the top and through training. Secondary understanding includes writing the management philosophy in the company brochure and posting the management philosophy in the company (Itami & Kagono, 2003; Umezawa, 1994). In addition, Kitai & Matsuda (2004) analyzed the mechanism of understanding management philosophy and employee satisfaction. The results indicated a positive relationship with primary understanding, but almost no relationship with secondary understanding. Yokokawa (2010) indicates the importance of building a philosophy-based organization by management, philosophy training for general and managerial staff, and employee education in understanding management philosophy. Christopher & Sumantra (2022) also indicates the importance of encouraging people in the organization

from the top. They indicate that when top management becomes directly involved in training and other forms of development of the management team, they understand the philosophy and become more aware that this process is an effective means of shaping the company's goals.

Based on the above, we examined two processes for the understanding of management philosophy: opportunities for top management to directly communicate management philosophy with employees (hereafter referred to as "top management"), and opportunities for employees to learn about management philosophy among senior, junior, and peer employees through training, etc. (hereafter referred to as "training system").

It would be beneficial to multinational companies based in various countries if we can clear the process of how the understanding of management philosophy increases labor productivity. Multinational companies are expected to use different processes for understanding their management philosophy depending on the country where they operate, and to do so in the most effective way (Sakurai, 2009).

## **2-5. Top Management**

According to Schein (1985), actions, words, and deeds by leaders promote employees' understanding of management philosophy. An effective and specific measure that would be effective is to support and challenge top management to put

the management philosophy into practice and provide feedback to employees (Kitai & Tanaka, 2006). Through these efforts, it has been confirmed that employee satisfaction has increased due to a better understanding of the management philosophy (Sawabe & Tobita, 2009). Thus, this study hypothesizes the following:

H1: Management philosophy has an indirect positive effect on labor productivity through top management and employee satisfaction in Japan (a) and the U.S. (b).

## **2-6. Training system**

Management philosophy training influences mid-level executives and even causes changes in the attitudes of employees at the end of the line. As management philosophy is formulated and trained, the understanding of management philosophy will increase (Taka, 2010). Furthermore, by providing training to employees and giving appropriate evaluations to employees who have demonstrated competence, employee satisfaction will also increase (Matsuba, 2008). It is also suggested that by providing training, employees can acquire the knowledge necessary to perform their jobs based on the management philosophy, which in turn increases employee satisfaction (Halawi & Haydar, 2018).

Thus, the following hypothesis is proposed:

H2: Management philosophy has an indirect positive effect on labor productivity through the training system and employee satisfaction in Japan (a) and the U.S. (b).

## **2-7. Management philosophy and Labor Productivity**

It has been shown that people who set clear goals when performing their tasks tend to perform better (Parkinson, 1981). This means that labor productivity is expected to increase if the goals are clarified through the understanding of the management philosophy. Therefore, we examine the direct effects of understanding management philosophy and labor productivity as well.

H3: Management philosophy has a direct positive effect on labor productivity in Japan (a) and the U.S. (b).

Furthermore, as noted earlier, the process of increasing labor productivity differs among the cultural degree of uncertainty avoidance. Therefore, the process of understanding management philosophy enhancing labor productivity is also expected to vary among countries. Using the framework of Hofstede et al. (2010), we examine cultural differences, uncertainty avoidance, for understanding of business philosophy.

In countries where uncertainty avoidance is high, people tend to create various rules to avoid the stress of unknown situations (Miyabayashi, 2020). Therefore, we consider



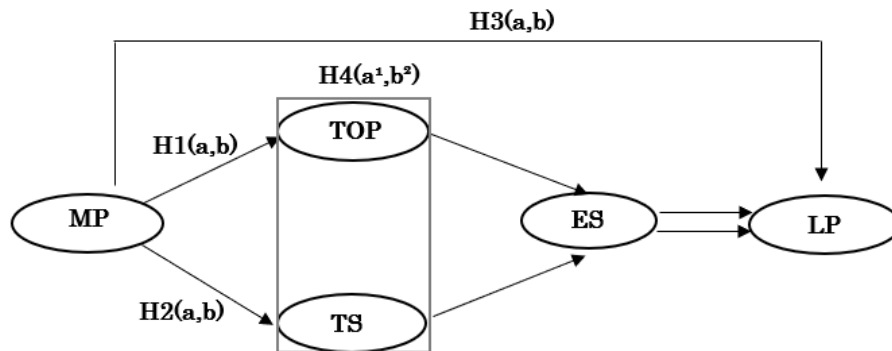
formally understanding of management philosophy through the training system is effective for them. On the other hand, in countries where uncertainty avoidance is low, people tend to agree with business ownership that tries new things because they are not afraid of unknown situations (Wennekers et al., 2007). Therefore, we set hypotheses describing differences in the process understanding of management philosophy between Japan and the U.S.

H4(a): The mediation effect of top management is greater in the U.S. than in Japan.

H4(b): The mediation effect of training system is greater in Japan than in the U.S.

Based on our hypotheses, we set our conceptual model in figure 4.

Figure4: Conceptual model



MP=Management philosophy TOP=Top management TS=Training system,  
 ES=Employee satisfaction LP=Labor productivity

<sup>1</sup>H4(a)MP→TOP→ES→LP (2 mediator model) , <sup>2</sup>H4(b)MP→TS→ES→LP (2 mediator model)

Source: Authors.

### 3. Methodology

#### 3-1. Sampling

We conducted a quantitative study to measure the strength of the connections between concepts. Our survey was conducted by using an online panel offered by a research agency on July 9, 2022, in Japan and July 31, 2022, in the U.S.

The sample was extracted randomly from all regions and areas in Japan and the U.S. A total of 318 valid respondents were collected from Japan (142) and the U.S. (176). The sample description is shown in Table 2. The resulting age trend is approximately the age averages of the working population in Japan and the U.S. (Ministry of Internal Affairs and Communications, Labor Force Survey, 2021: U.S.

Department of Labor, 2020). Also, the male/female ratio of our sample approximates the percentage of monthly salary recipients in Japan and the U.S. (Statistics Bureau, Ministry of Internal Affairs and Communications, 2022; U.S. Department of Labor, 2020). The demographic variables of age and sex were considered control variables in our model.

Table2: Sample description

	Classification	N (Japan)	% (Japan)	N (the U.S.)	% (the U.S.)
Age	<18	0	0	0	0
	18-24	2	1.4	17	9.7
	25-34	5	3.5	38	21.6
	35-44	23	16.2	70	39.8
	45-54	48	33.8	34	19.3
	>54	64	45.1	17	9.7
Gender	Male	100	70.4	84	47.7
	Female	42	29.6	92	52.3
Material States	Married	90	63.4	77	43.0
	Single	52	36.6	55	31.3
	Divorced	0	0	14	8.0
	Other	0	0	30	17.0

Source: Authors.

This study measured constructs based on existing scale items which have been confirmed reliable and validity in literatures. Management philosophy was measured

by using the scale of Matsuba (2013). Top management is measured by Mark (2020)'s scale. The training system is measured by Luigi et al. (2022) 's scale. Also, employee satisfaction is measured by the scale of Simone (2016). The scale by WHO Health and Work Performance Questionnaire was adopted for measuring labor productivity. Each item was graded on 7 points Likert scale from 1 point: "Strongly disagree" to 7 points "Strongly agree". This survey was pretested to avoid misunderstanding among respondents before sampling. These scales are created in Japanese and English, so we translated them into English and Japanese. For translating these scales, we adopted a parallel translation method for the English scale and a back translation method for the Japanese scale (Brislin, 1980; Usunier & Lee, 2009). According to Usunier & Lee (2009)'s suggestion, the accuracy of the translation can be verified when translation errors can be interpreted in the evaluator's native language.

### **3-2. Measurement Reliability and Validity**

The reliability and validity of measurement scales were evaluated before analysis. Following the recommendations of Anderson & Gerbeing (1998), we tested the validity and reliability of the scale through two steps: exploratory factor analysis (1st step) and confirmatory factor analysis (2nd step). We used the statistic software JASP (version: 0.16.4) for investigating our samples. To confirm the convergence of items, we conducted exploratory factor analysis (EFA) with Promax rotation and the maximum likelihood

estimation method. Some items showed unstable and extremely low factor loadings, so they were excluded from subsequent analyses according to Hair et al. (2014)'s suggestion. Then, a confirmatory factor analysis (CFA) by maximum likelihood estimation was carried out. The results are shown in Table 3.

Table3: Convergent validity

Construct	Items	Mean	SD	Factor loading	Item-to-total	cronbach's alpha( $\alpha$ )	composite reliability(CR)	Omega value( $\omega$ )	Average variance extracted (AVE)
Management philosophy	MP1	4.00	1.52	.83	.82	.83	.86	.84	.68
	MP2	3.47	1.73	.74	.87				
	MP3	3.92	1.76	.90	.91				
Top management	TOP1	4.28	1.66	.80	.86	.85	.87	.85	.70
	TOP2	4.00	1.86	.85	.89				
	TOP3	4.17	1.70	.85	.88				
Training system	TS1	4.03	1.76	.90	.92	.83	.86	.83	.75
	TS2	4.26	1.80	.84	.93				
Employee satisfaction	ES1	4.64	1.78	.84	.86	.89	.91	.89	.67
	ES2	4.88	1.53	.73	.78				
	ES3	4.47	1.63	.82	.84				
	ES4	4.23	1.71	.87	.86				
	ES5	4.58	1.70	.81	.83				
Labor productivity	LP1	4.35	1.50	.76	.81	.82	.86	.83	.67
	LP2	4.46	1.58	.86	.88				
	LP3	4.34	1.58	.83	.88				

n=318

MP: Management philosophy; TOP: Top management; TS: Training system;

ES: Employee satisfaction; LP :Labor productivity

Source: Authors.

The model fit was good:  $\chi^2 = 145.22$ ,  $df = 94$ ,  $p < .001$ , CFI = .99, TLI = .98, SRMR = .03, and RMSEA = .04. Hair et al. (2014) suggests that the CFI and TLI should be better than .90 and the RMSEA and SRMR should be less than .08 for sample sizes

greater than 200 and fewer than 30 measurement items. Our data meet every criterion by Hair et al. (2014). In addition, the item-to-total and all factor loadings were higher than .50. The internal consistency and construct validity were checked using Cronbach's alpha, composite reliability, and omega value. All values were above .70: thus, they support internal consistency and construct validity (Hair et al., 2014; McDonald, 1978). Additionally, every average variance extracted (AVE) value was greater than .50. These measurements allowed us to validate convergence validity.

In order to evaluate the discriminant validity between constructs, we calculated the heterotrait-monotrait ratio (HTMT) correlation suggested by Henseler et al. (2015). The HTMT correlations between constructs must be smaller than .90 for testing discriminant validity, according to Teo et al. (2008). All HTMT values are shown in Table4 and met the requirement, proving the discriminant validity.

Table4: HTMT (Heterotrait-monotrait ratio) correlation

	1	2	3	4	5
1. Management philosophy (MP)					
2. Top management (TOP)	0.86				
3. Training system (TS)	0.77	0.83			
4. Employee satisfaction (ES)	0.83	0.87	0.88		
5. Labor productivity (LP)	0.81	0.78	0.78	0.88	

Source: Authors.

Through these procedures, we confirmed measurement reliability and validity. Therefore, we tested our model by structural equation modeling (SEM) using R (version: 4.1.2). We controlled age and gender in our model. Also, we investigated mediation analysis for testing our hypotheses. We employed the bootstrap method suggested by Hayes (2017) to estimate mediation effects. This study used 2,000 bootstrapping estimates for the indirect effect.

## **4. Results**

### **4-1. Results of a structural equation modeling**

The model fit index is good:  $\chi^2=421.00$ ,  $df=218$ ,  $p<.01$ ,  $CFI=.94$ ,  $TLI=.93$ ,  $SRMR=.05$ , and  $RMSEA=.07$ . The smallest  $R^2$  was .58.

In Table 5, the results of SEM are shown. We firstly test H3 describing direct effect, since H1, H2, and H4 suppose indirect effects. H3 predicted that management philosophy has a direct positive impact on labor productivity in Japan (a) and the U.S. (b). In Japan, management philosophy was confirmed to have a positive impact on labor productivity ( $\beta=.23$ ,  $p<.05$ ), supporting H3(a). In the U.S., however, the relationship between management philosophy and labor productivity was not significant ( $\beta=.37$ , n.s.). Thus, H3(b) was not supported in our data.

Table5: Results of a structural equation modeling

				Standard $\beta$	Standard error	t-value	p-value
Japan (n=142)	MP	→	TOP	0.88	0.04	24.38	<.001
	MP	→	TS	0.83	0.04	19.19	<.001
	TOP	→	ES	0.79	0.09	8.95	<.001
	TS	→	ES	0.13	0.10	1.26	n.s.
	ES	→	LP	0.72	0.09	7.77	<.001
	MP	→	LP	0.23	0.10	2.32	<.05
the U.S. (n=176)	MP	→	TOP	1.00	0.03	37.86	<.001
	MP	→	TS	0.87	0.04	22.63	<.001
	TOP	→	ES	0.31	0.16	1.92	n.s.
	TS	→	ES	0.68	0.16	4.24	<.001
	ES	→	LP	0.41	0.22	1.88	n.s.
	MP	→	LP	0.37	0.22	1.67	n.s.

$\chi^2 = 421.002$ ,  $df = 218$ ,  $p < .01$ ,  $CFI = .94$ ,  $TLI = .93$ ,  $SRMR = .05$ ,  $RMSEA = .07$

MP: Management philosophy; TOP: Top management; TS: Training system;

ES: Employee satisfaction; LP :Labor productivity

Source: Authors.

## 4-2. Results of mediation analysis

To test the hypothesis and examine the process from understanding management philosophy to labor productivity, a mediation analysis was conducted after SEM. Results are shown in Table 6. Results show that understanding management philosophy has a positive indirect effect on labor productivity through top management and employee satisfaction (Japan:  $\beta = .35$ ,  $p < .05$ ; the U.S.:  $\beta = .60$ ,  $p < .001$ ). The results support H1(a), H1(b), and H4(a). We also found that understanding management philosophy has a positive indirect effect on labor productivity through the training system and employee satisfaction (Japan:  $\beta = .56$ ,  $p < .01$ ; the U.S.:  $\beta = .34$ ,  $p < .001$ ).



The results supported H2(a), H2(b), and H4(b). Among them, it is observed that the indirect effect through top management and employee satisfaction in the U.S. have a greater impact on the improvement of labor productivity than in Japan. Both countries are also shown both direct and indirect effects are confirmed, which means partial mediation.

Table6: The effect of mediation

								Standard $\beta$	Standard error	95%CI (Lower)	95%CI (Upper)	p-value
Japan (n=142)	MP	→	TOP	→	ES	→	LP	0.35	0.16	0.02	0.66	<.05
	MP			→			LP	0.73	0.14	0.45	1.00	<.001
	MP	→	TS	→	ES	→	LP	0.56	0.14	0.18	0.74	<.001
	MP			→			LP	0.78	0.13	0.40	0.91	<.001
the U.S. (n=176)	MP	→	TOP	→	ES	→	LP	0.60	0.17	0.22	0.79	<.001
	MP			→			LP	0.77	0.12	0.43	0.89	<.001
	MP	→	TS	→	ES	→	LP	0.34	0.13	0.40	0.91	<.001
	MP			→			LP	0.74	0.15	0.47	1.06	<.001

MP: Management philosophy; TOP: Top management; TS: Training system;  
ES: Employee satisfaction; LP :Labor productivity

Source: Authors.

## 5. Discussion

We examined the process of labor productivity improvement through the understanding of management philosophy. This section discusses the results. First, H1(a), H1(b), H2(a) and H2(b) were supported in both countries. These results indicate that the process of understanding the management philosophy through the training system is more likely to increase labor productivity than through the top management in Japan. On the other hand, management philosophy was shown to increase labor

productivity more in the process of understanding through top management than through the training system in the U.S. One possible reason for this could be that the different uncertainty avoidance has an effect on the understanding of the management philosophy using top management and training system. Specifically, the training system may be effective in countries with high uncertainty avoidance because they feel stressed about unknown situations and prefer formality. In countries with low uncertainty avoidance, top management may be effective because they are not afraid of unknown situations and sympathize with business owners that take on new challenges.

Second, H3(a) and H3(b) indicating direct effects were supported in Japan, but not in the U.S. Our results imply that employees in countries with high uncertainty avoidance increase their labor productivity when they have the opportunity to understand the management philosophy for themselves. However, comparing the mediating and direct effects, it is conceivable that labor productivity would be higher using the understanding process with top management and the training system. One possible reason for this is the Windsor Effect, in which information communicated through others is considered more reliable for understanding a certain matter than by the parties themselves. (Ikeda, 2010). Therefore, it is suggested that the use of an understanding process is more likely to increase understanding of management philosophy than understanding management philosophy on one's own.

Third, H4(a) and H4(b) was supported regarding international differences in the process of how understanding management philosophy works. The results indicate that the process of understanding management philosophy through top management has a stronger effect on enhancing labor productivity in the U.S. than in Japan. On the other hand, the process of understanding management philosophy via training system showed a stronger effect on enhancing labor productivity in Japan than in the U.S. One possible reason for this is that employees have different brand values for the company. According to Ind & Schmit (2019), "Self-brand connection" and "Brand identification" are two essential components for employees to constitute brand value to a company. In addition, "brand value as a function" and "value as a symbol" are involved in these constructs. Japan is highly uncertainty avoidance and tends to choose to take everything in stages. The U.S., on the other hand, is low uncertainty avoidance and therefore a high degree of freedom and less fear of unknown situations has pursued. Therefore, they tend to have a strong trust in CEOs who are willing to take on new challenges (Wennekers et al., 2007). The framework of Ind & Schmit (2019) implies that brand value as a function, including training, is effective in Japan, while value as a symbol through top management is effective in the U.S.

The results of the analysis indicate that the process of understanding management philosophy through the training system is effective for companies in countries with high uncertainty avoidance, but labor productivity has not increased in the current situation.

A possible reason for this is that, although the companies are formally implementing measures to have their management philosophy understood, the level of understanding of their management philosophy has not increased. Therefore, we conducted an interview survey of several companies in Japan regarding the measures they are currently implementing to increase the level of understanding of their management philosophy. In this interview survey, we chose the service sector, which accounts for about 70% of Japan's GDP. Productivity growth is indicated to be dependent on the service sector (Ministry of Economy, Trade, & Industry, 2022). Therefore, we selected 201 service companies (National Corporation List, 2019). We sent a survey request to all these companies and conducted interviews with three of those that responded. Table 7 provides an overview of the three companies.

Table7: Outline of the survey

No.	1	2	3
Company	A	B	C
Contact Person	Public Relations Manager	Administrative Manager at Headquarters	Public Relations and Personnel Manager
Business Model	B to C	B to C	B to C
Number of Worker	852	4841	2115
Date	2022/10/25	2022/11/10 am. 14:55~15:25	2022/11/16 am. 10:00~10:30
Method	Mail	Zoom	Zoom

Source: Authors.

In common with all three companies, the training system was found to enhance employee's understandings about management philosophy. However, since the training system at all the companies consisted of reciting the management philosophy at the time of hiring and chanting the philosophy at the daily morning meeting, the employees did not feel that they understood the essence of the management philosophy. This indicates that simply reciting the management philosophy is not enough to fully understand it. This suggests that in companies in countries like Japan, a formal process of understanding management philosophy is effective in increasing labor productivity, but that simply reciting management philosophy as in the past is not enough for employees to reach a sufficient level of understanding to embody management philosophy.

### **6-1. Academic implications**

First, our finding indicates that employee satisfaction and labor productivity increase as the degree of understanding of management philosophy increases. This offers new insights for exploring the theory of the service profit chain by Heskett et al. (1994). Since the effect of management philosophy had not been considered in this theoretical model, this study can develop a new concept of it considering the "degree of understanding of management philosophy".

Second, we found a relationship between labor productivity and national characteristics of uncertainty avoidance. We found four country models for the relationship between labor productivity and uncertainty avoidance: ① countries with high uncertainty avoidance and high labor productivity: ② countries with low uncertainty avoidance and low labor productivity: ③ countries with high uncertainty avoidance but low labor productivity (Japan): ④ countries with low uncertainty avoidance but high labor productivity (the U.S.). In addition to the correlations found in country models ① and ②, it is clear that there are country models that are exceptions to the rule, such as ③ and ④.

Third, this study clarifies areas that cannot be explained by the theoretical framework of uncertainty avoidance. We found from the questionnaire survey and interviews that the process of understanding the management philosophy of top management and the training system is effective in dealing with countries like Japan and the U.S., which are exceptions to the relationship between uncertainty avoidance and labor productivity.

## **6-2. Practical implications**

This study also has practical implications. It elucidated the effect of the process of understanding the philosophy through top management and the training system as a factor that improves labor productivity without spending a large amount of money.

In a country like Japan, where uncertainty avoidance is high, it is necessary to enhance the process of understanding through the training system. Therefore, increasing training opportunities on management philosophy between senior and younger employees, as well as between employees of the same age group, could be effective in improving labor productivity. In addition, it was confirmed that increasing the degree of understanding management philosophy directly increases labor productivity in Japan. Therefore, simply having an opportunity for employees themselves to understand the management philosophy would be relatively effective in Japan. However, our data suggest that indirect processes are more effective for increasing labor productivity. On the other hand, in countries like the U.S., where uncertainty avoidance is low, the influence of the process by top management is strong. Therefore, increasing opportunities for top management to directly talk about the philosophy to employees is considered effective in improving labor productivity.

The results of an interview survey conducted with several Japanese companies revealed that although measures to understand management philosophy through the training system have been taken in Japan, understanding of management philosophy has not progressed to the point where it is demonstrated in action. Therefore, the formal process of understanding the management philosophy, which is conducted as a training system, should be conducted in such a way that the management philosophy is embodied.

### **6-3. Further research**

This study has several limitations that should be addressed in future research. It is necessary to clarify whether this study applies to other countries as well since this study was conducted only for Japan and the U.S. In addition, this study focuses on the relationship between the understanding of management philosophy and labor productivity as a general trend. Thus, it is necessary to examine how our results differ in each industry or employment type. We would like to address these issues in the future.



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## Appendices

### Accompanying material 1: Questionnaire

Constructs	Items	Source
Management philosophy	MP1: I believe that understanding the management philosophy has changed the way I think about my job. MP2: I can recite the management philosophy. MP3: I can express the management philosophy in my own words.	Matuba (2013)
Top management	TOP1: I believe top managers work hard. TOP2: Top management supports all employees equitably. TOP3: Top management communicates changes effectively.	Mark (2020)
Training system	TS1: I am satisfied with the opportunities I have to engage in training and education activities that are beyond that needed in my job. TS2: I am satisfied with the amount of training I receive in my current position.	Luigi et al. (2022)
Employee satisfaction	ES1: I like the work I currently do in this company. ES2: I am encouraged to contribute to improving the way my job is done. ES3: I know what I must do to grow professionally in this company. ES4: I believe working in this company will bring me opportunity to improve my career and grow. ES5: I feel that my work is important for this company to succeed.	Simone (2016)
Labor productivity	LP1: I evaluate the usual performance of my colleagues who do the same kind of work I do. LP2: I evaluate my usual performance over the past year or two. LP3: I highly evaluate my overall performance over the past 4 weeks (28 days).	WHO Health and Work Performance Questionnaire (short form)

Some items showed unstable and extremely low factor loadings, so they were excluded from analyses in this study.

Source: Authors.