Overview of JP MOPS Project

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Plan of Today's Talk

- Overview of the JP MOPS
  - JP MOPS team
  - Survey questions
  - Timeline, Target, Response rates
  - Link to other data sets
  - Current situation and Future plan

- US MOPS and JP MOPS comparisons
  - Direct comparisons of management scores
  - Performance regressions

Summary of JP-MOPS

- JP MOPS is the Japanese version of Management and Organizational Practices Survey for 2015
- Official Japanese statistical survey
- Many survey questions in JP MOPS are identical to the ones in 2015 U.S. MOPS
- Nick Bloom (Stanford Univ.), Renata Lemos (World Bank), Ryo Kambayashi , Atsushi Ohyama, Cabinet Office Japan, U.S. Census Bureau

Roles of JP-MOPS Team

Bloom team

- Provide expertise of management surveys (Lemos, Buffington)
- Jointly craft survey questions carefully

Kambayashi, Ohyama (JP-MOPS)

- Translation of MOPS into Japanese
- Design survey framework
- Plan and conduct data analyses

Cabinet Office (ESRI)

- Provide founding for JP-MOPS (About 300,000 U.S. dollars)
- Government endorsement

Timeline

March 2016 – December 2016
Start of project and preparations

January 6, 2017
Paper-based surveys were mailed out

February 3, 2017
Deadline

January 23 – February 3
First Follow-up Telephone Calls (mfg:16,396)

February 7 – February 21
Second Follow-up Telephone Calls (mfg:11,346)

February 28, 2017
Extended deadline

JP-MOPS: Official Statistics

内 閣 府

政府統計

組織マネジメントに関する調査

調査票（製造業）

この調査票の取り扱いについては、万全を期し、秘密を厳守いたします。
また、お答えの内容は統計以外の目的に使用されることはありません。

1．本調査は、事業所を対象とした調査です。事業所における組織マネジメントの実態を把握し、生産性向上との関係を分析することを目的としています。回答時間の目安はおよそ 30 分です。

2．調査票の記入が終わりましたら、同封の返信用封筒に入れて、平成 29 年 2 月 3 日までに郵便ポストに投函ください。

3．本調査の結果概要については、御協力いただいた貴事業所へ送付いたします。

- Must be approved by the Ministry of Internal Affairs and Communications

- A response is not required by law (not mandatory)

JP and US MOPS Questionnaire

JP MOPS

■セクションA　<生産管理について>

問１．貴事業所では、生産工程に問題が生じた時、それにどのように対処しましたか（例：製品の品質上の問題や機械の故障など）。2010 年当時と 2015 年当時について、典型的な対処として最もよく当てはまる回答をそれぞれ１つだけお選びください。

	2010 年	2015 年
問題点を解消したが、それ以上のことは行わなかった。	□	□
問題点を解消し、再び起こらないよう対策を採った。	□	□
問題点を解消し、再び起こらないよう対策を採ったうえ、同様の問題を未然に防ぐための継続的な改善プロセスを設けた。	□	□
何もしなかった。	□	□

問２．貴事業所では、いくつの KPI（Key Performance Indicator:重要業績評価指標）を利用していましたか。2010 年当時と 2015 年当時について、当てはまる回答をそれぞれ１つだけお選びください。

＊ KPI（重要業績評価指標）は、いわゆる生産目標のことではなく、生産量、コスト、無駄、品質、在庫、エネルギー消費、納期の遵守、労働者の欠勤に関する数値などで、最終目的を達成するため企業活動が順調に進んでいるかどうかを示す指標のことです。

	2010 年	2015 年	
１～２つの指標	□	□	問３へ
３～９つの指標	□	□	問３へ
１０以上の指標	□	□	問３へ
特に KPI を採用していなかった。（もし両年において、KPI を採用していなかった場合には、問６へお進みください）	□	□	→ 問６へ

U.S. MOPS

Section A - Management Practices

1 In 2010 and 2015, what best describes what happened at this establishment when a problem in the production process arose?

Examples: Finding a quality defect in a product or a piece of machinery breaking down.

Mark one box for each year	2010	2015
We fixed it but did not take further action	☐	☐
We fixed it and took action to make sure that it did not happen again	☐	☐
We fixed it and took action to make sure that it did not happen again, and had a continuous improvement process to anticipate problems like these in advance	☐	☐
No action was taken	☐	☐

2 In 2010 and 2015, how many key performance indicators were monitored at this establishment?

Examples: Metrics on production, cost, waste, quality, inventory, energy, absenteeism and deliveries on time.

Mark one box for each year	2010	2015
1-2 key performance indicators	☐	☐
3-9 key performance indicators	☐	☐
10 or more key performance indicators	☐	☐
No key performance indicators (If no key performance indicators in both years, SKIP to **6**)	☐	☐

Target

- Establishment-level survey
  - Must be located in Japan as of July 1, 2014 (Economic Census for Business Frame)
- 30 employees or more
- Reference years: 2015 and 2010

	Manufacturing	**Food Retail**	**Info. Serv.**
Meet 30 employees	55,863	3,573	3,503
Stratifying Sampling	36,052	NA	NA
Mailed out	36,052	3,573	3,503
Delivered	35,263	6,514	

Response Rates

- Manufacturing: 31.6 %
  - 11,427 returned / 36,052 mailed
- Food and Drink Retail: 35.6 %
  - 1,273 returned / 3,573 mailed
- Information Technology Service: 26.7 %
  - 936 returned / 3,503 mailed

Survey Questions (Manufacturing)

US-MOPS		JP-MOPS	
Survey questions	# of Q	Note	# of Q
A. Management Practices	16	Identical	16
B. Organization	7	Identical	7
C. Data and Decision Making	6	Not Asked	0
D. Uncertainty	8	Employment, Shipment 3 scenarios	4
E. Background Characteristics	10	College degree only	2

Survey Questions (Food Ret., Info. Serv.)

US-MOPS		JP-MOPS	
Survey questions	# of Q	Note	# of Q
A. Management Practices	16	Identical	16
B. Organization	7	Identical	7
C. Data and Decision Making	6	Modified Frequency of used and influenced	2
D. Uncertainty	8	Not Asked	4
E. Background Characteristics	10	College degree and No. of Employees	3
		Innovation, Competition	4

Uncertainty Question in JP MOPS

Uncertainty Question (Value of shipments)

- Looking ahead to the 2018 calendar year, what is the approximate value of products shipped you would anticipate for this establishment in the following scenarios (highest, medium, lowest), and what likelihood do you assign to each scenario?

2018 年のシナリオ	出荷の予測金額（単位：万円）									起こりうる可能性（合計は 100%）			
	兆	千億	百億	十億	億	千万	百万	十万	万円	百桁	十桁	一桁	
予測の最低値													%
予測の中間値(平均値)													%
予測の最高値													%
									合計	1	0	0	%

3 scenarios
Highest, Medium, Lowest

Values of product shipments

Subjective probabilities

Systematic Forecast

	Number	Percentage (all)	Percentage (respondents)
Responded (A)	9,720	86.2	
Three scenarios (B)	9,356	82.0	96.3 (B/A)
Sum to 100% (C)	8,607	75.5	92.0 (C/B)
Correct order (D)	9,092	80.0	97.2 (D/B)

- Subjective forecast about future growth rates of value of shipment is positively associated with management score
- The range (standard deviation) of subjective forecast is negatively associated with management score (also past employment growth)

Innovation and Competition Questions

問３０. 貴事業所と直接競合する事業所の数はどれくらいでしたか。2015 年当時について、当てはまる回答をそれぞれ１つだけお選びください。

	2015 年
０	□
１～２の事業所	□
３～５の事業所	□
６～１０の事業所	□
１１以上の事業所	□

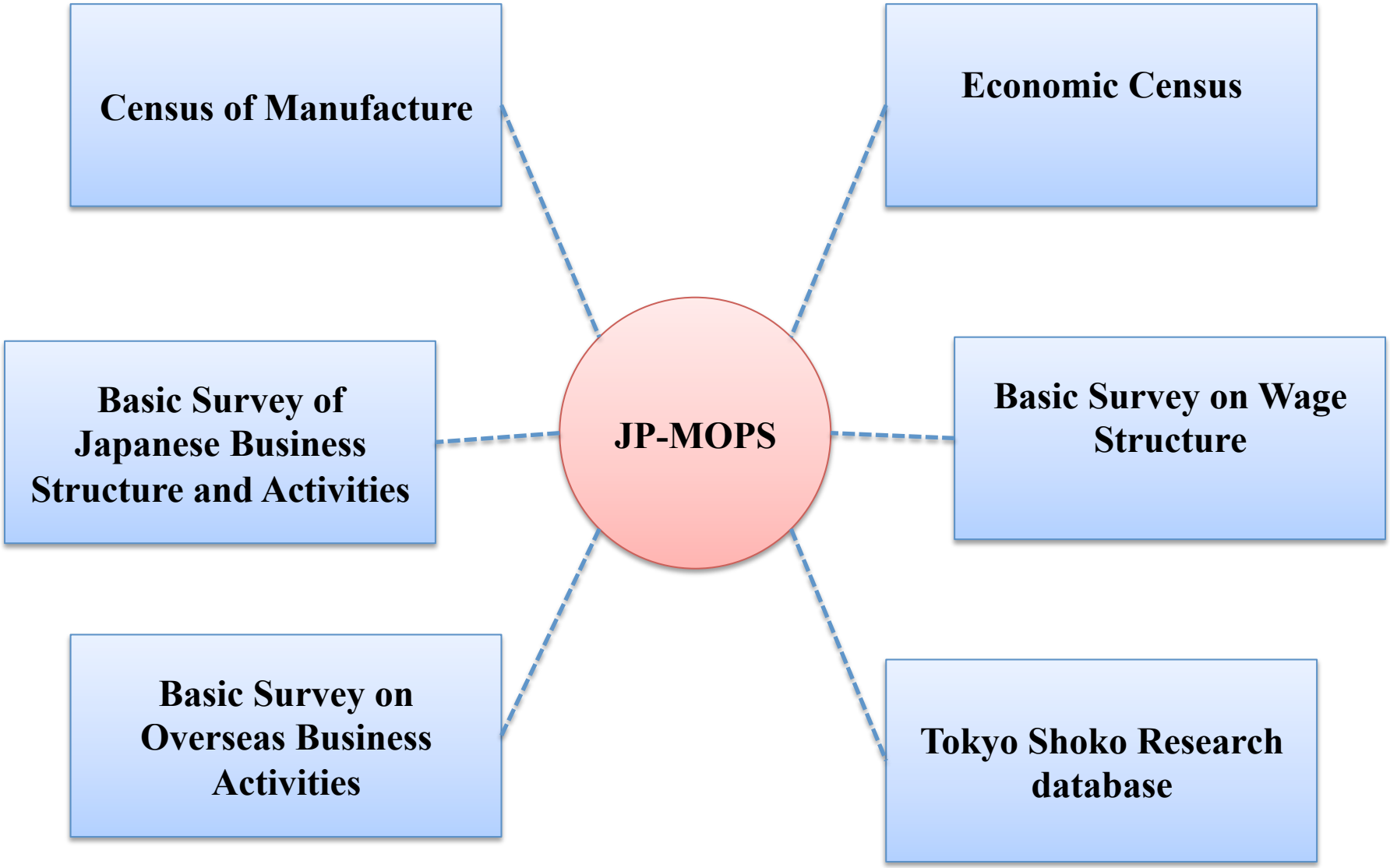
Q.30 : How many competitors were your establishment aware of in 2015?

問３１. 貴事業所では、過去 5 年（2010 年～2015 年）の間、下表のイノベーションを実施しましたか。当てはまる回答をそれぞれ１つだけお選びください。

	実施してない	数年に 1 回実施	年 1 回実施	年 2 回以上実施
新商品・サービスの開発・投入	□	□	□	□
既存の商品・サービスの改良	□	□	□	□
既存の商品・サービスの新たな組み合わせ	□	□	□	□
新規プロセスの導入	□	□	□	□
プロセスの改善	□	□	□	□

Q.31: Between 2010 and 2015, how often did your establishment conduct the following types of innovation?

Merged with Other Japanese Data Sets



Current Situation and Future Plan

Current situation

- Ohyama and Kambayashi have done preliminary analysis
- Kambayashi: Extension to Labor Aspects
  - Within-establishment gender gap diminishes with management score
  - University-graduate premium is boosted as a management score of establishment gets higher

- Planning for 2nd wave JP-MOPS for 2020 (Research grant application has been already submitted)

Summary Statistics

Table 1: US MOPS

	Mean	S.D.	Percentile					Number of Observations
			10th	25th	50th	75th	90th	
Management Score	0.691	0.134	0.506	0.613	0.710	0.788	0.849	24,000
Decentralization Score	0.381	0.180	0.167	0.250	0.375	0.481	0.625	11,000

Table 2: JP MOPS

	Mean	S.D.	Percentile					Number of Observations
			10th	25th	50th	75th	90th	
Management Score	0.545	0.149	0.340	0.444	0.556	0.654	0.730	9,560
Decentralization Score	0.336	0.193	0.083	0.208	0.333	0.458	0.583	2,949

Note: Ohlmcher created the tables and figure in the slides for US MOPS and Ohyama did so for JP MOPS.

Management Score Distribution

Figure 1: US MOPS

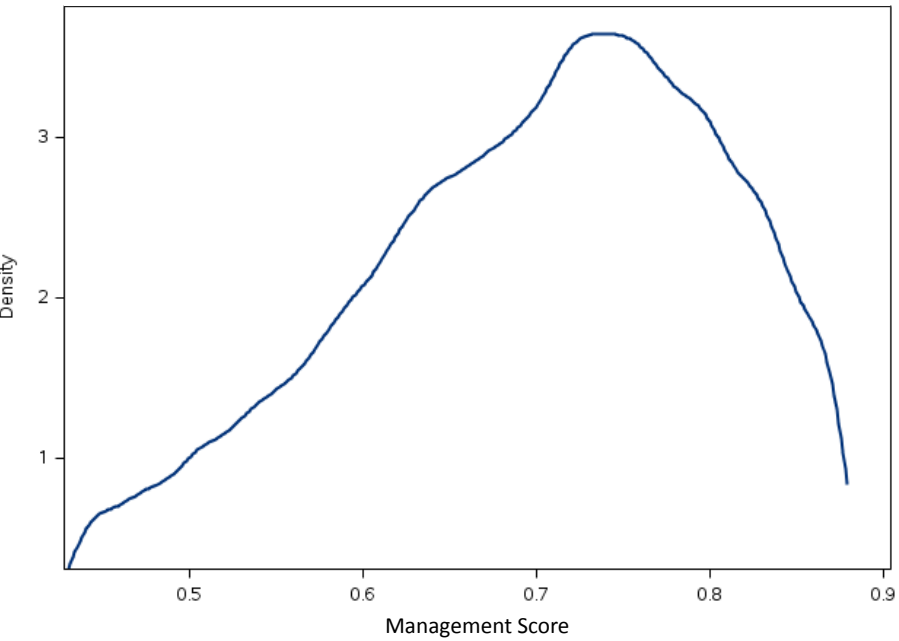
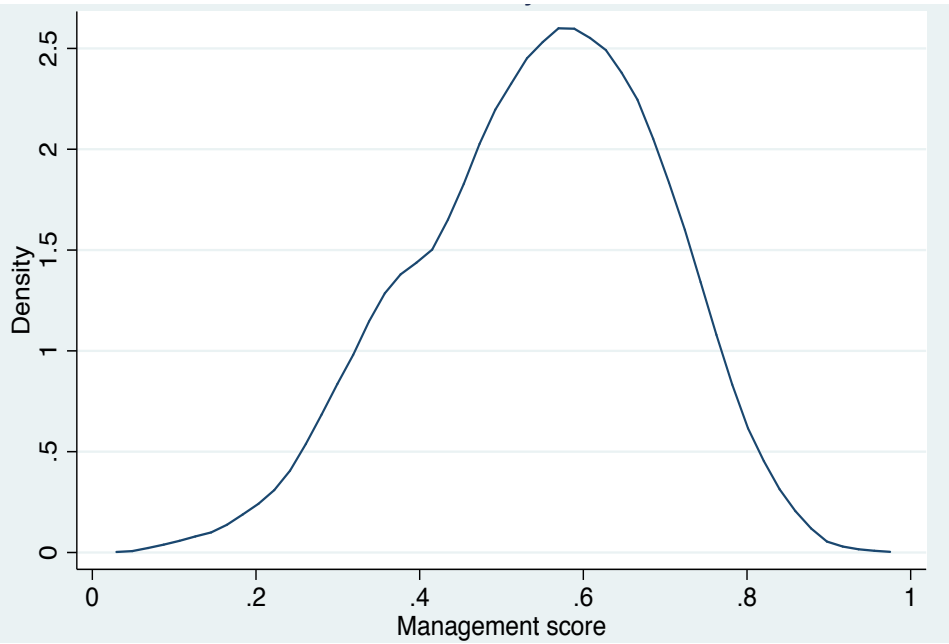


Figure 2: JP MOPS



Management Score by Question

	US MOPS		JP MOPS	
	Mean	Std. Err	Mean	Std. Err
Management of a Problem (Q1)	0.902	0.001	0.860	0.004
KPI (Q2, Q5)	0.744	0.002	0.699	0.003
Monitoring Frequency (Q3,Q4)	0.586	0.001	0.527	0.002
Target Setting (Q6,Q7,Q8)	0.769	0.001	0.641	0.002
Bonuses (Q9,Q10,Q11,Q12)	0.476	0.002	0.706	0.003
Promotion (Q13,Q14)	0.878	0.002	0.791	0.002
Dismissal of Under-Performers (Q15,Q16)	0.618	0.002	0.236	0.002

Management Score and Labor Productivity

	Dependent Variable: Log(VA/EMP)					
	US MOPS			JP MOPS		
	I	II	III	I	II	III
Management score	1.170***	0.640***	0.454***	1.060***	0.979***	0.525***
	(0.054)	(0.042)	(0.041)	(0.071)	(0.065)	(0.066)
Log (Capital/Emp)			0.204***			0.160***
			(0.007)			(0.009)
Log (Emp)			-0.010			0.124***
			(0.008)			(0.014)
Observations	24,000	24,000	24,000	8,299	8,299	7,222
Number of Firms (Clusters)	14,000	14,000	14,000	7,210	7,210	6,260
Fixed Effects	None	Industry	Industry	None	Industry	Industry
Region and Education Effects	No	No	Yes	No	No	Yes

Management Score and Decentralized Score (Ordered Probit)

Table 5: US MOPS

Dependent Variable: Decentralized Score (0:centralized, 0.5 neutral, 1: decentralized)						
	Hiring	Pay	New Product	Pricing	Advertising	Investment
Management score	-0.137	0.747***	-0.233**	-0.576***	-0.607***	1.315***
	(0.107)	(0.103)	(0.100)	(0.100)	(0.106)	(0.094)
Observations	11,000	11,000	11,000	11,000	11,000	11,000

Table 6: JP MOPS

Dependent Variable: Decentralized Score (0:centralized, 0.5 neutral, 1: decentralized)						
	Hiring	Pay	New Product	Pricing	Advertising	Investment
Management score	-0.480***	0.037	-0.389**	-0.440***	-0.532***	0.832***
	(0.156)	(0.159)	(0.157)	(0.153)	(0.159)	(0.155)
Observations	2,949	2,949	2,949	2,949	2,949	2,949

Conclusion

- 2015 JP MOPS closely followed 2015 US MOPS
- Several comparison studies regarding U.S. and Japan can be pursued
- We plan to run the second wave of JP MOPS for 2020