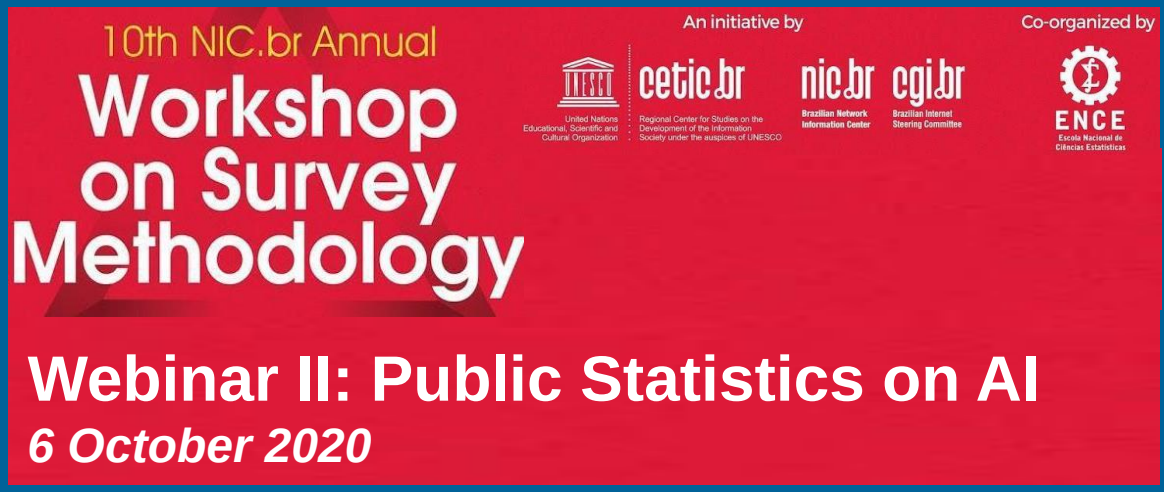

"AI measurement in ICT usage surveys: a review"

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OUTLINE

- Policy rationale
- Official AI measures to inform AI policy
- AI Definition
- Cross country comparison of AI surveys: Issues and level of complexity
- Results on AI use
- Conclusions and next step

Policy rationale

- Monitoring implementation of ambitious AI policy objectives requires internationally comparable measures

  "making Germany and Europe global leaders on the development and use of AI technologies and securing Germany's competitiveness in the future" Germany

  "By 2030, Singapore will be a leader in developing and deploying scalable, impactful AI solutions, in key sectors of high value and relevance to our citizens and businesses" Singapore

  "make Sweden a leader in harnessing the opportunities that the use of AI can offer, with the aim of strengthening Sweden's welfare and competitiveness" Sweden

- AI promises - highlight AI-use data which can be used to explore the connection to productivity/competitiveness

  So far AI does not yet seem to have had a notable impact on productivity growth in the US – 4 possible explanations: false hopes, mismeasurement, redistribution and implementation lags

  Source: Brynjolfsson, Rock, and Syverson (2017)

Official AI measures to inform AI policy

Answer to the question: To what extent are firms using AI in their business?

- Novel cross country analysis of measures on AI use in firms (focus on statistically sound official statistics)

Results indicate that:

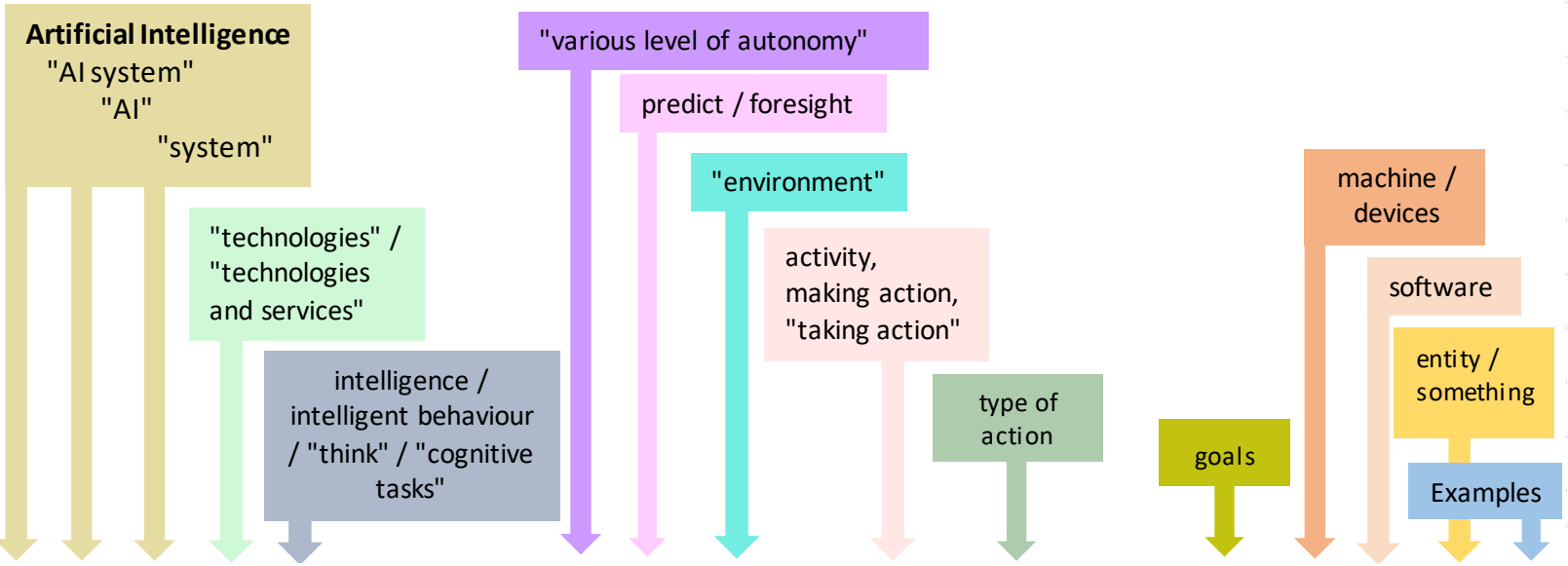
- AI measurement definitions in 7 countries and 2 international organisations cover similar topics but in slightly different ways
- Still, AI survey vehicles are more heterogeneous and cover many areas
- Results on AI use in 5 countries raises comparison issues
- Matching AI policy and official AI measures
  - AI policy objectives are much broader than the measures

Source: “AI Measurement in ICT Usage Surveys: A Review”, Doc. Ref. DSTI/CDEP/MADE(2020)3

AI Definition

Selected key words or expressions in the definitions

Source: AI Measurement in ICT Usage Surveys: A Review (2020)



OECD	X		X		See below	X	X	real or virtual	X	See below	objectives	X			
Eurostat		X	X	X		X	X		X		specific	X	X		X
CAN		X	X			X		X	X		specific	X	X		
DEN		X							X				X		X
FRA		X		X					X						X
ISR		X					X	X	X			X		X	
JPN		X							X					X	
KOR		X		X								X			X
SWE		X	X			X		X	X		specific	X	X		X

make predictions, recommendations, or decisions / predict, recommend or decide / display intelligent behavior / think / cognitive tasks traditionally performed by humans / etc.

Problem solves / aiming at computerization of cognitive tasks traditionally performed by humans / making machines intelligent / etc.

Cross country comparison of AI surveys: Issues and level of complexity

Level of complexity

Questions	countries/organisations							
	Canada	Denmark	Korea	Japan	France	Israel	Eurostat	United States
Use of AI (Y/N)	X	X	X	X	X	X	X	X
(If not) Awareness of AI			X					
(If not) Reasons for not using AI	X		X	X				X
Plan to use AI in the future			X	X			X	
(If not) Reasons for not using AI in the future							X	
Acquisition (in-house/outsourced/mix)					X	X	X	
Specific AI technologies *(e.g. Machine Learning, Deep Learning, Natural Language Recognition, ...)*	X	X					X	
Sectors (domains, fields) of implementation						X	X	
Business functions							X	
Purpose (reasons) of use / motivations for use / goals	X		X	X	X	X	X	X
Data sources and data types		X						
Skills needed						X		
Did your enterprise recruit or try to recruit AI specialists during 20xx?						X		
During 20xx , did your enterprise have difficulties filling vacant positions for AI specialists?						X		
Impacts				X				X
on Workforce – Processes and Methods								X
(number of workers / skills of workers)								X
on number of Worker Types – Processes and Methods								X
(production/non production/supervisory/nonsupervisory)								X

Source: AI measurement in ICT usage surveys: a review, DSTI/CDEP/MADE (2020)3

Results on AI use in 5 countries raises comparison issues

Percentage of firms using AI

	Canada (1) 2017	Denmark (2) 2019	France (3) 2018	Japan (4) 2017	Korea (5) 2017	Korea (6) 2018
firm's size band	*20+*	*10+*	*10+*	*100+*	*10+*	*10+*
All	**4.0**	**6.0**	**11.4**	**14.1**	**1.5**	**2.1**
10-49		4.8	10.8	-	1.5	1.6
Small (20-99)	3.2		11.3			
50-99		6.7	12.3			
100-249		12.1	14.3	-		
100-299			13.1	14.2		
(Medium) 50-249			13.1	-	1.1	3.6
(100-249)	7.1		14.3			
Large (250+)	10.1	23.5	20.7	-	5.4	13.9
300+			23.2	13.6		

June 2020 updates

Source: AI measurement in ICT usage surveys: a review, DSTI/CDEP/MADE(2020)3

Conclusions and next steps

- Need for a clear AI measurement agenda that enables international comparison – especially measures on AI diffusion in firms
- First step towards a repository of statistically sound questions on AI use in firms
  - Quality AI indicators to inform policy
- This paper (WPMADE) has been prepared in collaboration with the OECD AI Policy Observatory
- A revised version of the paper will be submitted in November to the OECD Committee on Digital Economy Policy (CDEP) for declassification

THANK YOU!

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