

AI diffusion in Sweden

International conference on artificial intelligence in work, innovation, productivity and skills

Session: AI diffusion in firms: what do we know and what does it mean for policy?

Feb 3rd at 13.15-14.15

Irene Ek PhD

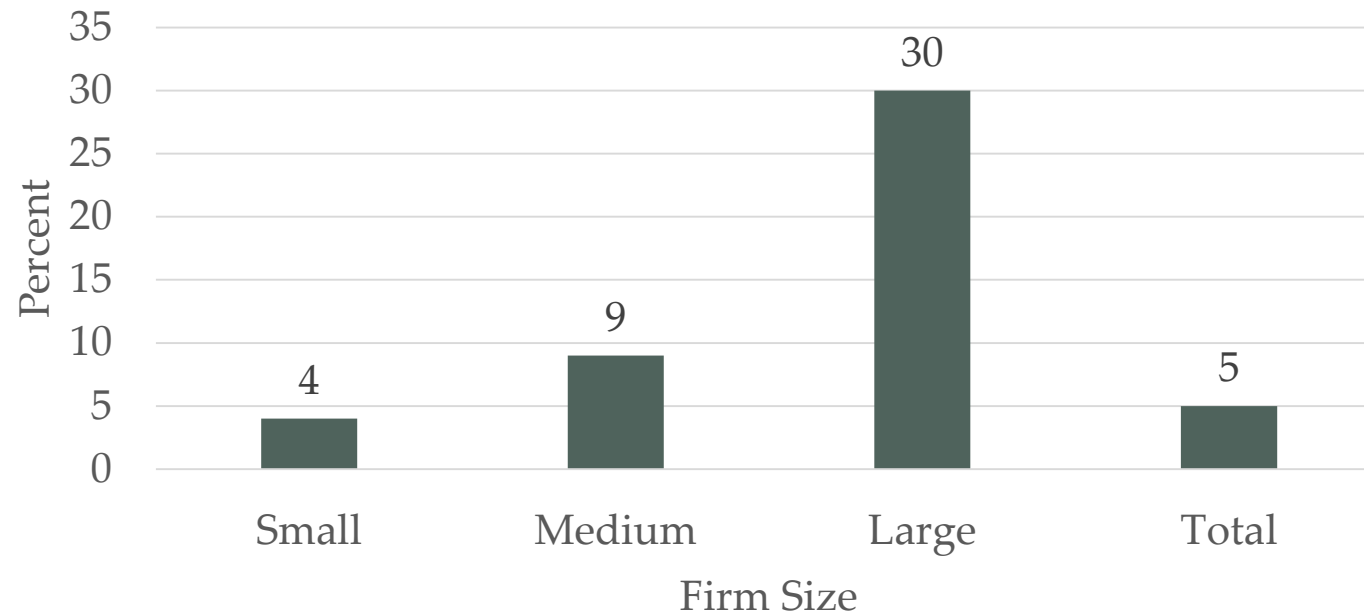
Irene.ek@tillvaxtanalys.se

Swedish AI data

- Detailed firm level data on AI usage in enterprises 2020
- AI in 3 surveys
 - ICT usage in enterprises survey
 - ICT expenditure
 - Business R&D
- Swedish official statistics
- 3831 firms in Sweden
- 82 % response rate
- Next step: couple AI use data to performance variables to potentially reveal new insights

Large firms surge ahead

% of firms that use some form of AI in their operation



McKinsey 58 %
AI use

Source: McKinsey Analytics (2019)
Global AI Survey: AI proves its worth,
but few scale impact

Source: Statistics Sweden, ICT usage in enterprises 2020
Download Excel file [here](#)

International comparison

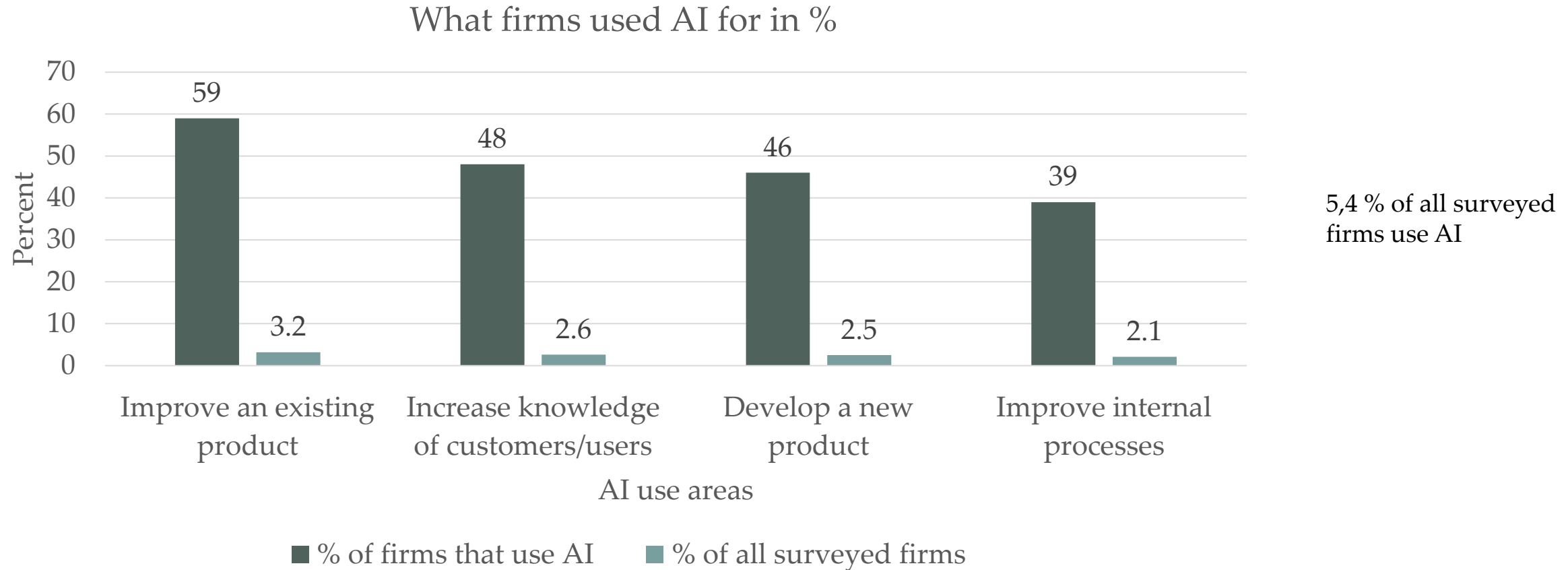
Percentage of firms using AI

	Canada (1) 2017	Denmark (2) 2019	France (3) 2018	Japan (4) 2017	Korea (5) 2017	Korea (6) 2018
<i>firm's size band</i>	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: OECD (2020) AI measurement in ICT usage surveys: a review, DSTI/CDEP/MADE(2020)3

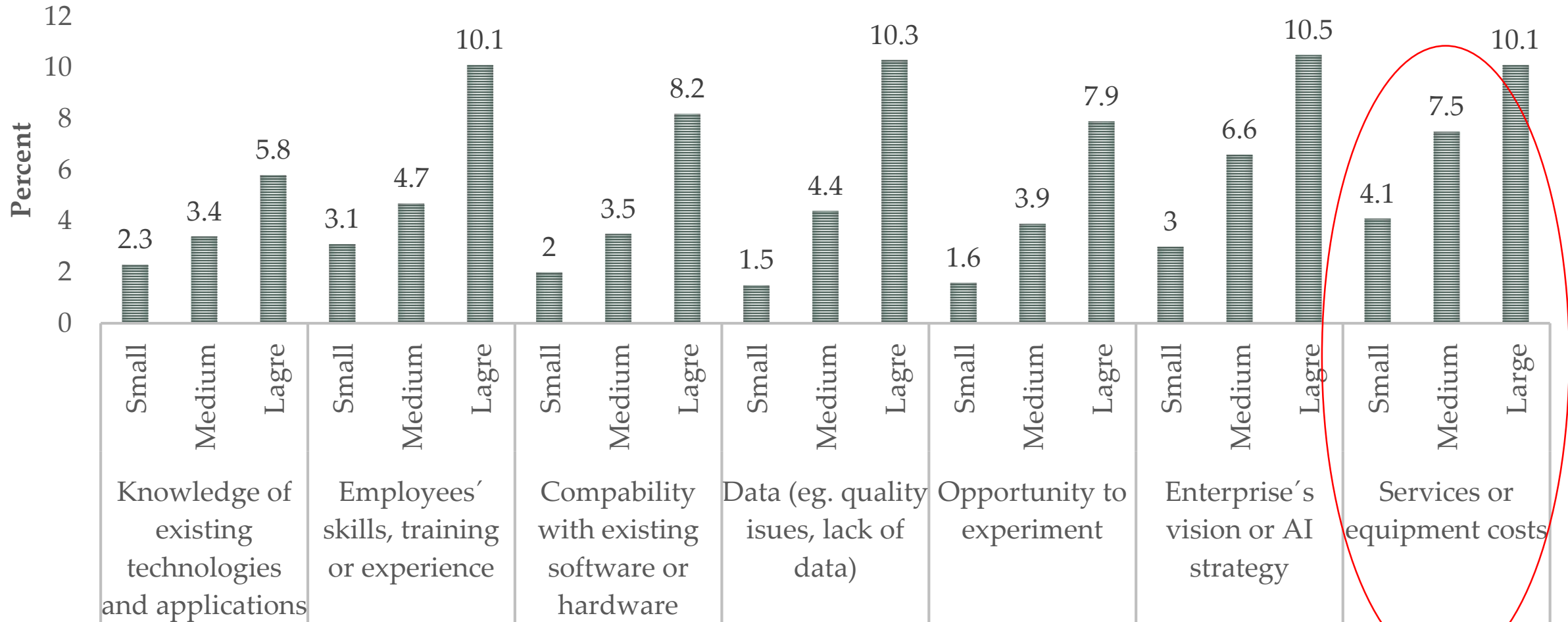
Firms mainly use AI to improve existing products



Source: Statistics Sweden, ICT usage in enterprises 2020

Cost is the biggest obstacle to AI use

Factors hampering AI usage - Yes, a big obstacle in % of all surveyed firms



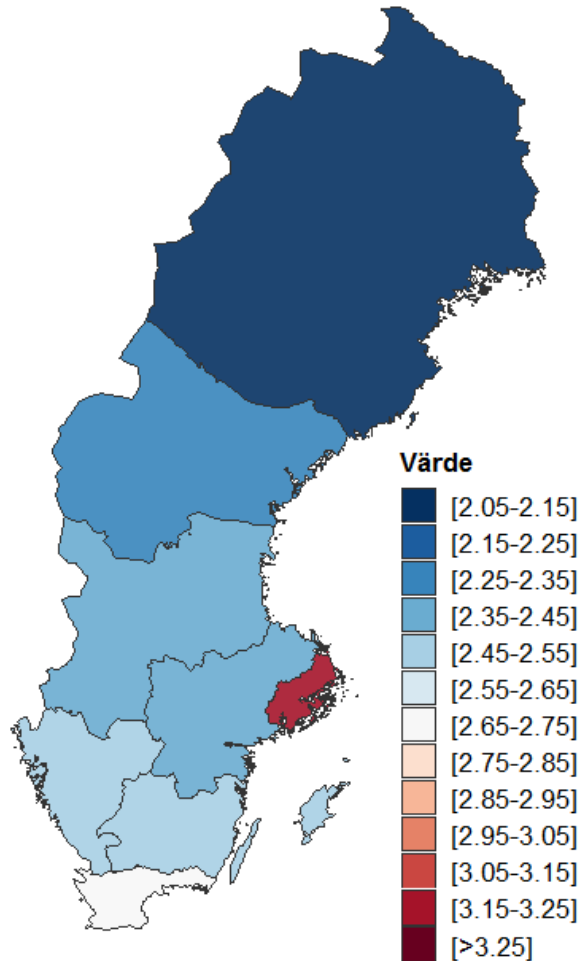
Source: Statistics Sweden, ICT usage in firms 2020



“AI is typically implemented and used with other advanced digital technologies”

Brock, von Wangenheim. (2019). Demystifying AI: What Digital Transformation Leaders Can Teach You about Realistic Artificial Intelligence, California Management Review

Digitally mature firms have higher productivity



Digital maturity heat map
Red = Warmer
Blue = Colder

To what extent firms simultaneously use
12 technologies (index)

Correlation with labour productivity

Source: Growth Analysis (2019), *Digital maturity in firms* based on SCB microdata ICT usage in Enterprises 2019

Policy considerations

- Focus on leaders and/or laggards?
- AI development / AI use
- AI prototype cemetery
- Targeted AI support / AI embedded in digital strategy
- Monitor implementation of AI policy objective
 - “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”
- New AI budget / existing R&I budgets

I am available if you would like to talk more AI

Irene.ek@tillvaxtanalys.se

And you can find me on linkedIn in [here](#)





info@tillvaxtanalys.se



www.tillvaxtanalys.se



www.linkedin.com/company/tillvaxtanalys/