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e-SIDES

Societal and Ethical Challenges in the Era of Big Data:

Exploring the emerging issues and opportunities of big data management and analytics

June 7, 2017 ; 15.30 – 17.00

Turin University, Turin, Italy

Agenda Item	Speaker
Presentation of e-SIDES	Gabriella Cattaneo, Associate VP IDC European Government Consulting
Presentation of workshop objectives	
Ethical and legal issues overview	Magdalena Jozwiak, Post Doctoral Researcher, eLAW Leiden University
Interactive session on ethical and legal issues	
Presentation of results and discussion	
Societal and economic issues overview	Michael Friedewald, Coordinator of ICT Research Fraunhofer ISI
Interactive session on societal and economic issues	
Presentation of results and discussion	
How to get involved with e-SIDES	Diala Ghanem, IDC European Government Consulting
Next steps and conclusions	Gabriella Cattaneo

Societal and Ethical Challenges in the Era of Big Data

Exploring the Emerging Issues and Opportunities of Big Data Management and Analytics

CEPE/Ethicomp 2017

Turin University, June 7 (15.30-17.00)

e-SIDES

About e-SIDES

e-SIDES in a nutshell

Involve the complete value chain of big data stakeholders to reach a common **vision for an ethically sound approach** to processing big data

Improve the dialogue between data subjects and big data communities (industry, research, policy makers, regulators) and, thereby, to **improve the confidence of citizens** towards big data technologies and data markets.

e-SIDES Partnership

IDC Analyze the Future

Coordinator

Communication

Community engagement

Fraunhofer

Technical partner for socio-economic research

eLAW LEIDEN

Technical partner for legal and ethics-related research

e-SIDES key objectives

Identify, discuss and validate **ethical and societal implications of privacy-preserving** big data technologies

Liaise with **big data community** (researchers, business leaders, policy makers and society) through events

Provide ethical-legal and societal-economic advice to **facilitate responsible research and innovation** on big data technologies

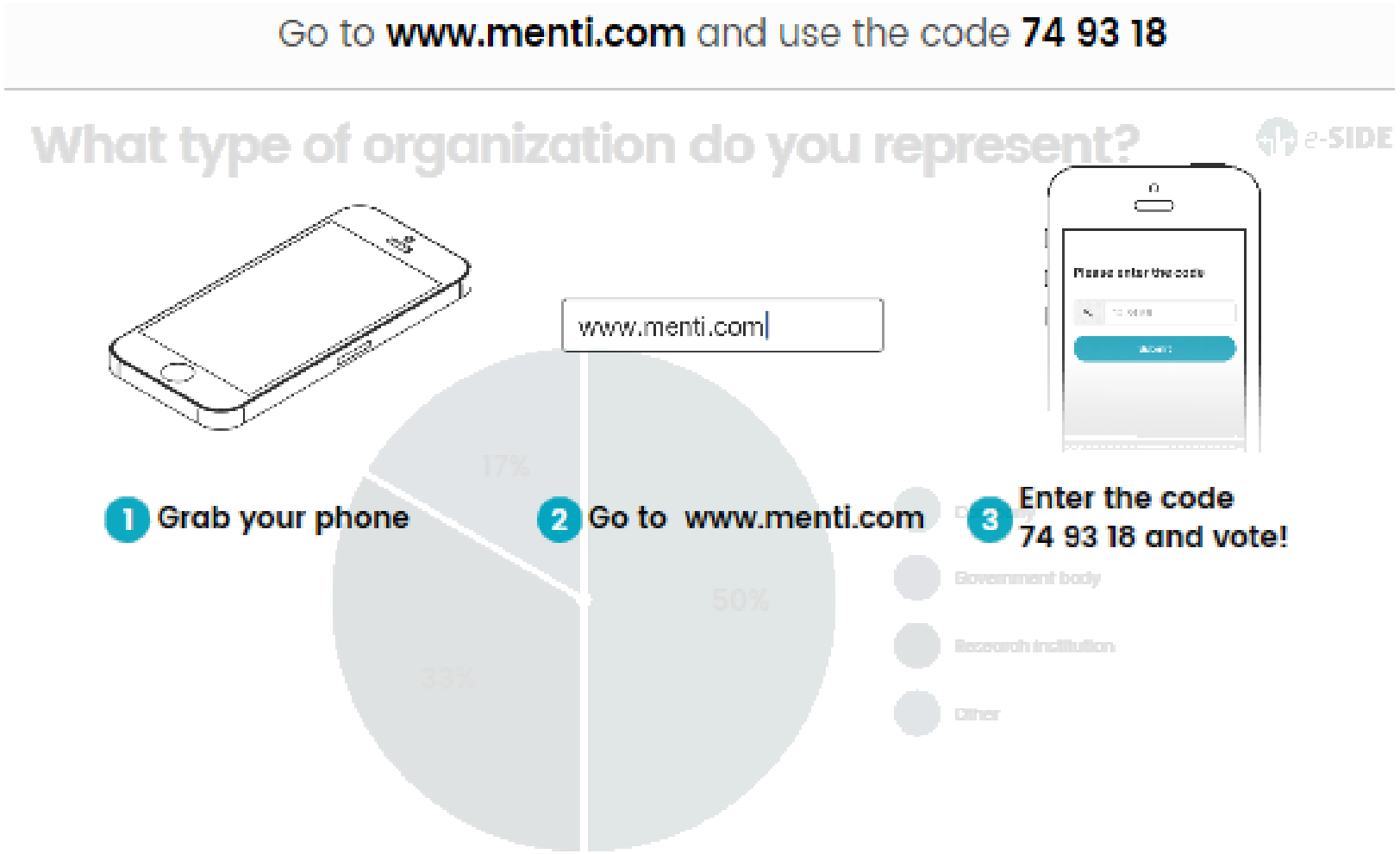
Provide collective **community position paper** with recommendations for responsible research and innovation on big data

Workshop: Societal and Ethical Challenges in the Era of Big Data

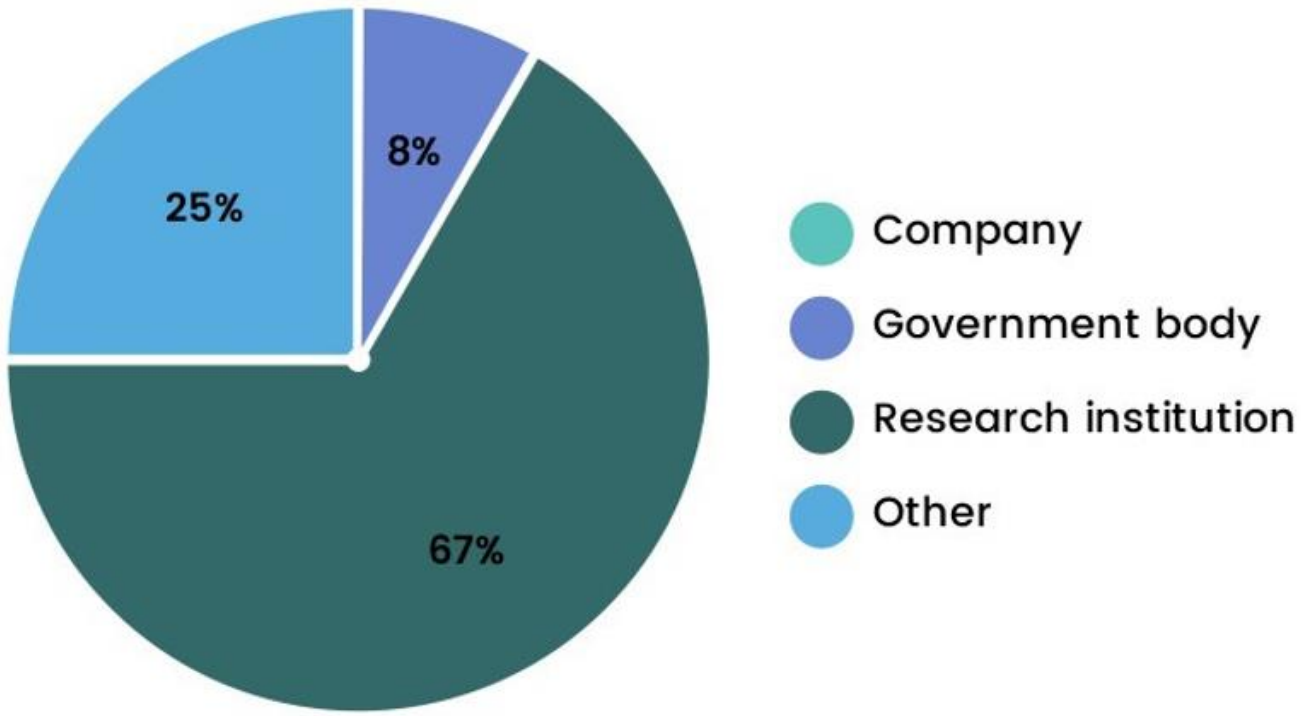
Workshop objectives

- Introduce e-SIDES
- Present our initial work
- Validate results and collect your inputs

How to interact



What type of organization do you represent?



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Ethical and Legal Issues Overview

Magdalena Jozwiak, Faculty of Law, Leiden University

The current legal paradigm and its discontents

- Different fundamental rights at stakes
- Data protection as THE regulatory tool
- Place for competition law and consumer protection

Problems with data protection

- Practical limitations


Terms and Conditions
I agree to the iOS, iCloud and Game Center Terms and Conditions and the Apple Privacy Policy.
Cancel
Agree

Problems with data protection

- Practical limitations
- Entrenched business models

Sharing within Facebook companies.
We share information we have about you within the family of companies that are part of Facebook. Learn more about our companies.

New owner.
If the ownership or control of all or part of our Services or their assets changes, we may transfer your information to the new owner.

Sharing With Third-Party Partners and Customers
We work with third party companies who help us provide and improve our Services or who use advertising or related products, which makes it possible to operate our companies and provide free services to people around the world.

Here are the types of third parties we can share information with about you:

Advertising, Measurement and Analytics Services (Non-Personally Identifiable Information Only).
We want our advertising to be as relevant and interesting as the other information you find on our Services. With this in mind, we use all of the information we have about you to show you relevant ads. We do not share information that personally identifies you (personally identifiable information is information like name or email address that can by itself be used to contact you or identifies who you are) with advertising, measurement or analytics partners unless you give us permission. We may provide these partners with information about the reach and effectiveness of their advertising without providing information that personally identifies you, or if we have aggregated the information so that

Problems with data protection

- Practical limitations
- Entrenched business models
- Power assymetry, the problem of ‘bigness’

Problems with data protection

- Practical limitations
- Entrenched business models
- Power assymetry, the problem of ‘bigness’
- Limits of the fundamental rights framework

Going back to the sources

- What is the rationale for rights' protection?

- Mapping the ethical issues at stake in:

➢gathering the data, making it big

➢processing the data (data analytics and decision making based on algorythms)

Issues for discussion

Legal aspects
1. Informed consent 2. Purpose limitation 3. Sensitive data 4. Harm of processing

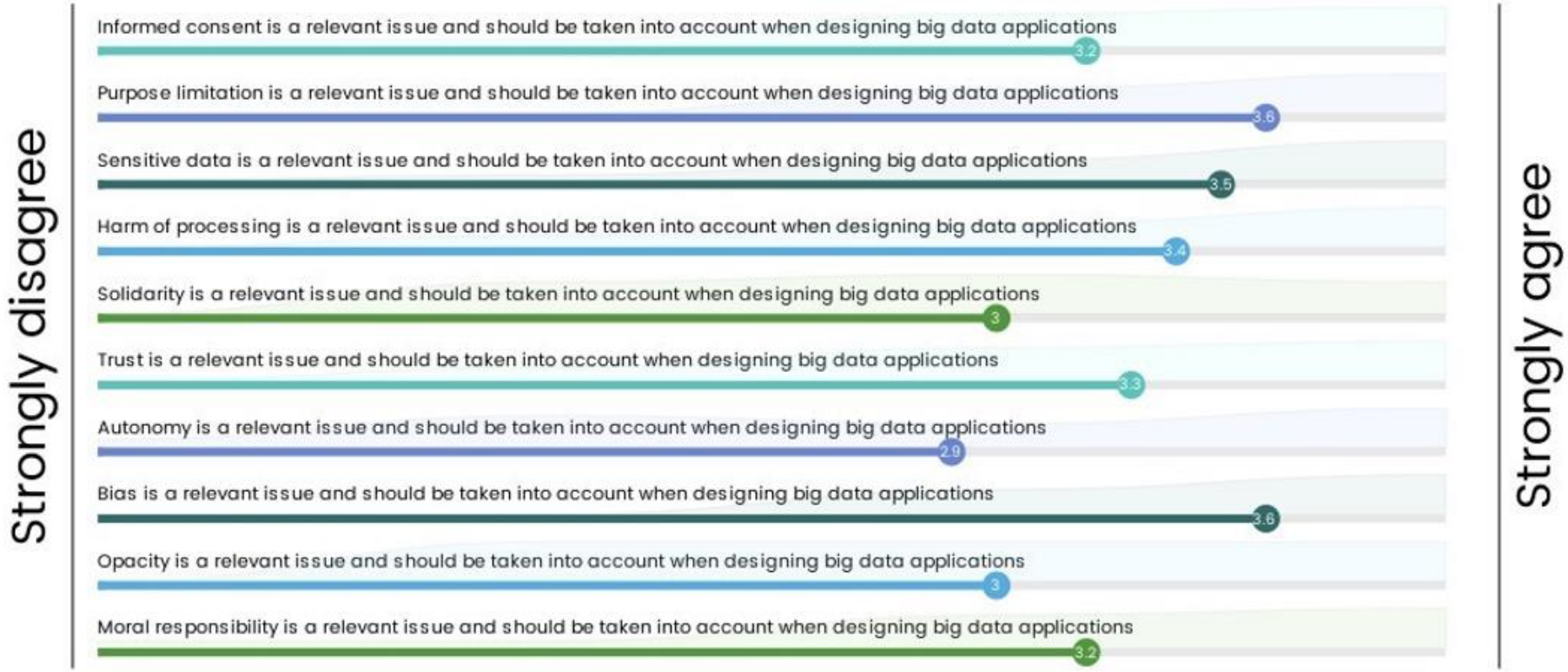
Ethical aspects

5. Solidarity (e.g. insurance individualization, society segmentation)
6. Trust (e.g. dependence on algorythmic decisions)
7. Autonomy (e.g. surveillence, filter bubbles, butlers, nudges)
8. Bias (e.g. leading to discrimination of all sorts)
9. Opacity (e.g. machine learning solutions)
10. Moral responsibility

Interactive Session on Ethical and Legal Issues

Magdalena Jozwiak, eLAW

To what extent do you agree/disagree with the following statements?



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Societal and Economic Issues Overview

Michael Friedewald, ISI

Unequal access

- Not everybody or every organization is in the same **starting position** with respect to big data
- The **digital divide**, for instance, refers to inequalities between those who have computers and online access, and those who don't
- **Access** to contact data, a privacy policy or information about data collection, processing and sharing depends on capabilities
- Inequalities with respect to the potential benefits from big data also exist between **organizations** of different industries, sizes and regional contexts

Example

Online policies on websites typically require a through legal and technological understanding to be fully understood, if they are found at all

Normalization

- People are put into **categories** whose characteristics are determined by what is most common and thus expected to be most likely
- **Filter bubbles** result when an algorithm selectively guesses what information somebody wants to see based on information about the individual as well as other similar individuals
- The **breadth of choices** is restricted and **pluralism** pushed back
- Normalization also happens on an **organizational level** but seems to be less critical

Example

Recommendations for products in online shops such as Amazon

Discrimination

- People or groups are **treated differently** depending on certain characteristics including age, disability, ethnicity or gender
- Big data technologies to some extent allow concluding initially **unknown characteristics** from others in the same or other datasets
- Discriminating people or groups might make **economic sense** and is **difficult to be detected**
- Data or algorithms upon which people are discriminated may be **incorrect** or **unreliable**

Example

Predictive policing, no-fly lists, or personalized pricing are examples where discrimination in the context of big data becomes visible

Dependency

- People and organizations **depend on others** collecting or processing data about or related to them, or providing access to data
- **Switching** from one organization to another is often linked to high costs, if it is possible at all
- For many types of data or data-related services, there is a **limited number** of providers and a considerable share of them is based **outside the EU**
- **Business practices** as well as **security measures** can usually not be affected by externals
- Organizations are also highly dependent on the **data** as well as the **big data technologies** they use

Example

Data-intensive organizations such as NHS hospitals in the UK had to stop operating after being attacked with ransomware

Intrusiveness

- Big data has integrated itself into nearly every part of people's **online** and to some extent also in their **offline experience**
- Data is **stored for long periods** of time and the potential to analyze the data or to integrate it with other data grow
- General suspicion of public authorities or an insatiable appetite of organizations for ever more data infringe people's **freedom**
- The **behavior of people** including how they live, work and interact with each other is affected by intrusive big data applications

Example

The impact of the integration of big data and video surveillance is considered to have particular potential for being intrusive

CCTV, body cameras and drones are increasingly used without the consent of the people observed

Non-transparency

- Algorithms are often like **black boxes**, they are not only opaque but also mostly unregulated and thus perceived as uncontestable
- People and organizations cannot be sure who is **collecting, processing, sharing** which data
- There are very limited opportunities to **check** if an organization has taken suitable measures to protect sensitive data
- Law **enforcement** is often constrained by a lack of resources of public authorities
- There is a lack of **practical experience** with respect to audits including privacy impact assessments

Example

Data subjects' right to information often impossible to exercise

Right to information limited to data storage

Abusiveness

- Data as well as big data technologies may be used for **illegal purposes** or for purposes that fall into a legal grey zone
- It is difficult to **check** the validity of results of data analyses if they look plausible
- Data or algorithms can be **manipulated** in order to reach desired results
- The border between data use and abuse is **blurry** at times

Example

Data collected to remove security flaws may be used by criminals to take over vulnerable systems

Unfair competition

- Small group of data collectors and data collectors offering platforms for data and applications
  - Dominance of US actors
  - Value chains dependent on non-European elements
  - Network and lock-in effects
  - New "natural" monopolies
- Large differences in competitive conditions
  - Asymmetry of market power
  - Accumulated advantage (Matthew effect) for those holding data
  - High barriers for market entry

→ Power to manipulate markets

Example

EU Commission has led several competition cases against Google's dominance in several markets (e.g. online advertising)

Labor market transition

- Application of big data analytics impacts the quality and quantity of (mainly) intellectual work
- Big data analytics allows the automation of routine tasks
- Uncertain: Job loss vs. compensation of lost jobs

- Big data analytics need different labour qualifications
- Uncertain: Upskilling vs. disqualification vs. polarisation

Example

"LawTech" to automate the search and classification of case law

Similar effect: "FinTech"

Information and power asymmetry

- Consideration of consumer protection rights and interests
- User can not negotiate for what price (in money or data) they use online services
- Re-use of data almost always does not include a sharing of benefit with the data subject
- Data (re-)use is often not in the interest of the data subject (e.g. credit scoring, targeted advertising, …)

Example

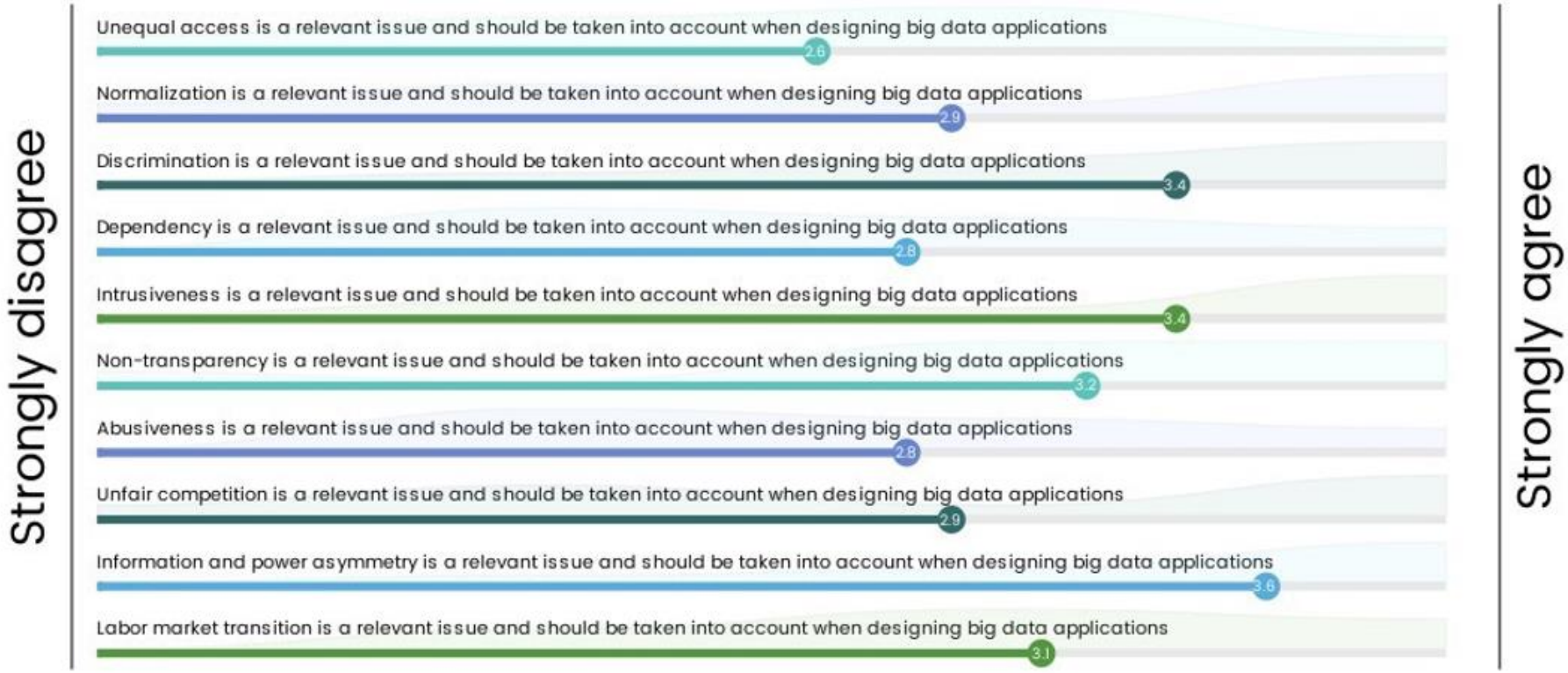
Many online services can only be used after providing requested data (take-it-or-leave-it)

Super markets using video data w/ face recognition to classify and “guide” customers

Interactive Session on Societal and Economic Issues

Michael Friedewald, ISI

To what extent do you agree/disagree with the following statements?



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Next Steps and Conclusions

Attend our following conferences, workshops and webinars

Next e-SIDES event: ICE/IEEE Conference, June 28 Madeira

Get access to relevant, novel and continually updated content

Next e-SIDES Report presenting the issues in August 2017

Contribute to our online community paper on website at www.e-sides.eu

Online community initiatives: e-sides.eu

Thank you

www.e-sides.eu
info@e-sides.eu

@eSIDES_eu

eSIDES_eu

e-SIDES