

SINGAPORE
8-10 NOVEMBER
2016

A solution to align corporate reporting frameworks: The case of GRI and CDP

SPEAKER:

Maria Mora

University of Bristol
Technical Manager at CDP

Co-authors:

Ian Hicks, Chair BPB XBRL
International

Francisco Flores, Member of
AECA



OVERVIEW

- Motivation
- Methodology
- Results and discussion
- Conclusions
- Further research
- Acknowledgement

MOTIVATION

COMING RFR REGULATION IN EU

- European Directive for non-financial reporting (2014/95/EU)

What?

Environmental matters
Social and employee aspects,
Respect for human rights
Anticorruption and bribery issues
Diversity in their board directors

Who? Public interest organisations with more than 500 employees (~6000 large companies in EU)

How?

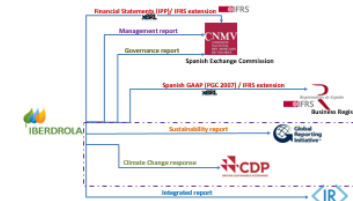
Suggests a set of voluntary reporting frameworks to enable compliance.

When? 2017

SINGAPORE 8-10 NOVEMBER 2016

Regulation

REALITY: CORPORATE REPORTING ECOSYSTEM / BURDENS



SINGAPORE 8-10 NOVEMBER 2016

Reality

CDP AND GRI LINKING INITIATIVE

CDP	GRI
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.
CDP is a global platform for companies to disclose their climate change performance and to benchmark their performance against industry peers.	GRI is a global standard for sustainability reporting, providing a framework for companies to disclose their sustainability performance.

Linking GRI and CDP (2016)

SINGAPORE 8-10 NOVEMBER 2016

Initiatives

SINGAPORE 8-10 NOVEMBER 2016

COMING NFR REGULATION IN EU

- European Directive for non-financial reporting (2014/95/EU)

What?

Environmental matters
Social and employee aspects,
Respect for human rights
Anticorruption and bribery issues
Diversity in their board directors

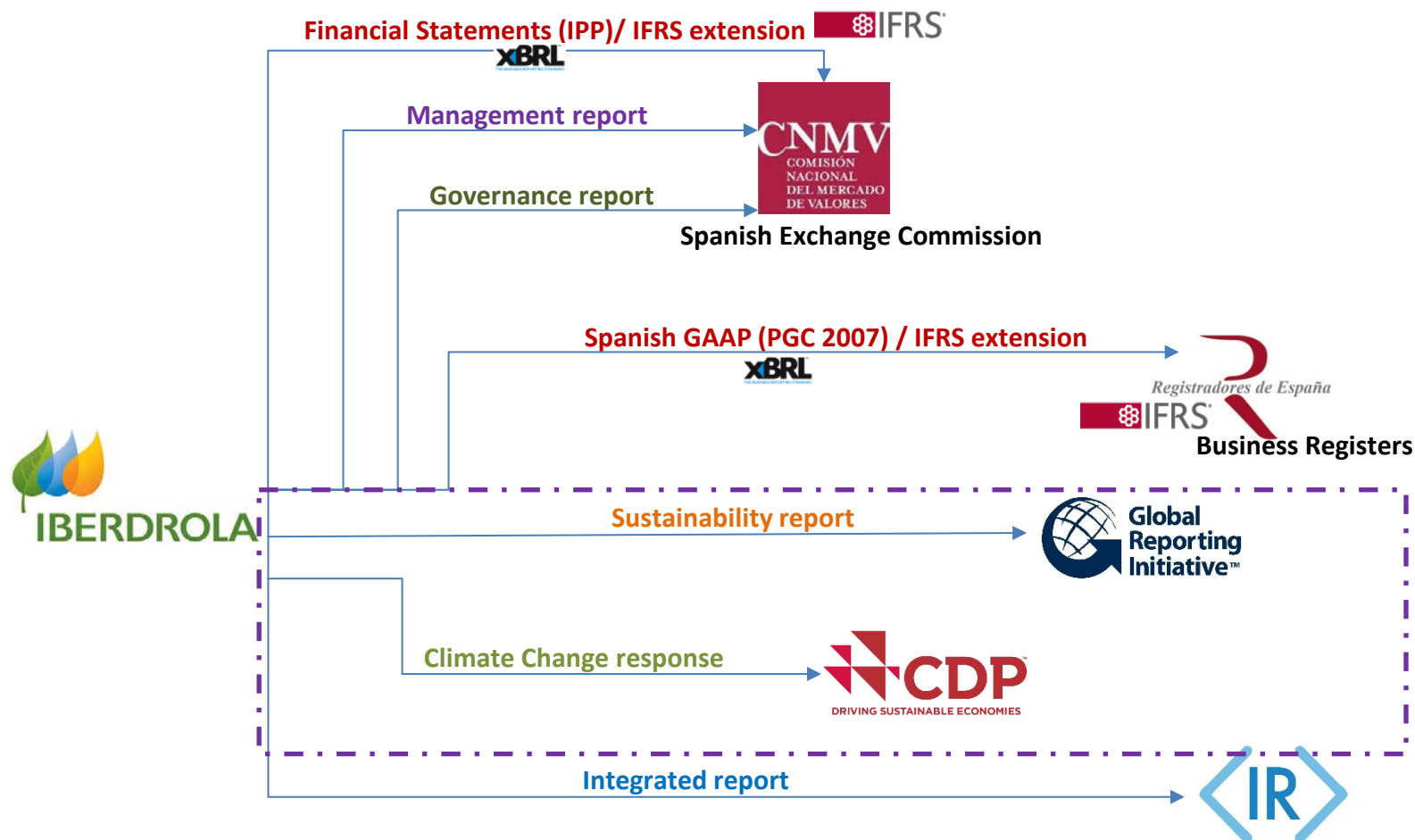
Who? Public interest organisations with more than 500 employees (~6000 large companies in EU)

How?

Suggests a set of voluntary reporting frameworks to enable compliance.

When? 2017

REALITY: CORPORATE REPORTING ECOSYSTEM / BURDENS



SINGAPORE 8-10 NOVEMBER 2016

CDP AND GRI LINKING INITIATIVE

CC2. STRATEGY		
RISK MANAGEMENT APPROACH		
<p>CC2.1 Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities</p> <p>[drop down menu selection]</p> <p>CC2.1a Please provide further details on your risk management procedures with regard to climate change risks and opportunities</p> <p>[table question]</p> <p>CC2.1b Please describe how your risk and opportunity identification processes are applied at both company and asset level</p> <p>[free text question]</p> <p>CC2.1c How do you prioritize the risks and opportunities identified?</p> <p>[free text question]</p>	<p>GENERAL STANDARD DISCLOSURES</p> <p>G4-2 <i>Extracts from G4-2-a:</i> a. Provide a description of key impacts risks and opportunities.</p> <p>[...]</p> <p>Section One should [...] include:</p> <p>[...]</p> <ul style="list-style-type: none"> • An explanation of the approach to prioritizing these risks and opportunities <p>[...]</p> <p>Section Two should [...] include the following:</p> <p>[...]</p> <ul style="list-style-type: none"> • Prioritization of key sustainability topics as risks and opportunities according to their relevance for long-term organizational strategy, competitive position, qualitative, and (if possible) quantitative financial value drivers <p><small>≪ Continues on next page</small></p>	<p>G4 reporters report information requested by CC2.1 – CC2.1c under G4-2, G4-45, G4-46, G4-47 and the DMA for the Emissions Aspect. However, these G4 disclosures have a broader scope than the corresponding CDP questions, referring to sustainability or economic, environmental and social issues more generally.</p>

Linking GRI and CDP (2016)

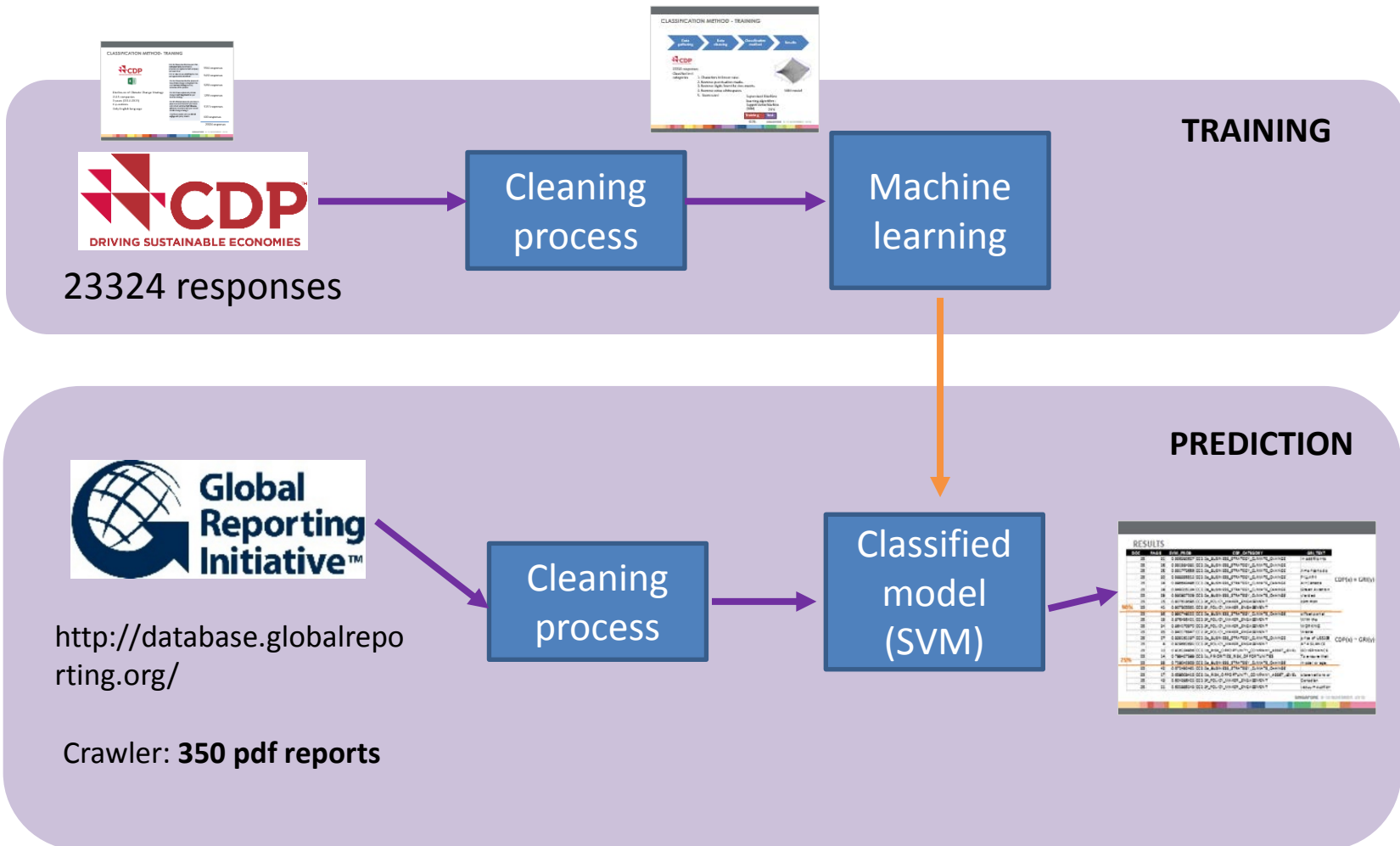
SINGAPORE 8-10 NOVEMBER 2016

RESEARCH GOAL – BIG DATA PROBLEM

How can we align key facts from CDP
and GRI frameworks?

- Benefits
- The place of XBRL

DATA SCIENCE METHODOLOGY



SINGAPORE 8-10 NOVEMBER 2016

CLASSIFICATION METHOD- TRAINING



Disclosure of Climate Change Strategy
2145 companies
3 years (2014-2015)
6 questions
Only English language

CC2.1b: Please describe how your **risk and opportunity** identification processes are applied at both company and asset level.

5564 responses

CC2.1c: How do you **prioritize** the risks and opportunities identified?

5492 responses

CC2.2a: Please describe the process of how climate change is integrated into your **business strategy** and any outcomes of this process

5250 responses

CC2.2b: Please explain why climate change **is not integrated** into your business strategy

1258 responses

CC2.3f: What processes do you have in place to ensure that all of your direct and indirect activities **that influence policy** are consistent with your overall climate change strategy?

5157 responses

2.3g Please explain why you **do not engage** with policy makers

603 responses

23324 responses

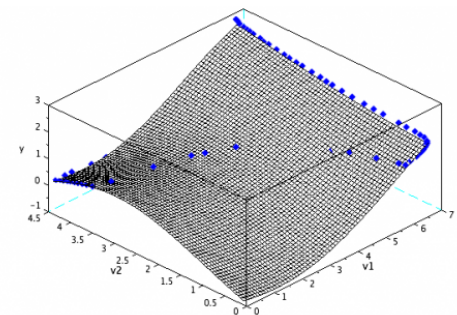
SINGAPORE 8-10 NOVEMBER 2016

CLASSIFICATION METHOD - TRAINING



23324 responses
Classified in 6
categories

1. Characters to lower case.
2. Remove punctuation marks.
3. Remove digits from the documents.
4. Remove extra whitespaces
5. Stem-word



SVM model

Supervised Machine
learning algorithm :
Support Vector Machine
(SVM)



80%

SINGAPORE 8-10 NOVEMBER 2016

RESULTS

DOC	PAGE	SVM_PROB	CDP_CATEGORY	GRI_TEXT
25	31	0.996380627	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	In addition to
25	26	0.991984381	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	
25	25	0.991773656	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	America to do
25	30	0.988395512	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	PILLAR 4
25	24	0.986643486	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	Air Canada
25	28	0.949205134	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	Green Aviation
25	29	0.930827209	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	yielded
25	15	0.907619585	CC2.3f_POLICY_MAKER_ENGAGEMENT	common
25	41	0.907305561	CC2.3f_POLICY_MAKER_ENGAGEMENT	
25	36	0.892748222	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	offset portal
25	19	0.876495421	CC2.3f_POLICY_MAKER_ENGAGEMENT	With the
25	34	0.864170972	CC2.3f_POLICY_MAKER_ENGAGEMENT	WORKING
25	35	0.840176947	CC2.3f_POLICY_MAKER_ENGAGEMENT	Waste
25	27	0.839161197	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	price of US\$106
25	4	0.829662692	CC2.3f_POLICY_MAKER_ENGAGEMENT	AT A GLANCE
25	10	0.816134856	CC2.1b_RISK_OPPORTUNITY_COMPANY_ASSET_LEVEL	GOVERNANCE
25	14	0.789427389	CC2.1c_PRIORITIZE_RISK_OPPORTUNITIES	To ensure that
25	33	0.728042953	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	model or age,
25	42	0.672492461	CC2.2a_BUSINESS_STRATEGY_CLIMATE_CHANGE	
25	17	0.658503415	CC2.1b_RISK_OPPORTUNITY_COMPANY_ASSET_LEVEL	observations or
25	43	0.604386422	CC2.3f_POLICY_MAKER_ENGAGEMENT	Canadian
25	21	0.602885243	CC2.3f_POLICY_MAKER_ENGAGEMENT	vacuum suction

SVM_PROB >= 90%

CDP(x) = GRI(y)

SVM_PROB >= 75%

CDP(x) ~ GRI(y)

RESULTS (CDP(CC2.2a) = GRI(page 31))

CC2.2a: Please describe the process of how climate change is integrated into your **business strategy** and any outcomes of this process

In addition to efforts to mitigate emissions, Air Canada is also active in a number of other areas to reduce its environmental impact, notably with respect to minimizing the creation of waste and improving recycling. In terms of waste minimization, Air Canada has scored notable success, having been the first airline in North America to offer electronic boarding passes in 2007, the use of which has grown exponentially.

More recently, Air Canada Cargo has committed to increase the use of electronic air waybills (e-AWBs) by its customers. As of 2015, Air Canada Cargo customers can use a new e-Booking online tool to book and manage shipments, which allows them to log in, create a booking and obtain an e-AWB in a few steps. Measures such as e-Booking, as well as Cargo Portal Services enhancements,

As of 2015, Air Canada Cargo customers can use a new e-Booking online tool to book and manage shipments

support customers in their adoption of paperless carriage of goods. Domestically, 50 per cent of all shipments tendered to Air Canada are paperless and this rate should grow to near 100 per cent by the end of 2016.

Air Canada Corporate Sustainability Report 2015 (page 31)
<http://database.globalreporting.org/reports/view/37699>

SINGAPORE 8-10 NOVEMBER 2016

DISCUSSION

- Our solution is able to discover:
CDP(questions) = GRI(text per page)
CDP(questions) ~ GRI(text per page)
- The GRI input data used(pdf reports) do not contain GRI index references per text disclosed in reports.
- Making impossible to find relationships between GRI and CDP indexes: CDP(CC2.1a)= GRI(G4-1)
- We need this level of detail (fact level) to explore XBRL mapping between taxonomies.

CONCLUSIONS

- We propose a **data science methodology** to determine alignments between GRI and CDP frameworks.
- **We discovered** the following relationships:
 - $CDP(x) = GRI(y)$ ($SVM_prob \geq 90\%$)
 - $CDP(x) \sim GRI(y)$ ($SVM_prob \geq 75\%$)
 - x: CDP question
 - y: text per page in PDF reports
- **Benefits:**
 - **Analysis:** More direct comparability of GRI and CDP reports
 - **Quality:** Cross validations between GRI and CDP text information.
 - **Reducing reporting burden:** disclosing once and submitting twice: to CDP and GRI

FURTHER RESEARCH

- Discovering “aggregation level” relationships:

$$\text{CDP}(x) = \text{GRI}(y) + \text{GRI}(z)$$

- The role of XBRL exchanging linked XBRL data:

$$\text{CDP}(x) = \text{GRI}(y)$$

$$\text{CDP}(X) = \text{GRI}(y) + \text{GRI}(z)$$

Thanks for your attention

maria.mora@cdp.net

maria.mora@bristol.ac.uk

ACKNOWLEDGEMENTS

This work was supported by the Systems Centre at the University of Bristol and the EPSRC funded Industrial Doctorate Centre in Systems (Grant EP/G037353/1) and CDP Worldwide, London, UK.

