

# The Current State of Data Governance in Higher Education

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# Introduction

- Dual roles of higher education
  - Academic institution (e.g. teaching and learning, research)
  - Organization utilize business processes (e.g. IT, operational functions)
- Technological advancements = data<sup>n</sup>
- Data informed decision making, e.g. compliance, performance evaluation, assessment, accountability
- Awareness and understanding of data as an asset
- Opportunity for information professionals to connect research to practice

# Related Work

- Interpretation of “data governance” varies
- Inception of data governance
  - Involves information technology (IT), business processes, privacy and security measures
- IT governance: specifying the decision rights and accountability framework to encourage desirable behavior in using IT (Weill & Ross, 2014)
- Data governance includes both business processes and IT to provide organization-wide guidelines to ensure data quality and accountability (Weber, Otto, & Österle, 2009)

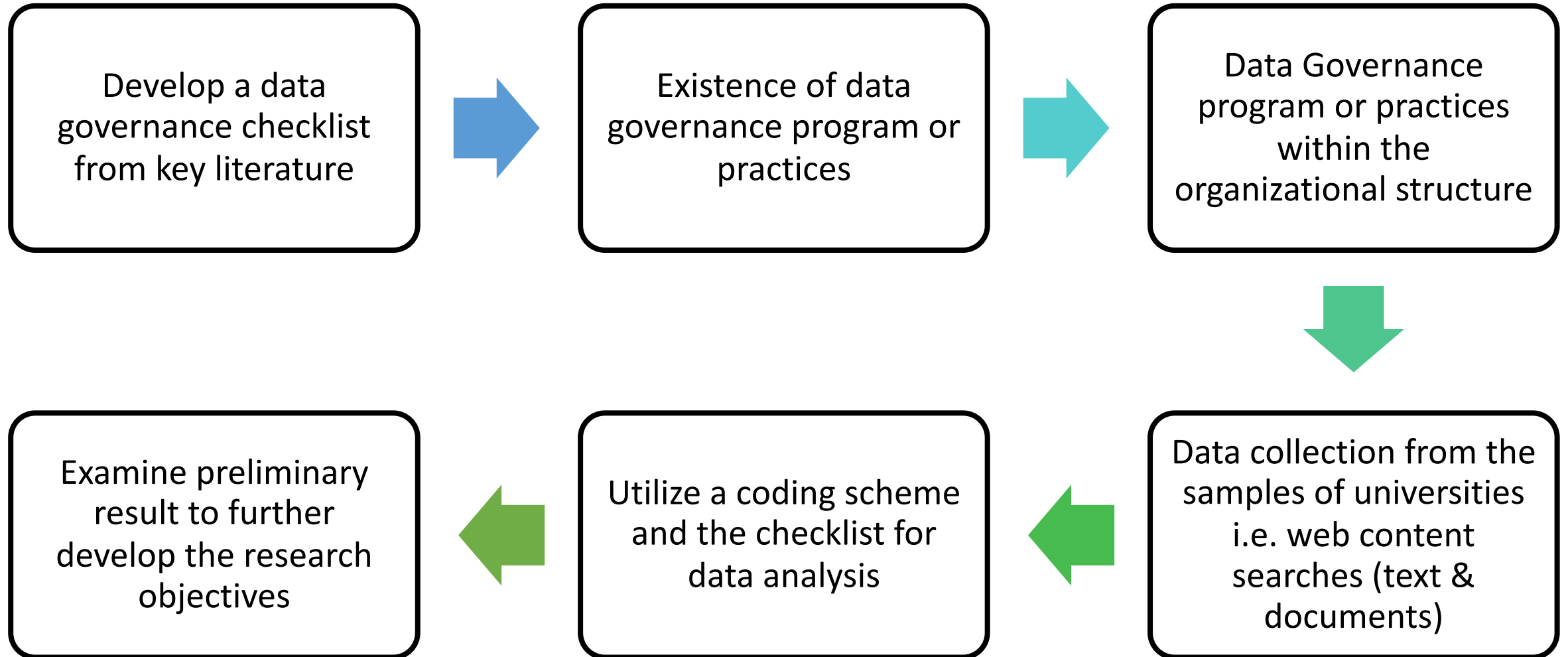
# Research Questions

- Q1: What is the current status quo of data governance among tier one research universities in the U.S.?
- Q2: What type of information is available from the universities that present their data governance initiatives in their websites?

# Research Methodology

- Web content analysis
- R1 (Tier one) ranking universities based on Carnegie Classification of Institutions of Higher Education (Indiana Univ. Center for Postsecondary Research, 2017)
- Initial sampling:
  - 30 out of 115 research universities
  - Geographic location in U.S.
  - Business structure – for profit vs. non-profit
  - Existing documents and web content as data

# Exploratory Research Process



# Data Governance Checklist

Criteria	Definition
Data Governance Body	A group of stakeholders who formalize the data governance practice at their organization
Data Quality	Guidance on the accuracy, availability, integrity, data standards, and the intended use
Data Access or Restriction	Specific access or restriction policy on the data
Data Security	Guidance on system security to protect data and privacy issues of sensitive data
Data Stewardship, Ownership, and Roles	Roles and responsibility of those who interact with the data at various levels within an organization
Metadata Documentation and Organization	Structure and methodology to document and maintain data: e.g. data dictionary, metadata scheme
Business Process Integration	Core business process that is parallel to the data process, and management of both

# Findings – Preliminary Results

Existence of data governance program or practice within the organizational structure

Office or Unit Represented	Count (n = 30)
Data Governance Council, Working Group or Committee	10
Information Technology	7
Institutional Research	6
Data Management or Analytics Unit	4
Other units such as security or administrative	3
No indication of data governance practice	2
Two or more joint office/units governing data practices	2



# Web Content Represented in the Data Governance Checklist Criteria

Data Governance Checklist Criteria		Count (n = 30)	Percentage (n = 30)
Data Governance Body	★	23	77%
Data Quality		16	53%
Data Access or Restriction	★	28	93%
Data Security	★	23	77%
Data Stewardship, Ownership, and Roles		22	73%
Metadata Documentation and Organization		19	63%
Business Process Integration	★	23	77%

# Representation of perspectives and approaches in the sample

Criteria	Examples of Statement by Universities
<b>Data Governance Body</b>	“The [Data Stewardship] Council addresses issues concerning data management including usage, sharing, integration, access, security, privacy, quality, and compliance” (The University of Chicago, 2018, para 3).
<b>Data Quality</b>	“Data governance adds value to our administrative and academic data systems by the establishment of standards that that promote data integrity and enables strategic integrations of information systems” (Vanderbilt University, 2018, para 1).
<b>Data Access or Restriction</b>	“Data Governance is the process of establishing and managing information about the data collected and used by the University...This ensures a common and consistent understanding of what data exists, term definitions, availability, sensitivity classification and access restrictions” (University of Norte Dame, 2018, para 1)

# Representation of perspectives and approaches in the sample

Criteria	Examples of Statement by Universities
Data Security	“Data governance includes all the policies and practices that ensure UDW+ [online information system and dashboard] provides the university community with accurate and consistent information while protecting data security and confidentiality” (New York University, n.d., para 1).
Data Stewardship/Ownership, and Roles	“[Data Governance Stewardship] determine formal roles for those in charge of data. This does not mean that everyone on campus is not responsible despite formal roles.” (University of Wisconsin at Madison, 2018).
Metadata Documentation and Organization	“This program [Data Governance program] will result in a sustainable and efficient set of controls, data standards and data policies for UTA, with the potential to extend its scope over time to other areas with UTA” (The University of Texas at Arlington, 2018).

# Discussion

- Common theme identified in the organization's data governance initiatives and practices that matches to the checklist
  - Data access and restriction
  - Data governing body
  - Business intelligence (BI) and IT integration
  - Data management and quality control
- Different overarching governance structures

# Interplay between Data, Information and IT Governance

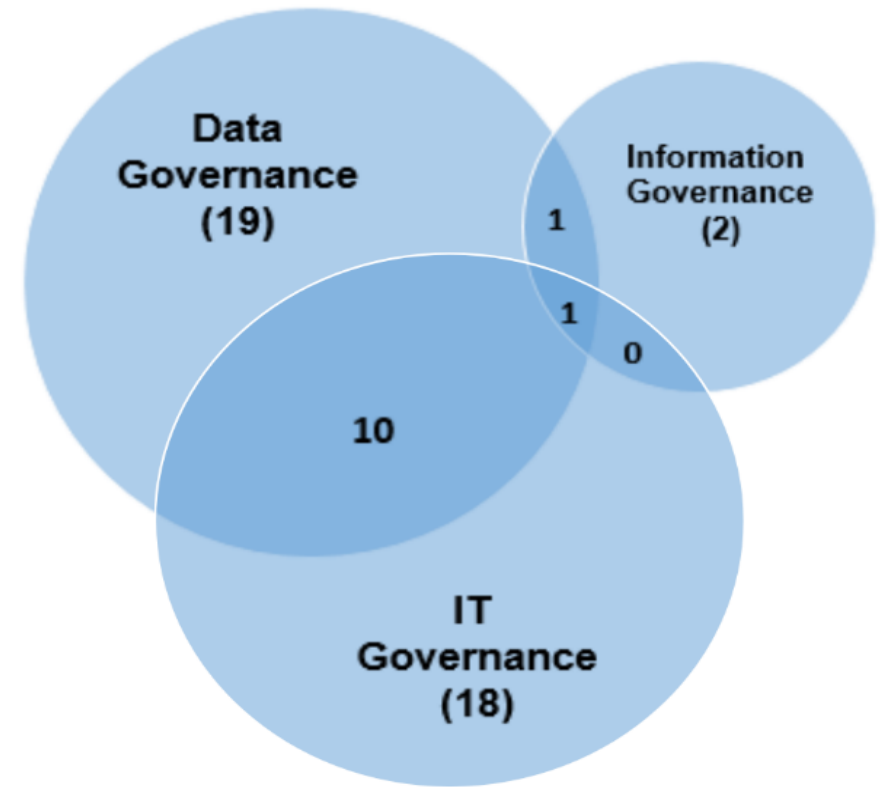
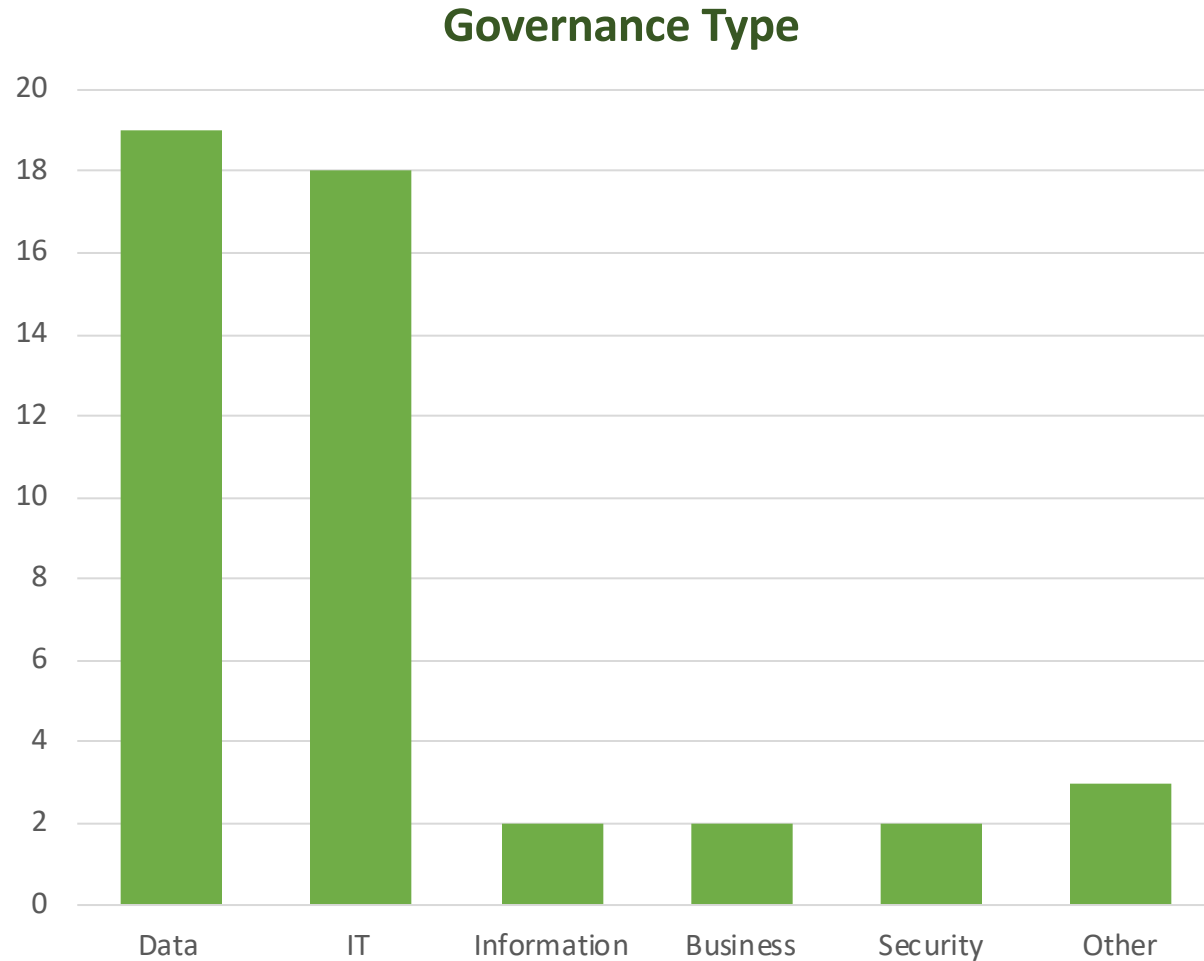


Figure 2. The interplay between data governance, IT governance, and information governance found on the universities webpages.

# Discussion (cont.)



Top 10 13

- Higher Education Data Warehousing Forum survey: Data Governance became a priority category in 2018 (Childers & Walz, 2018)

Rank	Category	Topic	Votes	% of Resp
1	Data Governance	Administering Data Governance	123	54%
2	H/E Issues	Student Success	108	47%
3	Data Governance	Metadata & Data Definitions	103	45%
4	Technology	Self-Service	94	41%
5	Data Governance	Data Quality	91	40%
6	Org & Culture	Data-Informed Culture	88	39%
7	Technology	Predictive Analytics	87	38%
8	Technology	Data Visualization	84	37%
9	Org & Culture	BI Strategy	74	32%
10	Technology	Integration	70	31%
11	Data Governance	Role-based Access	63	28%
12	Technology	Standard Reports and Dashboards	55	24%
13	People	Data Modeling	55	24%

- Several topics within the data governance category also reflected similar observations in our study

# Limitations

- Initial data collection of web content is a starting point
- Further inquiry with the institutes are needed, e.g. interviews or surveys
- Institutional culture and values are not examined from web content and documents
- Comprehensive research is needed to establish a uniform model or framework of data governance

# Conclusion

- Majority of the sample display their awareness of data governance
- Most universities are in process of forming policies and procedures
- Data and information are both valuable assets
- Roles between information governance, data governance and IT governance

*While information governance oversees people activities, technology, and processes (Information Governance Initiative, 2018), data governance revolves around managing information-related processes (The Data Governance Institute, 2017b)*



# Conclusion

- Data governance in higher education
  - Needs and interests from stakeholders
- Various goals among public vs. For-profit institutions
- Data have become an asset and can be a determining factor to success
- Data governance continue to evolve to meet the changing needs
- No one-size-fits-all solution
- Future study on data governance implementation
- Inclusion of information professionals in data governance work

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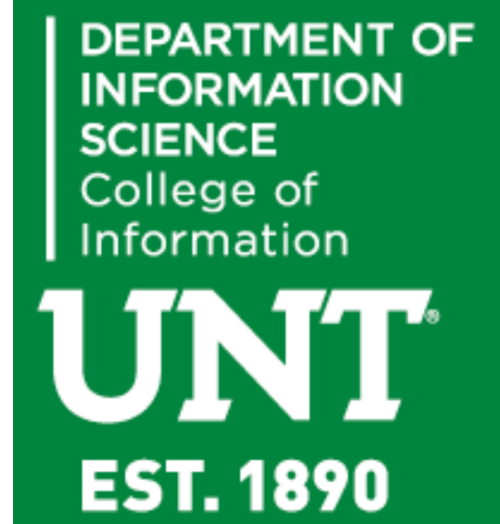
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Thank You for Your Attention!

Q & A

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