Data Governance Critical Success Factors on University Policy Document

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Abstract
This study is to find out from universities’ published data governance policy, how they follow the best practices of implementing the critical successful factors that suggested by professionals and researchers. Methods/Statistical Analysis: The ordinal scaling method was used to compare between university policies’ document and Data Governance successful factors (discovered by reviewing the literature) and how the document reflected these factors. The three scales used were first, reflected (R) - clearly stated in the document, second, Somewhat Reflected (SR) – not directly stated in the document but understood within the context, and finally, Not Reflected (NR) - not easy to find in the document. Findings: The analysis of ten university policy documents reveals how the reflection of the success factors within them. Each university policy document listed in the table shows how the scale of success factor reflection. The result also shows all the ten universities secure the executive support, and all have governance organization structure except Towson University. In addition, New York university policy is the only one that has all critical success factors clearly reflected in the document. Application/Improvements: Successful data governance initiatives required to address all critical success factors. The reflection of these factors in policy documents will help all stakeholders to work towards successful data governance implementation.

Keywords: Data, Factor, Governance, Policy, Success, University

1. Introduction
Data Governance (DG) is the managing the data used in an organization for security, usability, availability and integrity. A sound data governance program includes a governing body or council, a defined set of procedures and a plan to execute those procedures.

Universities like any other big organizations have large data to manage and protect. In this study, we will discuss the universities’ policies regarding data governance. The idea of this study is to find out if these universities data governance policy adhere to data governance successful factors.

Organizations that have not implemented proper data governance or have no data governance initiatives at all are being extremely confronted by three major developments issues: 1) The Digital Transformation Wave, 2) The General Data Protection Regulation, and 3) Data Privacy. Universities by addressing DG puts in place a data governance policy. A cornerstone of governing enterprise data assets is the data management policy.

2. Data Governance Critical Success Factors
The literature identifies many the following data
governance implementation success critical factors: 1) Executive sponsorship: Executive sponsors will make the data governance program visible to other executives. And help of removing any roadblocks to program success, 2) Training and education: A change in knowledge, skills, attitudes, and behavior of the employees required education and training, 3) Governance organizational structure: The roles, responsibilities, and decision rights at different levels need to be defined clearly, with suitable definition of duties in place. 4) Communication and collaboration: The communication is an effective way to convince people involved in data governance policy. Different roles at organization need to collaborate and work together, 5) Stakeholder engagement and support: the people who enter the data, administer data, consume data, store data, and analyze data from different departments and units must be involved and convinced of the value that data governance can provide, 6) Skills, knowledge, and expertise: a variety of skills, knowledge, and expertise are needed for data governance initiatives to be successful such as data quality and stewardship technical skills, knowledge of data for good business, and soft skills like interpersonal skills and communication, and skills of management and organization, 7) Practicable and enforceable data governance policy: A practical and enforceable data governance policy promotes greater accountabilities. A high-quality organizational data depends on effective data governance policy, 8) Incremental approach to implementing data governance: An incremental approach brings business support to each stakeholder or sponsor. In addition, incremental approach establishes data governance as a repeatable project.

3. University Data Governance Policy Document

A DG policy is a documented set of guidelines and policies for warranting the appropriate management of an organization’s data.

Universities issue their data governance policy document to show that there is DG in place. In this study, ten universities were selected for examination. The universities are: Rowan University, Australian Catholic University (ACU), University of Technology Sydney (UTS), Western Michigan University, Towson University, University of North Carolina, University of Cincinnati, New York University, Vanderbilt University, University of Nevada Las Vegas. Most policies are available in PDF file format; however, some of them are HTML format. In University policy documents one will notice the following subjects or headings: title, policy number or version, entities affected by policy, issuing authority, responsible officer, adopted date, amended and last revision dates, purpose, definition, policy statement, accountability, applicability, terms and definitions, scope, data steering group, data trustees, data steward, data usage, data custodian, data manager, data reporter, data user, communicating data governance standards, resources or attachments, data classification and data types, roles and responsibilities, compliance and regulations, contact information, revision history, data governance committee, audience, policy principles, policy maintenance, related policies, education and data storage.

4. Research Methodology

In this study, one will use ordinal scaling method to compare between university policies’ document and DG successful factors and how the document reflected these factors. The three scales used are first, Reflected (R) - clearly stated in the document, second, Somewhat Reflected (SR) – not directly stated in the document but understood within the context, and finally, Not Reflected (NR) - not easy to find in the document. It is important to mention that this study based on available and published documents. Some university does not make all their policy entities available online to public. Ten university policy documents used for analysis against eight critical success factors mentioned in literature. By reviewing each policy document one was able to discover the critical success factors reflection in these documents.
5. Research Result

Table 1 shows the university document versus success factors results. The analysis of ten university policy documents reveals how they reflection of the success factors within them. Each university policy document listed in the table’s shows how the scale of success factor reflection. For example, Rowan University reflected (R) the execu-

Table 1. DG critical success factors reflection on university policy document

| University name                  | Executive sponsorship | Training and education | Governance organizational structure | Communication and collaboration | Stakeholder engagement and support | Skills, knowledge, and expertise | Practicable and enforceable data governance policy | Incremental approach to implementing data governance |
|----------------------------------|-----------------------|------------------------|-----------------------------------|--------------------------------|----------------------------------|--------------------------------|---------------------------------------------|--------------------------------------------------|
| Rowan                            | R                     | NR                     | R                                 | R                              | R                                | R                               | R                                           | SR                                               |
| ACU (Australian Catholic University) | R                     | NR                     | R                                 | R                              | SR                               | R                               | R                                           | SR                                               |
| University of Technology Sydney (UTS) | R                     | R                      | R                                 | R                              | SR                               | SR                             | R                                           | SR                                               |
| Western Michigan University      | R                     | R                      | R                                 | R                              | SR                               | R                               | R                                           | SR                                               |
| Towson University                | R                     | SR                     | NR                                | SR                             | NR                               | NR                             | R                                           | NR                                               |
| University of North Carolina     | R                     | R                      | R                                 | R                              | R                                | SR                             | R                                           | SR                                               |
| University of Cincinnati         | R                     | SR                     | R                                 | R                              | SR                               | SR                             | SR                                          | SR                                               |
| New York University              | R                     | R                      | R                                 | R                              | R                                | R                               | R                                           | R                                                |
| Vanderbilt University            | R                     | SR                     | R                                 | R                              | R                                | R                               | SR                                          | SR                                               |
| University of Nevada Las Vegas   | R                     | R                      | R                                 | SR                             | R                                | SR                             | SR                                          | R                                                |

R = Reflected; SR = somewhat reflected; NR = Not reflected
tive support factor in their DG policy document. ACU university document has no reflection (NR) of training and education factor, whilst Stakeholder engagement and support factor somewhat reflected (SR) in Western Michigan University policy document.

The result also shows that all ten universities secure the executive support, and all have governance organization structure except Towson University. In addition, New York university policy is the only one has all critical success factors clearly reflected in the document.

6. Conclusion

Successful data governance initiatives required to address all critical success factors. The reflection of these factors in policy documents will help all stakeholders to work towards successful data governance implementation. Probably some universities may need to revisit their policy document and practices to make sure they adhere to the successful factors shown in the literature as best practices. New York university document could be used as model for reflecting all success factor or discover the gaps to cover it in the document if already implemented or work towards implementation of missing factors. Implementing all data governance success factor is only way to guarantee proper data governance at universities.

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8. References

1. Alhassan I, Sammon D, Daly M. Data governance activities: An analysis of the literature. Journal of Decision Systems. 2016; 25(1):64–75. https://doi.org/10.1080/12460125.2016.1187397.

2. 3 reasons you need to step up your Data Governance game, right now [Internet]. [cited 2017 Apr 11]. Available from: https://blog.stibosystems.com/three-reasons-you-need-to-step-up-your-data-governance-game-right-now.

3. Komprise [Internet]. [cited 2017 May 08]. Available from: https://www.komprise.com/glossary_terms/data-management-policy/.

4. 9 tips for data governance success [Internet]. [cited 2016 Oct 10]. Available from: https://www.informationweek.com/big-data/big-data-analytics/9-tips-for-data-governance-success-/d/d-id/1327129.

5. Mahanti R. Critical success factor for implementing data profiling: The first step toward data quality. Software Quality Professional. 2014; 16:13–26.

6. 4 key factors for data governance success [Internet]. [cited 2015 Apr 24]. Available from: https://www.dlt.com/blog/2015/04/24/top-4-factors-data-governance-success/.

7. New trends and best practices for data governance success. Ebook; 2018.

8. Understanding data governance: Tools, documents, processes, and people [Internet]. [cited 2017 Feb 15]. Available from: https://www.ironsidegroup.com/2017/02/15/understanding-data-governance-tools-documents-processes-people/.

9. Why data governance is important and what skills are key for it? [Internet]. [cited 2016 Aug 09]. Available from: https://security.cioreview.com/news/why-data-governance-is-important-and-what-skills-are-key-for-it-nid-18105-cid-21.html.

10. Dyche J, Nevala K. 10 mistakes to avoid when launching your data governance program. SAS Best Practices white paper; 2017. p. 1–15.

11. Rowan University, Data Governance Policy [Internet]. [cited 2018 Feb 07]. Available from: https://confluence.rowan.edu/display/POLICY/Data+Governance+Policy.

12. ACU University, Data Governance Policy [Internet]. [cited 2017 Jun 27]. Available from: https://policies.acu.edu.au/governance/data_governance_policy.

13. UTS University, Data Governance Policy [Internet]. [cited 2018 Apr 10]. Available from: http://www.gsu.uts.edu.au/policies/data-governance-policy.html.

14. West Michigan University, Data Governance Policy [Internet]. [cited 2019]. Available from: https://wmich.edu/datagovernance/policies/datagovernance.

15. Towson University, Data Governance Policy [Internet]. [cited 2016 Aug 31]. Available from: https://www.towson.edu/about/administration/policies/documents/policies/10-05-00-data-governance-policy.pdf.

16. North Carolina University, Data Governance Policy [Internet]. [cited 2010 Jun 30]. Available from: https://www.med.unc.edu/pharm/administration/policies/documents/polices/10-05-00-data-governance-policy.pdf.

17. Cincinnati University, Data Governance Policy [Internet]. [cited 2018 Sep 26]. Available from: https://www.uc.edu/
18. New York University [Internet]. [cited 2019 Apr 29]. Available from: https://en.wikipedia.org/wiki/New_York_University.

19. Venderbilt University, Data Governance Policy [Internet]. [cited 2014 Sep 07]. Available from: https://www.vanderbilt.edu/datagovernance/files/Data_Governance_Policy_v1.0.pdf.

20. University of Nevada Las Vegas, data governance policy [Internet]. [cited 2010 Jul]. Available from: https://www.unlv.edu/sites/default/files/page_files/27/Policies-DataPolicy.pdf.