Data Readiness & Technology Assesment for Indonesian Non Profit Organization Using Data Maturity Framework

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Abstract

The development of Information Technology is increasing rapidly, especially with the commencement of the digital convergence era which is currently heading towards Industry 4.0, this is unavoidable especially for business organizations. The impact is also increasingly felt by nonprofit organizations, because inevitably business interactions also intersect with communal / social interactions that are mostly in Indonesia Communal / social interaction activities such as social and religious involve various non-profit organizations (non-profit) such as institutions community organizations, social foundations, religious organizations. Particularly for religious organizations, of course, besides having a role in the spiritual improvement of religious people, they must also respond to the positive issues of religious and social life through the use of media and information technology that should be a means of delivering accurate and responsible information. There needs to be a balance of information so that the communities served do not fall into the presence of information or digital technology that undermines physical communal encounters and even the passion for knowledge sharing that emphasizes the emotional bonds of humanity. Development of Information Technology Governance for nonprofit institutions needs to be made a kind of guideline for the use of information technology so that the information delivered to the community served is right on target and not disruptive, the first step that must be done is to measure data readiness and technology information so as to encourage awareness of community members in nonprofit organizations towards data culture (data culture) while still emphasizing data protection and ownership aspects.

"Keywords: Information Technology; data readiness; nonprofit; community; data privacy;"

1. Introduction

Some people think that *Information Technology Governance is* only owned by large corporate organizations that generate profits. In fact, both profit and nonprofit organizations require the management of information technology so that management can be effective in organizational settings, decision-making processes and impacts that occur for overall organizational progress of the management of information and communication technology (ICT). This scientific study focuses on how to start the development of information technology for non-profit institutions that require acceleration in adopting information technology so as not to be left behind by the development of information technology which from the beginning affects all aspects of human life. Comprehensively non-profit institutions that utilize ICT as part of their daily operational activities require good ICT governance so that they can create more benefits from ICT investments that have been issued and manage risks that may occur when ICTs are applied in the activities of non-profit organizations that tend to focus more on social, education and religious activities.

2. Research Method

The research that will be conducted for nonprofit institutions will be very different from profit institutions related to different IT comprehension competencies, this is because some of the human resources involved are volunteers from various backgrounds in the

field of science and environmental education and culture social differences.

2.1. Nonprofit Organizational Information Technology Governance Framework

1. Establish framework structures and guidelines in IT decision making and utilization as part of organizational activities;
2. Decision making of various nonprofit organizational structures, especially in reducing narrow and insightful perspectives;
3. Improving accessibility of data and applications in accordance with the tasks and functions of non-profit organizational sections;
4. Increase Awareness of the importance of IT management for nonprofit organizations;
5. Mapping the risk of IT utilization that is aligned with organizational risk management.

2.2. Research Design

The research design is a unified, detailed and specific plan on how to obtain, analyze, and interpret data. According to Moh. Nazir, 2003 Research Design or Research Design is: "All the processes required in the planning and execution of the study, from the preparation stage to the preparation stage of the report.

Research conducted is using the True experiment design method , where experiments were applied through the study group and the sampling control group was conducted randomly, and in the study group, moderate variable intervention was conducted in the control group not intervention. After that, the knowledge data was collected, both in the study group and control group, the results were analyzed by appropriate statistical tests.
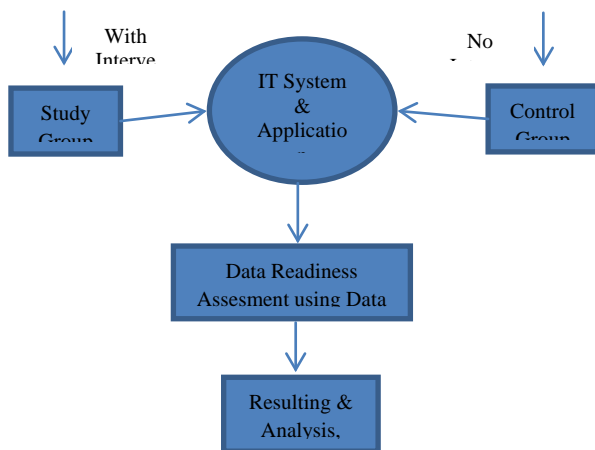

Figure 1. Scheme of Research design

2.3. Data Maturity Framework

Want to know if your organization is ready to start a data-based social impact project? See where you are in our data maturity framework and how to improve your organization, technology and data readiness. The Data Maturity Framework has three content areas :
1. Problem Definition
2. Data and Technology Readiness
3. Organizational Readiness

The Data Maturity Framework consists of :
1. A questionnaire and survey to assess readiness
2. Data and Technology of the Readiness Matrix
3. Organity Readiness Matrix

Table 1. Performance of IT Utilization in non-profit organizations

Variable	Grup A (No Intervention)	Grup B (with Intervention)
Computer Awareness	Basic	Advanced
Internet Awareness	Basic	Advanced
Cyber Law Awareness	Lagging	Basic
Social Media Usage	Advanced	Advanced
Email Usage	Advanced	Advanced
Database Application Usage	Basic	
IT Security Perception	Basic	Advanced
Operating System Usage	Advanced	Advanced
Data Sharing Knowledge	Basic	Leading
Community Improvement	Basic	Leading

3. Discussion
1.1. Data and Information

The use of IT to process data and produce information in non-profit organizations should pay attention to several aspects related to service to the community served or serving each other by non-profit institutions, among others:
1.1.1. Aspect of Trust

In the use of IT, it is not only related to the data in the community, but paying attention

to the people who are present in the community (*Marcy Rye, NTEN, 2018*), creating trust in the community to be directly involved in the use of IT is important to note . In this section needs to

grow interest or awareness (*awareness*) of the importance of utilization of IT in organizations and communities that serve each other and mutually reinforce.

1.1.2. Humanitarian Aspect

There is a fear in the nonprofit sector that data turns people into cold, difficult numbers. Find ways to humanize data and even how we talk about data that is so important that it broadly accepts culture based on the data presented. It is a basic human need to want to connect with others. We must remember this, and ensure the data system advances humanity. Data is only information. Technology is just a set of tools for managing information. Both information (data) and tools (technology) can be used for social good. This simple language can help open the door to conversations about the benefits of data, and change the perception of its value.

1.1.3. Community Involvement

Community involvement promotes equality . There are several barriers to even distribution of data that should be considered in the development of data practices, including:

a) Availability: Can you get one?
b) Access: Can you really use it?
c) Awareness: Do you know that it exists?
d) Affordability: Can you find it, access it, or buy it?
e) Agency: Can you use it as you see fit?
f) Ability: Do you have the knowledge to solve it?

Participatory inclusiveness and design are two ways to move toward equality. Non-profit organizations must actively involve surveyed community members, or better, let them lead. People and communities must have their own data and systems. Practitioners must learn to balance their strengths, and scale-back their roles - leaving personal comfort zones to serve and empower others.
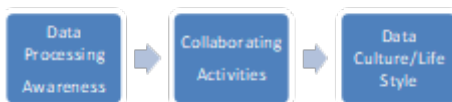
.Figu re 2. Data Culture Improvement Process

For nonprofit organizations with a level of understanding of data and the use of information technology to process data that is still minimal, it is necessary to create a scheme of stages of formation of the mindset of communities that serve and are served, while activities that can be carried out are carried out in 3 (three) stages, namely:

a) Awareness of the importance of Data
b) Improved Collaboration of Data processing activities on an ongoing basis
c) Improved Data Culture in service activities and decision making

1.1.4. Privacy Aspect

Privacy is the responsibility of everyone present in the community / community, so awareness and knowledge need to be given, which data and information are public or personal. The use of IT in processing data and generating information needs to pay attention to the level at which data and information can be accessed.

Especially in Indonesia, regulations concerning data privacy have been regulated through, among others:

a) Law No. 11 of 2018 concerning Electronic Information & Transactions (ITE)
b) Government Regulation No. 82 Year 2012 System and Transaction Operations Electronics (PP PSTE)
c) Law no. 23 of 2006 concerning Population Administration

Article 26 paragraph (1) of the ITE Law confirms that the use of any information through electronic media concerning personal data of a person must be carried out with the approval of the person (data owner) concerned and in paragraph (2) of the ITE Law affirming every person violated by his rights as referred to in paragraph (1) may file a claim for losses incurred under this Law.

Then in Article 1 PP PSTE defines that personal data that is individual data that is stored, maintained, and kept true and protected its secrecy. Furthermore, in Law no. 23 of 2006 on Population Administration specifically specifies the items of personal data to be protected, including:

1) Family Card Number (KK)
2) Population Registration Number (NIK);
3) Date / month / year of birth;

4) Information on physical and / or mental disability;

5) NIK biological mother;

6) NIK father; and

7) Some important event note contents

The danger nowadays is that the above data are also used as references of certain elements to commit fraud or gain personal gain and even certain irresponsible institutions.

However, data confidentiality / privacy must be protected, especially for members of the community who are provided with services. We imagine what would happen if the data of certain communitative community members were publicly published and misused for the interests that endanger the individual-indivdual survivors residing within the community. And thus the protection of personal data must be a priority for all non-profit institutions that use the trust of the people they serve.

1.1.5. Data Culture

Nonprofit organizations need a culture of data , By fostering a strong data culture,

1. How data is stored:
   a.1. accessibility;
   a.2. Storage;
   a.3. Integration.
2. What it collects:
   b.1. Relevance & adequacy;
   b.2. Quality;

Table 2. Data & Technology Readiness level

To see how data processing is carried out starting from collected, processed, then producing information, it is necessary to measure qualitatively and quantitatively. For the initial approach, qualitative measurements are carried out with the assumption that 30 respondents in every 8 (eight) nonprofit organizations have known the data in question

nonprofits can gain real insight into the reality, scale, and impact of their work or ministry, and have information to adapt when needed.Many nonprofit organizations that most members of the community served do not understand that the knowledge and insight of community members regarding data utilization or information technology to manage data have different levels of knowledge.

This is because non-profit organizations are not allowed to choose community members based on different levels of knowledge or economic level. Sharing how and why organizations collect data is a requirement for donating or contributing. To fulfill this requirement means the organization must first build a strong data foundation. This also requires funders who want data to help build the data culture, so that the mission of nonprofit organizations can be achieved as expected. In this scientific study, the level of data readiness of each non-profit institution is needed in terms of various categories and aspects (table 1.1), namely :

b.3. Number of Collections;
b.4. Scale / level;
b.5. Historical.

3. Etc :
   c.1. Privacy;
   c.2. Documentation.

in the nonprofit organization where the respondent serves and is served (Table 3).

1.1.6. Non-Profit Organization Data Entity

A. Financial

The financial data of nonprofit organizations is collected on the basis of donations collected either from members of the community itself or even outside non-profit organizations. Financial data must be transparently reported every week, month, quarter and year to community members and donors outside the organization.

B. Member

Nonprofit membership membership data is collected based on personal initiative or group of willingness based on the organization's vision and mission that is aligned with the community's needs and services of community members. This data contains population identity, employment history, educational

history, and history of service activities. Thus the level of protection must be very high because of related membership information that is privacy.

C. Community Services

This service data is more scheduling for each member of the community who serves with their respective duties and functions and also routinely shares shared knowledge about carrying out organizational missions to achieve goals, this is because the concept of community service is collaborative and participatory.

D. Donatur/Philantropis

This donor's data includes profiles of donors containing self-identity, professional identity and other descriptions of the funding contributions of nonprofit organizations.

E. Activity Publication

The data of this activity publication covers all areas of service, the hope is that each activity publication can be an example and an evaluation of further improvement in service performance, so that the community will grow well and positively for many people.

4. Measurement and Analysis Results

Table 3. *Data & Technology Readiness Scorecard*

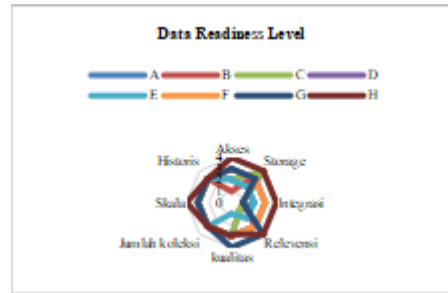| Group	Access	Storage	Integration	Adequacy	Quality	Collection	Scale	Historical
A	2	2	2	1	3	3	3	3
B	1	4	1	3	3	3	3	3
C	2	4	1	1	3	3	3	3
D	3	3	3	3	3	3	3	3
E	2	2	2	2	1	3	3	3
F	3	3	3	3	3	3	3	3
G	3	3	1	4	4	3	3	3
H	4	4	4	4	3	3	4	3
Avg	2.50	3.13	2.13	2.63	2.88	3.00	3.13	3.00

Figure 3. Data & Technology Readiness Level

From the data above, it can be seen that the level of data readiness of nonprofit organizations that carried out sampling measurements is stretched 2.13 - 3.13 (Scale 4.00), this gives us an idea that the use of information technology is felt to be very lacking, for that action plan is needed (*contingency plan*) in the form of activities that emphasize 3 (three) aspects, namely:

1) Level of knowledge service function of members of different communities
2) Aspects of the economic ability of nonprofit organizations to increase data awareness and technology of community members
3) Active Participation Members of the community to follow the coaching / campaign related to the use of data and information technology for the development of information, especially in relation to decision making.

The only certification that can be done if the non-profit organization generates data in table 3 above is that such an organization is in the awareness-raising stage of the importance of data (*awareness*).

5. Conclusions

The results of measurement and analysis of data and technology readiness describes the level of maturity of nonprofit organizations that are at the level of awareness in utilizing information technology for data processing used for the organization in making decisions. Real efforts to increase the knowledge of community members (contingency plan) in the form of workshops, workshops, and technical knowledge of data and information management needs to be done. Suggestions for the future need to be done further research, especially the comparation after and before the awareness raising activities the importance of data readiness and management.

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