An evaluation measure of how much organizational resources are allocated to the digital transformation of curation work, recognizing the importance of new technology, innovation, and research and development

The Case Study of Digital Curation Maturity Model

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Term definition

- Digital Curation : The task of maintaining, preserving, and adding value to digital research data throughout the data lifecycle
- Digital Curation Maturity: The degree or level of implementing and discipline digital curation activities.

The need for a maturity model

- With the data-based R&D paradigm, the utilization value of data, such as speed of data sharing and enhanced usability, is being emphasized.
- The application of digital transformation technology is necessary to provide data services that can be utilized not only researchers but also by artificial intelligence(AI).
- A standard for measuring digital curation activities is needed.

Research Purpose

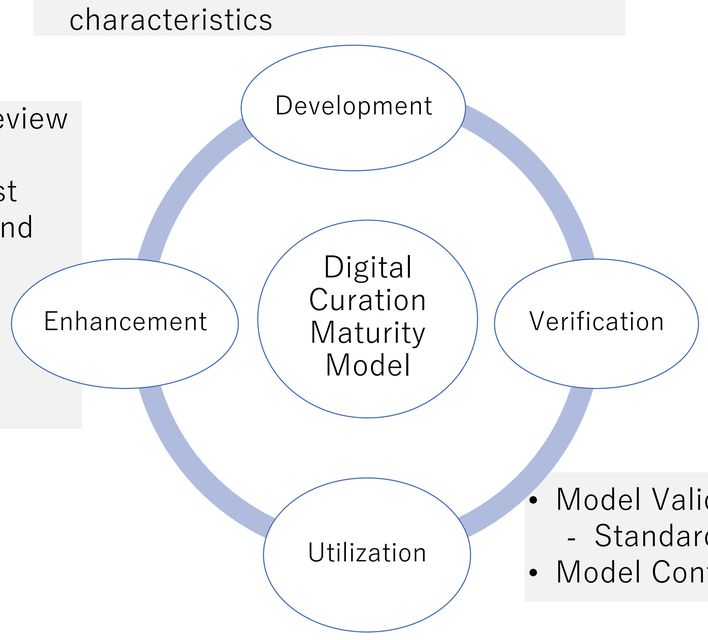
- Establishing standards to measure the digital transformation of curation activities from collection to use of scientific and technological information

Research Methods

- Model development
  - Preliminary investigation : Benchmark case study
  - Preliminary model design : derivation of multidimensional evaluation scales and indicators
  - 1st survey : Confirmatory factor analysis of stakeholders
  - 2nd survey : Comparative advantage weight calculation by scale(AHP)

Maturity Model Development Process

- Digital Curation Performance Metrics
  - Digital technology level
  - Digital transformation rate
- Benchmark maturity models in other fields
- Reflecting digital curation characteristics



- Maturity model review and revision
  - To reflect latest technologies and trends
- Promotion of domestic and international standardization

- Model Validation
  - Standardization
- Model Conformity

- Internal use of the Institution : Diagnosis of digital transformation level, investigation and action on factors hindering digital transformation
- Openness and cooperation : Diagnosis of domestic and international digital curation maturity model

Results

The digital curation maturity model is divided into five major categories, measurement targets, and detailed measurement indicators.

Digital Curation Maturity

Categories	Measurement Targets	Detailed Measurement indicators
Strategy	•Digital Transformation Strategy	•Policy and Process level(S1) •Digital Transformation Planning level(S2) •User Demand Surve level(S3)
Organization	•Curation Collaboration Culture	•Degree of dedicated organization(O1) •Degree of composition professional manpower(O2) • Level of knowledge sharing and collaboration(O3)
Technology	• Intelligent Curation	•Level of digital technology secure(T1) •Digital technology application level(T2) •Level of application of legal system(T3)
Data	• Data Curation	•Degree of diversity in data(D1) •Data quality level(D2) •Degree of usability of data(D3) •Security level of data(D4)
Social Impact	•User Experience and Innovation	•Degree of data openness(I1) •User Satisfaction level(I2) •Level of scientific performance(I3)

Conclusion

- To measure digital curation maturity, we propose five categories: technology, data, strategy, organization, social impact.
- A measurement tool for successfully establishing and developing digital curation work utilizing digital technology within an organization.
- This digital curation maturity model has the limitation that it was developed around KISTI's data curation work, so additional review and follow-up research are needed to apply it to actual work.

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