

How big is Big?

The Data of a Major Museum:
Their Volume, Management, and
Future Prospects (Case Study: The
British Museum in London)



Master of Science in
“Digital Information Management - Information Services”

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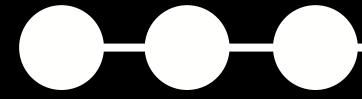


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01.

Introduction

Museums are transforming into data-driven institutions

Big Data shapes collections, management, and engagement

The British Museum as a key case study

Purpose: examine scale, management, and future of museum data



02.

Motivation of the Study

- Rapid growth of digital museum data
- Need for structured, ethical and sustainable data management
- Increasing expectations for open access and transparency
- British Museum as a large-scale example of Big Data challenges



03.

Research Aims

1. Examine the scale and types of data in a major museum
2. Analyze the British Museum's digital infrastructure
3. Identify challenges in data governance, ethics, and interoperability
4. Explore how Big Data supports accessibility, learning, and engagement





Research Questions

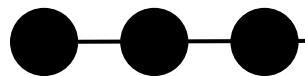
What types of data does the British Museum generate and manage?

How are these data stored, curated, and made accessible?

What legal and ethical constraints affect museum data (e.g., GDPR)?

How can data enhance visitor engagement and learning?

How can semantic and linked-data approaches improve interoperability?



05.

Literature Review Overview

- Museums in the Big Data Era:

Digital transformation, large-scale information systems, data-driven decision making.

- Digital Curation & Data Governance:

Standards (e.g., Dublin Core, CIDOC CRM), workflows, long-term preservation.

- Open Access, Ethics & Cultural Sensitivity:

Licensing, GDPR, repatriation debates, community rights.

- Visitor Analytics & Personalization

Behavior tracking, heatmaps, audience segmentation, user-centered design.



06.

Big Data in Museums



Museums as hybrid physical-digital ecosystems

Types of museum data (collections, media, analytics, user input)

Opportunities: access, research, engagement

Challenges: heterogeneity, infrastructure, ethics





Case Study: The British Museum

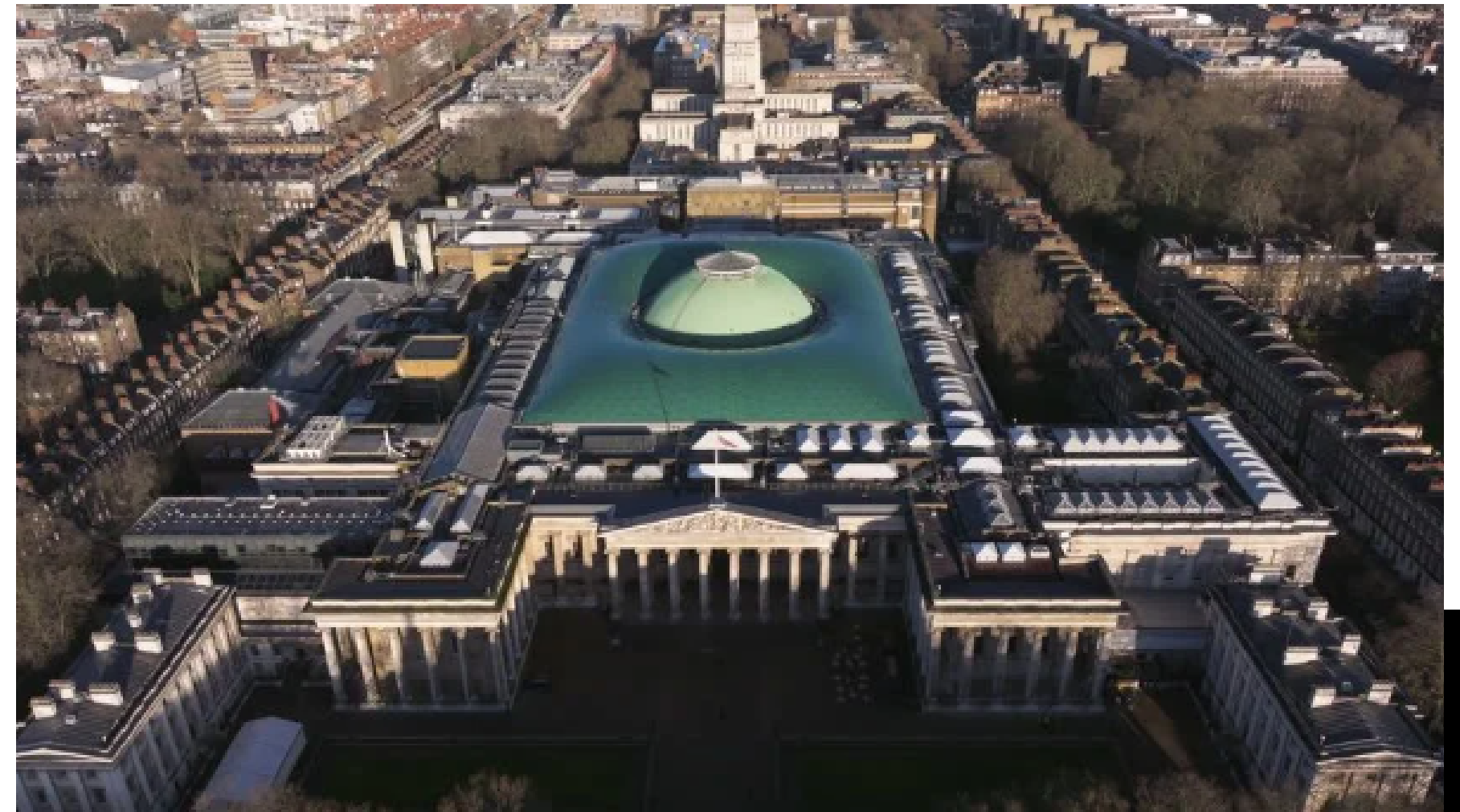
One of the world's largest and most influential museums

Over 8 million objects in its collection

Millions of digitized records available online

Leader in digital strategy and open access

Ideal example for examining museum Big Data



08.

Types of Data at the British Museum

- Collection data & metadata
- High-resolution images and 3D scans
- Conservation and provenance records
- Visitor analytics & website interaction data
- Research documentation and curatorial notes
- User-generated content (reviews, tags, comments)



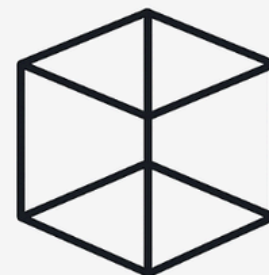
Images



Metadata



Analytics



3D Models



09.

Digital Infrastructure

- Collection Management Systems (CMS)
- Digital Asset Management (DAM)
- APIs and open data platforms
- Online Collection database
- Linked Open Data (LOD)
- VR/AR and immersive technologies



10.

Data Volume: "How Big is Big?"



- Millions of structured collection records
- Terabytes of high-resolution images and media
- Continuous growth of digital assets
- Increasing velocity of visitor interaction data

Big Data characteristics:

Volume

Variety

Velocity

Veracity



11. CHALLENGES

Data heterogeneity and legacy systems

Interoperability and metadata inconsistencies

Privacy and GDPR compliance

Long-term digital preservation

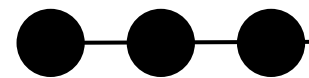
Sustainability of large digital ecosystems



12.

Strategic Use of Data

- Enhancing public accessibility
- Personalizing visitor experience
- Supporting research and scholarship
- Strengthening education and learning tools
- Enabling global reach through open access



13.

Conclusions & Contributions

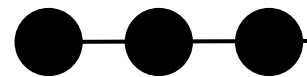
Big Data now central to museum operations

British Museum demonstrates large-scale data management

Need for strong governance and ethical frameworks

Digital infrastructures enable access, research, and engagement

Thesis contributes insights into data practices in major museums



14.

Future Directions

AI for metadata enrichment and automated tagging

Expanded use of VR/AR for immersive experiences

Greater interoperability through semantic technologies

Sustainable long-term digital preservation strategies

More inclusive and participatory digital storytelling





**Thank you for
your attention!**