gesis Leibniz Institute
for the Social Sciences

Digital Preservation Policy

Principles of digital preservation of research data at GESIS – Leibniz Institute for the Social Sciences

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Introduction

As an infrastructure organization for the social sciences, GESIS – Leibniz Institute for the Social Sciences manages large amounts of empirical social research data. This not only includes data documentation, preparation, indexing and dissemination but also responsibility for digital preservation of data to ensure its long-term usability and understandability for the intended user community.

GESIS is aware of digital preservation challenges and addresses these challenges through an ongoing process and adapts its workflows where necessary. GESIS has the expertise required for this task and accepts responsibility to ensure usability and interpretability of digital data in its collection. It treats digital assets with necessary care.

This policy describes digital preservation principles and strategies for research data employed by GESIS. It expresses GESIS's awareness of responsibilities and measures required to ensure adequate preservation and access. It complemented with a Digital Preservation Plan, detailing the specific measures employed to preserve the assets in our care.

Organizational framework

GESIS – Leibniz Institute is a non-profit association ("eingetragener Verein") under German law registered in Mannheim, Germany. Founded in 1986 as "Gesellschaft Sozialwissenschaftlicher Infrastruktureinrichtungen" GESIS initially consisted of three legally independent institutes, the "InformationsZentrum Sozialwissenschaften" (IZ) in Bonn, the "Zentralarchiv für Empirische Sozialforschung" (ZA) in Cologne and the "Zentrum für Umfragen, Methoden und Analysen" (ZUMA) in Mannheim. These three institutes were merged 2007 into one infrastructure which has been included in the Leibniz Association and since November 2008 has introduced the name "Leibniz Institute for Social Sciences".

GESIS is publicly funded by the German federal government and the state governments. Since its foundation, GESIS has undertaken continual responsibility for preserving social science research data. Digital preservation activities are integral to GESIS's strategic planning.

Mission: GESIS is an infrastructure organization for the social sciences. As such, its mission is promoting social science research (GESIS statutes, §2, subpar. 1). To support this, GESIS offers services and products pertaining to all phases of a research project. GESIS's services are research-based and address current developments to provide best possible support to the scientific community.

An important aspect of this task is permanent provision of research data: "[The] preservation, documentation, and long-term retention of social science research data, including [...] the high-quality preparation of particularly relevant data for secondary analyses" (GESIS Statutes, §2. 2c - https://www.gesis.org/en/institute/the-association/statutes). Data accessibility is not only prerequisite for transparency and reproducibility, but also offers the possibility of repurposing existing research into new or expanded approaches. It thus extends the life of data beyond the original research. Digital preservation means guaranteeing long-term usability, interpretability, and accessibility of data and is inextricably linked to reliable provision of research data.

Selection and acquisition: GESIS statutes determine the character and content of its data services. GESIS primarily collects digital data from empirical social research. Accordingly, the GESIS data

collection is designed to serve the purpose of investigating "social change in national and international comparative and historical perspective" (Statutes §2, subpar. 2b) and support "international comparative research." The subject of "social change" is a main focus of GESIS's services and particular importance is assigned to comparability of data across space and time. However, in principle the GESIS Data Archive curates quantitative data sets relevant to social science research questions as long as data is well-prepared and documented.

Access and use: GESIS's digital preservation activities make data permanently available for re-use. GESIS actively supports and promotes data sharing among researchers.

All publicly accessible datasets receive a persistent identifier, making it possible to clearly reference, locate, and cite datasets over the long term.

GESIS makes studies accessible to its designated user community in empirical social science through different channels and in formats used by this community. The modalities of access and use are laid down in publicly accessible usage regulations.

Challenges

Digital preservation comprises of measures designed to keep data "alive" in the long-term by ensuring interpretability and usability. Achieving this involves more than physical preservation of the bitstream by means of back-ups.

Digital preservation must address the effects of sometimes rapid technological change in hard- and software environments, including file formats, which puts the use of digital data at risk. In addition, safeguarding the authenticity and integrity of digital data is of particular importance to ensure its usability is not compromised by damage or unauthorized change.

Digital preservation of research data must also consider legal issues – for example, usage rights, data protection, and intellectual property. Contractual agreements between GESIS and rights holders ensure that GESIS has the necessary permissions make copies of the data available for re-use or perform file format conversions for the purposes of digital preservation.

Another important issue in digital preservation is ensuring that data can be understood now and in the future. This is achieved by describing each study with standardized metadata and providing sufficient documentation in the form of method reports, codebooks, or collection instruments.

An issue facing digital archives is trustworthiness. To address this, GESIS adopts the following principles.

Principles

Digital preservation of research data at GESIS is guided by the following principles:

Strategy

- Preservation activities performed by GESIS should not be viewed in isolation but in the context of further strategic goals (see also "Related documents"). Accordingly, preservation activities are regularly reviewed and adapted to meet new requirements.

- GESIS undertakes active preservation management by means of monitoring procedures and developments in social science research, technical change, and evolving standards. Details of the approach are described in our Preservation Plan (see "Related documents").

Standards and co-operation

- GESIS embraces the use of recognized standards in fulfilling its tasks (digital preservation, metadata, etc.). Particularly important to planning, implementing, and developing digital preservation is the Open Archival Information System (OAIS) reference model. Recent efforts to establish benchmarks for the trustworthiness of archives are considered. Metadata, critical to the long-term preservation, documentation, and use of digital data, are assigned according to recognized standards (e.g. DDI).

- In addition to using standards, GESIS is actively involved in their development and promotion. It regards raising awareness of challenges to digital preservation as part of its mission and accordingly offers training and education in this field.

- GESIS co-operates with national and international organizations from the social science and humanities as well as the digital preservation domain to exchange insights and experiences, develop and apply standards, and participate in shared monitoring. New research results are considered and applied.

Well-documented and traceable processes

- All archival processes are documented and suitably logged. Internal documentation is provided in an appropriate format and regularly updated.

- If data are modified in any way to guarantee their long-term usability and interpretability, e.g. by migrating them to a different format, all changes are documented. Checksums are used to monitor data authenticity and integrity.

Transparency and trustworthiness

- Data depositors and users, research funders, advisory and steering committees as well as the interested public should be familiar with GESIS's preservation principles and procedures. GESIS provides further information through its website and other channels to meet this interest. In addition, GESIS staff are available for consultation.

- GESIS runs a trustworthy long-term archive. It regularly reviews and adapts its workflows in the context of (self-) audits and certification processes drawing on established standards.

Technical infrastructure

- GESIS employs a reliable technical infrastructure and suitable measures to ensure the physical safe keeping of its data collections. Security and risk management are carried out in close co-operation with the departments "IT-Infrastructure and Services" and "Knowledge Technologies for the Social Sciences". The measures undertaken allow for swift recovery of the data in case of hardware failures or damages.

- Data is stored redundantly in different locations. Data is frequently backed up to different kinds of storage media and data integrity is constantly monitored. GESIS protects data

entrusted to the institute against unauthorized physical or network access. It is aware of the threats posed by extraordinary circumstances or malicious destruction and implements appropriate countermeasures.

Responsibilities

The long-term usability and comprehension of data is guaranteed in particular by the teams in the department "Data Services for the Social Sciences" in close cooperation with the departments "Survey Data Curation", "IT-Infrastructure and Services", and "Knowledge Technologies for the Social Sciences". Their work is coordinated and supported by the department's director and the president of GESIS. The teams are closely connected and engaged in continuing exchange on the topic of digital preservation.

The director of the department "Data Services for the Social Sciences" is responsible for this policy and guarantees its implementation and regular review.

Related documents

- [Preservation Plan](#)

- [GESIS mission](#) (see "Main Objectives")

- [GESIS Statutes](#) (in German)

- [GESIS Data Services "Standards and Workflows"](#)

- [Usage regulations, Dept. Data Services for the Social Sciences](#)

- Deposit agreements

    o [Archiving Basis](#) (see "How can I upload and publish research data or code/syntax?")

    o [Archiving Plus](#)

    o [Archiving Premium](#)

- [Collection Policy](#) (in German)

- Kinder-Kurlanda, K. & Watteler, O.: [Hinweise zum Datenschutz. Rechtlicher Rahmen und Maßnahmen zur datenschutzgerechten Archivierung sozialwissenschaftlicher Forschungsdaten](#) (GESIS Papers 2015/01, in German)