International Symposium on the Conservation of Monuments in the Mediterranean Basin

(2024)

Proceedings of the 11th MONUBASIN (2024)

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doi: 10.12681/monubasin.8182

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Abstract. The present study uses model wikidata elements as a basis and explores its dynamic formation into a cultural heritage information management tool within a museum. It aims at assessing the existing literature on the field, evaluate current practices, draw conclusions and weigh further uses within the museum environment. Literature search was centered on four axes: a) to provide a view of existing wikidata techniques and its relations to other wiki structures and databases, b) to describe existing projects within the museum environment and the use of wikidata for providing cultural information c) to locate works on the use of wikidata as a means for managing cultural information and, d) to explore if the pandemic COVID-19 has brought any changes on the use of wikidata. The literature review indicated that Wikidata have been and can be used as a:

i. common registry among cultural institutions for the description, semantic representation and visualization of artefacts, archival material as well as textual items
ii. basis for continuous augmentation of existing metadata by either the same or other metadata providers
iii. metadata pool for the production of a variety of coexisting or other informational derivatives
iv. means for encouraging global contributions independently of language, format or type of work
v. tool for implementing linked data
vi. broad base of information continuously expanding and updated that can serve for a variety of educational, entertaining and professional applications.
vii. means for gathering information independently of its origin, rights holder, country or type of institution thus offering a common platform for search, use and reuse of cultural information.

Keywords: Wikidata, Museums, Cultural heritage information, Metadata, Cultural information management

1 Scope and aims

The present study uses model wikidata elements as a basis and explores its dynamic formation into a cultural heritage information management tool within a museum. Large museums are faced with the problem of documenting the vast number of their collections, and in many cases, only a portion of their holdings are on display whilst the rest is in store. However, the information embedded in every museum object can be extracted, presented, and used by researchers and the public alike. The registration of these objects into museum catalogs is not only a means of securing their ownership but also a way of depicting the information they carry. The formation of such registries requires human labor and expertise along with historical, artistic, cultural, technical, or other specialized knowledge to augment the necessary metadata and give meaning to the artefact. Technology can be of help, and crowdsourcing technologies such as wiki-based ones offer valuable help and knowledge expansion mechanisms.

Proceedings of the 11th International Symposium on the Conservation of Monuments in the Mediterranean Basin, 17-19 of June 2024, Athens, Greece
https://doi.org/10.12681/monubasin.8182

The present paper aims at assessing the existing literature on the field, evaluate current practices, draw conclusions and weigh further uses within the museum environment.

2 Methodology

The paper is a literature review. The literature search was centered on four axes: a. to provide a view of existing wikidata techniques and their relations to other wiki structures and databases, b. to describe existing projects within the museum environment and the use of wikidata for providing cultural information, c. to locate works on the use of wikidata as a means for managing cultural information and, d. to explore if the pandemic COVID-19 has brought any changes on the use of wikidata. Articles were grouped and then analyzed to understand the current situation and uses of wikidata techniques by information organizations for: a) complementing their existing standardized metadata, b) gathering information to be used for other activities such as the development of educational programs, c) a compilation of bibliographic resources, and d) other digital services such as digital museums and digital archival exhibitions.

In the digital world, the production of data is fast, in many cases automatic, and most of the time, it is done with no structure or any form of organization. (Gurstein, 2011) identifies seven elements necessary for people to use open data effectively, these being: "internet, computers and software, computer and software skills, content and formatting, interpretation, and sense-making, advocacy, and governance." If any of those elements is lacking, an organization, a community, a research discipline, or even a whole country will quickly be left behind. Data science is part of a wider information ecosystem, subject to government policies, social practices, and individual echoing through the system. This notion has served as a guide to the present literature review, and an evaluation of the resources examined has led to conclusions in regard to wiki data use and reuse for managing cultural information. Furthermore, potential uses were determined and proposed at the conclusion.

3 General framework

Wikidata (Wikidata, n.d.) started on October 2012 as an open, collaborative project. As stated by its name is run by Wikimedia (Abián, Guerra, Martínez-Romanos, & Trillo-Lado, 2018). (Wikidata Protection Policy, n.d.) Wikidata focuses on two elements: a. to provide a central storage space for the structured data of Wikimedia and Wikipedia and b. to attract and handle multi-language data thus expanding content and services to the global community. The creation of a central unit (knowledge base) of data for all Wikimedia projects offers the benefit of avoiding duplications, providing better control on the validity and structure of registered data whilst the multilingual capability broadens the queries as well as both the contributors and the end users. Today wikidata hosts more than 350 languages. One of their main characteristics is that they not only store data but relate it to their reference sources. This fact secures the validity of data in terms of their content. The continuous update of data creates a timeline, a history of the real content's development. For example, the gradual augmentation of a particular collection of a museum, or of an artist's production, etc do provide a timeline of their evolution through time. Every item (entry) in wikidata has a label, a description and a number of thematic terms along with qualifiers putting the term in context, properties and values, linked in statements that closely resemble an RDF triplet. References offer validity and additional information to the resource to complete the Wikidata item (Mora-Cantallops, Sánchez-Alonso, & García - Barriocanal, 2019).

Wikidata is linked to Wikipedia entries, thus offering additional information to the user and vice versa, enhancing the information deriving from the data with textual information nesting in Wikipedia (Albore, Malatesta, & Molinié, 2021). The main use of Wikidata is linking to Wikimedia, the repository of photographs and digital images of artworks in which standardized descriptions and rich metadata offer their relation to textual information. The cross-validation of data and text entries augmented by images and media representations has created a world knowledge base (Roth, 2012).

In reality, wikidata (Wikidata Requests for Permission, n.d.) acts as a central data repository feeding information to Wikipedia and Wikimedia projects across multiple languages, thus eliminating duplications in different languages and in different Wikimedia applications. This way, an image, an article, or a map is supported by one or more relevant entries of data. Information is stored centrally in "one common data store from which any wiki project could retrieve data" (Ford & Iliadis, 2023).

The structure of data is standardized and follows schemas like Schema.org, which are designed to structure data derived from the natural language of websites and texts (Ford & Iliadis, 2023). Wikidata are retrievable through Google Search and various Search Engine Optimization tools, and their value is continuously increasing in retrieval procedures (Poddębniak, 2023); (Clark, Williams, & Rossmann, 2022).

Within this framework a series of articles have been located describing wikidata techniques and their uses in the museum environment. Furthermore, these techniques were assessed as to their capability of providing an information management tool for uses inside the museum as well as information exchange outcomes.

4 Literature Review

A good account of wikidata techniques and their uses is given by Mora-Cantallops *et al*. Their study (Mora-Cantallops, Sánchez-Alonso, & García - Barriocanal, 2019) focuses on articles entailing wiki data applications and the project itself. Research questions measure research activity since the project's introduction to assess its impact on a global basis, running across disciplines and languages. Then, they focused on topics aiming at pinpointing the wikidata use by discipline, area of interest, and the corresponding types of organizations. Apart from the use, the study also expanded in covering wikidata elements and structure and looked at the topics covered by wikidata itself to correlate it with the use and the further study of wikidata applications embedded in the relevant literature were also considered. Finally, the researchers looked at the leading institutions in wikidata research covering all elements such as production/contribution, standardization, search optimization, use, augmentation patterns, methods, etc. (Mora-Cantallops, Sánchez-Alonso, & García - Barriocanal, 2019). What has really come out of this is that wikidata research is on the rise as the concept and the importance of the wikidata knowledge base are attracting more interest due to its usefulness. Much of the research focuses on validity issues and the methods for securing the relevance of resources. (Piscopo, Phethean, & Simperl, What Makes a Good Collaborative Knowledge Graph: Group Composition and Quality in Wikidata, 2017) Their study explored the influence of users/contributors on wikidata quality. They considered both human users and bots and have set criteria such as topics and relevance, and in the case of human users, they examined elements such as affiliations, positions, fields of expertise, etc. They concluded that to gather high-quality wikidata, both human contribution and algorithmic input were of the essence. Human contribution acted as an expansion mechanism whilst algorithmic input offered much of the crosschecking, matching, as well as expansion. A more recent study by the same group evaluated the ontology of Wikidata (Piscopo & Simperl, Who models the world?: collaborative ontology creation and user roles in Wikidata, 2018), giving us a close look at the structure of topics and their interrelationships in terms of content. (Piscopo, Phethean, & Simperl, What Makes a Good Collaborative Knowledge Graph: Group Composition and Quality in Wikidata, 2017) characterized the wikidata ontology to be "large and messy, with numerous underpopulated classes and uneven depth". In this respect, the standardization and conformity of wikidata elements to one of the popular open standards such as DC or CIDOC CRM, would offer a solution to the above but, at the same time, might be restricting and somewhat limited to descriptive, structural and semantic information requiring further expansion in relation to administrative elements especially those securing the authority and validity of contributors, the editing and review processes along with a validation mechanism. At the same time, this practice would create an easier path for contributors supplying data directly from their catalogues and registries. The same holds for semantics.

Along the same lines and with particular interest to libraries mainly and archives can be found in the article by (Bacchi & Bergamin, 2018) who proposed the restructuring of the UNIMARC bibliographic

records to be converted to the Wikidata data model. This will allow UNIMARC records to use the technical solutions and services of wikidata and wikidata to gain standardization practices. However, other standards, such as DC or MARC21 (the more widely used UNIMARC's counterpart), can offer better solutions and larger acceptance. As we can see, the standardization of wikidata elements to one of the existing bibliographic standards (UNIMARC) is already on the table and this shows the need for securing communication between wikidata and existing databases such as the bibliographic ones. However, many museums and archival collections have used other standards such as DC, EAD, etc. Past projects have shown the way of making existing catalogues and registries communicate. Europeana is a good example of that. However, wikidata's merits lie in rich information and augmented metadata and not in the simplification that Europeana's model (EDM) is built on. It does achieve communication but does not provide, at least at the first step, the full information depicted in the contributor's initial catalogues. In this respect, wikidata requires the exact opposite action: create a data store that data will be continuously augmented by different contributors, and this data store has no exclusive ownership or exclusive contributor. The idea of offering a variety of elements and leaving those to be filled based on availability is an idea but it is obvious that some mapping work or even crosswalks between standards can be of help.

Libraries, archives, and museums are key contributors to wikidata as they found an opportunity to store, link, and augment their metadata describing their collections. They are currently using wikidata as a "hub" of linked data, increasing and using knowledge stored there by other information institutions, complementing and cross-checking their sources, and presenting the "knowledge" embedded in their collections. The continuous cooperation of cultural institutions through the Wikidata platform has already given an enormous boost to hidden knowledge in artefacts and museum collections. One such example is given by (Chemello & Leva, 2018) presenting the partnership between the Fondazione BEIC (BibliotecaEuropea di Informazione e Cultura) and Wikimedia Italia.

Furthermore, the handling of semantics is of great importance. The article by *Bartalesi et al.*, dealing with textual items and their semantic values, was taken into account. (Bartalesi, Coro, Lenzi, Pagano, & Pratelli, 2023) dealt with the transformation of textual documents that contained geographic information into maps that actually tell a story. They used a semi-automatic workflow based on Natural Language Processing (NLP) and Semantic Web technologies. Their system used events associated with places and correlated wikidata entries along with multimedia information to create story maps. This process creates "a story map" that can be used as an educational, informational, and entertainment mediums. Story maps are presented in relevant web applications. Their semantic description follows the wikidata ontology based on subjects, predicates, and objects (Ford & Iliadis, 2023).

The global standardization of cultural heritage information is a challenge and an important agent of communication between cultural institutions and organizations. This is because the documentation is done using different metadata standards and different cataloging methods (Candela, Escobar, & Marco-Such, 2019). Nevertheless, a great effort is made by libraries to establish interoperability and aim at the homogenization of data across informational and cultural organizations. Linked data do offer the possibility of connecting resources with diverse descriptions and often conflicting metadata. This serves as a means to increase usage and ameliorate access to all types of resources. Library of Congress has been in the process of producing linked data to other institutions and, since 2019, has been linking its data to wikidata. Wikidata provides bibliographic information and resources, and LC, in turn, directs the user to the actual resources, to authority files, to hosting institutions, or even websites.

The success of the Library of Congress connection with wikidata is also attributed to the fact that more detailed bibliographic sources are provided through this connection. That is, relevant sources, established terms, terminologies, and even relevant websites according to the search of the users. All digital libraries and cultural organizations can follow this standard for developing, managing, and sharing cultural information (Ferriter, 2019). Other libraries, such as the National Library of Wales, have undertaken several wikidata projects focusing on the use of their existing metadata and the visualization tools provided by wikidata technologies. This is particularly useful for the presentation and use of cultural information through graphs, maps, tables, and other materials (Evans, 2021). Another example of this type of projects is the one undertaken by the National Library of the Netherlands. A digitized program

regarding a diary of the 17th century, namely the "Album Amicorum of Jacob Heyblocq," contains some well-known figures that Jacob Heyblocq met during his lifetime. The book offers access to a series of figures serving as items within a collection and forms each one of them into a separate wikidata entity. In this respect, the resource is one, but the access points and wikidata items are multiple. The referencing, in this case, is creating a circle linking items embedded in a resource to other items, either independent or embedded in diverse collections. The interoperability and metadata sharing can work circularly and more efficiently not only by linking wikidata to collections but ideally by linking collections directly to the wikidata management system.

It becomes clear that the organization and management of knowledge can be supported by the technology and expertise of wikidata, creating a new information model. In this case, the Wikidata entity becomes the core item of information and can be used as a reference point, as an expanding knowledge element, and as part of any larger resource. The advantage of wikidata is that the entity is documented once, and this documentation can be continuously updated, referenced, complemented, and used by any institution or a simple user. The following diagram presents this information model based on wikidata techniques:

Diagram 1: Wikidata information model

It should be mentioned that the development of recent technologies combined with interoperability and linked data can enrich the catalogues of libraries and cultural organizations. All this innovation, in total, can help the users of cultural institutions to be served faster and more efficiently.

It is further pointed out that the future of wikidata projects will be the quick and easy navigation to information among cultural organizations. Knowledge sharing can be achieved through wikidata globally by reconfiguring the services provided, enriching the collections, and creating a circular information model as described above. Wikidata as means of managing cultural information will create a connected system in libraries, archives, galleries, and museums through the integration of more and more libraries and information services into wikidata (Perry, 2021).

Libraries have been adapting faster than many other institutions' wikidata technologies and are benefiting by their use. In their survey (Evenstein Sigalov & Nachmias, 2023), through qualitative research carried out with interviews, they present some wikidata projects that provide complex and multifaceted information. They also support information through modern technologies. The cases of libraries being involved, adapting, and using wikidata do offer an account of how the library community is seeing this new development and how ready it is to expand towards these new capabilities. Specifically:

a) The Bodleian Libraries (Bodleian Libraries. University of Oxford, n.d.) supported by Oxford University, tried to understand and promote wikimedia projects in the academic and research community. To realize this aspiration, library staff worked with the driving aim of making library collections visible in wikimedia projects https://www.bodleian.ox.ac.uk/

b) The Library of the University of Edinburgh (The University of Edinburgh, n.d.), Scotland supported the "witch-hunts" project. This program started in 2014, was an informative database for 16th−17th centuries Scottish Witch Hunts linked to wikidata. With the use of interactive methods, this project was an inspiration for the creation and support of future corresponding works https://www.ed.ac.uk/information-services/about/news/2019/interactive-witchcraft-map.

Along the same line, large museums did join similar projects in an effort to link their metadata to wikidata and gain interoperability. The best example of such a project is "The Portrait of Madam X," supported by the Metropolitan Museum of Art of the United States of America. This museum has a huge wealth of information and is internationally recognized. Specifically, in 2017 more than 350,000 works of art were added from the museum's metadata to wikidata, while in 2018 another 600,000 artworks were added enriching their collection at wikidata (Madame X (Madame Pierre Gautreau), n.d.) https://www.metmuseum.org/art/collection/search/12127. Also, the same museum created the "Met's Dashboard" and integrated it into wikidata (The Met Museum, n.d.) https://www.metmuseum.org/. Moreover, one more initiative of the Metropolitan Museum of Art was the project called "The Depiction Game," which was built with the support of artificial intelligence.

Academic institutions have joined the project efforts for research on wikidata capabilities. For example, the project sponsored by Tel Aviv University entitled "From Web 2.0 to Web 3.0, from Wikipedia to Wikidata". The project (A new academic course featuring Wikidata at Tel Aviv University, n.d.) coincided with the COVID pandemic, and its impact was increased by this fact (https://outreach.wikimedia.org/wiki/Education/News/October2018/A new_academic_course_featuring_Wikidata_at_Tel_Aviv_University)

Along the same line, Brazil's School of Journalism, inspired by the project of the Metropolitan Museum of Art, designed a tool that could create Wikipedia articles by using Wikidata. The same School used wikidata to find elements from other databases and specified information. Of great interest is the effort made by wikipedia volunteers to digitally capture the museum objects of the National Museum of Brazil, which was destroyed by fire in 2018.

The possibilities provided to the field of research and education by the semantic web are constantly being explored (Müller-Birn, Karran, Lehmann, & Luczak-Rösch, 2015). Based on the above, one can draw the conclusion that the academic and research community has shown great attention to the capabilities of wikidata, and libraries, museums, and archives have much to benefit from them. The early notion expressed by (Müller-Birn, Karran, Lehmann, & Luczak-Rösch, 2015) that the academic world has not fully understood the importance of wikidata technology is no longer the case. Universities and research institutions are rapidly exploring new directions, and relevant training courses have contributed to this evolution. The appearance of a training course (CIS-A2K/Events/Wiki Advanced Training/2018, 2018) already in 2018 hosted by Wikimedia (https://meta.wikimedia.org/wiki/CIS-A2K/Events/Advanced_Wikidata_Training_2018) is just an indication. Today, several universities do offer wikidata courses (Wikidata Basics, n.d.) as part of their curriculum (eg, the University of Edinburg https://thinking.is.ed.ac.uk/wikidata-basics/). Engaging with wikidata is a key element for the research community and cultural and governmental organizations (Evenstein Sigalov & Nachmias, 2023).

Finally, at the international level, it should be mentioned that during the COVID-19 pandemic, a worldwide disease monitoring portal using wikidata entities (with the participation of Brazil, Germany, and Australia) was created in several languages. From this portal, the user could obtain information related to the disease while the information is provided by various databases and information sources linked to wikidata. The construction of knowledge graphs the linking to the WikiGenome project provided much needed information (Turki, et al., 2022). The WikiGenome project is an open database for the research community powered by Wikidata.

Apart from that, museums made an effort to retain contact with their public during lockdowns, and this effort (Unesco Digital Library, n.d.) was implemented in the digital world (https://unesdoc.unesco.org/ark:/48223/pf0000373530). Digital museums, virtual exhibitions, and educational programs were the only means of staying connected with the public. Wikidata was, in many ways, the infrastructure for gathering, correlating, crosschecking, and providing ready information that would feed the educational programs, the virtual exhibitions, and the enhancement of digital museums themselves. As Wikidata is connected to Wikimedia Commons, graphic descriptions are automatically connected to textual information (Albore, Malatesta, & Molinié, 2021). This capability has made possible the creation of stories and educational games and has enhanced the informational content of virtual exhibitions. This has been stated in the "Survey on the Impact of the COVID-19 Situation on Museums in Europe" carried out by the Network of European Museum Organizations (NEMO). The survey presented the economic implications of the COVID-19 pandemic on museums. Recommendations of the survey do include the extensive use of tools such as wikidata for securing museums' impact in the digital world (NEMO, 2021).

Looking now at the projects taking place that have as their main scope the exploitation and use of wikidata technologies, one can observe a rigorous activity. The development of new technologies and their integration into information science has created excellent prospects for the dissemination of cultural information. The metadata of libraries, archives, and museums are an excellent feeder to wikidata and vice versa. In this way, cultural industries can provide knowledge through the Wikidata information management model quickly, reliably, and for free. Open Data is provided free of charge to all users and has a special feature that allows it to be created and constructed by all potentially interested parties for any purpose and in any place. (Open Definition, which the Open Knowledge Foundation created in 2005). According to the Open Knowledge Foundation this can be achieved with the corresponding legal and technological freedom. However, it is necessary to protect all works through intellectual responsibility and ownership. Technological support must allow for the free sharing of data (Albore, Malatesta, & Molinié, 2021).

The free sharing of data and cultural information is supported by many repositories and databases. The Data.europa.eu portal provides several open cultural projects. For example, The Miguel de Cervantes Virtual Library Foundation (Biblioteca Virtual Miguel de Cervantes, n.d.) which has in its catalogue more than 200,000 free-to-use records. (https://www.cervantesvirtual.com), the British Museum (The British Museum, n.d.) has one of the oldest and largest metadata search platforms. About 2,300,000 records out of a total of 4,000,000 objects are freely available to users; the Musee Saint - Raymond (Toulouse, France) (Musee Saint - Raymond Archeologie France, n.d.) should also be mentioned as it uses wikimedia platforms and wikidata projects https://saintraymond.toulouse.fr/, etc.

Accordingly, in the United States, notable examples of free mining of knowledge and metadata (Library of Congress Linked Open Data Service portal, n.d.) are The Library of Congress http://id.loc.gov/ which supports the interoperability and sharing of cultural information, The New York Metropolitan Museum (The New York Metropolitan Museum , n.d.) http://www.metmuseum.org/ which provides a multitude of artworks on data sharing platforms, etc.

Based on the above, museums, archives, and even more so libraries have adopted the necessary policies and have proceeded in using wikidata as an auxiliary service for publishing their data or even as a form of data registration and data augmentation deriving from their catalogs, bibliography related resources, curatorial work, and standardized descriptions. The idea of having augmented metadata through wiki practices and using crowdsourcing capabilities did not seem to come into the picture for formal information organizations. However, the simultaneous use of other similar institutions and their contributions was rather welcome. It seems that this has become one of the benefits of wikidata providers. True crowdsourcing from independent experts, nonformal art galleries, or local collections has not been as yet an option, whilst libraries, archives, and museums see this type of open data gathering as not trustworthy.

According to (Zhu, Xu, Deng, Heng, & Li, 2023) Wikidata has proved to offer the following benefits to libraries and cultural heritage institutions:

- Wikidata enhances the adaption of Linked Open Data.
- Wikidata provides URIs and facilitates the use of the semantic web at the level of entities.
- Wikidata items are reused, referenced, and linked to other resources.
- Authority data, deriving from institutions' authority files, can be distributed through wikidata.
- Items can be multilingual.
- Items can be continuously updated and enriched, incorporating geo data, images, and biographical data.
- Bibliographic data can be converted to RDA/RDF and BIBFRAME through wikidata and other sources.
- Wikidata can be visualized in graphs.
- Wikidata platform is open to anyone for contributions following guidelines and practices.
- Wikidata offers a form of standardized description of items and an ontology for semantic management.
- Wikidata offers structured data, making its content machine readable, securing interoperability, and serving as a repository of sources (Vrandečić, 2023).

Cultural institutions, in general, aim at providing equal access to their holdings to all members of the community; as this service is shifted from the real world to the digital, this task has become easier, more readily available, and meets many of the necessary aspects for personalized, on-demand, current information characterized by wholeness, precision, and validity. Wholeness and versatility rely on collaborations among institutions across countries, languages and types (these being libraries, archives, museums, galleries, parks, research labs, etc). These institutions have recognized the importance of Wikimedia projects (Perry, 2021) and the potential of wikidata for forming the infrastructure of information. In order to secure their presence in the digital world, they have come to the understanding that their participation in global wiki platforms is of the essence (Chemello & Leva, 2018) .In summarizing, wikidata elements do need to secure their correspondence to existing description standards, though significantly augmented in order to accommodate the data store's objectives and administration of contributor's activities and validation. They also need to secure the management of semantics and make the most of linked data for existing and upcoming projects.

Furthermore, policies are of main concern in order to secure not only the contributions but also the use and reuse of wikidata information. It became evident that museums had to adapt open data and open access policies to art works themselves and solve issues of photographing and reproductions of art works for the interconnected Wikimedia project.

5 Conclusion

It is evident that wikidata can serve in a variety of ways for managing cultural information. Wikidata can be used:

- As a common registry among cultural institutions for the description, semantic representation, and visualization of artefacts, archival material as well as textual items.
- As a basis for continuous augmentation of existing metadata by either the same or other metadata providers.
- As a metadata pool for the production of a variety of coexisting or other informational derivatives.
- As a means for encouraging global contributions independently of language, format or type of work.
- As a tool for implementing linked data.
- As a broad base of information continuously expanding and updated, it can serve a variety of educational, entertaining, and professional applications.

- As a means for gathering information independently of its origin, rights holder, country, or type of institution, thus offering a common platform for search, use, and reuse of cultural information.

The initial idea for creating a central platform serving as a data store for similar wiki projects, in reality, has created a central data store with a standardized structure that could be used not only for supplying information to other wikis but in fact, offering information for a variety of activities such as information on related and complementary objects, the basis for educational games and digital museum activities, registry control, artefact comparisons, linked data, etc. It should be mentioned that Museums should have the necessary "data literacy" skills in order to access, critically use and transform wikidata into information. Understanding the way wikidata works, the algorithms, tools, and standards they use, and the potential, as well as the extent of information they provide, is the basis for their full use. In addition, the understanding of the data hype cycle is also of the essence. Data, like all information, is a non-depletable resource and is nonetheless still there for use by others. Wikidata in the museum environment will reach a peak of curators' and users' expectations before they become part of a regular museum information tool. The credibility of wikidata is critical throughout this cycle.

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