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Challenges of Digging Data and Archaeological Data Reuse

Archaeology has recently developed different modern systems for the collection and reuse of data. The reuse of data in this paper is data that is already examined and recorded. The data is then called upon again to find more information about the archaeological site. This research paper focuses on the importance of archaeological data reusers more especially the verification of data and having complete trust in the data that is being collected by others in the field. It is through this research we acknowledge that archaeologists put more emphasis on the collection procedures of data and they see the archaeologists who conducted the research in the field and structure of certification including the location of storage of less importance. The argument here is that the storage locations need to address the dimensions that might be missing to ensure that the archaeologists have better data for reuse.

The changing aspects in both social and economic are recently pushing for the digital publication of archaeological work. This is different when compared to the past where data was stored in books or it could be told by a person who knew better and the message could be passed from another person which mostly led to distortion. Nowadays the data is even found in the websites and this is reducing the printing of a large set of data. There is an archaeology program that is being focused on ensuring that the standards are improved so that data reuse can last long. Infield archaeology, the development standards are limited due to the fact that there is the advancement of data curation and reuse is a new thing to people. Data literature reuse enables the permission of producing data set which gives more experience on the data

reuse compared to the current data literature that informs the advancement but it has its side effects.

Research and the documentation of archaeological data are more important to research because the destroyed sites are documented including the artifacts that are left behind will be analyzed. That is the reason why the records available to the archaeologists are digitally documented about the sites and artifacts cannot be accessed (Van House, 2002.).

Archaeologists around the world are involved in many research settings so that they can carry out some research regarding the past communities in all their wide areas. Usually, the methods that these archaeologists use around the world are very different, for example, a method that is being used by an archaeologist in Namibia cave site, Africa is different from the one that is used in the Roman urban site. Some people usually have the proficiency and enough time needed to develop varied and extensive documentation while others always struggle to obtain know-how skills.

Archaeologists usually try to get the knowledge on the communities of the past about the social progress via the analysis and documentation of the materials left behind by these communities. To ensure that this exercise is a success, there will be people with dissimilar areas of expertise such as having zooarchaeologists, soil scientists who will be carrying research on soil, the material scientist's who will be investigating on the chemical composition of the artefacts and many other more expertise (Spielmann and Kintigh, 2011). Ensuring the good organization of these people is a diverse problem that includes the extensive management of data skills. For an effective collection of data, the archaeologists use destructive methods which results in destroying of the same sites that they are trying to get data from and this is a pressing problem to management of data and preservation. These ancient sites are destroyed through

looting or development and become limited due to the fact that they are non-renewable resources. In most of the countries now, they don't allow the exporting of their artefacts for the purpose of research and this puts a lot of pressure on researchers because they will have difficulty in having protected access to the collections in the future.

Most of the data reuse literature has had findings that the reusers must have knowledge in the way that data were formed so that they can do a good evaluation of the data. Having the knowledge of how various individuals selected the data collection instruments made the ecologists have trust in the data (Tudhope, Binding and May 2008). Archaeologists use research data in several scenes such as museum archives, person to person, and using the digital storage locations. The problems that arise from these scenes, for example, the use of person to person is affected by factors such as fear of poaching, lacking the common data standards and the participant's interests. On the part of using the museums, they are rarely unused even if they represent original evidence for the archaeology of an area. Another factor is that the museum metadata is limited to the researchers and hence it is rarely used.

The reuse of data is difficult due to the emergence and distributing of nature strategies in archaeology. There are categories that are aimed at ensuring the data collection, reuse and documentation is a success. These two are the repository-based standards and the strategies and standards for those who yield data.

This focus is more on how the archaeologists investigate the reuse data that has been researched more especially the digital data. Archaeology is best in studying the data reuse because it has a growing sharing of a data culture, therefore, data reuse becomes a new thing and repositories and the archaeological data are young. Another reason is that data that is being used by the archaeologists is diverse hence data is sent to various sources (Aitchison, 2009). The interest of exploration of the fields for data collection has less experience, the

partnership with the open context creates wide access to documents, publishing and offering services and tools that are needed by the archaeologists. In the year 2011 and 2012, the interviews were conducted and the asked the archaeologists questions regarding their data reuse experiences. The sampling techniques used was snowball and suitability in drafting the contestants. Additional participants were added by using the workshops, the interviewees selecting the most qualified and conferences. The archaeologists that were nominated in terms of methodology, the expert skill and research questions and they were paid \$25 US dollars. The audio recording was used and transcribing the interviews and data analysis software for coding purposes.

. The findings were that the respondents reuse of data despite the fact they lack context. The data collection procedures and research design had a high demand when they were given the nature of context in the field of study. Another group of respondents, giving of documents made in the file had an attitude on the data reuse. The findings that arose are lacking the context during the data reuse, data collection procedures during data reuse had great importance and additional context plays a major role in data reuse.

The results that were obtained show that there are a lot of challenges for data reuse. There has been a lot of storage locations in archaeology. There are results that show the already existing certification of values such as the time and place that the artifacts were found and the sequence of events of the site. The storage locations that have been existing indicate that researchers can make their own implications on data consistency through the use of their own knowledge and consistency and expertise of data creators (Atici, Kansa, and Kansa, 2012). Though the existing storage locations for data certify the data creators, there are other problems that face the metadata such as not reaching an agreement on the chronology for archaeology. Another problem is the one that does not have the global standard stratigraphic age used in

geology. The research that is being conducted regarding the challenges facing datasets is gaps in archaeological data standards and the emerging data standards.

When examining the current data certification procedures, values and ontologies explained that there is much context that is needed for reuse is not being merged into practice. The main objective of the open context is to increase the standards for enhancing data reuse for long. Data examination of data reuse in the field show that context that environs people, storage process and research methods were useful but the problem is that they are not easily available. For example, the methodological procedures for field study are used to know, verify and trust the data. There are many small scales, investigational of data incorporation projects emerging and application of formal ontologies. The data storage locations and the publication systems have made a step to ensure that the tools are being implemented and the recruiting of data editors who will bring into line datasets by using the skilful vocabulary. The investigational schemes, data storage locations and the publication of data systems progress to work in the area.

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