Cultural Landscapes and Big data in qualitative research: the case study of the martyr village of Kommeno, in Arta, Greece

Alexandra-Aikaterini Andrianou[1,*]

[1] Department of Archives, Library Science and Museology, Ionian University, Corfu, Greece

Abstract

The concept of the cultural landscape has been examined from different research fields. Landscapes with distinctive identities where oral violent spatial practices developed can be examined from social and cultural perspective. Our research paper addresses this prospect by studying the cultural landscape of the martyr village of Kommeno in Arta, Greece.

This research paper employs a qualitative research method to collect socio-cultural and cultural landscape big data, with the objective of identifying significant conceptual patterns, social experiences, opinions on cultural landscape, cultural trauma, and memory. The aim of this research is to evaluate the methodological tool of qualitative research for the visualization of historical and socio-cultural big data.

Keywords

Cultural landscapes, qualitative research method, Big Data, martyr village

1. Introduction

Landscapes that have been the site of violent spatial practices develop a distinctive identity, creating a unique and memorable landscape [29] [19]. This is particularly the case in landscapes where oral and experiential testimonies have occurred, as the information they provide gives rise to a historical and memorial dimension of the landscape [28]. In these cases the past becomes worth of study examined from a cultural and social perspective and the landscapes become closely related to wartime events [16] [3].

Our research addresses the study of the cultural landscape at the martyr of Kommeno, in Arta, Greece. More specifically, during the Second World War, Kommeno village was attacked by the German army, having as a result the total destruction of the village and the extermination of 317 inhabitants, including innocent children [24]. The selection of Kommeno as a case study area is based on assessment of the experiences of contemporary residents in relation to their perception of the cultural landscape in a historically significant place.

The research paper examines the procedure of landscape study through qualitative research tools. More specifically, we address a qualitative method in landscape evaluation process at the post – war landscape of Kommeno village. Big data that will be retrieved will become useful in the visualization of historical and socio – cultural exploration of Kommeno cultural landscape.

2. Cultural Landscapes and Data

Researchers from different research fields have examined the concept of landscape and have concluded that an interdisciplinary approach to the concept of landscape provides perspectives and interpretations of the landscape as a spatial entity that includes tangible and intangible dimensions [15]. In accordance with the aforementioned assumption, the landscape is regarded as a discrete

MBS2024: 3rd International Conference On Museum Big Data, November 18-19, 2024, Athens, Greece

* Corresponding author.

alexandra6891@gmail.com (A. Andrianou)

0009-0009-3402-1188 (A. Andrianou)

entity with a temporal dimension [4]. Additionally, areas that have been shaped by the interaction between humans and nature can be classified as cultural landscapes [33]. Furthermore, cultural landscapes include narratives, meanings, and symbolisms that promote a sense of connection between human-environmental interaction [32], [36], [26]. In these landscapes historical, archaeological, urban and rural practices as well as socio- cultural aspects are included. The development of cultural processes is evidenced by historical changes and the degree of human impacts occurring in the landscape as well [14] [23].

Big data in cultural landscapes can be retrieved from several sources. Historical archives, geographic information systems, multimedia content, surveys are all valuable sources of big data [11]. Data collected from the aforementioned sources can contribute to a broader information framework which is required towards the protection and management of landscapes and cultural heritage in general [27]. In the era of big data, analysis processes are conducted in a way that contributes to a rapid, documented and effective approach [7]. In the context of cultural landscape conservation, the application of big data meet challenges in terms of urban planning, agricultural practices, sustainable land use and heritage preservation [18] [30].

3. Big data in qualitative research

Big data in qualitative research is a term which refers to unstructured digital data concerning experiences, social behaviors, phenomena and cultural patterns that are usually studied using qualitative methods [25].

While widely used typical qualitative research focuses most of the times in small amount of samples, big data produced by qualitative research concerns the data processing from textual, image data and digital sources like, social media sets or multimedia content [17] [25] [1].

These data have certain characteristics and one of the most common definitions refers to: a) velocity b) volume and c) variety. Velocity refers to the speed that data are processed. Volume concerns the amount of data that can be generated from different sources. Variety refers to the form of the data that will be collected [20] [12]. Additionally, sources of big data can be categorized into three categories: directed, automated and volunteered. Directed data are driven by human actions. Automated data derived from digital devices. Finally, volunteered data are generated by users such as the interactions in social media platforms et.c. [31].

Qualitative researchers can combine quantitative method with qualitative in order to analyze patterns and in depth social and cultural concepts. Additionally, the use of mixed methods has as a result the interpretation of big data with case studies and more specifically the connection and interpretation of data between –focus groups, interviews, participant and non-participant observations-individuals and other large datasets [35].

4. Methodology

4.1. Research design and data collection

For the (present) research, we relied on the principles of qualitative research methodology [5] [9] [8]. Furthermore, an interpretive phenomenological methodology was implemented, which also include non-participant observation, semi-structured interviews, and archival research. More specifically, semi - structured interviews were conducted, non – participant observation and archival research as well. On site data collection was conducted between July and August 2024.

In order to visualize the data alternative multimodal research tools will be applied in order to proceed with the visualization of thematic analysis data.

The sample of the participants was divided in two broader categories. The first category included the inhabitants of Kommeno martyr village. The second category consisted of cultural

specialists and stakeholders, including individuals who have participated in cultural procedures designed to enhance and promote the area's landscape. The selection of the sample provides a data set which reflects general views concerning the management and enhancement of the cultural landscape in Kommeno village.

4.2. The interview framework

The research employs a qualitative interview framework, conducting 20 individual interviews.

Twenty interviews were conducted with the selected individuals, who were invited to participate in a scheduled interview (in-depth) in order to collect data focusing on (a) The personal relationships and attachments of local community residents to the place; (b) The participants' ideas, impressions, and perceptions regarding the historical, social, and cultural significance of the place; (c) The use of new technologies to support cultural practices and applications that promote and enhance the place, as well as the possibilities and limitations of such technologies in relation to the experienced cultural trauma and its dimensions; (d) The collective activities developed in relation to the place.

The thematic interview guide is consisted of seven thematic axes regarding cultural landscape, information management, cultural trauma, new technologies etc.

The questions focus on theoretical approaches on cultural landscape management. More specifically, the perceptions of historical and social experiences are examined, the transformation of memory over time, opinions on cultural landscape and cultural trauma as well.

5. Using qualitative data analysis tools

5.1. Thematic analysis

In our research and in order to align with the research objectives the use of thematic analysis will be developed. The selection of this analysis tool is selected because is extensively chosen in qualitative research as a basis in order to analyze qualitative data [6] [34] [21]. The data which will be derived from the thematic analysis are ensuring the isolation of dominant narratives and concepts that constitutes the perception of the cultural landscape in social and cultural discourse of Kommeno local community.

5.2. Visualization of historical and socio-cultural big - data using new technologies

In the era of big data, researchers have the opportunity to apply and present socio-cultural content in more engaging ways. Technological tools such as geographic information system- GIS, augmented reality- AR and virtual reality- VR are used in order to fulfill this prospect [2] [13] 22].

In our research the big data concerning the evolution and the exceptional landscape patterns, social and cultural elements will be visualized through digital maps. From this point of view, the maps that will be produced will combine narrative texts and other multimedia content. The idea is the local community of Kommeno village and also tourists to be informed about the historical evolution of the landscape through the context of historical knowledge and the cultural significance of the place.

For this purpose, the ArcGis StoryMaps application will be applied and the big-data which will be derived from the analysis process will be evaluated.

More specifically, the ArcGis StoryMaps storytelling platform (https://www.esri.com/en-us/arcgis/products/arcgis-storymaps/overview), by embedding information, has the feasibility, to integrate digital maps with dynamic content - such as narratives, multimedia (text, audio, photo and video). Though this process, data related to the historical landscape of the martyr village of Kommeno such as information on Kommeno natural environment, the built environment buildings

and structures over time),as well as socio-cultural elements will be further evaluated and developed.

To elaborate this further, the concept of applying qualitative research method in order to collect socio-cultural and cultural landscape data is based on the premise that big conceptual patterns- big data can communicate complex datasets as metadata (interactive map –embedded content) in more interactive and meaningful ways.

6. Discussion and conclusions

The concept of landscape has been studied from different research fields recognizing that landscape is not only a spatial entity but a complex entity with tangible and intangible dimensions [10]. Historical, cultural and environmental changes are visible in every landscape serving as information records, highlighting the degree of human engagement with the landscape over time [26].

In the era of big data, the ability to integrate data from qualitative research in order to be used for the visualization of the historical and socio-cultural contexts offers a more integrated perception of cultural landscapes.

In our research, using qualitative tools such as interviews, non-participant observation and archival research we attempt not only to collect tangible elements of the Kommeno's landscape but to capture the socio-cultural elements, conceptual patterns and narratives.

The use of ArcGIS Story Maps will provide a useful tool in order to combine geospatial data with dynamic content, leading to a dynamic presentation of Kommeno's cultural landscape.

The integration of qualitative methods in cultural landscape studies will ensure that the experiences and memories of communities will be preserved, resulting a holistic approach of the landscape.

Interdisciplinary research from different research sectors such as history, geography, environmental conservation, urban planning and computer science sector will participate in the development and enhancement of cultural landscape studies combining existing research methods with cutting-edge technological innovations.

In conclusion, our research presents the potential of integrating qualitative methods and big data in cultural landscape research area. Our research approach will provide a new perspective for engaging with socio-cultural elements and conceptual patterns. It will also offer a framework for future studies that preserve heritage, educate, strengthen communities, and explore socio-cultural patterns over time.

Declaration on Generative AI

The author has not employed any Generative AI tools.

References

[1] H.B. Alwan, K.R. Ku-Mahamud (2020, February). Big data: Definition, characteristics, life cycle, applications, and challenges. In *IOP Conference Series: Materials Science and Engineering* (Vol. 769, No. 1, p. 012007). IOP Publishing.

[2] R.C. Boboc, E. Băutu, F. Gîrbacia, N. Popovici, D.M. Popovici (2022). Augmented reality in cultural heritage: an overview of the last decade of applications. *Applied Sciences*, *12*(19), 9859.

[3] B. Bridges, S. Osterhoudt (2021). Landscapes and memory. *Oxford Research Encyclopedia of Anthropology*.
[4] A. Chan, D. Suryadipura, N. Kostini (2021). City image: city branding and city identity strategies. *Review of Integrative Business and Economics Research*, 10, 330-341.
[5] A.V. Cicourel (1964). *Method and Measurement in Sociology*. New York: Free Press.
[6] V. Clarke, V. Braun, V. (2017). Thematic analysis. *The journal of positive psychology, 12*(3), 297-298.
[7] N. Deepa, Q.V. Pham, D.C. Nguyen, S. Bhattacharya, B. Prabadevi, T.R. Gadekallu, ... P.N. Pathirana (2022). A survey on blockchain for big data: Approaches, opportunities, and future directions. *Future Generation Computer Systems*, *131*, 209-226.
[8] E. Denny, A. Weckesser (2022). How to do qualitative research?: qualitative research methods. *Bjog*, *129*(7), 1166.
[9] N.K. Denzin, Y.S. Lincoln, (Eds.). (2011). *The Sage handbook of qualitative research*. Sage.
[10] M.I.A. Dorado (2023). Theoretical conceptions for a holistic, transdisciplinary approach to contemporary landscape. *City, Territory and Architecture*, *10*(1), 32.
[11] Z. Engin, J. van Dijk, T. Lan, P.A. Longley, P. Treleaven, M. Batty, A. Penn (2020). Data-driven urban management: Mapping the landscape. *Journal of Urban Management*, *9*(2), 140-150.
[12] M. Favaretto, E. De Clercq, C.O. Schneble, B.S. Elger (2020). What is your definition of Big Data? Researchers' understanding of the phenomenon of the decade. *PloS one*, *15*(2), e0228987.
[13] F.F. García, D.H. Arenas, J.S. Álvarez (2024). Landscape through graphic representation: Augmented Reality as a tool for interpretation. *Investigaciones Geográficas*, (81), 33-50.
[14] H. Kalman, M.R. Létourneau (2020). *Heritage planning: Principles and process*. Routledge.
[15] H.J. Khaledi, M. Khakzand, M. Faizi (2022). Landscape and Perception: A systematic review. *Landscape Online*, 1098-1098.
[16] L.J. Kirmayer (2016). Landscapes of memory: Trauma, narrative, and dissociation. *Tense past*, 173-198.
[17] R. Kitchin (2013). Big data and human geography: Opportunities, challenges and risks. *Dialogues in human geography*, *3*(3), 262-267.
[18] L. Kong, Z. Liu, J. Wu (2020). A systematic review of big data-based urban sustainability research: State-of-the-science and future directions. *Journal of Cleaner Production*, *273*, 123142.
[19] O. Kühne (2024). Landscape and conflict—some basic considerations. In *Landscape conflicts* (pp. 19-40). Wiesbaden: Springer Fachmedien Wiesbaden.
[20] S. Leonelli (2020). Scientific research and big data.
[21] C.R. Lochmiller (2021). Conducting thematic analysis with qualitative data. *The Qualitative Report*, *26*(6), 2029-2044.
[22] K.D. Malakar, S. Roy (2024). Geographies and Socio-spatial Ecologies of a Societal Space: A Journey into Participatory GIS. In *Mapping Geospatial Citizenship: The Power of Participatory GIS* (pp. 49-60). Cham: Springer Nature Switzerland.
[23] C. Maxim, C.E. Chasovschi (2021). Cultural landscape changes in the built environment at World Heritage Sites: Lessons from Bukovina, Romania. *Journal of Destination Marketing & Management,* 20, 100583.
[24] H.F. Meyer (1998), *1. I friki tou Kommenou. Afigisi –erevna gia to olokaftoma tou choriou Kommenou tis Artas stis 16 Avgoustou 1943*(G. Mylonopoulos, Trans.). Athens: Kalentis.
[25] K.A. Mills (2019). *Big data for qualitative research* (p. 90). Taylor & Francis.
[26] E.C. Penning-Rowsell, D. Lowenthal (Eds.). (2022). *Landscape meanings and values*. Routledge.
[27] Y. Ram, M.K. Smith (2022). An assessment of visited landscapes using a Cultural Ecosystem Services framework. *Tourism Geographies*.
[28] H. Renes (2022). Landscapes of Conflict and Trauma. *Landscape, Heritage and National Identity in Modern Europe*, 63-69.
[29] R. Rose-Redwood, I.G. Baird, E. Palonen, C. Rose-Redwood (2022). Monumentality, memoryscapes, and the politics of place. *ACME: An International Journal for Critical Geographies*, *21*(5), 448-467.

[30] Z. Shao, N.S. Sumari, A. Portnov, F. Ujoh, W. Musakwa, P.J. Mandela (2021). Urban sprawl and its impact on sustainable urban development: a combination of remote sensing and social media data. *Geo-Spatial Information Science*, *24*(2), 241-255.
[31] F.P.S. Surbakti, W. Wang, M. Indulska, S. Sadiq (2020). Factors influencing effective use of big data: A research framework. *Information & Management*, *57*(1), 103146.
[32] K. Taylor (2014). Cities as cultural landscapes. *Reconnecting the City: The Historic Urban Landscape Approach and the Future of Urban Heritage*, 179-202.
[33] K. Taylor (2016). Cultural landscape meanings and values. In *Research in landscape architecture* (pp. 211-234). Routledge.
[34] G. Terry, N. Hayfield, V. Clarke, V. Braun (2017). Thematic analysis. *The SAGE handbook of qualitative research in psychology*, *2*(17-37), 25.
[35] M. Thelwall, T. Nevill (2021). Is research with qualitative data more prevalent and impactful now? Interviews, case studies, focus groups and ethnographies. *Library & Information Science Research*, *43*(2), 101094.
[36] L. Veldpaus (2015). Reconnecting the city: the historic urban landscape approach and the future of urban heritage. *Cultural Trends, 24*(4), 340-342.

Online Resources

[1] ArcGIS Story Maps available at https://www.esri.com/en-us/arcgis/products/arcgis-storymaps/overview