

Ethnographic Analysis tools in Digital Environments

أدوات التحليل الإثنوغرافي في البيئات الرقمية

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Abstract:

This research paper presents the methodological foundations for applying ethnography in digital environments to investigate and uncover communication and human phenomena within what is known as virtual communities.

This study establishes a set of data and variables that arise when ethnographic research tools - both methodologically and epistemologically - are applied to digital groups, after these tools have been used for decades to research and investigate spatial human groups with their various cultural, social, and even ideological diversities. This study primarily verifies the scientific feasibility of netnography tools as a methodology classified within qualitative correlational studies that have adapted to the changing systems of human existence .

Keywords: Ethnographic analysis tools, digital environments, netnography

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1. INTRODUCTION

With the voluntary or involuntary social withdrawal of individuals towards digital environments and the emergence of individual and collective human presence within digital network spaces where we practice all available forms of interactions and exchanges, descriptive methodologies have failed to explain the digital human phenomenon, Especially since data collection tools are unable to interpret everything related to the dynamic and stable nature of human behavior. For this reason, many studies of users, audiences, and even consumption and marketing have turned to Ethnographic studies as a convincing alternative in many advanced research in all social and Human sciences.

It has become evident in numerous methodological studies, both Arab and international, that quantitative survey methodologies are unable to adequately adapt to the shift of social and human interactions and exchanges towards digital systems. Consequently, alternatives have been proposed for observing social phenomena through the application of anthropology, utilizing qualitative observational tools known as digital anthropology or digital ethnography. In this research, we aim to establish a methodology for examining the digital field by adopting ethnographic tools and exploring their potential contributions to qualitative research in various disciplines, including anthropology, communication, marketing, and the social sciences in general.

To summarize the foregoing, we can pose the following overarching question: What is the methodological and practical utility of utilizing ethnographic methods to observe human phenomena within digital spaces?

1. An overview of Digital Anthropology

Ethnographic research aims to achieve a deep understanding of how individuals belonging to different cultures and subcultures perceive the meaning of their lived reality. The literal meaning of ethnography is "writing about culture." Ethnographers immerse themselves in the social worlds of the people they study, observing and documenting the ongoing social life of individuals in that community. They provide thick descriptions of the social environment and the daily lives of people in these settings. Ethnographers offer detailed portraits of a culture, subculture, or sub-group, capturing their everyday practices and customs. (Khamis, 2023,p811)

According to Johnson, ethnography is a narrative attempt to describe social life and culture within a specific social system, based on detailed observations of people's actual behaviors .(Lourdunathan, 2006 ,P07-08)

When employed it as a method, ethnography typically refers to fieldwork, involving participant observation and sometimes even immersion in the lives of the studied group. Originating in social and cultural anthropology, Ethnographic research demands that the ethnographer or researcher spend an extended period in the field, immersing themselves in the lives of the people(or groups), they study and seeking to situate the phenomena under investigation within their broader social and cultural context. Ethnography, in essence, interprets human and communicative phenomena within their authentic contexts, mirroring the empirical and experimental schools' linking of communication phenomena to experience, hypotheses, or descriptive statistical outcomes.

Digital ethnography, or netnography, is grounded in the traditional principles of ethnography, such as participant observation and prolonged engagement with the studied reality. Additionally, netnography seeks to understand the cultural contexts in which social interactions occur, both in the physical and virtual worlds. Netnography approaches everyday life as lived by groups and individuals, providing invaluable data for understanding the cultures generated within virtual communities. On this basis, netnography examines virtual worlds as sources, outlets, and platforms for the emergence of cultural practices. It

seeks to identify the fundamental differences between sociocultural practices within virtual spaces and their counterparts in the real world. (Makertar, 2023 ,p11)

Most communication theories explaining the media-audience relationship adopt either a behavioral perspective, such as cultivation theory and the magic bullet theory, or a quantitative approach, as seen in most surveys and polls that rely on mathematical interpretations of the phenomenon under study. This research aims to explain the transition of the ethnographic method from studying physical places, as anthropology initially did, to interpreting the lives, cultures, and rituals of people in their daily lives or special occasions, and its subsequent shift to observing human phenomena in digital spaces, or what is known as the ethnography of virtual communities.

1.1 The evolution of anthropology with the provision of technological factors

Digital Anthropology and data Science are complementary fields with much to offer each other. As our world continues to change at an unprecedented pace, it is crucial that innovators continue to blend the scale of data science with the depth of anthropology to accurately understand these changes in real time. These insights are essential for leaders and decision-makers who are under increasing pressure to respond to urgent social issues. Without them, they risk misunderstanding communities and creating social policies, services, and solutions that perpetuate bias and inequality and fail to serve the public good. In the words of Christian Madsbjerg, cofounder of strategy consultancy ReD Associates, “When we get our understanding of people wrong, we get everything wrong. (Hillier, 2023)

The proliferation of online information has enabled anthropologists to supplement or replace traditional note-taking methods with digital tools such as voice recording and file sharing. This shift has necessitated a reconsideration of ethnographic methodologies, prompting the emergence of digital ethnography. As Sarah Pink has argued, this development aligns with broader methodological trends that prioritize sensory and embodied experiences. By integrating digital and traditional approaches, anthropologists can gain a more comprehensive understanding of contemporary culture (Sanjek & Tratner, 2015,p 314)

1.2 Virtual spaces as a fertile ground for digital anthropological studies

The perennial philosophical question lies in the relationship between methodologies and technologies. Does technology truly contribute to the development of ethnographic methodologies?

Digital technologies have given rise to a wide assortment of new populations that may at first appear quite alien. One role of the anthropologist has been to empathetically engage with those populations in order to help us understand both what they do and how to understand the world from their perspective. A pioneer of such work has been Gabriella Coleman (Coleman, 2010,p 09)

Digital spaces can be seen as fertile ground for human presence, relationship building, and social interactions. Therefore, the seamless flow of digital anthropology towards the virtual realm is inevitable, especially given the possibility of observing social interactions within it. Virtual interaction is considered a true extension of virtual communication, which is linked to the role of the internet in the daily practices of its users. The fabric of the information space has expanded and its branches have multiplied, transforming the web into a digital platform for creating spaces of communication and interaction.

2. Possible procedures within ethnographic studies

Given that Netnography involves the study of human cultures and behaviors in digital environments, combining qualitative and quantitative research methods, with the ability to observe human behavior and social interactions through observation and verification processes, much like observing behavior in its natural environment. Therefore, the processes developed in the field of digital anthropology are constantly evolving and expanding, which can be summarized in the following table: (digital-anthropology-, 2020)

Expensive Understand people& Communities

Reductive Test Ideas

	Ethenographic Observation	Hachathon	Super Consumer Co-Creation	Stranger Tasting	Prototype Testing
Inspiration Missions	Ethenographic Interviews	Behavior Change Experiments	Focus Groups	Real –World Behavior Experiments	Prototype Experiments
Mirroring Experiments	Virtual Reality Interviews	Ethenographic Chat Bots	Virtual Focus Groups	Digital Behavior Experiments	Wizard Of Testing
Big Data Patterxn Mapping	Videos Interviews	Mobile Diaries	AI Powered Focus Groups	Instant Polls	Cuckable Prototype Simulation
Netnography	Remot Robot Obsevation	Lifestream Videos Immersion	Digital Behavior Mapping	Crowd Testing	Virtual Shelf /Retail Simulation
Chat GPT Assisted Social Data Insights	Living Micro Culture Tracker	Online Communities	Instant Videos Surveys	Quant Surveys	A/B Testing

Reading table data : The table presents a range of methods and tools employed to observe human presence within the digital realm, including websites, social media platforms, chat platforms, marketing sites, and more. These methods and tools are known as ethnographic research procedures, and can be briefly explained as follows:

- Hackathon : A hackathon to solve a specific problem in a short amount of time.
- Super Consumer Co-creation : Engaging the most active customers in product development.
- Ethnographic Interviews : Open-ended interviews with participants to understand their perspectives.
- Focus Groups : Online focus groups are an increasingly popular method for gathering qualitative data from a diverse range of participants.
- Digital Behavior Experiments : Experiments focused on understanding users' digital behavior.
- Big Data Pattern Mapping : Analyzing large datasets to discover patterns .

- Instant Polls : Quick online surveys.
- Lifestream Video Immersion: Lifestream Video Immersion offers a revolutionary way to experience live events, allowing viewers to feel as if they are right there in the action.

3. Ethnographic Observation of Phenomena in Digital Spaces

The field of ethnography has undergone significant transformations concomitant with advancements in communication technologies. The advent of the internet has prompted Christine Hine to propose that the internet itself constitutes a subject of sociological inquiry, representing a cultural phenomenon or practice within networked realms. Pertaining to the cultural aspect of the internet, the concept of "netiquette" has emerged, encompassing emoticons, values, and online regulations. In essence, internet cultures are cultural formations that have originated within the digital realm. These designations collectively represent cultural forms within the internet's framework: virtual world players, webcam models, hackers, bloggers, and numerous other groups that have substantially constructed their self-identity and collective belonging through digital media. Concerning cultural practices. (Edgar & Ardévol, 2014,p 32)

When studying virtual communities, researchers have access to a vast amount of data that can be collected and analyzed. This data typically manifests in virtual spaces in three forms:

3.1 Primary data: Collected directly by the researcher through active participation in the study group.

3.2 Recorded data: Including audio recordings of interactions and the content of digital communications.

3.3 Inferred data: Constructed from the researcher's direct observation of actors' interactions (Missibah & chacha, 2023, p121)

4. Key observational points in participant observation in digital Environments

Researcher Emily E Namey attempted to compile a list of observable data during digital participant observation, which we will detail in the following table:

Appearance	Clothing, Age, Gender,Physical Appearance	Anything that might indicate membership in groups or in sub- populations of interest to the study, such as profession, social status, socioeconomic class, religion, or ethnicity.
Verbal behavior and gestures	What people do, who does , who interacts with whom...	HOW PEOPLE USE THEIR BODIES AND VOICES TO COMMUNICATE DIFFERENT EMOTIONS
Verbal behavior And interactions	Who speak to whom and how long	Gender, age , ethnicity and professional speakers
Personal space	How close people stand to one other	What individuals preferences concerning personal space
Human traffic	Leave-spend...	Number of people
People who stand out	identification	characteristics

Source: author's name, year, page

4. CONCLUSION

As result ,we can said , the exploration of digital ethnographic research tools has revealed a multifaceted landscape of possibilities and challenges. While the rapid evolution of technology continues to shape our understanding of social interactions and cultural phenomena, it is imperative to acknowledge the inherent complexities and limitations of these tools.

One of the most significant advantages of digital ethnographic research is the ability to access vast amounts of data in real-time. Through the use of software tools for data collection and analysis, researchers can gain unprecedented insights into the nuances of online communities and cultures. Moreover, digital platforms facilitate cross-cultural comparisons, enabling researchers to identify universal patterns and cultural-specific variations in online behavior.

However, the application of digital ethnographic methods also presents several challenges. The sheer volume of data generated by online platforms can be overwhelming, necessitating the development of sophisticated data management and analysis techniques. Additionally, the dynamic nature of online environments poses challenges for maintaining data integrity and ensuring the ethical treatment of participants. Ethical considerations, such as privacy, informed consent, and the potential for harm, must be carefully addressed when conducting digital ethnographic research.

Furthermore, the digital divide and unequal access to technology can limit the representativeness of online samples, potentially leading to biased findings. Researchers must be mindful of these limitations and employ strategies to ensure that their studies are inclusive and representative of diverse populations.

In light of these considerations, future research in digital ethnography should focus on several key areas. First, there is a need for the development of more robust and user-friendly software tools specifically designed for digital ethnographic research. Second, researchers

must continue to explore innovative methodologies for analyzing large and complex datasets. Third, it is crucial to establish ethical guidelines and best practices for conducting digital ethnographic research.

In conclusion, digital ethnographic research offers a powerful lens through which to explore the complexities of online social life. By carefully considering the strengths and limitations of these methods, researchers can generate valuable insights into the ways in which technology shapes our social interactions and cultural experiences. As digital technologies continue to evolve, so too must our approaches to studying them.

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