

IMPACT OF TECHNOLOGY ON FULBE KINSHIP IN JIGAWA STATE, NIGERIA

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Abstract

This study examined the impact of technology on the kinship of the Fulbe people in Jigawa State, Nigeria. The study employs secondary data and content analysis methods to achieve its objectives. It utilizes the diffusion of innovations theory as a theoretical framework to comprehend the impact of technology on Fulbe kinship in Jigawa state. The investigation reveals that technology facilitates improved communication among Fulbe communities, bolsters livestock management, introduces new economic opportunities for the Fulbe culture and economy, expands the horizons of education, offers new possibilities for Fulbe families to conceive and have children, enhances morbidity and reduces mortality rates among Fulbe people in Jigawa State. On the other hand, technology diminishes face-to-face interaction among them, instigates changes in economic dynamics, challenges traditional values and norms deeply embedded within the Fulbe community, introduces new methods of influencing ideas about lineage, inheritance, and the transmission of family identity, alters family structures and caregiving dynamics within the Fulbe kinship system in Jigawa state. The study, therefore, recommends that government and community leaders should collaborate on initiatives that integrate indigenous wisdom with innovative technologies that can improve lives while preserving the essential aspects of the Fulbe kinship system in Jigawa State.

Keywords: Fulbe, Jigawa State, kinship, diffusion of innovations theory, technology.

Introduction

Kinship is an essential component of individual and community well-being. It refers specifically to a relationship established through descent and marriage. Within one's social life, an individual assumes various roles, such as son, father, brother, and so on. In traditional societies, kinship serves as the language through which individuals comprehend and navigate these roles. It is a construct, a cultural artefact that is prevalent across diverse human societies. As an artefact, it primarily shapes individuals and their relationships. Kinship represents the most fundamental attachment that an individual possesses. It is a social relationship founded on genuine blood ties. In every society, the acknowledgement of biological relationships between parents and children, and the understanding that all offspring descend from their parents, are central to kinship.

Descent is employed to trace an individual's genealogy, which is also referred to as lineage. Kinship, based on descent and lineage, determines familial relationships and establishes rules governing marital unions. It provides guidelines for interpersonal interactions and defines the appropriate and acceptable relationships between father and daughter, brother and sister, and husband and wife. Kinship safeguards cultural practices, preserves cultural identity, and contributes to societal stability (Mondal, n.d.).

The kinship system of the Fulbe, also known as the Fulani, a diverse society of semi-nomadic pastoralists spanning West and Central Africa, exhibits certain similarities while displaying variations influenced by factors such as geographical location, socioeconomic conditions, and historical influences. The kinship system of the Fulbe in Hadejia Emirate, Ringim, Dutse, Kazaure, and so forth in Jigawa State, similar to the traditional Fulbe system, encompasses several key features that play a fundamental role in their societal structure. They adhere to a patrilineal descent system, wherein lineage is traced through the male line, and the larger kinship structure is formed by clans and sub-clans. Furthermore, they practice patrilocal residence, which entails the wife joining the husband's family residence after marriage. This extended family structure is characterized by the prevalence of multigenerational households, fostering robust social support and economic cooperation among family members.

The Fulbe kinship in Jigawa State places significant importance on age and gender roles, with elders exerting authority within families and gender roles predominantly determined by the division of labour based on pastoral and domestic activities (Hasty, *et al.*, 2022). However, the progress in technological advancements such as reproductive technologies, communication technologies, social media, connectivity, globalization, economic changes, access to healthcare technologies, and education technology can have an impact on the kinship ties of the Fulbe people in the state. Specifically, the developments in reproductive technologies have resulted in the blurring of boundaries between the "natural" and "cultural" aspects of kinship within the Fulbe community, thereby raising inquiries about lineage and paternity. Consequently, this challenges the traditional practice of tracing lineage and introduces complexities surrounding fatherhood and family identity. A concrete example can be seen in Kenya, where the introduction of assisted reproductive technologies has disrupted conventional notions of kinship and familial relationships (Piot, 2015).

The utilization of communication technologies, such as mobile phones and the internet, can exert influence on how Fulbe communities uphold their kinship ties. These technologies facilitate easier and swifter communication between family members, even when they are geographically dispersed. Similarly, platforms like social media can have an impact on kinship dynamics by allowing Fulbe individuals to interact with a wider social network. For instance, advancements in communication technologies, social media, and connectivity in Mexico facilitate

the formation of transnational kinship networks among Mexican migrant kinship networks (Levitt, 2001).

Moreover, technology-driven globalization can also affect the kinship of the Fulbe people through alterations in economic structures. Additionally, improved access to online education resources, virtual classrooms, and e-learning platforms can influence how knowledge is transmitted within families and how education contributes to social mobility and status within the kinship structure. Furthermore, enhanced access to healthcare technologies can impact Fulbe kinship by influencing patterns of morbidity and mortality within the community. Increased access to healthcare and education can lead to changes in demographics, which in turn can modify traditional kinship structures and gender roles within Fulbe families. For example, in India, improved access to healthcare and education has resulted in modifications to familial dynamics (Kumar, 2014). Against this backdrop, the study examines the effects of technology on the kinship of the Fulbe people in Jigawa State, Nigeria. The objectives of the study include analyzing how technological advancements both reinforce and challenge the Fulbe kinship system in Jigawa State.

Methodology

This research employs secondary data sources, including textbooks, journals, documents, and internet sources, to gather information on the impact of technology on the kinship of the Fulbe community in Jigawa State. It uses content analysis methods to analyze the data collected by identifying recurring themes and patterns in the analysis of the data to achieve the objectives of the study.

The Concepts of Kinship and Technology

The concept of kinship is the most universal and basic of all human relationships and is based on ties of blood, marriage, or adoption (Crossman, 2019). According to Theodorson cited in Mondal (n.d.) kinship system is the customary system of statuses and roles that governs the behavior of people who are related to each other through marriage or descent from a common ancestor. For Smelser cited in Mondal (n.d.) kinship is a cluster of social relations based on such factors as biological ties, marriage and legal rules regarding adoption, guardianship and the like. Thus, from the above, it is concluded that the relationships created through marriage or blood ties are called kinship. When two or more persons are related to each other through descent or united through marriage kinship comes into existence.

Murdock cited in Crossman (2019: 2) opined that every adult individual belongs to two nuclear families. The family of orientation i.e. the family in which one is born and brought up and the family of procreation i.e. the family established through marriage. The relationships formed by both these types of family, ancestors, posterity and successors are called Kinship. Hence every kinship system has blood relations and close relatives based on intimacy. Otite (1999) discussed the prevalence of patrilineal lineage systems in many African societies, where descent is traced through the father's line. This creates extended family structures with strong bonds within lineages. He emphasized the importance of lineage solidarity in areas like land ownership, resource allocation, and conflict resolution. Lineages often act as collective units, supporting individual members and maintaining social order.

Most social scientists agree that kinship is based on two broad areas: birth and marriage; Sociologists agree that a third category of kinship involves social ties. These three types of kinship are: Consanguineal kinship which is a kinship that is based on blood or birth, the relationship

between parents and children as well as siblings. This is the most basic and universal type of kinship. Also known as a primary kinship, it involves directly related people (Sagheer, 2017). Affinal kinship is a kinship that is based on marriage. The relationship between husband and wife is also considered a basic form of kinship. There are also social kinships, where individuals not connected by birth or marriage may still have a bond of kinship. By this definition, two people who live in different communities may share a bond of kinship through a religious affiliation or a social group, such as the Kiwanis or Rotary service club, or within a rural or tribal society marked by close ties among its members. A major difference between consanguineal or affinal and social kinship is that the latter involves the ability to terminate absolutely the relationship without any legal recourse (Schneider, 1984). Schneider (2004) asserted that kinship is the degree of sharing likelihood among individuals from different communities. For instance, if two people have many similarities between them, then both of them have a bond of kinship.

According to the anthropologist Murdock cited in Crossman (2019: 2), kinship is a structured system of relationships in which kins are bound to one another by complex inter-locking ties. If kinship involves only blood and marriage ties, then kinship defines how family relationships form and how family members interact with one another. But if, as Schneider argued, kinship involves any number of social ties, then kinship and its rules and norms regulate how people from specific groups, or even entire communities, relate to each other in every aspect of their lives.

Technology

The concept of technology is multifaceted and defies a single, universal definition. Floridi (2023) defined technology as the design and use of instruments, artefacts, and processes to solve problems and fulfil needs, but also highlights its potential to shape new needs and problems. He emphasizes technology's influence on both societal values and its evolution. Ihde (2009) explained technology from a sociological perspective. He proposes technology is a way of being in the world. He focused on how technology mediates our experiences and becomes integrated into our lives, shaping perception and interaction. Freeman (2022) avers that technology is inherently social and embedded in specific contexts, often perpetuating or amplifying existing social inequalities.

Tsing (2015) averred that technology organizes life, materials, and knowledge. The global flow and local impacts of technology shape diverse communities and environments. Jorgensen (2022) noted that technology is both a tool for colonization and a site of resistance and showcases its multifaceted role in shaping global power dynamics. Long (2023) argues that technology is shaped by and shapes societies and that the dynamic relationship between social contexts, cultural values, and technological advancement, highlights the agency of different actors in driving innovation and its social consequences.

Franklin (2013) explores how these technological innovations influence kinship practices, social hierarchies, and family configurations. He opines that technology has transformed the dynamics of kinship, often blurring the lines between biological and non-biological relationships. In today's globalized world, migration facilitated by technology has given rise to transnational families with complex kinship networks. Glick (2006) an anthropologist avers that technologies like social media and communication apps play a vital role in maintaining familial bonds across geographical distances. The study reveals that technological tools have become essential in bridging the physical and emotional gaps that exist within transnational families, allowing individuals to maintain a sense of belonging and connection despite being separated by vast distances.

Sociologists like Wellman (1999) present a contrasting viewpoint, Wellman emphasizes the potential of technology to create new forms of social connection and support networks. Wellman argues that technology can bring individuals together, facilitating communication and fostering a sense of community even in the absence of physical proximity. Risman (2004) argued that technological advancements have led to a redistribution of domestic responsibilities and have challenged traditional gender roles within the family unit. Additionally, technology has altered the nature of parent-child relationships, with parents increasingly relying on technology as a means of monitoring and communicating with their children.

The adoption of communication technologies, such as mobile phones and the internet, has had an impact on how Fulbe individuals uphold their kinship ties. These technologies facilitate a more convenient and expedient means of communication among family members, regardless of their geographical dispersion. The ability to remain connected has implications for the sustenance of relationships, coordination of familial activities, and the overall sense of community. Social media platforms, for instance, possess the capacity to influence the dynamics of kinship by enabling Fulbe individuals to engage with a wider social network. This leads to the exchange of ideas and cultural practices and even influences how kinship relationships are negotiated and upheld (Ihde, 2009).

Technological advancements in the field of education can also exert an influence on the kinship dynamics of the Fulbe people. Access to online educational resources, virtual classrooms, and e-learning platforms impacts the transmission of knowledge within families and how education contributes to social mobility and status within the kinship structure (Tsing, 2015). Developments in reproductive technologies, such as invitro fertilization (IVF), can pose a challenge to traditional conceptions of kinship. These technologies may offer new avenues for Fulbe families to conceive, thereby impacting ideas surrounding lineage, inheritance, and the transmission of family identity. This, in particular, raises questions about the intersection of the "natural" and "cultural" realms of kinship as these technologies challenge conventional modes of conception and family formation in societies, including the Fulbe (Franklin, 2013).

Globalization and economic changes have also had an impact on Fulbe kinship through alterations in economic structures. For instance, the adoption of modern agricultural technologies or involvement in global markets modifies traditional roles within the family, which in turn affects the division of labor and economic responsibilities. Similarly, enhanced access to healthcare technologies influences Fulbe kinship by exerting an effect on patterns of illness and mortality within the community. Improved healthcare technologies lead to changes in family structures and dynamics of caregiving, as well as impact life expectancy and the role of elders within the kinship system (Kumar, 2014).

Theoretical framework

The study adopted the diffusion of innovations theory as the theoretical framework for understanding the impact of technology on Fulbe kinship in Jigawa State. The theory was developed by Everett Rogers in 1962. It explains how and why new ideas and technologies spread through populations. This theory remains important for understanding the adoption of various innovations, from agricultural practices to social media platforms. The core elements of the diffusion of innovations theory include the following:

- (i) **Innovation:** The theory begins with the introduction of an innovation, which can be an idea, product, service, or technology that is perceived as new by potential adopters.

- (ii) **Adopter categories:** Rogers classified individuals within a social system into different adopter categories based on their willingness to adopt an innovation. The categories are:
Innovators: The first to adopt an innovation.
Early Adopters: Opinion leaders who adopt early but not as quickly as innovators.
Early Majority: Those who adopt before the average member of society.
Late Majority: Those who adopt after the average member.
Laggards: The last to adopt an innovation.
- (d) **Communication Channels:** The theory emphasizes the role of communication in the diffusion process. Different adopter categories may use different communication channels to gather information about the innovation. Mass media, interpersonal communication, and social networks all play a crucial role in spreading information.
- (e) **Time:** Rogers identifies the innovation-decision process, which is the period between the knowledge of an innovation and its adoption or rejection. This process is influenced by factors such as the relative advantage, compatibility, complexity, trialability, and observability of the innovation.
- (f) **Social Systems:** Diffusion occurs within a social system, which is a group of individuals who share a common set of values, norms, and communication channels. The characteristics of the social system, such as its structure and norms, can affect the diffusion of innovations (Rogers, 1962).
- (g) **Critical Mass:** Critical mass refers to the point at which enough individuals in a social system have adopted an innovation, leading to a self-sustaining process of adoption (Rogers, 1962).

The relevance of the diffusion of innovations theory to the study is that it enables a proper understanding of the impact of technology on Fulbe kinship in Jigawa State, Nigeria. The theory helps to analyze how Fulbe communities in Jigawa state adopt and integrate new technologies within their kinship structures and how factors like communication channels, social norms, individual characteristics, and local leaders, government officials, or NGOs influence technology use within Fulbe communities.

Analysis of the Impact of Technology on Fulbe Kinship in Jigawa State

The technological advancements in Jigawa State, Nigeria, have a dual impact on the Fulbe kinship in the state. One of the primary advantages is found in improved communication within Jigawa state. In the past, mobile phones were limited in number among Fulbe communities in Jigawa State, but have extensively been used by the Fulbe people in the state over the years. This shift in accessibility has facilitated seamless connectivity among family members, even across vast distances. Consequently, the traditional nomadic lifestyle of the Fulbe, which centres around herding and transhumance, has been significantly enhanced by the emergence of instant communication. Within this context, elders can transmit their invaluable wisdom to the younger generation, thus fostering a stronger sense of familial ties through regular exchanges facilitated by modern technology in the state (Lenhard, 2013). On the other hand, the increasing reliance on digital communication among Fulbe in Jigawa State reduces face-to-face interaction, communal gathering and storytelling among Fulbe community members.

The impact of technology-driven globalization on Fulbe kinship extends to the restructuring of economic systems. For instance, the integration of modern agricultural technologies has bolstered livestock management, while participation in global markets has opened up new economic prospects for Fulbe culture and economy in Jigawa state. The utilisation of GPS tracking and data analytics tools has become increasingly prevalent to effectively monitor grazing patterns, ensure the welfare of the herds, and optimize herd movements (Alber et al., 2010). Conversely, the introduction of technology also instigates shifts in economic dynamics within Fulbe families in Jigawa state. It has altered traditional familial roles, thereby influencing the division of labor and economic responsibilities. The emergence of online markets and mobile banking platforms has brought about novel economic opportunities that have reshaped traditional economic roles and responsibilities. This shift in economic dynamics disrupts well-established patterns of financial responsibility and decision-making within the Fulbe family unit in the state (Alber et al., 2010).

Furthermore, education, which was previously confined to oral traditions and local educational institutions in Jigawa state, has witnessed a remarkable expansion due to the advent of technology. The rise of online platforms has facilitated unprecedented access to a wealth of information, thereby empowering the Fulbe youth with educational opportunities that transcend the limitations of their immediate surroundings in the state. Conversely, the exposure to global perspectives facilitated by the internet and social media platforms challenges traditional values and norms deeply ingrained within the community in the state. The exposure of individuals to diverse ideologies and practices has resulted in the dilution of traditional customs that have defined the Fulbe way of life for generations in the state (Tsing, 2015).

The advancements in reproductive technologies, such as in vitro fertilization (IVF), offer new possibilities for Fulbe families to conceive and have children in Jigawa State. However, these developments also pose a challenge to traditional notions of kinship in the state as they introduce new avenues for shaping ideas about lineage, inheritance, and the transmission of family identity. The improved access to healthcare technologies among Fulbe communities in Jigawa State has led to a reduction in morbidity and mortality rates within the Fulbe communities. Nevertheless, enhanced healthcare technologies have brought about changes in family structures and caregiving dynamics, impacting life expectancy and the role of elders within the Fulbe kinship system in the state (Franklin, 2013).

Thus, it can be inferred from the aforementioned analysis that technological advancements in Jigawa State possess a dual nature. While they have the potential to reinforce Fulbe kinship through improved communication and connectivity, advancements in education and healthcare, and reproductive technologies, they also present challenges by introducing new ideas and lifestyles. The achievement of a state of harmonious equilibrium requires the skilled navigation and adaptation of Fulbe communities in Jigawa to the aforementioned technological advancements, while also ensuring the preservation of their respective cultural identities (Kumar, 2014).

Conclusion

This study investigated the impact of technology on Fulbe kinship in Jigawa state. The findings of this study indicate that technology, despite its challenges, plays a significant role in enhancing communication among the Fulbe community. It also assists in maintaining cultural ties and fostering a sense of unity. Furthermore, technology enables the Fulbe people to remain connected, engage in discussions regarding their heritage, and reinforce their traditional

relationships. The advancements in technology within the fields of education and healthcare have resulted in increased exposure to diverse ideas and practices.

Additionally, the interactions on a global scale and the economic changes have introduced new lifestyles, values, and opportunities for the Fulbe population in Jigawa State. Reproductive technologies serve as a means to strengthen familial bonds by addressing health concerns or infertility. Nevertheless, it is important to note that these advancements are not without their challenges. The progress made in education and healthcare has led to increased exposure to different ideas and practices, which can potentially challenge traditional norms and values. The access to a wide range of information has influenced individuals to question or reevaluate certain aspects of their cultural heritage.

Furthermore, global interactions and economic changes have brought about new ways of life that challenge the traditional practices of the Fulbe community in Jigawa State. Reproductive technologies can also disrupt traditional family structures, especially when there are changes in reproductive patterns. Therefore, the technological advancements in various aspects of life in Jigawa State have both positive and negative impacts on the traditional bonds that define Fulbe kinship in the state. To achieve a harmonious equilibrium, Fulbe individuals and communities must navigate and adapt to these technological changes while preserving their cultural identity in Jigawa state.

Recommendations

In light of the challenges of technology to Fulbe kinship in Jigawa state, the study recommends that government and community leaders should collaborate on projects that blend indigenous wisdom with innovative technologies that can enhance livelihoods while preserving the community's cultural heritage of kinship.

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