

## Digital Connectivity and Social Interaction among Secondary School Teachers in Nigeria

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### Abstract

*Digital technology has increasingly become popular and connectivity to digital platforms like Google, Facebook, Instagram, X, TikTok, WhatsApp and so on for the purpose of education, research, communication and recreation has equally intensified. For teachers, the massive adoption and utilization of digital technologies poses both positive and negative implications for their professional roles and social interaction with colleagues. This systematic review examines digital technology and social interaction among secondary school teachers in Nigeria. The review identified the determinants of social media usage among secondary school teachers in Nigeria, explored the pattern and extent of social media usage among secondary school teachers and assessed the gains and pains of social media utilization among secondary school teachers. The Technology Acceptance Model (TAM) developed in 1986 by Davis was adopted for the study. The study underscores the impact of digital platforms in improving secondary school teachers' interaction by providing them avenues to socialize and establish virtual connections which may lead to future academic collaborations towards enhanced student learning, and teachers' instructional practice. However, the review shows that digital technology platforms may influence the amount of time spent on face-to-face social interaction with colleagues and thus reduce their interaction and collaboration with each other. The paper concludes that over-commitment to digital technologies is inimical to social interaction among secondary school teachers, and thus recommends balancing of digital connectedness with face-to-face social interactions among teachers in order to achieve robust social and teaching experiences among them.*

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**Key words:** Digital technology; Digital connectivity; Social interaction; Social media; Teachers.

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### 1. Introduction

Globally, social interaction is an experience which affects human life. It is at the heart of individual and social wellbeing as it influences the mental and physical health as well as the cognitive development of individuals. In fact, social interaction impacts the overall development of the society. Improving social interaction has therefore remained the thrust of almost all development discourses. The recognition of social interaction as an essential component of social stability and societal development essentially informed digital inventions such as web 2.0 technologies which aim at improving the quality of man's life. These technologies which are used by over 5.3 billion people around the world have brought along

interactive features which today give users more innovative options regarding social interactions (Nguyen, Gruber, Hunsaker, Fuchs & Hargittai, 2022; Hangül & Şentürk, 2019).

Digital technologies affect the many facets of our daily lives, cutting across our everyday communications, entertainment, provision of instant access to information, enhancing job performance, and making processes more efficient and interconnected. In Europe, more than ninety percent (90%) of the people use digital technologies for diverse purposes including education, communication, online shopping, information access, and social networking. This is why in countries like Finland, the Netherlands, Ireland and Denmark, people possess high level (more than 69%) digital skills (European Union, 2023). Similarly, the adoption and utilization of digital technologies in the United States of America has been rapid, with over 67% of the population utilizing the internet, social media, smartphones, or tablet computers for various activities (Hitlin, 2018). Apparently, access to platforms like Facebook, Instagram, X (formerly Twitter), YouTube, Netflix, Spotify, TikTok, Google among others have brought about pervasive and profound changes to the interaction processes, fundamentally connecting organisations, communities and individuals around the world and giving them opportunities to access information, interact and collaborate with one another. These technologies have facilitated the development of stronger social relationships and are seen as critically effective tools for teaching, learning and research (Timotheou, Miliou, Dimitriadis, Sobrino, Giannoutsou, Cachia, Monés & Ioannou, 2023).

The magnitude of connectivity to digital technology in developing societies such as Eastern and Southern Asia as well as Africa is low compared to Europe and America. Datareportal (2023) notes that about 2.7 billion of the population in the regions are unconnected to the internet. In China and India however, there is a wide disparity in the degree of digital connectivity and internet usage, with China edging India by a long distance. The Pew Research Center reported in 2017 that extent of internet usage in China stands at 71% in contrast to the 21% use of the internet in India. This digital divide mirrors the economic trajectories of both countries (Poushter, 2017). In Africa, although there is still a long way to go in terms of usage and adoption of digital technology, it has become an integral part of the society and its utilization for communication in official and unofficial settings has improved significantly, following the increasing consciousness that it is a revolutionary social machinery that can be useful in social interaction, formation of close bonds, acceleration of social acceptance, and to get and receive social support.

It has further been argued that digital technologies provide new opportunities for social interaction and communication, and serve as avenues to addressing problems of social isolation and loneliness (Lowery, 2023, Timotheou, et al, 2022, Neves, Franz, Judges, Beermann & Baecker, 2019). However, the ubiquity of digital technology has led to concerns about its impact on social security and safety. Other scholars feel that usage of digital technology in interaction can lead to decreased face-to-face interaction and a decline in social skills (Abaido, 2020; Chan, Cheung, & Mee, 2020; Saravanakumar & Deepa, 2016; Gupta & Dhama, 2015; Procentese, Gatti, & Di Napoli, 2019).

Across all sectors of the Nigerian society, the broad adoption and utilization of digital technology platforms has triggered enormous empirical and review studies on its role in communication. Izuaka (2023) reported that Nigeria has become a telecommunications powerhouse with subscription rates rising to 82% and the rate of internet consumption

improving to 29%. Currently, the country occupies the 11<sup>th</sup> position in terms of internet penetration globally. Enhancing access to digital technologies has tremendously impacted the lives of Nigerian citizens. In education, digital technology has transformed the sector by providing access to vast resources, facilitating remote learning, fostering interactive teaching methods, and preparing students for a tech-driven world. Notwithstanding, a bulk of the studies linking digital connectivity and education focus on the influence of digital technology platforms like social media on relationship between students and teachers, or the effectiveness of digital networks in teaching and learning, but little attention is dedicated to the role digital technologies play on social interaction among teachers who are critical stakeholders and major actors in educational environments. On that note, this paper examined digital connectivity and social interaction among secondary school teachers in Nigeria.

## **2. Methodology**

Secondary sources of data were used for this article. The database constituted information from books, policy documents, reports, articles from peer-reviewed journals and information from relevant websites. Articles that presented abstracts but access to the full text was denied were not used. Recommendations were issued based on review of the influence of digital connectivity on social interaction among secondary school teachers in Nigeria.

## **3. Theoretical Adequacy: Technology Acceptance Model**

Technology Acceptance Model (TAM) was developed by Davis in 1986 following the introduction of information systems in formal and non-formal organizations. The model focuses on the explanation and prediction of the attitude of users which influences their adoption of a particular technology. Governed by four main tenets including (i) perceived ease of use (PEOU); (ii) perceived usefulness (PU); (iii) attitude (ATT); and (iv) intention to use (IU) of a technology has been very essential in investigating the reception of social media technologies. PEOU and PU is concerned with the level which individuals believe that the utilization of digital technology will enhance their performance and minimize the amount of physical and mental efforts deployed into executing tasks. The attitude of the user and their intention to use a certain technology is determined by the perceived ease as well as the perceived usefulness of that specific technology (Momani, Jamous, & Hilles, 2017; Davis, Bagozzi, & Warshaw, 1989).

The use of social media such as Facebook, X, Instagram, WhatsApp, etc by secondary school teachers may depend on how user-friendly they are to them, or how they find them easily integrated into existing workflows. Moreover, secondary school teachers are more likely to make use of social media if they perceive them to be more beneficial in terms of communication with students, parents, colleagues, as well as in sharing resources, and opportunities for professional development. Furthermore, the positive attitude demonstrated towards social media by teachers can increase their use of a social media while negative attitudes may hinder their acceptance and use of a technology. Lastly, the PEOU and PU of social media will inform teachers' use of social media.

Momani, Jamous and Hilles (2017) criticized TAM for failing to provide feedback of any kind on some promoters of technology acceptance and utilization such as its level of integration, flexibility, accuracy and currency of information. Moreover, the model does not explain or predict users' behaviour within the contexts of their various cultures. Notwithstanding, a major

strength of TAM is its power in the explanation of acceptance and utilization of technology applications such as social media tools. It offers lucid explanations to the perceived usefulness as well as the perceived ease of use of technology based on social influence and mental processes.

#### **4. Literature Review**

##### **Social Interaction**

Social interaction as an important element of human life, occurs when people who are in the same physical space exchange information, thoughts and feelings using eye contacts, facial expressions, body movements, or verbal messages (Mofoluke & Amaka, 2020). Social interaction differs from other forms of communication. It facilitates the effectiveness of meaning because it allows individuals reach a conclusion faster when there is an issue. For example, a five minutes face-to face conversation would supersede a 15 minutes e-mailing or texting and waiting for replies. Social interaction is characterized by social understanding, reacting and adapting to non-verbal messages such as symbols, body movements and posture. For instance, acts such as when a person repeatedly checks the wristwatch or yawns could signify tiredness or time to wrap things up. Social interaction offers personal touch or personal contact which helps to develop a feeling of warmth and appreciation. This can easily be shown when people are together (Mofoluke & Amaka, 2020).

According to Hurst, Wallace and Nixon (2013), encouraging social interaction among teachers is one of the most effective ways for them to learn creative methods to solve complex problems. Teachers, like students, can effectively improve their learning skills by frequently discussing the dynamics of their classroom with peers experiencing the same challenges. Good teachers are highly motivated to improve the content of their curricula for their students. The quality of their interactions with colleagues can determine how fast and how well they can achieve that objective.

##### **Digital Connectivity**

No universally acceptable definition of digital connectivity has been offered because of the dynamics in social and technological backgrounds of the scholars. Other scholars see it as relations that are enabled by digital media technologies while others view it as the deployment of broadband infrastructures and its quality (Lynn, Rosati, Conway, Curran, Fox & O’Gorman, 2022). However, descriptions are too narrow as they limit digital connectivity to only specific types of connectivity – digital media and broadband. Digital connectivity is supposed to be viewed from a wider spectrum and not from an isolated perspective. It supposed to take into account a consistently growing technology base and a wide array of cases and contexts. Consequently, Okano-Heijmans (2019) asserted that digital connectivity in the practical sense involves three core elements: telecommunications infrastructure; business operations; and (international) regulation. This definition of digital connectivity takes an institutional dimension that supports the digital economy, aiming to make it transparent, rules-based and fair.

The authors conceptualize “digital connectivity” as the process of combining electronic methods, systems and networks in order to communicate or transfer data and information between individuals, particularly secondary school teachers, through digital channels. It

accommodates several technologies and enables effective communication. Digital connectivity plays an essential role in our everyday lives, especially in the aspects of our interactions to the internet and social media.

### **Determinants of Social Media Usage among Secondary School Teachers**

Proponents for and against the integration of social media in education have had ongoing debates. While social media advocates capitalize on the numerous benefits it offers the educational sector, some critics, on the other hand, focus on its shortcomings and continue to insist that the new development be either bridled or entirely excluded from the educational circus. Thus, finding a middle ground has posed challenges because numerous factors inform the use of digital technology particularly social media among school teachers. According to Lederer (2012), social media has the potential to bridge communication difficulties among students and instructors. Instructors could, for example, utilize social media platforms to prepare home works for students, make announcements, share updates with colleagues and students.

Perspectives regarding the efficiency and quality of digital technologies have facilitated its growth. For social media as digital tools, the old and emerging ones are constantly improved upon and are becoming increasingly easy to use as new features are developed to enhance usage for even the semi-literate and the non-literate members of the society (Badaru & Adu, 2022). In teaching, there has been improved deployment and utilization of digital technology applications in the classroom because the tools are found to be not only easy to use but are potentially powerful for changes and reforms in the educational sector (Kuzembayeva, Taganova, Spulber, & Maydangalieva, 2022)

The role of technology in learning cannot be overstressed. Kuzembayeva et al. (2022) states that digital technologies such as social media platforms like Facebook, Instagram appears most helpful in situations whereby people are forcefully isolated or find themselves in remote geographical locations. In education, social media as a digital tool and environment makes it easier for the teachers to learn about social happenings and to be better informed about social issues. In fact, social media has become one of the most dependable tools for acquiring information about trending issues, including scientific breakthroughs, political happenings, economic situation, and so on. Shoimqulova (2020) also affirms that one of the major objectives of social media usage among teachers is to improve their awareness about issues so as to be better positioned to deliver on their tasks.

Furthermore, recommendations from experts and educational practitioners regarding the use of ICT in secondary school practice to increase learning effectiveness and improved quality of understanding and assimilation of the topics has influenced the use of social media by secondary school teachers. Hartoyo (2008) opines that information and communication technologies are renowned for building social interactions and improving communicative competence by offering original material for the class or engaging in self-education. Social media platforms can equally play this role to a considerable extent when deployed for the purpose of learning or education.

Research has shown that most students support the view that the use of ICT in the classroom changes the overall atmosphere and fosters learning (Bogdanova, 2015). This is another



motivation behind the persistent use of technology including social media among teachers in school environments. Technology basically diversifies the learning process and presents the educational material in a visual and accessible way to students. According to Mashbitz (1986), diagrams, illustrations, animations, or recording of sounds which are used in the organization of the educational process exceed mere decoration of the lesson, and makes it more meaningful and understandable. Moreover, Kuzembayeva et al (2022) concludes ICT including social media networks provide diverse options for encompassing and processing information, making sense of ideas, and expressing learning for people and students with different learning styles.

### **Patterns and Extent of Social Media Usage among Secondary School Teachers**

Recently, social media has been used by a great many individuals and institutions. Instant access is becoming easier and users are increasingly becoming able to see contents, articles, opinions, daily events, photographs and express their views on social media platforms. With the development of mobile devices and internet networks, social network sites are making it possible for individuals to get in touch with friends or others, thereby warding off feelings of loneliness and spending good time, which in turn increases the amount of time spent on social networks (Mofoluke & Amaka, 2020).

According to Bolat (2018), majority of teachers spend multiple hours on social media networks in a day and the common social media networks which they use for the primary purposes of communicating with friends (93.84%), chatting (88.94%), creating/editing profiles (86.05%) getting information about a subject (70.10%), gaining access to course contents (69.74%) and achieving professional development (54.89%) are mobile instant messaging tools, Facebook and Instagram.

Focusing on the gender differentials to social media usage among teachers, Bas and Diktas (2020) studied the social media addiction levels of teachers and discovered that male participants displayed higher levels of social media addiction than female participants. The study found that teachers used mostly Instagram, Facebook, Twitter, and Snapchat, looking for entertainment, daily events, photo and video shares, flirtation with the opposite sex, course notes among other shared interests. Similarly, Çam and İşbulan (2012) found a significant difference between gender and Facebook addiction, with male teacher candidates exhibiting higher levels of addiction than females. However, a study conducted by Gul and Diken (2018) showed moderate social media addictions among teachers, with no significant difference observed between candidates as regards gender.

From the foregoing, it can be summed that teachers fundamentally use social media for social interaction most with people other than their colleagues. Moreover, results from the preceding empirical studies which reported higher levels of social media usage cum addiction among males can be debated when considered in the light of observations in the Nigerian society where there is seemingly higher levels of social media usage/addiction among females than the male population. It is thought that displaying these possible educational social media usage behaviors portends negative outcomes in terms of face-to-face social interaction with colleagues. This underscores the need to adopt appropriate social media use ethics among teachers in order to enhance effective research, collaboration and face-to-face social interaction.

## **Social Media and Social Interaction among Secondary School Teachers: The Gains**

Despite the contentions and differing views, a middle point is the acknowledgement that there is no denying the impact social media has on 21st century teacher and learner. The use of social media in education facilitates easy access to information linked with group learning and other benefits and makes teaching more convenient (Mukminin, Muhaimin, Prasojo, Khaeruddin, Habibi, Marzulina, & Harto, 2022). They can provide educational teachers with many opportunities to improve learning methods (Carpenter, Harvey, Short, Clements, & Staples, 2019). Through the systems, teachers can incorporate plugins enabling communication, sharing, and interaction. Teachers can get many advantages from tutorials and resources.

Social interaction is important in building and sustaining social cohesion and establishing networks among individuals who have common interests, concerns and affiliations. The emergence of social media has substantially altered the landscape of communication and social interaction as it is becoming increasingly popular and commonly used by people. Chukwuere (2021) acknowledges that we are in the 21<sup>st</sup> century and ideas, concepts and information are generally shared virtually among individuals with common objectives. In fact, social media is said to have reshaped social existence and life in general. According to Akram and Kumar (2017), many people including school teachers dedicate an enormous amount of time to social media. They use computers and Smartphones to surf the internet and access social media, basically chatting, commenting, viewing pictures and videos, liking posts and making tweets about social events. This has become an integral part of the life of teachers which enhances job performance, minimizes loneliness, and serves as a get-away from the monotonous work schedules. Tasir, Al-Dheleai, Harun, and Shukor (2011) averred that the overall aim of the constant social media engagement by individuals is to build and maintain social networks.

Social media platforms improve teachers' interaction in terms of comprehensive networking and connection with their peers. Through social media platforms, teachers are provided with an avenue for colleagues to socialize, establish virtual connections which in some cases results to one-on-one meetings that may lead to future academic collaborations among them. Buttressing further, Akinola, Odebimpe and Adewole (2016) stated that social media serves as a tool of communication whereby instructors use forums and groups to extend classroom deliberations. Some of them use X (formerly Twitter) to communicate announcements and information to their colleagues. It also allows members to explore new opportunities and experiences and affords teachers an opportunity to express themselves, communicate and collect profiles that highlight their talent and experience.

Researches show that the pattern of teachers' relationships through digital technology may help in understanding the ways by which collaboration can take place among them towards enhanced student learning, and teachers' instructional practice (Hangül & Şentürk, 2019). For instance, Penuel, Riel, Joshi, Pearlman, Kim and Frank (2010) sought to know whether if the formal organization of a school and patterns of informal interaction were aligned, faculty and leaders in a school would be better able to coordinate instructional change. They combined social network analysis with interview data and found that the school which was formally and informally better-aligned accomplished instructional decision-making through its local network structure. The study showed that social relations and strong networks among teachers on social media led to faster policy changes, solving professional problems, integration of new teachers and a certain amount of power in the participation to decisions.

Mulenga and Marban (2020) reported that social media as one of the digital technologies could be a positive response to distance education. Indeed, during the Covid-19 pandemic, social media was vastly utilized across the globe following restrictions that were placed on movement and physical interactions. Consequently, it became common to hear terms like WhatsApp, Facebook groups, Zoom, Google Meet and Teams became normal lexicons for teachers because those were platforms for learning and communication (Riady, Alqahtany, Habibi, Sofyan & Albelbisi, 2022).

The developing interest in use of social media has compelled educators to critically investigate and explore the possibilities of its integration into the academic process. With educational institutions faced with the need to promote collaborative learning alongside building community between students, it is best that school teachers utilize social media tools in ways that build and encourage synchronous collaboration amongst them.

### **Social Media and Social Interaction among Secondary School Teachers: The Pains**

The intense commitment to using social media among school teachers brings with it certain problems, among which is social media or social network addiction. This implies an individual's excessive use of social media beyond his or her control, and a constant need for it. For secondary school teachers, this could negatively affect their daily life and social relations and interactions with colleagues at work.

Societal concerns including cyber stalking and bullying, harassment and threats have been identified as the downsides of social media interaction. There are also fears arising from confidential interactions held in groups on social media platforms like Facebook and WhatsApp getting exposed to the general public. Moreover, social media usage among teachers may influence the amount of time they dedicate to face-to-face social interaction with their colleagues, thus reducing their understanding of each other. This can limit their level of academic collaborations since it has been reported that social media has the propensity of disconnecting people from those who are physically close to them and connecting such individuals to others who are virtually available to them but physically apart (Abaido, 2020; Chan et al., 2020; Saravanakumar & Deepa, 2016; Gupta & Dhami, 2015; Procentese, et al., 2019). Several theorists therefore recommend face-to-face communication among peers, including secondary school teachers because it engages more human senses than computer mediated communication where communication occurs over one's computer or phone screen. For teachers particularly, one-on-one social interaction is essential because it is critical to resolving problems and contentious work issues.

Some educators and instructional designers believe that social media technologies are not always appropriate or successful vehicles for teaching and learning activities but could be very distracting. In fact, a common complaint among instructors is that some social media applications such as Facebook, WhatsApp and X divert students' attention from classroom participation and is seen as ultimately disruptive to the learning process. This is the same for teachers as it could significantly disrupt or reduce their levels social interaction in offices and in staff meetings. Lederer (2012) also raises concerns on cyber-bullying, noting that social media has the tendency to diminish face-to-face interaction among teacher colleagues as they may hide behind social media to avoid real life communication and could even breed hostile behavior.



## 5. Conclusion/Recommendations

Digital connectivity among secondary school teachers has significant impact on their level of social interaction. It enables secondary school teachers to collaborate online, share resources and engage in professional development through online platforms. However, over-commitment to digital technologies particularly social media like Facebook, X, Instagram, SnapChat, etc among teachers has negative effects and could impede social relations and interactions among themselves. It is thus imperative to balance digital connectedness with face-to-face social interactions to achieve robust social relationships and teaching experiences. Management of secondary schools in Nigeria should, as a matter of principle, encourage teachers to cultivate the habit of using social media within the school environment largely for academics purposes.

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