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Exploring the Social Television Landscape and User Engagements: Preliminary Findings from a Northern Nigerian Study

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Abstract

This paper presents preliminary results from a study investigating the usage patterns and dynamics of social television (TV) among university students in northern Nigeria. Grounded within the positivist research paradigm and adopting a quantitative approach, the study examines the frequency and manner in which university students engage with social TV content, focusing on the prevalence of smartphone usage and the activities carried out while watching TV. A survey methodology employing a questionnaire was used to collect data from a sample of 774 respondents drawn from six universities in northern Nigeria. The preliminary findings reveal a significant reliance on smartphones for TV viewing, with the majority of respondents reporting frequent engagement with social TV content. Activities such as chatting on social media platforms, browsing the internet and online shopping were prevalent among participants, highlighting the evolving nature of media consumption habits among digitally savvy audiences. The study underscores the transformative impact of social TV engagement on media consumption patterns and provides actionable recommendations for stakeholders in the media industry to enhance the social TV experience for audiences.

Keywords: social television, university students, smartphone usage, media consumption habits.

1. Introduction

The concept of 'social TV' was coined by Brian Seth Hurst in 1995 during the production of "The House of Blues Radio Hour," aiming to foster live, interactive experiences for listeners through call-ins, emails and online chats with hosts and guests. Brian Seth Hurst envisioned a future where television viewers could engage with content and each other via the internet, igniting further exploration and development of social TV dynamics (Market..., 2018; Proulx, Shepatin, 2012).

The fusion of television and social media has reshaped viewer engagement, facilitating widespread sharing of TV experiences on platforms like Facebook, Twitter (or X) and Instagram (Segijin et al., 2020). This trend, accelerated by broadband wireless technologies and smart devices, underscores the significance of studying social TV within Nigeria's socio-cultural context, given its 51 % internet penetration rate and substantial online presence, especially among the youth (DataReportal, 2022). Nigeria's evolving media landscape, influenced by factors such as education

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and age, emphasises the intertwined nature of social media and television consumption, prompting exploration of social TV's impact on viewer engagement and behaviour (Asongu, Le Roux, 2017; BBG, 2015). With a population of 214.1 million, including 109.2 million internet users and 32.90 million social media users as of January 2022, Nigeria's media landscape continues to evolve, fuelled by expanding broadband infrastructure and internet TV adoption (DataReportal, 2022; Akpoja, 2021).

Understanding user acceptance, adoption and usage behaviour of social TV technologies, particularly among university students in northern Nigeria, is imperative, as evidenced by the study's focus on an extended UTAUT2 model (Ezeh et al., 2012). This research aims to fill a gap in understanding social TV use behaviour in Nigeria, offering insights that could inform content delivery strategies and enhance viewer engagement in the internet-driven segment of the Nigerian television industry (Akpoja, 2021). Ultimately, by uncovering social TV consumption patterns and exploring its implications for audience engagement, this study seeks to contribute to the evolution of the Nigerian media landscape, facilitating tailored strategies for content creation, distribution and audience engagement.

This study focuses on students from northern Nigerian universities to investigate the acceptance and usage of social TV among this demographic, given their significant engagement with social TV-related technology. Specific objectives of the study are 1) to investigate the frequency and manner in which university students in northern Nigeria engage with social television content; 2) to explore the prevalence of smartphone usage for TV viewing among university students in the region; 3) to examine the activities carried out by university students while watching TV, focusing on social media interaction and online behaviors; and 4) to provide preliminary insights into the dynamics of social television engagement among university students in northern Nigeria.

The paper begins with an introduction outlining the rationale for the study and presenting the research objectives. It then provides a comprehensive literature review examining previous research on social television and media consumption habits among university students. The methodology section details the research design, data collection procedures and sampling techniques employed in the study. Following this, the preliminary results of the study are presented and discussed, highlighting key findings and implications. Finally, the paper concludes with a summary of the findings, recommendations for future research and implications for stakeholders in the media industry.

Literature Review: *Concept, Prototype and Technology of Social TV*: Social TV, defined as the television component of social media, differs from other social media aspects such as online newspapers or radio. It encompasses digitally televised or television-related content consumed in socially interactive online platforms, contrasting with traditional TV content consumed via analogue transmission services (Khoshrouzadeh, 2020). Social TV, extensively researched in recent years, provides technical support for TV viewers to interact irrespective of geographical boundaries. T. Gross et al. (Gross et al., 2008) emphasise the user-friendly yet sophisticated nature of social TV designs. J. Lee and Y. Choi (Lee, Choi, 2017) explore the communication aspect of social TV, noting its capacity to enhance online discussions during TV viewing. The famous bi-monthly magazine published by the equally famous Massachusetts Institute of Technology (MIT) known as "MIT Technology Review" recognises social TV as one of the emerging technologies, with MIT's media lab contributing significantly to its development alongside Telco and online TV operators (Montpetit et al., 2011). Social TV technology offers diverse capabilities, including voice and text chats, video conferences and TV recommendations. Additionally, social TV fosters information sharing among users, integrating outcomes into TV services.

Social TV and Television Viewership Characteristics: Social TV's rapid growth stems from its unique features such as sociability, interactivity and engagement. S.J. Yang et al. (Yang et al., 2012) highlight social TV's ability to forge connections among dispersed individuals, fostering togetherness and communication. H. Hu et al. (Hu et al., 2014) attribute this unity to social TV's cost-effective architecture and user preference. In Nigeria, TV and online activities, particularly during football matches and political events, drive social TV engagement. Platforms like Arewa24 cater to the Hausa-speaking population, filling a gap in online TV services. Streaming TV providers like Netflix and Iroko TV have transformed viewing habits, with a demand for local content prevailing despite international competition.

Social TV as Second Screen (Dual Screen) Viewing: A screen refers to the display monitor of a TV set of smartphone. First screen is the TV set's screen while second screen is the smartphone's screen. Second screens, used alongside TVs, enable interaction with TV content and are increasingly common among young viewers. They serve various purposes, including information search and social networking. Viewers often multitask, using smartphones as the primary second screen. Younger demographics exhibit higher second screen usage rates. J. Karppinen (Karppinen, 2013) proposes a prototype to streamline second screen content discovery, offering alternative methods to access content.

Users, especially young users not only find using their smartphones simultaneously with social media platforms while watching their favourite TV shows worthwhile but also enjoyable. The simultaneous use of Facebook, Instagram, TikTok with TV shows is more popular among younger users while synchronising TV watching with Twitter use is more popular with older users. Typically, users share pieces of digital information about the TV show they watch with their social media networks. Some common examples of such digital pieces of information include screenshots, online news links, website links, and so on; they also perform other social activities related to the show they are watching to express their reactions, such as 'liking' and other reactions using available imojis.

How *is Social TV's Dual Screen Mode Used?*: Viewers use second screens sequentially or simultaneously, with smartphones being the primary starting point for second screen activities (as also discussed above). Multitasking is prevalent, with a significant portion of mobile internet users engaging with both mobile devices and TV simultaneously. Various methods, including Quick Response codes (QR codes in short) and social media hashtags, facilitate second screen content discovery. J. Karppinen (Karppinen, 2013) introduces a prototype to enhance content discovery, complementing existing methods.

Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) in Social TV Research: The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), developed by V. Venkatesh et al. (Venkatesh et al., 2003), extends the UTAUT1 model to better understand the acceptance and use of technology. This model has been widely applied in the fields of Information Systems (IS) and Information and Communication Technology (ICT), providing a comprehensive framework for researchers. The modified UTAUT2 model comprises 13 variables, including independent, mediator, dependent and moderator variables. Previous studies have used the UTAUT2 model to explore various aspects of technology adoption, including social TV-related services and technologies.

UTAUT2 has been particularly instrumental in examining the intention to use social TV and related technologies such as social media, social networking sites, internet TV and mobile TV. For instance, C.H. Wong et al. (Wong et al., 2014) found significant effects of Effort Efficiency, Social Influence and Facilitating Conditions on the intention to use mobile TV. Similarly, M. Zendehdel et al. (Zendehdel et al., 2015) identified Performance Expectancy and Social Influence as significant determinants of users' decision to use mobile internet services, a crucial infrastructure for social TV. Effort Expectancy, however, did not significantly influence intention in their study.

Internet-based TV technologies like 'Internet Protocol TV' (IPTV) and 'Over the Top TV' (OTT) have also received attention within the UTAUT2 framework. Indrawati and Haryoto (Indrawati, Haryoto, 2015) investigated users' perception of IPTV in Indonesia, finding that several factors, including performance expectancy and social influence, significantly affected users' intention to use IPTV. However, effort expectancy and facilitating conditions did not exhibit significant effects. Moreover, studies such as that of R. Allam and H. Dinana (Allam, Dinana, 2021) have extended the UTAUT2 model to explore the future of TV and online video platforms in evolving markets like Egypt. Their findings suggest a shift in consumer behaviour towards online video platforms, posing challenges to traditional TV broadcasters.

Technology Use and Religiosity: While research on mobile phone use has proliferated, studies focusing on their religious use and impact on religious imagination are limited. Digital religion, which examines the intersection of religion, media technologies and digital culture, has gained traction. Initially concentrated in the Western world, scholarly interest in digital religion is expanding to include Africa and Asia. However, there remains a dearth of research on the relationship between mobile phones and religion in African countries. Nevertheless, emerging studies explore the use of digital technologies for religious purposes in Africa and Asia, shedding light on this evolving phenomenon (Darvyri et al., 2014; Mohamad, 2023).

Since its inception by Brian Seth Hurst in 1995, the term "social TV" has witnessed notable evolution and adoption. Here are the key trends and transformations in its usage:

During the late 1990s and early 2000s, "social TV" referred to experimental endeavours and projects aimed at enriching the television viewing experience through interactive elements like chat rooms, online polls, games and personalised recommendations. Projects like TiVo digital video recorder, America OnLine TV (AOLTV) and Enhanced TV Binary Interchange Format (EBIF) exemplified this trend (Market..., 2018). In the mid-2000s, the concept expanded to encompass online video platforms such as YouTube, Netflix and Hulu, enabling users to watch, share and comment on TV content online. This era also saw the rise of user-generated content like vlogs, parodies and reviews (Fossen et al., 2018).

Transitioning into the late 2000s and early 2010s, "social TV" embraced the phenomenon of the second screen, where viewers used mobile devices like smartphones and tablets to engage with social media platforms like Twitter and Facebook while watching TV. This facilitated real-time interactions with fellow viewers, content creators and celebrities (Fossen et al., 2018; Proulx, Shepatin, 2012). From the mid-2010s onwards, "social TV" evolved to denote the integration of social media and TV content distribution. TV networks and rights holders leveraged platforms such as Twitter Amplify, Facebook Suggested Videos and Snapchat Discover to share video clips, live streams and behind-the-scenes footage, thereby monetising content through advertisements (Fortune..., 2020; Fossen et al., 2018; Market..., 2018).

While these trends epitomise the trajectory of "social TV" since its inception, it continues to evolve with the emergence of new technologies and platforms, shaping the TV industry and audience dynamics.

In the realm of social TV research, distinct trends emerge between the Western world and the Global South, particularly Africa:

In Western contexts, research predominantly focuses on the influence of social media platforms like Twitter and Facebook on TV viewing behaviour, engagement and ratings. Topics explored include second screen usage, live tweeting, social TV analytics and social TV advertising (Wong, 2023). Conversely, in the Global South and Asia, research delves into the cultural and social dimensions of TV consumption, alongside examining the implications of online streaming TV services. Themes include media imperialism, cultural values, audience preferences and content diversity (Fortune..., 2020).

In Africa, particularly Nigeria, social TV research centres on the role of TV and social media in societal development, alongside the challenges and opportunities of digital transformation. Topics explored encompass political participation, civic engagement, social movements, media literacy and the impact of social media on TV news consumption and production, especially in significant events like the #EndSARS protests, general elections and the COVID-19 pandemic (Adeyemi, Oyero, 2019; Digital..., 2024).

In a nut shell, social TV research reflects diverse regional contexts, exploring the complex interplay between technology, media and society, shaping TV viewing experiences and societal dynamics.

2. Materials and methods

Research Design and Approach: This study is grounded within the positivist research paradigm, adopting a quantitative approach aimed at theory development, facilitating the exploration of causal relationships within the UTAUT2 model. As advocated by Guba and Lincoln (1994), the positivist paradigm underscores the objective reality discernible through rigorous empirical inquiry, prioritising the testing of causal links. This paradigm aligns with previous research by K.F. Hashim (Hashim, 2012), and J. Khoshrouzadeh (Khoshrouzadeh, 2020), emphasising the examination of causal relationships among independent, dependent and moderating variables. The survey methodology, using a questionnaire as the primary data collection tool, is employed due to its ability to ensure respondent confidentiality, encourage candid responses and facilitate efficient data collection, as advocated by J.W. Creswell (Creswell, 2013). To test hypotheses and ascertain significant relationships between variables, the study adopts the Smart-PLS standard bootstrapping method.

Population: Survey research often involves collecting data from a sample, as a group of respondents drawn from the target population (De Leeuw, Hox, Dillman, 2012). Substantial efforts have been made by different scholars (e.g., Kotrlik, Higgins, 2001; De Leeuw, 2012) to differentiate

three types of population regarding sampling procedures including "general", "target" and "accessible". The "general population" is the largest cluster of potential respondents, which can be outlined as "an entire group of people in which data is required to be collected" (De Leeuw, 2012).

In the case of the current study, the general population is Nigerian university students currently studying at universities in northern Nigeria. Available data obtained from the National Universities Commission's (NUC) indicates that as of February 6, 2023, there are 258 universities in Nigeria. Of this number of universities, 148 are privately owned, 60 are state universities (universities owned by the state governments) and 50 are federal universities (universities owned by the Federal Government).

Individuals in these clusters share a minimum of three basic characteristics including the fact that they are university students in northern Nigeria, digital TV users and social media users. Hence, focus was given to public and private universities in northern Nigeria. The second type of population is the target population, which is a "group of individuals with a minimum of one particular characteristic" (Creswell, 2013). The general population of this study, which is the population of Nigerian university students, is over 2.1 million according to data from National Universities Commission (NUC) (NUC, 2022).

The target population for the present research is university students who were currently study at both public (federal and state) and private universities in northern Nigeria. No discrimination was made between undergraduate and postgraduate students. However, a vast majority of the respondents were undergraduates. As L.A. Auverset (Auverset, 2017) noted, findings of a Pew Internet and American Life Project study showed that "the use of the Internet is greater among university students as compared to the general population" (Auverset, 2017: 7). L.A. Auverset (Auverset, 2017) also argues, "Universities are a suitable place for technological diffusion". Supporting L.A. Auverset (Auverset, 2017), A. Quan-Haase and A.L. Young's (Quan-Haase, Young, 2010) study found that "university students tend to be early adopters of social networking sites." Therefore, the present research supports recruiting university enrolled students as a sample population. The population of university students who are currently studying at universities in northern Nigeria is the particular characteristic of the second cluster.

The third and final type of population is "accessible population". In research, the accessible population which is also known as the "study population" is the population which the researcher can apply his or her conclusion. In the actual sense, "it is a subset of the target population" (Elite Institute, 2019). Thus, the accessible population of this study comprised the students who were currently studying in the above-mentioned categories of universities located in different states in northern Nigeria and who were current and active users of social TV (either double screen mode, multiscreen mode, or both) at the time the survey questionnaires were administered. The accessible population yielded the sample of the study that was selected through a multi-stage random sampling technique, which involved a random selection of universities and faculties in multiple stages.

Employing random sampling to recruit the 'actual' respondents (as well as the respondents' universities and faculties) was necessary because of the positivist approach (quantitative design) that this study adopted (Wimmer, Dominick, 2011). Because this study adopted proportionate random sampling technique, the selection of samples among a total number of 164,141 students from all 18 faculties within the six universities was practically feasible because, in the end, a sample proportionate to the total population of each of the universities was selected, which means that the total of 774 sample size was selected randomly based on the proportionate sample from each of the universities (see Table 1).

Table 1. Proportionate Research Population and Samples from Each of the Six Universities

S/No	University	Population	Sample	Percentage
1	Baze University, Abuja	4,513	21.28	2.75
2	BUK	46,492	219.52	28.33
3	KASU	19,313	91.0	11.75
4	Nile University, Abuja	6,111	28.8	3.72
5	UNIMAID	75,311	355.6	45.85
6	YSU, Damaturu	12,401	58.8	7.6
Total		164,141	774	100

Furthermore, the sample size of 774 was distributed proportionately, calculated based on the student populations in each university. This resulted in the following number of respondents from each selected university: Baze University 21 students, Bayero University, Kano (BUK) 219 students, Kaduna State University (KASU) 91 students, Nile University 29 students, University of Maiduguri (UNIMAID) 355 students and Yobe State University (YSU) 59 students as shown in Table 1.

Sample and Sample Size: The study's sample focuses specifically on individuals involved in social viewing of television content, simplifying the selection process and enhancing data relevance. The determination of the appropriate sample size, crucial for data accuracy and precision, relies on various factors including project type, purpose, complexity and error tolerance. According to J.F. Hair et al. (Hair et al., 2017), the recommended sample size for Structural Equation Modelling ranges from 150 to 400 respondents; while T.F. Hinkin (Hinkin, 2005) recommends an item-to-response ratio should be at least 1:10 ration for each set of scales. Considering these guidelines, the recommended sample size for this study is 774 respondents, ensuring an objective and reliable analysis.

However, given that this study focuses on examining new approaches of using old media (television, specifically), employing new approaches of determining the sample size is deemed more appropriate. New approaches of determining sample size include using statistical software packages such as a StatisticaTM or G*Power (Lakens, Caldwell, 2021), which depend on factors such as effect size, power of the test and standard deviation. The use of the G*Power 3.1 software supported by V. Venkatesh et al. (Venkatesh et al., 2012) and J. Khoshrouzadeh (Khoshrouzadeh, 2020) provided an optimal sample size of 774, surpassing the basic criteria for statistical validity and methodological robustness (see Table 2). D. George and P. Mallery (George, Mallery, 2016) believed that the accurate number of respondents for quantitative studies depends on effect size, power, level of significance, study design and the intended statistical method (see Table 2).

Table 2. Calculating Required Sample Size Using G*Power Software

S/N	Input		Output	
1	Effect size f^2	0.05	Non-centrally parameter λ	15.4600000
2	α err prob	0.05	Critical F	2.0215313
3	Power (1-β err prob)	0.83	Numerator df	7
4	Number of tested predictors	7	Denominator df	765
5	Total number of predictors	7	Total sample size	774
6	-	-	Actual power	0.8500267

Sample frames for primary populations (students) were obtained from each faculty, while sample frames for secondary populations (universities) was obtained from NUC, and finally, sample frames for the tertiary population (faculties) were obtained from the relevant offices at each of the universities.

The study's focus on students from northern Nigerian universities is rooted in its research objectives, aiming to determine the acceptance and usage of social TV among this specific demographic, given their significant representation as users of social TV-related technology. Moreover, northern Nigerian universities were selected based on the predominant presence of the Nigerian Muslim population in the northern region.

3. Discussion

The investigation into the Research Objective delved into the diverse activities engaged in by respondents while watching TV and interacting with TV shows, shedding light on the multifaceted landscape of social TV usage. Respondents exhibited a wide array of behaviours, including using internet-connected smartphones, tablets and laptops while watching TV, as well as engaging in activities such as screenshotting and sharing TV programmes across various social media platforms including YouTube, Facebook, Twitter, TikTok and WhatsApp. Additionally, participants were found to be active in tweeting, sharing posts, recommending, rating, voting, commenting and liking TV programmes on social media (It should be noted that 'Social Media' is the umbrella platform in which social TV is largely domiciled or embedded just like 'Mass Communication' is the umbrella discipline in which television, radio, newspaper, magazine are studied, which has, recently, culminated in an attempt to unbundle it into its various sub-disciplines or components as substantive disciplines like Public Relations, Information and Media Studies, etc. similarly, when

social media is unbundled, such disciplines as social TV, social radio, social newspaper, etc. would be obtained, with social TV already gaining growing research attention globally, especially in Western, Asian and Middle Eastern contexts.

The findings revealed that a significant portion of Nigerian university students used their mobile phones while watching TV at least once a week. Furthermore, a substantial percentage engaged in chatting on tablets, laptops and smartphones about TV programmes via mobile apps like WhatsApp, Telegram, Facebook, TikTok and Messenger. Moreover, a considerable majority indicated interaction with TV shows by sending text messages, voice chats, stickers and emojis on social media, as well as engaging in online shopping while watching TV weekly. Other prevalent activities among university students in northern Nigeria include browsing the internet, checking emails during commercial breaks, watching TV shows on connected smartphones, tablets and laptops, seeking complementary information online about TV programmes, and accessing social networking sites like Facebook, TikTok, Twitter and Instagram while watching TV. The study also highlighted activities such as checking TV programme schedules online, playing social TV games and using TV provider websites and apps to watch TV shows.

Similar studies conducted globally (Guo, 2019; McKinsey, 2023) corroborate these findings, emphasising the significance of social TV engagement among users and the opportunities it presents for internet-based TV technology (IPTV) service providers. Leveraging social media platforms and apps for content sharing and interaction enhances user engagement and facilitates advertising endeavours. Additionally, the prevalence of activities such as checking emails and online shopping during TV viewing underscores the evolving nature of media consumption habits, particularly among digitally savvy audiences. Moreover, the study underscores the importance of tailored app designs for social TV discussions and recommends the integration of social media links on TV-related websites. It also highlights the potential for TV programmes to create channels and groups on social media platforms to bolster interaction with users. Furthermore, the study aligns with previous research indicating the preference for app usage over websites among social media users (Investopedia, 20231; Pew..., 2024), further emphasising the need for strategic adaptation to user preferences in content dissemination.

The findings suggest avenues for internet-based TV service providers and traditional TV broadcasters to capitalise on user engagement trends such as advertising through audio-visual materials and leveraging social media followers for promotional activities. Ultimately, the study underscores the transformative impact of social TV engagement on media consumption patterns and highlights the evolving landscape of digital dual screen or multiscreen TV usage among Nigerian audiences.

4. Results

Respondents' Demographic Data: The demographic profile of the respondents in this study was analysed to provide a socio-demographic overview. A set of five questions was used to collect data on age, gender, geographical region of origin, religion, family income, and education level. The study included 485 male and 289 female respondents, accounting for 37.3 % and 62.7 % of the participants, respectively (see Table 3). The age range of the respondents varied between 18 and 45 years, with the majority falling within the 20 to 22 years age bracket (n = 379). Notably, due to the focus on university students using digital dual screen or multiscreen social TV systems, the age range was confined to 20 to 45 years old. Geographically, participants were distributed across Nigeria's six geopolitical regions, with varying representation: north-east (n = 110), north-west (n = 158), north-central (n = 100), south-east (n = 83), south-west (n = 309), and south-south (n = 14). Regarding religion, the majority of respondents identified as Muslim (n = 481, 62.14 %), while the remaining 293 (37.86 %) identified as Christians.

Family income data revealed that approximately half of the respondents reported a monthly income ranging from N100,000 to N150,000 (48.0 %), followed by those earning between N151,000 and N200,000 (31.9 %), and those with incomes exceeding N200,000 per month (20.1 %). In terms of education, respondents represented various academic levels, including bachelor's degree (n = 507), master's degree (n = 208), and Ph.D. (n = 59) candidates (see Table 3).

Results of the Research Objective: To measure the frequencies of Actual Usage of Social TV among university students in northern Nigeria.

The investigation into the frequencies of social TV usage, a pivotal component of the Research Objective, was conducted subsequent to the inquiry into respondents' demographic

information and their television and media consumption habits. This segment of the research involved the administration of a questionnaire containing 6 items aimed at assessing the Actual Usage of Social TV (AUST). Respondents were prompted to rate each item on a 5-point Likert scale, ranging from "never" (1) to "every day" (5). The items were categorised into four distinct groups, as delineated below.

Table 3. Summary of Respondents' Demographic Data (n = 774)

Profile	Category	Frequency	Percentage %
Gender	Male	485	62.7
	Female	289	37.3
Age	18-22 years	406	52.5
	Older than 22 years	368	47.5
Geopolitical Region of Origin	Northeast	158	20.41
	Northwest	110	14.21
	Northcentral	100	12.92
	Southeast	83	10.72
	Southwest	309	39.92
	South-south	14	1.80
Religion	Muslim	481	62.1
	Christian	293	37.86
Monthly Family Income	Low Income	N100,000-N150,000	48.0
	Medium Income	N151,000-200,000	31.9
	High Income	N201,000 or Higher	20.1
Educational Level	Bachelor's Degree	507	65.5
	Master's Degree	208	26.9
	PhD	59	7.6
Total		774	100

Within the scope of Social TV as Second-Screening, Table 4 below presents data pertaining to the frequency of social TV usage while simultaneously viewing television (B1, B2, B3) and the devices employed for this purpose (B4, B5, B6). The prevalence of smartphone usage among the surveyed students emerged as notably high. According to the findings presented in Table 4 below, approximately 83.9 % of participants reported using mobile phones while watching television at least once a week. Similarly, 52.3 % of respondents indicated the use of tablets for TV viewing on a weekly basis. Moreover, a substantial proportion of respondents reported using laptops (72.3 %) and smartphones (90.2 %) while watching television. Furthermore, Table 4 reveals nuanced patterns of usage. For instance, 20.0 % of participants reported watching TV on their laptops at least once a week, while 37.3 % admitted to using smartphones for TV viewing on a daily basis. Similarly, varying frequencies of smartphone usage for TV viewing were reported: 13.3% (5-6 days a week), 14.6 % (3-4 days a week), 18.6 % (1-2 times a week) and 16.1 % (never).

Conversely, tablet usage for TV viewing appeared less prevalent among respondents. Specifically, percentages ranged from 17.6 % (1-2 times a week) to 12.9 % (daily usage), indicating comparatively lower levels of engagement. The use of laptops for TV viewing fell within a moderate range, with respondents demonstrating varying degrees of engagement. Notably, 47.7 % of participants reported never using laptops for TV viewing, contrasting with the higher usage frequencies observed for smartphones (see Table 4). The findings underscore the pervasive use of smartphones for TV viewing among respondents, while also highlighting distinct patterns of engagement with tablets and laptops in this context.

Table 4. Frequency of Social TV Usage as Second-Screen (n = 774)

Likert Scale		Never		1-2 times a week		3-4 times a week		5-6 times a week		Daily	
S/N	Items	F	%	F	%	F	%	F	%	F	%
B1	Using mobile phone	125	16.1	144	18.6	113	14.6	103	13.3	289	37.3

Likert Scale		Never		1-2 times a week		3-4 times a week		5-6 times a week		Daily	
	while watching TV.										
B2	Using tablet while watching TV.	369	47.7	136	17.6	94	12.1	75	9.7	100	12.9
B3	Using laptop while watching TV.	215	27.8	174	22.5	130	16.8	112	14.5	143	18.5
B9	Watching TV on smartphone.	75	9.7	97	12.5	125	16.1	188	24.3	289	37.3
B10	Watching TV on tablet.	369	47.7	136	17.6	94	12.1	75	9.7	100	12.9
B11	Watching TV on laptop.	136	17.6	155	20.0	146	18.9	188	24.3	125	16.1

Notes: F = frequency; % = percentage

5. Conclusion

This study sheds lights on user acceptance of social television in Nigeria, particularly within the context of northern Nigeria. Through a quantitative approach rooted in the positivist paradigm, the investigation elucidated the multifaceted landscape of social TV usage among university students. The findings underscored the pervasive nature of smartphone usage for TV viewing, alongside distinct patterns of engagement with tablets and laptops. Moreover, the study provided insights into demographic characteristics and media consumption habits of the respondents, thereby enriching our understanding of social TV dynamics in the region. Importantly, the research underscores the transformative impact of social TV engagement on media consumption patterns, highlighting opportunities for internet-based TV service providers and traditional broadcasters to leverage user engagement trends for promotional endeavours.

However, despite the valuable insights gleaned from this study, certain limitations warrant acknowledgment. Firstly, the research focused solely on university students in northern Nigeria, thus limiting the generalisability of the findings to broader demographic groups. Additionally, the study's reliance on self-reported data may introduce response bias, necessitating caution in the interpretation of results. Future research endeavours should seek to address these limitations by incorporating diverse demographic cohorts and employing mixed-method approaches to triangulate findings.

*Recommendation*s: The study offers the following recommendations for research, industry and policy.

– Foster collaboration between internet-based TV service providers and traditional broadcasters to capitalise on user engagement trends observed in social TV usage.

– Develop tailored app designs for social TV discussions, integrating social media links on TV-related websites to enhance user interaction.

– Create channels and groups on popular social media platforms to facilitate dialogue and engagement with TV programmes.

– Conduct further research to explore social TV dynamics among diverse demographic cohorts, including non-student populations and individuals from different regions of Nigeria.

– Employ mixed-method approaches to triangulate findings and mitigate response bias associated with self-reported data.

Limitations of the Study: As with any research endeavour, it is imperative to acknowledge the limitations inherent in the study. By critically evaluating the constraints and challenges encountered during the research process, we can enhance the transparency and credibility of our findings. In this section, we delineate the key limitations of our study on social television engagement among university students in northern Nigeria. These limitations provide valuable insights into the scope, methodology and interpretation of our results, guiding future research endeavours in this burgeoning field.

1. *Sampling Bias*: The study focused exclusively on university students in northern Nigeria, potentially limiting the generalisability of the findings to other demographic groups within the region or beyond.

2. *Self-Reported Data*: The reliance on self-reported data may introduce response bias, as participants might provide socially desirable responses or inaccurately recall their social TV usage habits.

3. *Limited Scope of Variables*: While the study investigated social television usage among university students, it did not delve deeply into factors such as socio-economic status, cultural background, or technological literacy, which could impact social TV engagement.

4. *Cross-Sectional Design*: The study employed a cross-sectional design, capturing a snapshot of social television usage at a single point in time. Longitudinal studies could provide deeper insights into the dynamics and changes in social television engagement over time.

5. *Technological Factors*: The study did not extensively explore technological factors such as internet connectivity, device compatibility, or access to streaming services, which could impact social TV usage patterns but were not fully addressed.

6. *External Validity*: The study's findings may be limited in their applicability to contexts outside of northern Nigeria, as social TV dynamics could vary significantly in different cultural, socio-economic, or technological environments.

Addressing these limitations in future research endeavours could enhance the comprehensiveness and validity of the findings.

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References

Adeyemi, Oyero, 2019 – *Adeyemi, S.A., Oyero, O.* (2019). The utilisation of social media platforms for television broadcast in Nigeria. *Journal of Communication and Media Research*. 11(1): 1-14.

Akpoja, 2021 – *Akpoja, K.* (2021). Complexity thinking and broadband internet penetration in Lagos, Nigeria. Ph.D. Dis. Walden University, USA: ProQuest LLC.

Allam, Dinana, 2021 – *Allam, R., Dinana, H.* (2021). The future of TV and online video platforms: A study on predictors of use and interaction with content in the Egyptian evolving telecomm, media & entertainment industries. *SAGE Open*. 1-13. DOI: https://doi.org/10.1177/21582440211040

Allport, Ross, 1967 – *Allport, G.W., Ross, M.J.* (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*. 5: 432-443. DOI: http://dx.doi.org/10.1037/h0021212

Asongu, Le Roux, 2017 – *Asongu, S.A., Le Roux, S.* (2017). Enhancing ICT for inclusive human development in Sub-Saharan Africa. *Technological Forecasting and Social Change*. 118: 44-54. DOI: https://doi.org/10.1016/j.techfore.2017.01.026

Auverset, 2017 – *Auverset, L.A.* (2017). Social TV is the new digital watercooler: Personality traits, behaviours and trends in second-screen media activity. Ph.D. Dis. The University of Alabama, USA.

BBG, 2015 – BBG (2015). Contemporary media use in Nigeria: Research in brief. [Electronic resource]. URL: https://www.usagm.gov/2014/04/30/bbg-research-series-contemporary-media-use-in-nigeria/

Creswell, 2013 – Creswell, J.W. (2013). Research design: Qualitative, quantitative and mixed methods approaches. SAGE.

Darvyri et al., 2014 – *Darvyri, P., Galanakis, M., Avgoustidis, A.G., Pateraki, N., Vasdekis, S., Darviri, C.* (2014). The revised intrinsic/extrinsic religious orientation scale in a sample of Attica's inhabitants. *Psychology*. 5: 1557-1567. DOI: http://dx.doi.org/10.4236/psych.2014.513166

DataReportal, 2022 – DataReportal (2022). Nigeria. [Electronic resource]. URL: https://datareportal.com/reports/digital-2022-nigeria

De Leeuw et al., 2012 – *De Leeuw, E.D., Hox, J.J., Dillman, D.A.* (2012). The cornerstones of survey research. In E.D., De Leeuw, J.J., Hox, D.A. Dillman (eds.). *International handbook of survey methodology*. Routledge: 1-17. https://doi.org/10.4324/9780203843123

De Leeuw, 2012 – *De Leeuw, E.D.* (2012). Choosing the method of data collection. In: E. D.de Leeuw, J. Hox, D. Dillman (eds.). *International handbook of survey methodology*. Routledge: 113-135. DOI: https://doi.org/10.4324/9780203843123

Digital..., 2024 – Digital Information World (2024). Social media surpasses TV as top news source in YouGov's 2024 trend report. [Electronic Resource]. URL: https://www.digitalinformationworld.com/2024/01/social-media-surpasses-tv-as-top-news.html

Elite Institute, 2019 – Elite Institute (2019). Target population differs from an accessible population. Elite Institute. [Electronic resource]. URL: https://www.elitemv.com/2019/09/target-population-differs-from.html?m=1

Ezeh et al., 2012 – *Ezeh, G.N., Ndukwu, C., Ezema, L.S.* (2012). Deployment of internet protocol television (IPTV): How ready is Nigeria? *Academic Research International*. 3(2): 93-102.

Fortune..., 2020 – Fortune Business Insights (2020). Social TV market size, industry share – Forecast 2032. [Electronic resource]. URL: https://www.fortunebusinessinsights.com/industry-reports/social-tv-market-100309

George, Mallery, 2016 – *George, D., Mallery, P.* (2016). *IBM SPSS statistics 23 step by step: A simple guide and reference*. Routledge. [Electronic resource]. URL: https://www.taylor francis.com/books/e/9781315545899

Gross et al., 2008 – *Gross, T., Fetter, M., Paul-Stueve, T.* (2008). Toward advanced social TV in a cooperative media space. *International Journal of Human-Computer Interaction*. 24(2): 155-173. https://doi.org/10.1080/10447310701821491

Guba et al., 1994 – *Guba, E.G., Lincoln, Y.S.* (1994). Competing paradigms in qualitative research. In: Denzin, N.K., Lincoln, Y.S. (eds.). *Handbook of Qualitative Research*. London: Sage: 105-117.

Guo, 2019 – *Guo, M.* (2019). Social television viewing with second screen platforms: Antecedents and consequences. *Media and Communication*. 7(1): 139-152. DOI: https://doi.org/ 10.1764/mac.v711.1745

Hair et al., 2014 – *Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M.* (2014). A primer on partial least squares. Structural equation modelling (PLS-SEM). SAGE.

Hashim, 2012 – *Hashim, K.F.* (2012). Understanding the determinants of continuous knowledge sharing intention within business online communities. Ph.D. Dis. Auckland University of Technology, New Zealand.

Hinkin, 2005 – *Hinkin, T.R.* (2005). Scale development principles and practices. *Research in Organisations: Foundations and Methods of Inquiry*. xx: 161-179.

Hu et al., 2014 – *Hu, H., Wen, Y., Luan, H., Chua, T.S., Li, X.* (2014). Toward multiscreen social TV with geolocation-aware social sense. *IEEE MultiMedia*. 21(3). DOI: https://doi.org/10-19.10.1109/MMUL.2014.2

Indrawati, Haryoto, 2015 – *Indrawati, Haryoto, K.S.* (2015). The use of modified theory of acceptance and use of technology 2 to predict prospective users' intention in adopting TV Streaming. In *5th International Conference on Computing and Informatics (ICOCI)*. 11-13 August 2015, Istanbul, Turkey. [Electronic resource]. URL: https://repo.uum.edu.my/id/eprint/15548

Investopedia, 2023 – Investopedia (2023). Social media: Definition, importance, top websites & apps. [Electronic resource]. URL: https://www.investopedia.com/terms/s/social-media.asp

Karppinen, 2013 – *Karppinen, J.* (2013). Discovering social TV and second screens: Proposing an architecture for distributing second screen content. Bachelor's degree thesis, Umeå Universitet.

Khoshrouzadeh, 2020 – *Khoshrouzadeh, J.* (2020). UTAUT factors influencing intention to use social TV among university students. Ph.D. Dis. Universiti Putra Malaysia.

Kotrlik, Higgins, 2001 – *Kotrlik, J.W.K.J.W., Higgins, C.C.H.C.C.* (2001). Organisational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information Technology, Learning and Performance Journal*. 19(1): 43-50. [Electronic resource]. URL: https://www.opalco.com/wp-content/uploads/2014/10/Reading-Sample-Size1.pdf

Lakens, Caldwell, 2021 – *Lakens, D., Caldwell, A.R.* (2021). Simulation-based power analysis for factorial analysis of variance designs. *Advances in Methods and Practices in Psychological Science*. 4(1): 2515245920951503. DOI: https://doi.org/10.1177/2515245920951503

Lee, Choi, 2017 – *Lee, J., Choi, Y.* (2017). Shifting from an audience to an active public in social viewing: Focusing on the discussion network. *Computers in Human Behaviour*. 75: 301-310. https://doi.org/10.1016/j.chb.2017.05.027

Market..., 2018 – Market Business News (2018). What is social TV? Definition and examples. [Electronic Resource]. URL: https://marketbusinessnews.com/financial-glossary/social-tv-definition-meaning/

McKinsey, 2013 – McKinsey (2023). Digital consumers in the Middle East: Rising adoption and opportunity. [Electronic resource]. URL: https://www.pcmag.com/picks/the-best-video-streaming-services

Mohamad, 2023 – *Mohamad, S.M.* (2023). Youth religiosity and social media in Brunei Darussalam. In: Fee, L.K., Carnegies, P.J., Hassan, N.H. (eds.). *(Re)presenting Brunei Darussalam: A Sociology of the everyday*. Singapore: Springer Nature: 51-67. https://doi.org/10.1007/978-981-19-6059-8

Montpetit et al., 2011 – *Montpetit, M.J., Klym, N., Mirlacher, T.* (2011). The future of IPTV: Connected, mobile, personal and social. *Multimedia Tools and Applications*. 53: 519-532. DOI: https://doi.org/10.1007/s11042-010-0504-4

NUC, 2022 – NUC (2022). Nigerian universities. National Universities Commission (NUC) of Nigeria. [Electronic Resource]. URL: https://www.nuc.edu.ng/nigerian-universities/

Pew..., 2024 – Pew Research Centre (2024). Demographics of social media users and adoption in the United States. [Electronic Resource]. URL: https://www.pewresearch.org/internet/fact-sheet/social-media/

Proulx, Shepatin, 2012 – *Proulx, M., Shepatin, S.* (2012). Social TV: How marketers can reach and engage audiences by connecting television to the web, social media and mobile. New York: John Wiley & Sons.

Quan-Haase, Young, 2010 – *Quan-Haase, A., Young, A.L.* (2010). Uses and gratification of social media: A comparison of Facebook and instant messaging. *Bulleting of science, Technology and Society*. 30(5): 350-361.

Segijin et al., 2020 – *Segijin, C.M., Araujo, T., Voorveld, H.A., Smith, E.G.* (2020). Related multiscreening as a strategy to retain audiences and increase persuasion during a commercial break. *Journal of Broadcasting and Electronic Media*. 64(1): 41-61. DOI: https://doi.org/10.1080/08838151.2020.1718962

Venkatesh et al., 2003 – *Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D.* (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*. 27(3): 425-478. DOI: https://doi.org/10.2307/30036540

Venkatesh et al., 2012 – *Venkatesh, V., Thong, J.Y., Xu, X.* (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*. 6(2): 157-178. DOI: https://doi.org/10.2307/41410412

Wimmer, Dominick, 2011 – *Wimmer, D., Dominick, R.* (2011). Mass media research: An introduction. California: Belmont.

Wong et al., 2014 – *Wong, C.H., Tan, G.W., Loke, S.-P., Ooi, K.B.* (2014). Mobile TV: A new form of entertainment? *Industrial Management & Data Systems*. 4(7): 11. DOI: https://doi.org/1050-1067. 10.1504/IJMOM.2017.084800

Wong, 2023 – *Wong, B.* (2023). Top social media statistics and trends of 2024. Forbes. [Electronic Resource]. URL: https://www.forbes.com/advisor/business/social-media-statistics/

Yang et al., 2012 – *Yang, S.J., Greenberg, A.M., Endsley, M.* (2012). Social computing, behavioural-cultural modelling and prediction. Springer Nature.

Zendehdel et al., 2015 – *Zendehdel, M., Paim, L.H., Osman, S.B.* (2015). Students' online purchasing behaviour in Malaysia: Understanding online shopping attitude. *Cogent Business & Management*. 2(1): 1078428. DOI: https://doi.org/10.1080/23311975.2015.1078428