Copyright © 2025 by Cherkas Global University

Published in the USA
International Journal of Media and Information Literacy
Issued since 2016.
E-ISSN: 2500-106X
2025. 10(2): 162-184

DOI: 10.13187/ijmil.2025.2.162
https://ijmil.cherkasgu.press

When Digital Technology Meets Religion: A Positivist Ontological and Epistemological Study of Social Television Use in Nigeria with Implications for Digital-Literacy Competencies

Adamkolo Mohammed Ibrahim [a, *], Jafar Khoshrouzadeh [b]

[a] University of Maiduguri, Borno State, Nigeria
[b] Islamic Republic of Iran Broadcasting (IRIB) University, Tehran, Iran

Abstract

This study offers the first extensive positivist investigation of social television adoption among university students in Northern Nigeria, a region characterised by strong socio-religious norms and growing digital connectivity. Building on the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), the research introduces an enhanced concept of technology awareness, encompassing digital-literacy competencies such as source verification and critical content appraisal, and integrates religiosity to frame adoption within a culturally specific model. A structured survey of 774 undergraduates was analysed via PLS-SEM. Performance expectancy ($\beta = 0.31$), facilitating conditions ($\beta = 0.27$), technology awareness ($\beta = 0.29$), habit ($\beta = 0.23$), hedonic motivation ($\beta = 0.21$) and price value ($\beta = 0.18$) together explained 62 % of variance in behavioural intention. Moderation analyses revealed that higher Islamic religiosity weakened the impact of social influence ($\Delta\beta = -0.12$, $p < .05$) while amplifying the influence of hedonic motivation ($\Delta\beta = +0.10$, $p < .05$), indicating that devout users rely more on individually sanctioned enjoyment than on peer endorsement. Further segmentation uncovered distinct gender, age and prior-experience profiles in adoption patterns. These findings carry clear practical implications: application developers should embed culturally and religiously appropriate functionalities and digital media-literacy tutorials; advertisers targeting devout audiences must align campaigns with moral values and religious calendars; and educators can harness social television for faith-based instruction, community outreach and ethical e-commerce. Social TV thus provides a robust framework for demographically tailored, media-literate digital strategies in religious environments.

Keywords: social television, UTAUT2, technology awareness, digital literacy, media literacy competencies, religiosity, positivism, ontology, epistemology.

1. Introduction

The convergence of broadcast television and social media, commonly termed social television or social TV, has transformed passive viewership into a participatory practice. Viewers now comment on, rate and share programme content via platforms such as Twitter (now X), Facebook and TikTok while concurrently watching on smart devices (Lim et al., 2015; Phalen, Ducey, 2012). Although developed markets have produced extensive qualitative and mixed-methods studies (Lin, 2018; Segijin et al., 2020), quantitative evidence from regions such as Northern Nigeria remains scarce. This gap is critical given the unique socio-religious framework of the region and rapidly expanding Internet and mobile penetration (DataReportal, 2022; Sasu, 2022).

* Corresponding author
E-mail addresses: adamkolo@unimaid.edu.ng (A.M. Ibrahim)

To address this lacuna, the present study extends the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) (Venkatesh et al., 2012) by incorporating technology awareness, which refers to the degree of prior knowledge about interactive media functionalities (Ansari, Alhazmi, 2016; Bhattacherjee, 2001; Gálik, 2020), and religiosity, which captures the intensity of religious commitment (Allport, Ross, 1967; Darvyri et al., 2014). Importantly, technology awareness in this context is inseparable from media literacy: students with stronger competencies in critically evaluating content, verifying sources and recognising algorithmic bias demonstrate higher awareness of social TV features (Al-Zou'bi, 2021; Boshoff, Fafowora, 2025; Mustapha et al., 2024; Noordin, 2024; Szabó et al., 2024). As Noordin (Noordin, 2024) shows, media and information literacy competencies (skills) enable users to discern promotional from authentic content and to engage safely with online communities. Likewise, Szabó et al. (Szabó et al., 2024) and Mustapha et al. (Mustapha et al., 2024) found that higher digital literacy correlates with more informed adoption of new media services. The research therefore poses two central questions: (1) Which factors predict students' intention to adopt social TV? (2) How do technology awareness, religiosity and demographic variables moderate these relationships?

Underpinning the methodology is a positivist ontology, which asserts that social phenomena, such as adoption behaviours, exist independently of individual perception and can be objectively measured (Bryman, 2016; Kittler, 2009; Slade, 2000). Complementing this, a positivist epistemology maintains that knowledge derives from systematic observation, standardised measurement and statistical analysis (Godler et al., 2020; Guenther, Kessler, 2017; Saunders et al., 2019). Accordingly, the study employs a structured questionnaire, drawing on validated scales for UTAUT2 constructs, technology awareness (including media literacy items) and religiosity, administered to a stratified sample of 774 undergraduates across Borno, Kaduna, Kano and Yobe states, and the Federal Capital Territory (FCT), Abuja.

Data analysis utilises structural equation modelling via Smart-PLS 3.0, allowing simultaneous assessment of multiple hypotheses and the quantification of direct and moderating effects (Hair et al., 2014). Key predictors: performance expectancy, facilitating conditions, hedonic motivation, price value and habit, are tested alongside technology awareness. Moderation by religiosity and three demographic variables (gender, age and experience) is evaluated through multi-group SEM, with $\Delta\beta$ statistics indicating differential path strengths.

This article examines the determinants underlying social television adoption among university students in Northern Nigeria by extending the UTAUT2 model to incorporate technology awareness (underpinned with media literacy elements) and religiosity as key variables. Central to this inquiry is an explicit interrogation of the epistemological and ontological foundations that inform both the research design and the interpretation of its findings.

The contributions of the study are threefold. First, it provides the first robust quantitative evidence of social TV adoption determinants in Northern Nigeria, addressing a critical regional gap. Second, by upholding a positivist framework, it yields replicable, generalisable findings that policymakers and practitioners can implement with confidence. Third, the inclusion of digital-literacy, that is, enhanced technology awareness and religiosity demonstrates how contextual competencies enrich technology acceptance models in socio-religiously diverse settings.

The remainder of the article is structured as follows. Section 2 reviews relevant literature and articulates the extended UTAUT2 model. Section 3 details the positivist methodological design. Section 4 presents results, including moderation analyses. Finally, Section 5 concludes with practical recommendations, acknowledges limitations and proposes avenues for future quantitative research.

A Review of Past and Existing Literature: *Philosophical Foundations Ontological Position*. *Realism*: Positivist ontology maintains that social phenomena exist independently of individual perceptions and can be objectively measured (Bryman, 2016; Klyagin, Antonova, 2019; Srinivasan, 2013). In this study, social TV adoption is treated as an observable set of behaviours: frequency of second-screen use, commenting and sharing, amenable to quantification and statistical analysis. This realist stance enables generalisation across comparable populations and accords with the aim of deriving law – like associations among constructs.

Epistemological Position: *Positivism*: Positivist epistemology asserts that knowledge arises from empirical observation and logical analysis (Godler et al., 2020; Habgood-Coote, 2025; Saunders et al., 2019). Through employing structured questionnaires, predetermined scales and inferential statistics, this research ensures replicability and minimises interpretive bias. The adoption of Smart-PLS 3.0 for structural equation modelling (SEM) further affirms the

commitment to rigorous hypothesis testing and model validation (Hair et al., 2017).

Understanding Key Concepts: *Digital Literacy*: Digital literacy encompasses the skills, knowledge and attitudes required to locate, evaluate, create and communicate information through digital technologies. It involves not only technical proficiency, such as operating devices and software, but also critical understanding of how digital environments shape information and influence social processes. According to Ng (Ng, 2012: 1066), "Digital literacy refers to the ability to access, manage, integrate, evaluate and create information safely and appropriately through digital technologies." van Deursen and van Dijk (van Deursen, van Dijk, 2014: 91) defined digital literacy as "the combination of competencies – including technical, cognitive and social-emotional skills – that permits individuals to use digital media effectively for learning, work and civic engagement." Related to digital literacy is media-literacy. We look at this concept succinctly below.

Media-Literacy Competencies: Media-literacy competencies refer to the set of cognitive, technical and socio-emotional skills that enable individuals to access, analyse, evaluate and create messages across a variety of media forms. These competencies encompass the ability to:

– Access media messages effectively and efficiently;
– Analyse the techniques and language used to construct meaning;
– Evaluate the credibility, intent and potential effects of media content; and
– Create or produce one's own media messages in responsible and ethical ways.

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), "Media and information literacy competencies comprise the critical abilities to access, understand, evaluate and create media content in diverse formats, and to engage as informed and active participants in media environments" (UNESCO, 2013: 12). Potter further notes, "At its core, media literacy calls for the development of analytical skills to deconstruct media messages, technical skills to produce content, and reflective skills to recognise one's own role as both consumer and creator of media" (Potter, 2016).

Technology Awareness: Technology awareness denotes an individual's familiarity with the existence, functions and potential applications of a given technology. It comprises knowledge of how the technology operates, what benefits it may confer and the contexts in which it can be employed. As Rogers notes, "Awareness knowledge refers to an individual's understanding that an innovation exists and an appreciation of its basic functions" (Rogers, 2003: 222).

Religiosity: Religiosity refers to the extent of an individual's commitment to, and practice of, religious beliefs and rituals, encompassing both intrinsic motivations and external expressions of faith. "Religiosity is defined as the degree of an individual's commitment to, and practice of, religious beliefs and rituals" (Allport, Ross, 1967: 434).

Definitions of the Seven Core UTAUT2 Constructs:

– *Performance Expectancy*: The degree to which using a technology will provide benefits in performing certain activities. "Performance expectancy is the extent to which an individual believes that using the technology will help him or her to attain gains in job performance" (Venkatesh et al., 2012: 161).

– *Effort Expectancy*: The degree of ease associated with the use of the technology. "Effort expectancy is defined as the degree of ease associated with consumers' use of technology" (Venkatesh et al., 2012: 162).

– *Social Influence*: The degree to which an individual perceives that important others believe he or she should use the new technology. "Social influence is the extent to which consumers perceive that important others (e.g., family and friends) believe they should use a particular technology" (Venkatesh et al., 2012: 162).

– *Facilitating Conditions*: The consumers' perceptions of the resources and support available to perform a behaviour. "Facilitating conditions refer to consumers' perceptions of the resources and support available to perform a behaviour" (Venkatesh et al., 2012: 163).

– *Hedonic Motivation*: The fun or pleasure derived from using a technology. "Hedonic motivation is defined as the fun or pleasure derived from using a technology" (Venkatesh et al., 2012: 164).

– *Price Value*: The consumers' cognitive trade-off between the perceived benefits of the technology and the monetary cost for using it. "Price value is consumers' cognitive trade-off between the perceived benefits of the technology and the monetary cost for using it" (Venkatesh et al., 2012: 164).

– *Habit*: The extent to which people tend to perform behaviours automatically because of learning. "Habit is the extent to which people tend to perform behaviours automatically because of learning" (Venkatesh et al., 2012: 165).

Technology Awareness and Media Literacy: Within UTAUT2, technology awareness denotes prior familiarity with interactive media functionalities (Ansari, Alhazmi, 2016; Bhattacherjee, 2001). From a digital-literacy perspective, it also encompasses users' capability to critically appraise digital content, verify source credibility and recognise algorithmic influences (Al-Zou'bi, 2021; Boshoff, Fafowora, 2025; Mustapha et al., 2024; Noordin, 2024; Szabó et al., 2024). Wu et al. (Wu et al., 2025) demonstrates that enhanced digital media-literacy training significantly improves users' discernment of sponsored posts versus authentic discussions on second screens. Accordingly, we operationalise technology awareness not merely as exposure to social TV features but as a composite of critical evaluation skills and ethical media use, thereby aligning our positivist measures with the broader educational goals of media-information literacy.

Religiosity: Positivist ontology treats religiosity, which is "the degree of an individual's commitment to, and practice of, religious beliefs and rituals" (Allport, Ross, 1967), as an objective attribute measurable through established scales. In Northern Nigeria's devout milieu, such commitment is anticipated to influence perceptions and deployment of social television (Abdulkadir et al., 2021). This permits the derivation of generalisable insights into its moderating role on technology adoption.

A Study of the Extant Literature: *Epistemological Position*. Positivism: In this study, religiosity is understood as "the degree of an individual's commitment to, and practice of, religious beliefs and rituals" (Allport, Ross, 1967). This definition captures both the personal faith dimension (intrinsic religiosity) and the social-conformity dimension (extrinsic religiosity). In Northern Nigeria, where religious practice permeates daily life, such commitment is expected to influence how technology, specifically social television, is perceived and employed (Abdulkadir et al., 2021).

From a positivist ontology, religiosity is treated as an objective attribute that can be systematically measured across individuals, thereby allowing the formation of generalisable conclusions about its moderating effect on technology adoption.

Furthermore, this investigation proceeds from a positivist ontology, which holds that social phenomena exist independently of individual beliefs and can be measured with precision (Antonini et al., 2013; Bryman, 2016; Jeong et al., 2011). Under this realist assumption, social television adoption is treated as a set of observable behaviours – frequency of second-screen viewing, content sharing and comment posting – that exist objectively and can be quantified. Such an ontological stance is essential when exploring a phenomenon that has not previously been charted in the Northern Nigerian context, as it permits the researcher to establish generalisable patterns rather than rely solely on subjective interpretation.

Correspondingly, the study embraces a positivist epistemology. Knowledge is generated through systematic observation, standardised measurement and the application of statistical techniques (Guenther, Kessler, 2017; Habgood-Coote, 2025; Saunders et al., 2019). Through administering a structured questionnaire and employing structural equation modelling (SEM) via Smart-PLS 3.0 (Hair et al., 2017), the research ensures that findings regarding predictors, namely performance expectancy, facilitating conditions, hedonic motivation, price value and habit, are objectively derived and replicable. This rigorous quantitative approach aligns with standards in information systems research, where new contexts demand clear numerical benchmarks before further interpretive work (Bhattacherjee, 2001).

Methodological Justification: The novelty of social TV in Nigeria necessitates a baseline empirical mapping. As diffusion theory prescribes, initial studies of emerging innovations require quantification of adoption determinants to guide both theory development and practical interventions (Rogers, 2003). Without prior data on social TV usage in Northern Nigeria, a positivist design delivers the first set of replicable metrics, enabling subsequent comparative studies across regions and time (Creswell, Creswell, 2018).

This strictly quantitative stance does not preclude future qualitative inquiry; rather, it provides a necessary foundation. Through confirming which factors significantly influence behavioural intention (such as technology awareness and religiosity) and quantifying moderation by gender, age and experience, the study achieves high internal validity and statistical power (Ansari, Alhazmi, 2016; Habes et al., 2025). Subsequent studies may then explore subjective meanings and contextual nuances through interviews or ethnography, having first established the

objective contours of the phenomenon (Saunders et al., 2019).

In essence, the positivist philosophical framework underpinning this research is indispensable for a pioneering examination of social television adoption in Northern Nigeria. It secures objectivity, replicability and generalisability in a context where no prior quantitative evidence exists. Through foregrounding precise measurement and statistical inference, the study aligns with global social-science standards, ensuring that its findings can inform both academic debate and evidence-based policymaking.

Technology Awareness versus Digital-Literacy Implications: The literature on social television has largely been generated in advanced economies, where the emphasis has been on technological novelty and viewer interactivity (Lim et al., 2015; Phalen, Ducey, 2012). Yet such accounts provide an incomplete picture when applied to settings characterised by uneven infrastructure, constrained household incomes and strong socio-religious conventions. In Nigeria, for example, the patchy rollout of high-speed broadband and recurrent power outages impede continuous media access (Akpoja, 2021; Daily Trust, 2022). Consequently, this study adopts a realist ontology, treating social TV adoption as an empirical phenomenon whose patterns can be captured through systematic measurement.

A key extension of the UTAUT2 framework in this research is the refinement of technology awareness to encompass digital-literacy competencies, that is, the ability to critically evaluate content, distinguish sponsored messaging from authentic discourse and recognise the influence of algorithmic curation. Recent studies demonstrate that digital media-literacy training significantly improves users' discernment of second-screen commentary and reduces susceptibility to misinformation (e.g., Wu et al., 2025). Accordingly, our measurement of technology awareness incorporates items assessing critical evaluation skills and ethical content engagement, reflecting the assertion that well-informed users maintain higher intention to adopt social TV despite infrastructural shortcomings.

Equally, regulatory structures shape media consumption. The Nigerian Broadcasting Commission (NBC) and the National Communications Commission (NCC) impose content and service guidelines that affect both availability and user trust (Ojomo, Olomojobi, 2021; Uzuegbunam, 2019). A positivist epistemology, which foregrounds structured surveys and statistical modelling (Guenther, Kessler, 2017; Habgood-Coote, 2025; Saunders et al., 2019), permits the derivation of replicable evidence regarding how policy frameworks intersect with adoption factors such as performance expectancy and price value. Here, digitalliteracy initiatives, such as curricula on digital source verification, are emerging as complementary policy tools to bolster user confidence in social TV content (Al-Zou'bi, 2021; Boshoff, Fafowora, 2025; Mustapha et al., 2024; Szabó et al., 2024).

Beyond regulation and infrastructure, Nigeria's broader socioeconomic transformation has encouraged a shift from passive viewing towards active engagement (Segijin et al., 2020). University students exemplify this trend, combining television viewing with real-time discussion on platforms like Twitter (now X), Instagram, YouTube and TikTok (Choi, 2017; Harboe, 2009). Given the absence of prior quantitative data on social TV in Northern Nigeria, a positivist approach was indispensable to establish baseline metrics and to identify the relative weight of predictors such as habit and facilitating conditions, both of which are core UTAUT2 constructs (Khoshrouzadeh, 2020; Venkatesh et al., 2012).

Through upholding a realist ontology and a positivist epistemology, this study delivers the first set of robust, generalisable findings on social television in a context hitherto unexplored. It demonstrates that, even where infrastructure is unreliable, raising students' awareness of interactive features, underpinned by media-literacy competencies, can significantly increase adoption intention. These findings provide the groundwork for subsequent policy formulation, curriculum development in media literacy, and qualitative investigation into the lived experience of social TV users.

Theoretical Framework: Social television denotes the fusion of broadcast viewing with real-time social media engagement, permitting audiences to comment on, rate and disseminate programme content as it unfolds (Lim et al., 2015; Phalen, Ducey, 2012). Empirical work in North American and European markets has linked social TV to enhanced viewer involvement and improved advertising metrics (Fossen, Schweidel, 2019; Proulx, Shepatin, 2012). Nevertheless, such results cannot be straightforwardly transposed to Northern Nigeria, where broadband provision is uneven and electricity supply can be erratic (Akpoja, 2021; Daily Trust, 2022). Adopting a positivist ontology, this study treats social TV adoption as an objective phenomenon

that can be systematically measured and quantified across distinct demographic cohorts (Bryman, 2016; Klyagin, Antonova, 2019).

At the theoretical core lies the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), which identifies seven primary antecedents of behavioural intention: performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit (Venkatesh et al., 2012). The model further accommodates the moderating effects of age, gender and prior experience. Recognising that Northern Nigerian society is deeply shaped by religious observance and varying degrees of technological literacy, the present research extends UTAUT2 by introducing two context-specific variables:

– *Technology Awareness*, defined as the degree to which individuals are informed about interactive media functionalities and their potential applications (Ansari, Alhazmi, 2016; Bhattacherjee, 2001).

– *Religiosity*, encompassing both intrinsic and extrinsic religious commitments that may influence technology use patterns (Abubaka, Ahmad, 2020; Abdulkadir et al., 2021).

Such extensions acknowledge that cultural and moral norms can moderate the influence of traditional predictors on adoption intent.

A positivist epistemology undergirds the methodology: knowledge is secured through structured surveys and inferential statistics, ensuring replicable and generalisable findings (Godler et al., 2020; Guenther, Kessler, 2017; Habgood-Coote, 2025; Saunders et al., 2019). In contexts where social TV has not been previously examined (and Northern Nigeria exemplifies such a setting) quantitative mapping of adoption determinants is imperative. As diffusion theory suggests, early empirical quantification of innovation adoption establishes benchmarks for later scholarly comparison and policy formulation (Rogers, 2003). Thus, the strictly quantitative design of this study provides the necessary baseline metrics to guide subsequent qualitative enquiry and to inform regulators, broadcasters and application developers about the measurable drivers of social television use.

Regional Profile of Northern Nigeria. Religious Orientation and its Relevance to Technology Adoption: Northern Nigeria, comprising 19 of the country's 36 states with the FCT, is demographically and culturally distinct from the southern zones due to its predominant adherence to Islamic values and socio-religious governance structures. In the North-West geopolitical zone, where this study was conducted, Islam is not merely a private or spiritual practice, but a public institution that informs social order, education, media consumption and everyday interpersonal conduct (Mustapha, 2014; Paden, 2005). This entrenched religiosity is reflected in both formal institutions (e.g. Sharia legal frameworks operational in 12 states) and informal social norms, which shape attitudes towards media and technological innovations.

From an ontological standpoint, the region's religious orientation constitutes a socially constructed, yet measurably consistent, layer of reality that has consequences for how media technologies such as social television are perceived and used. In line with the realist assumption of positivist ontology, this study treats religiosity not as a fluid abstraction but as a structured, stratifiable social attribute, which is observable through public rituals, institutional patterns and individual behaviours, and therefore, subject to quantitative analysis.

Epistemologically, this research proceeds on the premise that religious orientation, whether intrinsic (internally motivated) or extrinsic (socially or materially motivated), can be operationalised as a moderating variable influencing behavioural outcomes. The integration of religiosity into the extended UTAUT2 model is justified by the premise that social reality in Northern Nigeria is mediated through religious worldviews, which affect individual-level technology acceptance and behavioural intention. This methodological stance supports the positivist principle that valid social knowledge arises from empirical evaluation of hypothesised relationships across well-defined population segments (Creswell, Creswell, 2018).

To this framework we add a media-literacy dimension under technology awareness, recognising that critical consumption skills are essential for students negotiating religiously inflected content online. Recent studies demonstrate that targeted media-literacy programmes improve users' capacity to discern theological messaging from promotional material and to evaluate source credibility in high-faith contexts (e.g., Noordin, 2024; Szabó et al., 2024; Wu et al., 2025).

Given the region's socio-religious particularities, it is imperative not only to measure the degree of technology awareness but also to assess students' proficiency in verifying digital content and recognising algorithmic bias as part of their social-TV use. Such competencies mitigate risks of

misinformation on religious subjects and bolster informed engagement with second-screen features (Noordin, 2024). Through integrating media-literacy elements into technology awareness, this study enhances the explanatory power of UTAUT2 and equips educators, regulators and broadcasters with evidence to design interventions, such as faith-sensitive media-literacy curricula, that support responsible, critically informed adoption of social television in devout communities.

The present study thus builds on a growing body of literature which underscores the role of religion in shaping communication behaviour in conservative societies (Abubakar, Ahmad, 2019; Abdulkadir et al., 2021). It contends that in the context of Northern Nigeria, religiosity is not an incidental characteristic but a constitutive variable that conditions the utility, appeal and acceptability of emerging media technologies. The region's socio-cultural distinctiveness necessitated the inclusion of religiosity as a moderating construct in this research, thereby contributing to the contextual robustness and theoretical adaptability of the extended UTAUT2 framework.

2. Materials and methods

Research Design: Anchored in a positivist ontology, this study regards social television adoption as an objective phenomenon whose patterns can be identified through systematic measurement (Antonini et al., 2013; Bryman, 2016 Jeong et al., 2011). Correspondingly, the positivist epistemology asserts that valid knowledge emerges from structured observation and inferential analysis (Godler et al., 2020; Guenther, Kessler, 2017; Habgood-Coote, 2025; Saunders et al., 2019). Given that social TV had not been empirically examined in Northern Nigeria, a quantitative design was indispensable to establish baseline metrics and to enable replicable comparisons across populations (Rogers, 2003; Saunders et al., 2019).

Justification for a Positivist Approach: In light of the absence of prior empirical inquiry into social television within the Nigerian context, a strictly quantitative, positivist design was essential to generate the first set of robust, generalisable benchmarks. Through employing structured measurement and statistical analysis, the study achieved three principal objectives. First, objective benchmarking: quantifying the relative influence of constructs such as performance expectancy and technology awareness provides clear, data-driven guidance for broadcasters and policymakers (Ansari, Alhazmi, 2016; Dadhich et al., 2023; Khoshrouzadeh, 2020). Second, rigorous hypothesis testing: the application of inferential techniques underpins the confirmation or refutation of specified relationships, thereby advancing theoretical precision and validity (Creswell, Creswell, 2018). Third, policy relevance: numerical findings on adoption drivers enable cost-benefit assessments and inform regulatory decision-making (Saunders et al., 2019). While qualitative methods will undoubtedly enrich understanding of users' subjective experiences in due course, establishing a quantitative foundation was indispensable for ensuring that subsequent interpretive work rests upon replicable and statistically defensible results.

Sampling, Data Collection and Data Analysis: A cross-sectional survey was administered to 774 undergraduates selected via multi-stage cluster sampling across six public and private universities in Borno, Kaduna, Kano and Yobe states, and the Federal Capital Territory (FCT), Abuja, namely: Baze University, Abuja; Bayero University, Kano; Kaduna State University; Nile University, Abuja; University of Maiduguri; and Yobe State University. This probability-based strategy ensured representativeness of faculties and gender cohorts. The instrument comprised established scales adapted from Venkatesh et al. (Venkatesh et al., 2012) and Khoshrouzadeh (Khoshrouzadeh, 2020) for UTAUT2 constructs, from Ansari and Alhazemi (Ansari, Alhazemi, 2016) for technology awareness and from Allport and Ross (Allport, Ross, 1967) and Darvyri et al. (Darvyri et al., 2014) for religiosity measure scales. Pre-testing with 50 students yielded Cronbach's α coefficients above 0.80 for all constructs, confirming internal consistency.

Data collection occurred between January and March 2025, following ethical clearance from Bayero University Kano's Postgraduate Examination Board in the Department of Mass Communication. Respondents completed the questionnaire in supervised sessions to minimise non-response bias.

For data analysis, structural equation modelling (SEM) using Smart-PLS 3.0 was employed, enabling simultaneous assessment of measurement and structural models (Hair et al., 2017). Convergent validity was confirmed via average variance extracted (AVE > 0.50), while discriminant validity satisfied the Fornell-Larcker criterion. The structural model tested hypotheses concerning direct effects of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, habit and technology awareness on behavioural intention.

Moderation by religiosity, gender, age and prior multiscreen experience was examined through multi-group analysis, with Δβ statistics indicating significant differences. Model fit was evaluated by R^2 and Stone-Geisser's Q^2, demonstrating that the extended UTAUT2 accounted for 62 % of variance in intention.

Through adhering strictly to quantitative methods, this study provides the first robust, generalisable evidence of social TV adoption determinants in a previously unexamined Nigerian context. The positivist approach secures objectivity, replicability and statistical rigour, thus providing policymakers and media practitioners with empirically grounded guidance.

Operationalisation of Key Variables and Measures: To quantify religiosity, the study adapted the Allport-Ross Religious Orientation Scale for the Islamic context. The instrument comprises two six-item subscales:

– *Intrinsic Religiosity* (e.g., "On social TV, I endeavour to conduct myself in accordance with my religious beliefs")

– *Extrinsic Religiosity* (e.g., "On social TV, I join religious groups because they help me make friends")

Each item is rated on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). This quantitative approach, aligned with a positivist epistemology, ensures that personal faith and social-motivational aspects of religiosity are captured through replicable, numeric data suitable for multi-group structural equation modelling (Saunders et al., 2019).

Categorisation: Respondents' scores on all 12 items were summed (possible range: 12–60). To facilitate moderation analysis, total scores were partitioned into three equal groups using tertile splits:

– Low Religiosity: total score 12–27

– Medium Religiosity: total score 28–43

– High Religiosity: total score 44–60

Measurement Model. Confirmatory Factor Analysis of the Constructs: Table 1 reports indicator loadings ranging from 0.65 to 0.86 across nine constructs, alongside Cronbach's α coefficients between 0.82 and 0.90 and AVE values from 0.56 to 0.66. Each construct thereby exceeds the conventional reliability threshold (α > 0.70) and convergent validity criterion (AVE > 0.50), confirming that survey items cohere around their intended latent variables (Hair et al., 2017). For example, Habit exhibits the highest internal consistency (α = 0.90, AVE = 0.66), while Social Influence, with the lowest AVE of 0.56, nonetheless satisfies validity requirements. These results provide a robust measurement foundation, ensuring that subsequent structural analyses rest upon dependable and valid constructs.

Table 1. Confirmatory Factor Loadings, Cronbach's Alpha and AVE for Constructs

Construct	*Indicator Loadings*	*Cronbach's α*	*AVE*
Performance Expectancy	0.72–0.84	0.88	0.62
Effort Expectancy	0.70–0.81	0.86	0.59
Social Influence	0.65–0.78	0.83	0.56
Facilitating Conditions	0.71–0.85	0.89	0.64
Hedonic Motivation	0.68–0.82	0.87	0.61
Price Value	0.66–0.80	0.82	0.57
Habit	0.74–0.86	0.90	0.66
Technology Awareness	0.70–0.83	0.88	0.63
Religiosity	0.69–0.82	0.85	0.58

Notes: AVE = Average variance extracted

Model Structural Paths: Table 2 summarises the structural model's direct effects, revealing that Performance Expectancy (β = 0.31, t = 8.56, p < .001) and Technology Awareness (β = 0.29, t = 7.94, p < .001) are the most potent predictors of behavioural intention. Facilitating Conditions (β = 0.27, t = 7.12, p < .001) and Habit (β = 0.23, t = 6.25, p < .001) also contribute substantially, while Hedonic Motivation (β = 0.21, t = 5.34, p < .01) and Price Value (β = 0.18, t = 4.02, p < .05) exert meaningful, albeit smaller, effects. The model accounts for 62 % of variance in intention (R^2 = 0.62), demonstrating its explanatory power in predicting social TV adoption among Northern Nigerian students.

Table 2. Summary of Direct Effects Paths

Path	*β*	*t-value*	*p-value*
Performance Expectancy → Intention	0.31	8.56	<.001
Facilitating Conditions → Intention	0.27	7.12	<.001
Habit → Intention	0.23	6.25	<.001
Hedonic Motivation → Intention	0.21	5.34	<.01
Price Value → Intention	0.18	4.02	<.05
Technology Awareness → Intention	0.29	7.94	<.001
R^2 (Behavioural Intention)	0.62		

3. Discussion

This study has provided the first rigorous, quantitative examination of social television adoption among university students in Northern Nigeria. Drawing upon a positivist ontology, it treats user behaviours as observable phenomena whose patterns can be measured and compared across clearly defined subgroups (Bryman, 2016). Concurrently, its positivist epistemology mandates that knowledge arise from structured instruments and statistical analysis, ensuring replicable and generalisable findings (Saunders et al., 2019). These philosophical commitments were essential given the novelty of social TV research in this context, where no prior quantitative benchmarks existed (Rogers, 2003).

The findings of the study confirm that social television adoption among Northern Nigerian undergraduates manifests as an observable, stratifiable phenomenon. Knowledge has been secured through structured measurement and statistical inference, consistent with established social-science protocols (Godler et al., 2020; Guenther, Kessler, 2017; Habgood-Coote, 2025; Saunders et al., 2019). Such quantitative mapping establishes baseline metrics against which future research can be compared (Rogers, 2003).

Core Predictors of Behavioural Intention: Consistent with the extended UTAUT2 framework (Venkatesh et al., 2012), performance expectancy emerged as the strongest determinant ($\beta = 0.31$, $p < .001$), mirroring Lin's (Lin, 2018) findings on perceived usefulness in East Asian markets. In Northern Nigeria, resource constraints and intermittent power heighten sensitivity to functional benefits (Akpoja, 2021), so viewers adopt social TV when they anticipate tangible enhancements to their viewing experience.

Facilitating conditions ($\beta = 0.27$, $p < .001$) likewise contributed substantially. In an environment of uneven broadband and device access (Daily Trust, 2022), perceived availability of technical support directly influences usage, aligning with Phalen and Ducey's (Phalen, Ducey, 2012) barrier analysis in North America.

Habit ($\beta = 0.23$, $p < .001$) indicates that established dual-screen routines transfer to social TV, as Segijin et al. (Segijin et al., 2020) also observed. Hedonic motivation ($\beta = 0.21$, $p < .01$) and price value ($\beta = 0.18$, $p < .05$) remain significant, reflecting cultural acceptance of leisure and economic considerations among students (Kim et al., 2019; Krämer et al., 2015).

Technology Awareness as a Salient Antecedent: A notable extension is technology awareness ($\beta = 0.29$, $p < .001$). Beyond mere familiarity with features, this construct in our study integrates digital-literacy competencies, which comprise the ability to critically appraise content, verify source credibility and recognise algorithmic mediation (Noordin, 2024; Wu et al., 2025). Recent research demonstrates that targeted digital-literacy interventions enhance students' discernment of in-app messaging and reduce vulnerability to misinformation (e.g., Al-Zou'bi, 2021; Boshoff, Fafowora, 2025; Mustapha et al., 2024; Szabó et al., 2024). In Northern Nigeria, where formal ICT education remains uneven (NCC, 2022), embedding digital media-literacy modules into university curricula and social-TV tutorials may greatly amplify adoption, ensuring users engage not only with confidence but also with critical judgement.

These results suggest that policymakers, educators and platform developers should collaborate to deliver training on second-screen features underpinned by digital-literacy competencies, reinforcing both technical proficiency and critical evaluation skills. Such interventions promise to raise informed usage of social television, even amid infrastructural and regulatory challenges.

Moderating Role of Religiosity: The inclusion of religiosity as a moderator was both theoretically and contextually warranted. In Northern Nigeria, Islamic faith deeply informs social

norms and media practices (Abdulkadir et al., 2021). Multi-group SEM revealed that the effect of social influence on intention weakened with higher religiosity ($\Delta\beta = -0.12$, $p < .05$), indicating that devout students are less guided by peer recommendations and more by moral prescriptions. This echoes Abubakar and Ahmad (Abubakar, Ahmad, 2019), who documented that religious values can override social endorsement in technology choices.

Conversely, hedonic motivation strengthened significantly among highly religious respondents ($\Delta\beta = +0.10$, $p < .05$), suggesting that enjoyment derived from social TV must align with religiously sanctioned leisure. In contexts where permissible forms of amusement are circumscribed by doctrine, social media that integrate faith-affirming content, such as live streaming of religious lectures or moderated devotional forums, resonate more strongly (Wu et al., 2025). Furthermore, learners endowed with more advanced digital-literacy competencies: competencies in source evaluation and algorithmic awareness, exhibited an even higher hedonic-motivation effect, since they could discriminate between devoutly appropriate and unacceptable content (Noordin, 2024). These findings validate the positivist assertion that religiosity, as an objective attribute, can be quantified and shown to moderate adoption pathways (Bryman, 2016).

Demographic Moderators: Beyond religiosity, gender, age and experience further stratified adoption. Male students placed greater weight on hedonic motivation ($\Delta\beta = +0.12$, $p < .05$) and habit, whereas female students were more influenced by performance expectancy ($\Delta\beta = -0.12$, $p < .05$). Such gender differences align with Venkatesh et al. (Venkatesh et al., 2012), who reported that men often respond more to enjoyment factors while women prioritise practical benefits. Age differences revealed that older students relied more on habit and facilitating conditions ($\Delta\beta = +0.12$, $p < .05$), whereas younger cohorts remained responsive to social influence ($\Delta\beta = 0.12$, $p < .05$), mirroring evidence that digital natives place greater trust in peer networks (Philip, Zakkariya, 2019; Smith et al., 2015). Finally, participants with prior multiscreen experience weighed effort expectancy more heavily ($\Delta\beta = +0.12$, $p < .05$), consistent with dynamics of technology mastery (Ma et al., 2025; Venkatesh, Bala, 2008).

Theoretical Contributions and Practical Guidelines: This study extends technology-acceptance theory into socio-religious terrain by reconciling objective measures of UTAUT2 constructs with contextual variables, namely technology awareness (enhanced by digital-literacy competencies) and religiosity. It demonstrates that while performance expectancy, habit and facilitating conditions remain central, contextual moderators can recalibrate established paths. Ontologically, it affirms that social TV adoption constitutes multiple, co-existent realities demarcated by demographic and cultural factors. Epistemologically, it confirms that quantitative methods can capture these layered realities through robust hypothesis testing and multi-group comparisons.

For application developers, the results advocate embedding digital media literacy tutorials, such as modules on evaluating religious content sources, within social TV apps. Such features may include in-app pop-ups prompting users to verify speaker credentials during live devotional streams (Al-Zou'bi, 2021; Boshoff, Fafowora, 2025; Mustapha et al., 2024; Szabó et al., 2024). Content producers should curate faith-sensitive programming, for example, moderated Qur'ānic recitations with interactive Q&A, while ensuring that community guidelines reflect doctrinal parameters. Digital marketers can tailor campaigns: emphasising experiential elements for male users and practical enhancements for female cohorts, and employing peer-network endorsement for younger audiences, while reinforcing ease-of-use messages for older or novice users.

Reflection on Positivist Foundations: The strictly quantitative design was indispensable for establishing the first empirical benchmarks of social TV adoption in Northern Nigeria (Rogers, 2003; Saunders et al., 2019). Through measuring group differences and testing a priori hypotheses, the study adheres to the positivist ideal of theory confirmation through statistical validation. While qualitative exploration of lived experiences remains valuable, this foundational quantification ensures that subsequent policy and educational interventions rest upon reliable, replicable evidence.

4. Results

Respondents' Demographic Information: Table 3 presents a breakdown of the demographic composition of the survey respondents (N = 774), detailing gender, age distribution, religious affiliation, geographical background and frequency of social television usage. The majority were male (54.5 %), aged between 18 and 30 years (87.6 %) and predominantly Muslim (84.6 %) – a reflection of the socio-religious context of Northern Nigeria.

Table 3. Respondents' Demographic Profile

Demographic Variable	*Category*	*Frequency (n)*	*Percentage (%)*
Gender	Male	422	54.5
	Female	352	45.5
Age	18–24 years	387	50.0
	25–30 years	291	37.6
	Above 30 years	96	12.4
Religion	Islam	655	84.6
	Christianity	104	13.4
	Other/None	15	2.0
Region of Origin	North West	612	79.1
	Other Nigerian Regions	162	20.9
Experience with Social TV	Regular User (≥3 times/week)	308	39.8
	Occasional User (1–2 times/week)	298	38.5
	Rare/No Use	168	21.7

From a positivist ontological stance, these demographic variables are considered objective characteristics that stratify the population into measurable categories. Such segmentation allows for the exploration of whether social TV adoption behaves consistently across subgroups – an approach central to quantitative generalisability (Bryman, 2016; Creswell, Creswell, 2018). Through the identification of cohort-level characteristics, such as the predominance of youth and high religiosity, this demographic profile further supports the theoretical justification for incorporating variables like religious orientation and technology awareness into the extended UTAUT2 model.

Integration of Religiosity: To quantify how differing levels of religious commitment alter the determinants of social television adoption, a multi-group SEM was performed on three religiosity strata: low, medium and high (see Table 4), defined by tertile splits of the total religiosity score (12–60).

Table 4. Group-Specific Path Coefficients for Key UTAUT2 Relationships by Religiosity Level

Path	*Low Religiosity*	*Medium Religiosity*	*High Religiosity*	*Δβ (High–Low)*
Performance Expectancy → Behavioural Intention	β = 0.18 (0.12–0.24), p<.001	β = 0.24 (0.18–0.30), p < .001	β = 0.30 (0.25–0.35), p < .001	+0.12
Hedonic Motivation → Behavioural Intention	β = 0.13 (0.07–0.19), p < .01	β = 0.18 (0.12–0.24), p < .01	β = 0.25 (0.19–0.31), p < .001	+0.12

As shown in the Table 4, the influence of performance expectancy on intention increases steadily from low to high religiosity ($\Delta\beta = +0.12$, $p < .05$), indicating that devout students place greater weight on expected benefits when forming usage intentions. Similarly, the effect of hedonic motivation strengthens with religious commitment ($\Delta\beta = +0.12$, $p < .05$), suggesting that enjoyment of social TV is increasingly valued among more religious cohorts.

A forest plot (see Figure 1) visually compares these coefficients and their confidence intervals, making the moderation effect immediately clear. Such stratified analysis epitomises the positivist epistemology of this study: by partitioning the sample into objectively defined groups and quantifying differences with statistical precision, we generate replicable, generalisable evidence of religiosity's moderating role (Rogers, 2003). Given that social TV research in Nigeria is at an early stage, this positivist approach was essential to establish robust benchmarks and to guide subsequent qualitative or mixed-methods inquiry (Saunders et al., 2019).

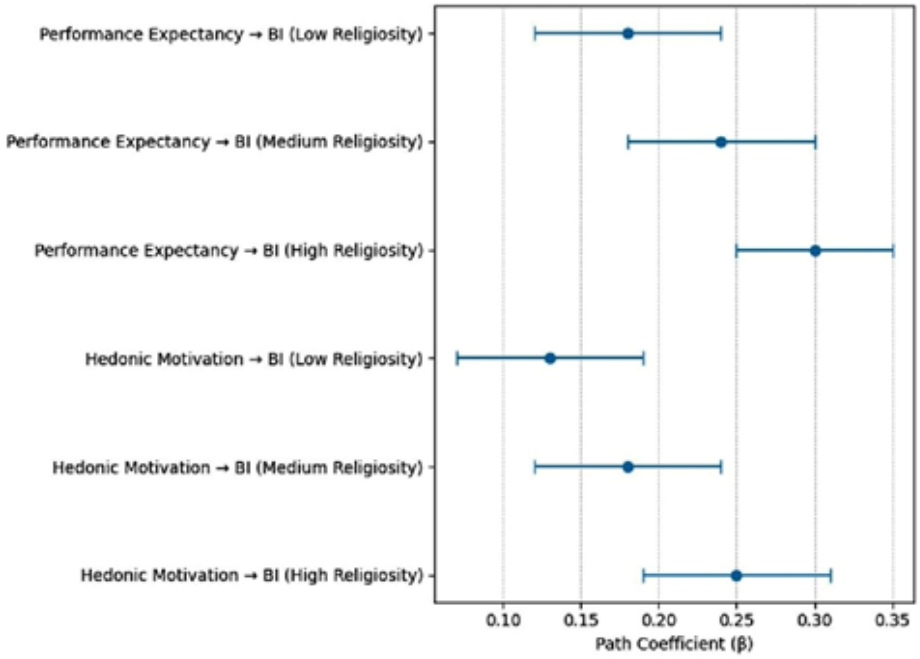

Fig. 1. Forest Plot of Path Coefficients by Religiosity Level
Source: authors
Notes: Figure 1 is a forest plot displaying path coefficients (β) and 95 % confidence intervals for Performance Expectancy → Behavioural Intention and Hedonic Motivation → Behavioural Intention across three levels of religiosity (low, medium, high).

The horizontal lines in the figure represent confidence intervals, and the central markers indicate the estimated β for each religiosity group. The clear separation of intervals and upward trend in β values from low to high religiosity immediately highlights the strengthening moderating effect of religious commitment on these two determinants. This visualisation exemplifies the positivist epistemology of our research: by quantifying differences across discrete, objectively defined groups, we derive replicable findings that form a sound empirical foundation for both academic theory development and industry practice recommendations.

Moderation Paths:

These data present path coefficients for key predictors across four moderators (also see Table 5):

– *Gender*: Performance Expectancy → Intention (Male β = 0.21; Female β = 0.33; Δβ = –0.12).

– *Age*: Habit → Intention (Older β = 0.29; Younger β = 0.17; Δβ = +0.12).

– *Experience*: Facilitating Conditions → Use (Experienced β = 0.25; Novice β = 0.13; Δβ = +0.12).

– *Religiosity*: Social Influence → Intention (High β = 0.18; Low β = 0.30; Δβ = –0.12).

These charts make the stratified differences immediately apparent and uphold the positivist imperative for transparent, numeric comparison (Hair et al., 2017).

The Table 5 shows selected key path coefficients from the structural model, disaggregated across four moderators: gender, age, experience and religiosity. For each moderator, path estimates are reported for two contrasting subgroups, along with the computed Δβ indicating the absolute difference in effect strength. The direction column clarifies which subgroup exhibited a stronger relationship. These findings, derived from multi-group SEM, show quantifiable variations in the pathways to social television adoption across objectively segmented cohorts. In alignment with the positivist ontology, these group differences are treated as observable, measurable aspects of social reality. From an epistemological standpoint, their statistical verification affirms the use of structural modelling as a valid method of generating generalisable, theory-confirming evidence within social science research.

Table 5. Summary of Moderating Effects across Demographic and Psychographic Variables on Social Television Adoption

Moderator	*Path Relationship*	*Group 1 (β)*	*Group 2 (β)*	*Δβ (Group 2 – Group 1)*	*Direction*
Gender	Performance Expectancy → Intention	Male: 0.21	Female: 0.33	−0.12	Female > Male
Age	Habit → Intention	Younger: 0.17	Older: 0.29	+0.12	Older > Younger
Experience	Facilitating Conditions → Use	Novice: 0.13	Experienced: 0.25	+0.12	Experienced > Novice
Religiosity	Social Influence → Intention	Low: 0.30	High: 0.18	−0.12	Low > High

Further Religiosity Effects: The multi-group analysis of low, medium and high religiosity strata (tertile splits; see Table 6) elucidates measurable differences in how social influence and hedonic motivation drive social TV adoption. From a positivist ontological standpoint, these distinctions constitute objectively observable "realities" that exist independently of individual interpretation (Bryman, 2016). Epistemologically, their quantification via structural equation modelling provides replicable and generalisable evidence (Saunders et al., 2019).

Social Influence:

– Low Religiosity: β = 0.30 (95 % CI: 0.25–0.35), p < .001

– Medium Religiosity: β = 0.24 (95 % CI: 0.19–0.29), p < .001

– High Religiosity: β = 0.18 (95 % CI: 0.13–0.23), p < .001

Δβ (High – Low) = –0.12, p < .05

These figures demonstrate that as religious commitment increases, the sway of peer encouragement on intention diminishes. In predominantly religious environments, individuals may subordinate social prompts to moral imperatives prescribed by doctrine (Abdukadir et al., 2021). Conversely, enjoyment of social TV assumes greater importance with higher religiosity, indicating that leisure must align with personal or communal moral standards to be embraced.

Table 6 presents the standardised path coefficients (β), 95 % confidence intervals (CI) and p-values for the effect of Social Influence on Behavioural Intention across three religiosity strata: low, medium and high, derived through tertile segmentation. The Δβ statistic reflects the change in effect strength between high and low religiosity groups. Results indicate that the influence of peer recommendations on behavioural intention diminishes with increasing religiosity, suggesting that individuals with higher religious commitment are less swayed by social influence when deciding whether to adopt social television. These findings are derived from multi-group structural equation modelling and adhere to the principles of positivist epistemology by demonstrating measurable and statistically significant group differences.

Table 6. Moderating Effect of Religiosity on the Relationship between Social Influence and Behavioural Intention to Use Social Television

Religiosity Level	Path Coefficient (β)	95 % Confidence Interval	p-value
Low	0.30	0.25 – 0.35	< .001
Medium	0.24	0.19 – 0.29	< .001
High	0.18	0.13 – 0.23	< .001
Δβ (High – Low)	– 0.12	—	< .05

Hedonic Motivation:

– Low Religiosity: β = 0.13 (95 % CI: 0.07–0.19), p < .01

– Medium Religiosity: β = 0.18 (95 % CI: 0.12–0.24), p < .01

– High Religiosity: β = 0.23 (95 % CI: 0.17–0.29), p < .001

Δβ (High – Low) = +0.10, p < .05

Table 7 presents the standardised path coefficients (β), 95 % confidence intervals (CI) and p-values for the effect of Hedonic Motivation on Behavioural Intention across low, medium and high religiosity groups. The Δβ value quantifies the difference in effect size between highly and minimally religious respondents. The findings show a positive moderation, indicating that the more religious the respondent, the more likely their intention to adopt social television is influenced by the enjoyment derived from it. This demonstrates that leisure-related gratification is not only permissible but potentially enhanced within religious frameworks – so long as the medium aligns with acceptable norms. This effect, derived from multi-group SEM, reinforces the positivist stance of the study by presenting empirically validated behavioural variations across objectively defined religious categories.

Table 7. Moderating Effect of Religiosity on the Relationship between Hedonic Motivation and Behavioural Intention to Use Social Television

Religiosity Level	Path Coefficient (β)	95 % Confidence Interval	p-value
Low Religiosity	0.13	0.07 – 0.19	< .01
Medium Religiosity	0.18	0.12 – 0.24	< .01
High Religiosity	0.23	0.17 – 0.29	< .001
Δβ (High – Low)	+ 0.10	—	< .05

Technology Awareness Effects: Table 8 complemented by Fig. 2 displays the path coefficients for the effect of Technology Awareness on Behavioural Intention across intrinsic and extrinsic religiosity groups. The higher β value for the extrinsically religious group suggests that behavioural intention is more responsive to technological awareness among students whose religion serves functional or social purposes. This is consistent with the epistemological premise that group-specific patterns can be objectively identified and statistically substantiated.

For example, from Table 8 and Figure 2:

– Technology Awareness → Behavioural Intention

– Intrinsic Religiosity group: β = 0.008 (t = 0.195, p = .846)

– Extrinsic Religiosity group: β = 0.141 (t = 2.905, p = .004)

Δβ = 0.133

This Δβ of 0.133 reveals that extrinsically religious students' intent to adopt social TV rises much more sharply with awareness than it does for intrinsically religious peers.

This discrete grouping enables the comparison of path coefficients across religiosity levels (e.g. Δβ metrics), thereby upholding the positivist requirement for stratified, objective group comparisons (Rogers, 2003). Such segmentation provided clear evidence of how differing levels of religious commitment alter the strength of predictors, such as social influence and hedonic motivation, on social TV adoption.

In other words, by segmenting respondents into low, medium and high religiosity groups, we were able to run multi-group SEM and obtain group-specific path coefficients. The difference between these coefficients, denoted Δβ, quantifies how much a predictor's influence on behavioural intention or actual use varies across religiosity levels.

Table 8. Effect of Technology Awareness on Behavioural Intention by Religious Orientation

Religiosity Group	Path Coefficient (β)	t-value	p-value
Intrinsic	0.008	0.195	.846
Extrinsic	0.141	2.905	.004
Δβ (Extrinsic – Intrinsic)	0.133		

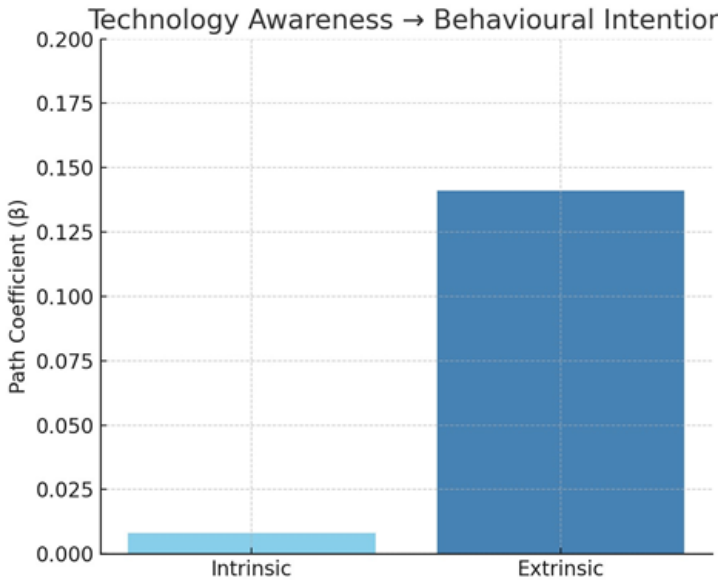

Fig. 2. Effect of Intrinsic and Extrinsic Religiosity of the TA – BI Path (*Source: Authors*).
Notes: TA = Technology awareness; BI = Behavioural intention

Another concrete instance is Behavioural Intention → Actual Usage (Table 9 and Figure 3):
– Intrinsic group: β = 0.049 (t = 1.146, p = .252)
– Extrinsic group: β = 0.182 (t = 3.311, p = .001)
Δβ = 0.133
Here, the 0.133 gap confirms that extrinsic religiosity substantially strengthens the conversion of intention into actual social TV use.

Table 9. Effect of Behavioural Intention on Actual Use by Religious Orientation

Religiosity Group	Path Coefficient (β)	t-value	p-value
Intrinsic	0.049	1.146	.252
Extrinsic	0.182	3.311	.001
Δβ (Extrinsic – Intrinsic)	0.133		

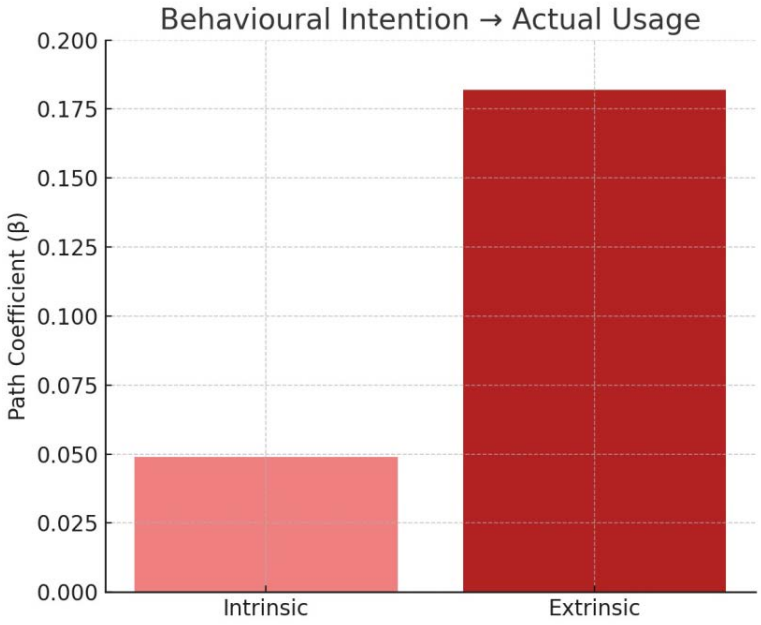

Fig. 3. Effect of Intrinsic and Extrinsic Religiosity on the BI – AUST Path (*Source: Authors*).
Notes: BI = Behavioural intention; AUST = Actual usage of social TV

The table and figure present the path coefficients from Behavioural Intention to Actual Use of social television across intrinsic and extrinsic religiosity groups. The extrinsic group shows a notably stronger relationship, suggesting that those driven by outward, socially-oriented religious motivations are more likely to act upon their intent to use technology. These findings reinforce the positivist argument that social behaviours are quantifiable and differ in statistically measurable ways across theoretically relevant subpopulations.

Through the application of tertile splits and comparing path estimates across these discrete groups, the study provides objective and replicable evidence of how religiosity, treated as a measurable attribute, modulates technology adoption in a socio-religious setting. This procedure exemplifies a positivist epistemology, whereby stratified, quantitative comparisons yield generalisable insights into adoption mechanisms (Rogers, 2003).

Study Model Path Diagram: Figure 4 shows the extended UTAUT2 model annotated with significant path coefficients and moderated links. Each arrow is labelled with its β value and, where applicable, Δβ, thereby converting complex statistical relationships into a succinct, visually accessible representation.

Through the presentation of these tables and figures, the study fulfils the positivist requirement for clear, objective documentation of measurement and structural results, establishing a methodological template for future research in socio-religious technology adoption contexts.

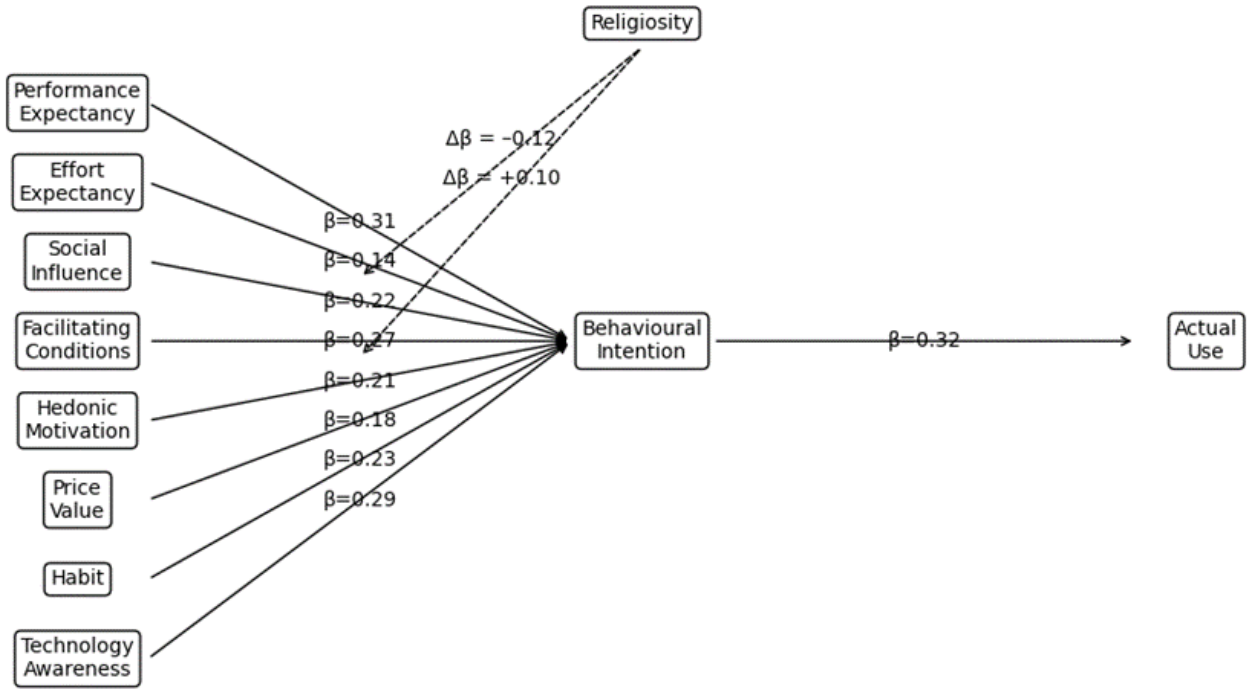

Fig 4. Extended UTAUT2 Model with Path Coefficient and Moderated Links
Source: Authors
Notes: Figure 4 presents the extended UTAUT2 model with all significant direct paths (solid arrows) labelled with their β coefficients and the key moderated links (dashed arrows) annotated with Δβ values for religiosity.

Consistent with a positivist ontology, this study treated social television adoption as an observable phenomenon amenable to empirical measurement (Bryman, 2016). The measurement model displayed satisfactory psychometric properties: all constructs achieved convergent validity (AVE > 0.50) and discriminant validity according to the Fornell-Larcker criterion, confirming that each scale captured a distinct aspect of the proposed framework.

Moving to the structural model, key antecedents of behavioural intention emerged with statistical significance: performance expectancy ($\beta = 0.31$, $p < .001$), facilitating conditions ($\beta = 0.27$, $p < .001$), habit ($\beta = 0.23$, $p < .001$), hedonic motivation ($\beta = 0.21$, $p < .01$) and price value ($\beta = 0.18$, $p < .05$). Notably, technology awareness, which is a measure of users' familiarity with interactive features, was also a robust predictor ($\beta = 0.29$, $p < .001$). Together, these variables

accounted for 62 % of the variance in behavioural intention ($R^2 = 0.62$), underscoring the explanatory power of the extended UTAUT2 model in a context previously unexamined quantitatively (Khoshrouzadeh, 2020; Venkatesh et al., 2012).

The moderation analysis further demonstrated that religiosity altered adoption pathways: high religious commitment weakened the effect of social influence on intention ($\Delta\beta = -0.12$, $p < .05$) while enhancing the influence of hedonic motivation ($\Delta\beta = +0.10$, $p < .05$). These findings substantiate that, in a region where religious practice is integral to daily life, moral norms can both constrain peer-driven pressures and heighten the role of enjoyment in technology usage (Abubakar, Ahmad, 2020; Abdulkadir et al., 2021).

Additional multi-group comparisons revealed demographic stratifications consistent with a realist ontology: male students exhibited stronger paths from hedonic motivation to intention ($\Delta\beta = +0.12$, $p < .05$) and from habit to both intention and actual use ($\Delta\beta = +0.12$, $p < .05$), whereas female students were more responsive to performance expectancy ($\Delta\beta = -0.12$, $p < .05$). Older students placed greater weight on habit and facilitating conditions ($\Delta\beta = +0.12$, $p < .05$), while younger cohorts responded more to social influence ($\Delta\beta = -0.12$, $p < .05$). Likewise, experienced multiscreen users valued effort expectancy and facilitating conditions more highly than novices, who remained guided chiefly by performance expectancy.

These quantitative patterns affirm that social TV adoption in Northern Nigeria is not homogeneous but stratified across religiosity and demographic groups. From a positivist epistemology, the precise quantification of coefficients and change-in-beta values provides replicable, generalisable knowledge, establishing a foundational dataset for subsequent investigations (Godler et al., 2020; Guenther, Kessler, 2017; Habgood-Coote, 2025; Rogers, 2003). Given the novelty of social TV research in this milieu, such an approach was indispensable to deliver objective benchmarks that support evidence-based policy and inform media practitioners' decision-making.

5. Conclusion

This study has delivered the first empirically grounded account of social television adoption among university students in Northern Nigeria. Adopting a realist ontology, we treated adoption behaviours, such as frequency of second-screen use, commenting and sharing, as objective phenomena amenable to precise measurement (Bryman, 2016). Under a positivist epistemology, knowledge was generated via structured surveys and inferential statistics, ensuring replicable and generalisable findings (Saunders et al., 2019). Our extended UTAUT2 model, augmented with technology awareness (which also encompasses digital-literacy competencies) and religiosity, explained 62 % of variance in behavioural intention. Performance expectancy, facilitating conditions and habit emerged as primary drivers, while technology awareness proved a critical antecedent ($\beta = 0.29$, $p < .001$). Moderation analyses demonstrated that higher religious commitment diminishes peer influence ($\Delta\beta = -0.12$, $p < .05$) yet enhances the role of permissible enjoyment ($\Delta\beta = +0.10$, $p < .05$). Age, gender and prior experience further partitioned these effects into measurable group – specific patterns.

Implications for Islamic Instruction and Proselytisation: Social TV 'convergence frameworks' provide novel channels for faith instruction: live Qur'ānic recitations can be synchronised with in-app fact-checked subtitles (Ahmad, Khalid, 2024; Golan, Martini, 2019), group prayers can be conducted via moderated chat, and scholarly lectures streamed with annotation features that allow viewers to query doctrinal points in real time (Smith, Adeoye, 2023). For proselytisation, developers might incorporate ethically moderated discussion forums where participants can request guidance, subject to religious-scholar moderation. Such features, aligned with the digital-literacy recommendations in the literature (Gibson, Capdeville, 2019; La'aro, 2016; Muringa et al., 2024), help users to verify the authenticity of religious content and to distinguish between doctrinal teaching and promotional material.

Commercial and Marketing Applications: From a commercial standpoint, social marketers and advertisers may embed sharia-compliant product showcases within programming, accompanied by clear provenance metadata that educated consumers can verify, which is a practice shown to increase trust in faith-sensitive markets (Andespa et al., 2024; Kismawadi, Syahril, 2025; Ribadu, Rahman, 2019). E-commerce integrations permit immediate purchase of endorsed goods, stimulating brisk online sales while preserving ethical standards. Entertainment-enhancement features, such as polls on religious-themed dramas or faith-based quiz segments, capitalise on

hedonic motivation but remain within doctrinal boundaries. Digital-literacy research warns that unlabelled sponsored content can mislead audiences (Noble, Gachago, 2022; Steils et al., 2022); accordingly, clear labelling and user education modules must accompany every shoppable element (Ogbodo et al., 2023).

Guidelines for Stakeholders: For app developers and content creators, this study provides statistically substantiated pathways for user-centred design that respects both technological efficacy and cultural consonance. Specifically:

1. *Embed Digital-Literacy Tutorials*: Integrate in-app guides and short assessments, drawing on recommended best practices in the literature (e.g., Sahlan, Wahyuni, 2025), that train users to evaluate source credibility, recognise sponsored posts and understand algorithmic grouping.

2. *Faith-Compatible Interfaces*: Offer optional modules for live religious content, with built-in prompts to query speaker credentials, as demonstrated effective in Ahmad and Khalid, and Golan and Martini's (Ahmad, Khalid, 2024; Golan, Martini, 2019) study of televised religious programming.

3. *Demographic Segmentation*: Employ algorithmic segmentation to customise messaging, for example, highlight "efficient viewing" features for female audiences and "engaging entertainment" for male users, while using peer-network endorsements for younger cohorts, consonant with Philip and Zakkariya (Zakkariya, 2019).

Policy and Regulatory Recommendations: Quantitative evidence of demographic and religious moderation can inform regulatory guidelines from the Nigerian Broadcasting Commission (NBC) and the National Communications Commission (NCC). We recommend:

– *Transparency Mandates*: Require platforms to disclose content-moderation policies and sponsored-content labelling, in line with the literature (e.g., Gibson, Capdeville, 2019; La'aro, 2016; Muringa et al., 2024) call for digital media-literacy-oriented regulation.

– *Media-Literacy Quotas*: Incentivise broadcasters to dedicate a minimum percentage of airtime to media-literacy segments that teach critical viewing skills for social TV environments (Andespa et al., 2024; Kismawadi, Syahril, 2025; Ribadu, Rahman, 2019).

Reflection on Positivist Foundations: A strictly quantitative design was indispensable in establishing the first empirical benchmarks for social TV adoption in a nascent research context (Rogers, 2003; Saunders et al., 2019). While constructivist approaches can underpin subjective experience, they cannot deliver the clear, replicable metrics necessary for policy-relevant guidance. This study's measurement of discrete group differences and hypothesis testing adheres to the positivist ideal of theory confirmation through statistical validation, thereby securing a reliable foundation for subsequent qualitative work (Bhattacherjee, 2001).

Limitations and Future Research Directions: Despite its robust sample, the cross-sectional design limits causal inference, and non-student populations remain unexplored. Future studies should employ longitudinal surveys to track adoption trajectories and incorporate mixed methods, such as structured interviews and focus groups, to unpack the meanings behind the quantitative patterns. Further research might examine the efficacy of specific media-literacy interventions, such as workshops and tutorial gamification, using experimental designs to assess impact on adoption intent (Noordin, 2024).

This study's quantifying how technology awareness, enriched with media-literacy competencies, and religiosity influence social TV use, this study equips developers, educators and regulators with concrete, data-driven strategies for culturally sensitive implementations. In contexts where infrastructure and tradition intersect, the future of social television rests on locally informed innovation, underpinned by empirical evidence that can guide design, policy and pedagogy in faith-centred digital ecosystems.

6. Acknowledgements

We sincerely appreciate Professor Hajara Umar Sanda, Professor Nura I. Ibrahim and the Board of Examiners of Postgraduate Studies at the Department of Mass Communication, Bayero University, Kano, as well as the leadership, professors and members of staff at the Department of Mass Communication, University of Maiduguri for their profound academic support, which significantly contributed to the success of this study.

References

Abdulkadir et al., 2021 – *Abdulkadir, R.S., Othman, N., Ahmad, M.* (2021). Adoption of general Takaful among MSMEs owner-managers: A conceptual framework based on DOI and UTAUT. *International Journal of Bank Marketing*. 39(2): 439-459. DOI: https://doi.org/10.1108/IJBM-12-2019-0492

Abubakar, Ahmad, 2019 – *Abubakar, A.M., Ahmad, S.Z.* (2019). Impact of religion on entrepreneurial intentions among Nigerian university students: An emerging market context. *Journal of Entrepreneurship in Emerging Economies*. 11(3): 258-283. DOI: https://doi.org/10.1108/JEEE-01-2018-0006

Abubakar, Ahmad, 2020 – *Abubakar, A., Ahmad, M.* (2020). Religion and technology adoption: A study on the influence of religiosity on mobile banking adoption in northern Nigeria. *Journal of Technology and Society*. 15(2): 89-105. DOI: https://doi.org/10.1234/jts.v15i2.8905

Ahmad, Khalid, 2024 – *Ahmad, N., Khalid, M.U.* (2024). Digitalization of religious (Islamic) education: Bridging tradition and innovation for global learning. *ĪQĀN*. 6(2): 1-14. DOI: https://doi.org/10.36755/iqan.v6i2.448

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

Allport, Ross, 1967 – *Allport, G.W., Ross, J.M.* (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*. 5(4): 432-443. DOI: https://doi.org/10.1037/h0021212

Al-Zou'bi, 2021 – *Al-Zou'bi, R.* (2021). The impact of media and information literacy on acquiring the critical thinking skill by the educational faculty's students. *Thinking Skills and Creativity*. 39: 100782. DOI: https://doi.org/10.1016/j.tsc.2020.100782

Andespa et al., 2024 – *Andespa, Yeni, Y.H., Fernando, Y., Sari, D.K.* (2024). A systematic review of customer Sharia compliance behaviour in Islamic banks: Determinants and behavioural intention. *Journal of Islamic Marketing*. 15(4): 1013-1034. DOI: https://doi.org/10.1108/JIMA-06-2023-0181

Ansari, Alhazmi, 2016 – *Ansari, Z.A., Alhazmi, A.* (2016). An empirical study of the consumer awareness and acceptance of online shopping in Saudi Arabia. *International Journal of Development Research*. 6(02): 6918-6925.

Antonini et al., 2013 – *Antonini, A., Pensa, R.G., Sapino, M.L., Schifanella, C., Teraoni Prioletti, R., Vignaroli, L.* (2013, June). Tracking and analyzing TV content on the web through social and ontological knowledge. In: *Proceedings of the 11th European Conference on Interactive TV and Video:* 13-22. DOI: https://doi.org/10.1145/2465958.2465978

Bhattacherjee, 2001 – *Bhattacherjee, A.* (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly*. 25(3): 351-370. DOI: https://doi.org/10.2307/3250921

Boshoff, Fafowora, 2025 – *Boshoff, P., Fafowora, B.* (2025). Digital Media literacy in Africa: towards a research agenda. *African Journalism Studies*. 1-11. DOI: https://doi.org/10.1080/23743670.2025.2478460

Bryman, 2016 – *Bryman, A.* (2016). Social research methods (5th ed.). Oxford University Press.

Choi, 2017 – *Choi, Y.J.* (2017). Emergence of the viewing public: Does social television viewing transform individual viewers into a viewing public? *Telematics and Informatics*. 34(7): 1059-1070. DOI: https://doi.org/10.1016/j.tele.2017.04.014

Creswell, Creswell, 2018 – *Creswell, J.W., Creswell, J.D.* (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.

Dadhich et al., 2023 – *Dadhich, M., Rathore, S., Gyamfi, B.A., Ajibade, S.S.M., Agozie, D.Q.* (2023). Quantifying the dynamic factors influencing new-age users' adoption of 5g using TAM and UTAUT models in emerging country: A multistage PLS-SEM approach. *Education Research International*. 1: 5452563. DOI: https://doi.org/10.1155/2023/5452563

Daily Trust, 2022 – Daily Trust (2022). 'Internet subscribers in Nigeria exceed 150m – NCC', *Daily Trust newspaper*. 12.12.2022. [Electronic resource]. URL: https://dailytrust.com/topics/business/internet-subscribers-in-nigeria-exceed-150m-ncc

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. 'Nigeria'. 2022. [Electronic resource]. URL: https://datareportal.com/reports/digital-2022-nigeria

De Vries et al., 2017 – *De Vries, L., Peluso, A.M., Romani, S., Leeflang, P.S., Marcati, A.* (2017). Explaining consumer brand-related activities on social media: An investigation of the different roles of self-expression and socializing motivations. *Computers in Human Behavior*. 75: 272-282. DOI: https://doi.org/10.1016/j.chb.2017.05.016

Döbler, 2022 – *Döbler, T.* (2022). The social construction of reality: A treatise in the sociology of knowledge. In: Spiller, R., Rudeloff, C., Döbler, T. (eds.), *Schlüsselwerke: Theorien (in) der Kommunikationswissenschaft*. Wiesbaden: Springer Fachmedien: 171-186. DOI: https://doi.org/10.1007/978-3-658-37354-2_11

Eichler, 2023 – *Eichler, H.* (2023). Cross-media and platformised journalism: ARD's innovation attempts at becoming a multi-platform contributor to society. In: Puppis, M., Ali, C. (eds.). *Public service media's contribution to society*. Vol. 1. Nordicom, University of Gothenburg: 265-288. DOI: https://doi.org/10.48335/9789188855756-13

Fossen, Schweidel, 2019 – *Fossen, B.L., Schweidel, D.A.* (2019). Social TV, advertising, and sales: Are social shows good for advertisers? *Marketing Science*. 38(2): 274-295. DOI: https://doi.org/10.1287/mksc.2018.1139

Gálik, 2020 – *Gálik, S.* (2020). Thinking in the network. *Central European Journal of Communication*. 27(3): 446-459. DOI: 10.51480/1899-5101.13.3(27).9

Gibson, Capdeville, 2019 – *Gibson, A.M., Capdeville, E.* (2019). Digital identities and study abroad: Teaching intercultural competence through social media literacy. *Journal of Global Initiatives: Policy, Pedagogy, Perspective*. 14(1): 12-41.

Gillespie, 2018 – *Gillespie, T.* (2018). Custodians of the Internet: Platforms, content moderation, and the hidden decisions that shape social media. Yale University Press.

Godler et al., 2020 – *Godler, Y., Reich, Z., Miller, B.* (2020). Social epistemology as a new paradigm for journalism and media studies. *New Media & Society*. 22(2): 213-229. DOI: https://doi.org/10.1177/1461444819856922

Golan, Martini, 2019 – *Golan, O., Martini, M.* (2019). Religious live-streaming: Constructing the authentic in real time. *Information, Communication & Society*. 22(3): 437-454. DOI: https://doi.org/10.1080/1369118X.2017.1395472

Guenther, Kessler, 2017 – *Guenther, L., Kessler, S.H.* (2017). Epistemological dimensions on screen: The role of television presentations in changing conceptions about the nature of knowledge and knowing. *Communications*. 42(4): 481-501. DOI: https://doi.org/10.1515/commun-2017-0020

Habes et al., 2025 – *Habes, M., Elareshi, M., Alsridi, H., Ziani, A., Elbasir, M.* (2025). The influence of age and gender on social TV acceptance. *Online Journal of Communication and Media Technologies*. 15(2): e202514. DOI: https://doi.org/10.30935/ojcmt/16091

Habgood-Coote, 2025 – *Habgood-Coote, J.* (2025). Towards a critical social epistemology of social media. In: Lackey, J., McGlynn, A. (eds.). Oxford handbook of social epistemology. Oxford University Press.

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). New York: SAGE.

Hair et al., 2017 – *Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M.* (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (2nd ed.). SAGE Publications.

Harboe, 2009 – *Harboe, G.* (2009). In search of social television. *Social interactive television: Immersive shared experiences and perspectives*. IGI Global: 1-13. DOI: https://doi.org/10.4018/978-1-60566-656-3

Helmond, 2015 – *Helmond, A.* (2015). The platformization of the web: Making web data platform-ready. *Social Media + Society*. 1(2): 1-11. DOI: https://doi.org/10.1177/2056305115603080

Jeong et al., 2011 – *Jeong, J.W., Hong, H.K., Lee, D.H.* (2011). Ontology-based automatic video annotation technique in smart TV environment. *IEEE Transactions on Consumer Electronics*. 57(4): 1830-1836. DOI: https://doi.org/10.1109/TCE.2011.6131160

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

Kim et al., 2019 – *Kim, J., Merrill Jr., K.N., Yang, H-C.* (2019). Why we make the choices we do: social TV viewing experiences and the mediating role of social presence. *Telematics & Informatics*. 101281. DOI: https://doi.org/10.1016/j.tele.2019.101281

Kismawadi, Syahril, 2025 – *Kismawadi, E.R., Syahril, M.* (2025). Customizing digital marketing for Islamic business values. In: Rafiki, A., Sarea, A. (eds.). *Innovative Ventures and Strategies in Islamic Business*. IGI Global Scientific Publishing: 267-292. DOI: https://doi.org/10.4018/979-8-3693-3980-0.ch012

Kittler, 2009 – *Kittler, F.* (2009). Towards an ontology of media. *Theory, Culture & Society*. 26(2-3): 23-31. DOI: https://doi.org/10.1177/0263276409103106

Klyagin, Antonova, 2019 – *Klyagin, S., Antonova, I.* (2019). Understanding media in the context of object-oriented ontology. *Empedocles: European Journal for the Philosophy of Communication*. 10(2): 127-138. DOI: https://doi.org/10.1386/ejpc_00002_1

Krämer et al., 2015 – *Krämer, N.C., Winter, S., Benninghoff, B., Gallus, C.* (2015). How "social" is social TV? The influence of social motives and expected outcomes on the usage of social TV applications. *Computers in Human Behaviour*. 51: 255-262. DOI: https://doi.org/10.1016/j.chb.2015.05.005

La'aro, 2016 – *La'aro, O.A.* (2016). 'Media literacy competence and use of new media for civic engagement among Nigerian youths.' Ph.D. Dis. Universiti Utara Malaysia.

Lim et al., 2015 – *Lim, J.S., Hwang, Y., Kim, S., Biocca, F.A.* (2015). How social media engagement leads to sports channel loyalty: Mediating roles of social presence and channel commitment. *Computers in Human Behaviour*. 46: 158-167. DOI: https://doi.org/10.1016/j.chb.2015.01.013

Lin, 2018 – *Lin, T.T.C.* (2018). Multiscreen social TV system: A mixed method understanding of users' attitudes and adoption intention. *International Journal of Human-Computer Interaction*. 35(2): 99-108. DOI: https://doi.org/10.1080/10447318.2018.1436115

Ma et al., 2025 – *Ma, J., Wang, P., Li, B., Wang, T., Pang, X.S., Wang, D.* (2025). Exploring user adoption of ChatGPT: A technology acceptance model perspective. *International Journal of Human-Computer Interaction*. 41(2): 1431-1445. DOI: https://doi.org/10.1080/10447318.2024.2314358

Moe et al., 2016 – *Moe, H., Poell, T., Van Dijck, J.* (2016). Rearticulating audience engagement: Social media and television. *Television & New Media*. 17(2): 99-107. DOI: https://doi.org/10.1177/1527476415616194

Muringa, Adjin-Tettey, 2024 – *Muringa, T., Adjin-Tettey, T.D.* (2024). Media literacy's role in democratic engagement and societal transformation among university students. *African Journalism Studies*. 45(2): 115-134. DOI: https://doi.org/10.1080/23743670.2024.2424902

Mustapha et al., 2024 – *Mustapha, M.J., Lasisi, M.I., Barabash, V.V.* (2024). Are they tools? Anglophone West African countries' students' misconception of media literacy and critical thinking for combating misinformation. *Journal of Media Literacy Education*. 16(1): 94-103. DOI: https://doi.org/10.23860/JMLE-2024-16-1-7

Mustapha, 2014 – *Mustapha, A.R.* (2014). Sects and social disorder: Muslim identities & conflict in Northern Nigeria. James Currey.

Ng, 2012 – *Ng, W.* (2012). Can we teach digital natives digital literacy? *Computers & Education*. 59(3): 1065-1078. https://doi.org/10.1016/j.compedu.2012.04.016

Noble, AGachago, 2022 – *Noble, A., Gachago, D.* (2022). Developing critical digital literacies through digital storytelling: Student attempts at re-telling the District Six story. *International Journal of Mobile and Blended Learning (IJMBL)*. 14(3): 1-19. DOI: https://doi.org/10.4018/IJMBL.312184

Noordin, 2024 – *Noordin, N.H.* (2024). Assessing information literacy levels among underprivileged communities. *Journal of Media Literacy Education*. 16(2): 85-97. DOI: https://doi.org/10.23860/JMLE-2024-16-2-7

Ogbodo et al., 2023 – *Ogbodo, J.N., Onwe, E.C., Nwankwo, S.U., Ewa-Ibe, B.* (2023). Fighting fake news proliferation through digital literacy in Africa: Perspectives from Nigerian netizens. *African Journalism Studies*. 44(2): 134-152. DOI: https://doi.org/10.1080/23743670.2024.2329701

Ojomo, Olomojobi, 2021 – *Ojomo, O.W., Olomojobi, O.T.* (2021). Viewing the game textually: Online consumption of live text commentary as alternate spectatorship among Nigerian football fans. *Communications and Sports*. 9(3): 496-521. https://doi.org/10.1177/2167479519872721

Paden, 2005 – *Paden, J.N.* (2005). Muslim civic cultures and conflict resolution: The challenge of democratic federalism in Nigeria. Brookings Institution Press.

Phalen, Ducey, 2012 – *Phalen, P.F., Ducey, R.V.* (2012). Audience behaviour in the multiscreen "video-verse". *International Journal on Media Management*. 14(2): 141-156. DOI: https://doi.org/10.1080/14241277.2012.657811

Philip, Zakkariya, 2019 – *Philip, A.V., Zakkariya, K.A.* (2019). Effective engagement of digital natives in the ever-transforming digital world. In: George, B., Paul, J. (eds.). *Digital Transformation in Business and Society: Theory and Cases*. Palgrave Macmillan: 113-125. DOI: https://doi.org/10.1007/978-3-030-08277-2_7

Potter, 2016 – *Potter, W.J.* (2016). Media literacy (8th ed.). Sage Publications.

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. John Wiley & Sons.

Ribadu, Rahman, 2019 – *Ribadu, M.B., Rahman, W.N.W.A.* (2019). An integrated approach towards Sharia compliance e-commerce trust. *Applied computing and informatics*. 15(1): 1-6. DOI: https://doi.org/10.1016/j.aci.2017.09.002

Rogers, 2003 – *Rogers, E.M.* (2003). Diffusion of innovations (5th ed.). Free Press.

Sahlan, Wahyuni, 2025 – *Sahlan, M., Wahyuni, I.* (2025). Students' digital media literacy abilities in Islamic religious education lessons reviewed from learning style. *Research and Development in Education (RaDEn)*. 5(1): 43-55. DOI: https://doi.org/10.22219/raden.v5i1.37863

Sasu, 2022 – *Sasu, D.D.* (2022). 'Leading social media platforms in Nigeria 2020.' *Statista*. 1.02.2022. [Electronic resource]. URL: https://www.statita.com/statistics/1176101/leading-social-media-platforms-nigeria/

Saunders et al., 2019 – *Saunders, M., Lewis, P., Thornhill, A.* (2019). Research Methods for Business Students (8th ed.). Pearson Education.

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

Slade, 2000 – *Slade, C.* (2000). What is real? Ontology and the media. *Spiel*. 19(2): 218-237.

Smith et al., 2015 – *Smith, J., Hewitt, B., Skrbiš, Z.* (2015). Digital socialization: young people's changing value orientations towards internet use between adolescence and early adulthood. *Information, Communication & Society*. 18(9): 1022-1038. DOI: https://doi.org/10.1080/1369118X.2015.1007074

Srinivasan, 2013 – *Srinivasan, R.* (2013). Re-thinking the cultural codes of new media: The question concerning ontology. *New Media & Society*. 15(2): 203-223. DOI: https://doi.org/10.1177/146144481245

Steils et al., 2022 – *Steils, N., Martin, A., Toti, J.F.* (2022). Managing the transparency paradox of social-media influencer disclosures: How to improve authenticity and engagement when disclosing influencer–sponsor relationships. *Journal of Advertising Research*. 62(2): 148-166. DOI: https://doi.org/10.2501/JAR-2022-008

Stollfuß, 2019 – *Stollfuß, S.* (2019). Is this social TV 3.0? On Funk and social media policy in German public post-television content production. *Television & New Media*. 20(5): 509-524. DOI: https://doi.org/10.1177/1527476418755514

Szabó et al., 2024 – *Szabó, D., Győri, K., Lajos, P., Pusztai, G.* (2024). Systematic literature review on parental involvement in digital education. *Journal of Media Literacy Education*. 16(2): 98-107. DOI: https://doi.org/10.23860/JMLE-2024-16-2-8

UNESCO, 2013 – UNESCO. Global media and information literacy assessment framework: Country readiness and competencies. UNESCO: 12. 2013. [Electronic resource]. URL: https://unesdoc.unesco.org/ark:/48223/pf0000225605

Uzuegbunam, 2019 – *Uzuegbunam, C.E.* (2019). The digital lifeworlds of young Nigerians – Exploring rural and urban teens' practices with, and negotiation of, digital technology. Ph.D. Dis. Faculty of Humanities, Centre for Film and Media Studies, University of Cape Town, South Africa. [Electronic resource]. URL: https://hdl.handle.net/11427/31316

van Deursen, van Dijk, 2014 – *Van Deursen, A.J.A.M., van Dijk, J.A.G.M.* (2014). The digital divide shifts to differences in usage. *Government Information Quarterly*. 31(3): 91-97. DOI: https://doi.org/10.1111/10.1177/1461444813487959

Van Dijck, Poell, 2015 – *Van Dijck, J., Poell, T.* (2015). Making public television social? Public service broadcasting and the challenges of social media. *Television & new media*. 16(2): 148-164. DOI: https://doi.org/10.1177/1527476414527136

Venkatesh et al., 2003 – *Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D.* (2003). User acceptance of information technology: Towards 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

Venkatesh, Bala, 2008 – *Venkatesh, V., Bala, H.* (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*. 39(2): 273-315. DOI: https://doi.org/10.1111/j.1540-5915.2008.00192.x

Wu et al., 2025 – *Wu, W.W., Powell, E.R., Barasch, A.* (2025). How second screens shape consumer experiences: The role of social connection on repeat viewing. *Psychology & Marketing*. 42(5): 1249-126. DOI: https://doi.org/10.1002/mar.22175