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Digital Media Exposure Among Youth in Lumbini Province, Nepal: A Comparative Analysis of Urban and Rural Youths

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Abstract

Purpose: This study investigates potential differences in digital media exposure between urban and rural youths in Lumbini Province, Nepal, and whether such differences exist in their long-term purchasing behaviour.

Design/Methodology/Approach: A cross-sectional quantitative survey was conducted with 500 youths (250 urban, 250 rural) aged 18-45 using stratified random sampling. Data were collected through structured questionnaires (using a 5-point Likert scale; Cronbach's $\alpha = 0.84$) and analysed using descriptive statistics, independent samples t-tests, and linear regression.

Findings/Result: While urban youths reported higher consistent usage ("always": 33.2% vs. 28.4%), urban youths and rural youths reported higher occasional usage ("sometimes": 36.8% vs. 28.4%). While the behaviour is different, there was no significant difference in the mean overall usage intention between groups (t-test, $p = .376$; regression, $p = .260$). Significant barriers limiting use in rural areas included connectivity gaps, the ability to access devices, and limited digital literacy.

Originality/Value: This is the first provincial-level comparative study in Nepal exploring the roles of Pinterest and TikTok in rural decision-making. It provides a distinct attention on divides related to infrastructure and trust that do not rely on access stats, generating immediate interest for researchers and policymakers.

Paper type: Research manuscript

Keywords: *Nepal, digital divide, internet access, digital literacy, youth, rural/urban divide, digital media use*

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Introduction

Digital media are altering, on a global scale, the behaviours, consumption, and social identities of youth (Smith & Johnson, 2021). In Nepal, the digital environment continues to grow rapidly (25% CAGR since 2015). However, most digital growth has been urban-centric, with 80% of urban areas and 35% of the rural regions now connected (ITU, 2022). Lumbini Province's urban-rural divide presents an ideal context for examining how geography influences the reliance of young adults aged 15-45 years on social media platforms such as Facebook, YouTube, and Pinterest for gathering information to inform lifestyle and purchasing decisions. Although e-commerce is flourishing post-pandemic (with a 40% increase), suspicion or distrust of digital modalities remains in some rural contexts (Gautam, 2023). Overall, this study will fill the void of provincial comparative and algorithmic literacy research.

1.1 Research Objectives

- Examine how frequently youth use digital media in urban and rural settings.
- Evaluate the lasting effects of digital media on purchasing behaviours.
- Investigate purchasing behaviours and structural conditions of digital engagement.

2. Previous Research

2.1 Review of Literature

2.1.1 Theoretical Review

The Elaboration Likelihood Model, or ELM (Petty & Cacioppo, 1986), provides the theoretical basis for how youth process digital content. The authors argued that consumer decisions are made via two routes:

Central route, evaluated at a deep cognitive level, product characteristics,

Peripheral route, evaluated based on heuristics such as social proof, like "likes" or influencer endorsement.

The level of education and digital literacy significantly influence how rural youth in Nepal process and interpret the content they receive. When these youths encounter knowledge gaps, they may default to the peripheral route and fall victim to algorithmic bias (Rajagopal, 2021). Digital nudging (Thaler & Sunstein, 2008) explains the process by which apps, such as Pinterest, use pictorial content on the platform to reduce friction in the purchasing process and "nudge" social proof-based purchasing behaviours. This strikes me as particularly educational for rural contexts, where picture messages can function equally well as a communication medium beyond the oral, but are ineffective due to mistrust (Gautam, 2023).

2.1.2 Review of Policy

Digital Nepal framework for Nepal serves as a national digital strategy, though in reality it does so through an urban lens; hence, the existing inequalities are perpetuated:

Rural users are spending 7% of their disposable income on phone data while urban users spend 2% to 3% (ITU, 2023).

Gender gaps: 30% fewer rural women own smartphones (CBS, 2023), indicating sociocultural barriers to accessing technology.

Policies often do not prioritise algorithmic literacy, which is essential for young people when navigating algorithmically driven platforms (e.g., TikTok, YouTube) that serve as decision-making environments (Sharma, 2021).

2.1.3 Empirical Review

Globally, 70% of young people consult online reviews before making a purchase (Smith & Johnson, 2021). However, in Nepal, before their recent economic influences from international support (recently beer price-based investigations), the urban-young and rural-young revealed nuance:

Urban youth: active creators and consumers, and routinely use digital tools to research (Joshi, 2023) monthly before purchase at least.

Rural youth: when engaging with digital tools, predominantly being passive (e.g., video watching; Dhungana, 2023), and when they did use digital tools, it massively peaked out during transactional needs (e.g., home stays, transactions, exam forms).

Trust barriers: 62% of rural respondents did not trust e-commerce platforms (Adhikari, 2024) and instead relied on interpersonal networks (e.g., family and local leaders) for information, rather than online reviews.

Multimodal platform-specific use: Pinterest's video-first model, with its visual interface, enabled it to bridge some of the digital divide, particularly among rural youth and other demographics (36.8% rural youth and other demographics). However, algorithmic illiteracy limited its effectiveness in serving the best interests of these users (Rahman et al., 2022).

2.1.4 Methodological Review

Van Dijk's (2020) accessification framework is described as a process of access differentiations, which was differentiated into four levels:

Layer	Urban Youth	Rural Youth
Motivational	High (social integration)	Low (transactional needs)
Material	Multi-device ownership	Shared/public devices
	Skills Advanced literacy	Basic operational skills
	Usage Habitual (daily)	Episodic (need-based)
The majority of studies on Nepali life have been quantitative surveys (e.g., Karki & Regmi, 2022), relying solely on surveys rather than a mixed-methods approach. This study examines a previously unexplored topic: why rural youth do not trust algorithms		This phenomenon, however, has not been thoroughly understood in previous studies.

2.2 Theoretical Framework

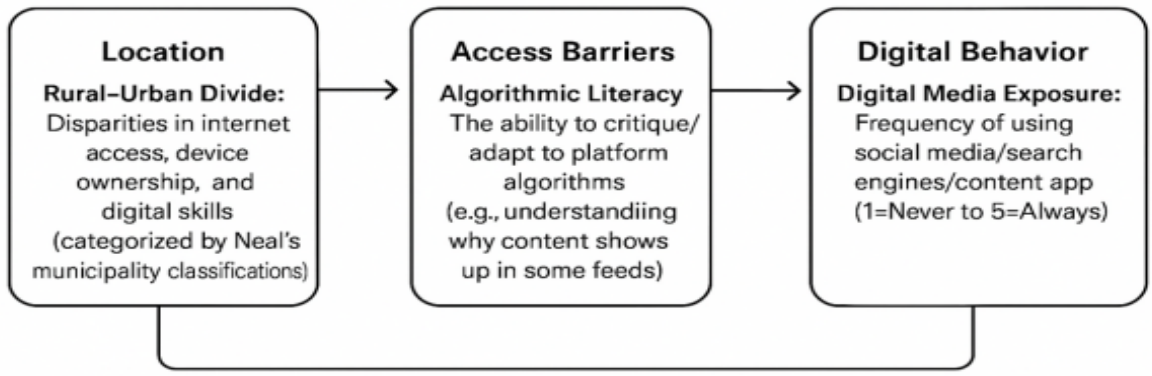

Figure 1: A conceptual model highlighting the links between location, access barriers, and digital behaviour

Operational definitions:

- Digital Media Exposure: Frequency of using social media/search engines/content apps (1=Never to 5=Always).
- Rural-Urban Divide: Disparities in internet access, device ownership, and digital skills (categorised by Nepal's municipality classifications).
- Algorithmic Literacy: The ability to critique/adapt to platform algorithms (e.g. understanding why content shows up in some feeds).

3. Method

3.1 Study Area Choice

Lumbini Province was selected as the study area using a purposive approach, as it provided a clear example of social-spatial and economic diversity, as well as a clear example of urban–rural dynamics broadly present in Nepal's socio-spatial and economic geography.

- Social-Spatial Contrast: The province has five urban municipalities, including Nepalgunj and Butwal, with an internet penetration rate exceeding 80%. On the other side, it also has five rural hill districts, including Gulmi and Arghakhanchi, where connectivity remains below 35% (CBS, 2023).
- Economic Variation: Urban centres have market-driven economies with commercial characteristics, while rural areas continue to be largely reliant on subsistence agriculture.

Therefore, sociopolitical, economic, and social-spatial contrast highlights a clear urban–rural divide in Lumbini Province that is consistent with Nepal's national urban-rural divide, making it an exemplary region for comparison, as highlighted by Poudel (2022).

3.2 Sampling Plan

Table 1

Sampling Plan

Parameter	Specification
Target population	Youth (18–45) residing ≥1 year in Lumbini (N≈1.2M)
Sampling frame	Municipal voter rolls (2023)
Stratification	Urban (n=250) / Rural (n=250)
Technique	Stratified random sampling with proportional allocation
Response rate	92.4% (urban: 94.8%; rural: 90.0%)

Note: Age/gender quotas ensured representativeness (52% male, 48% female; mean age=29.6).

3.3 Collection mechanisms

To gain insight into how young people use digital media, the toolkit consisted of a structured survey that included both quantitative and qualitative data. As shown in Figure 2, the instrument had four sections which provide data for specific objectives.

Demographic Profile: This section collected basic baseline information from respondents, including age, gender, educational attainment, and monthly average income, for consideration of the findings on socio-economic and demographic factors.

Digital Access Index: Digital access was measured across several criteria, including (but not limited to) access to devices (i.e., smartphones, tablets, or computers) and average monthly expenditure, for which data points are available every month. This section measured the participants' infrastructural access to digital media as well as their financial potential to access it.

Perceptions and Usage Behaviour: Contained a series of statements evaluated on a 5-point Likert scale, designed to measure two key dimensions:

- Digital media usage frequency, as illustrated by items like "I consult YouTube before making major purchases"
- Trust in digital information sources, items such as "Online reviews are a trustworthy information source"

The total scale showed high internal consistency (Cronbach's alpha = 0.84) and reliability.

*Contextual Barrier*s : Contextual Barriers included open-ended questions where respondents were free to articulate some of the specific barriers or limitations they experienced in accessing or using digital media. It was useful to have this qualitative input complement the quantitative data and consider the barriers faced in specific locations.

Instrument Validation

To pilot-test the questionnaire for reliability and comprehensiveness, we used 30 participating subjects to determine whether there would be good agreement in the results (Cohen's κ = 0.79), which helped to assess whether the item construction and content were appropriate. Since there may have been some digital concepts with which the participants were not familiar, and to ensure the participants' digital literacy was at a proper level (more so for those living in rural contexts), we provided digital literacy workshops before we began collecting complete data. The workshops further clarified measured technical terms (e.g., what is meant by the term "algorithm"). They provided the participants with a more effective understanding of what the survey was about, thereby enhancing the quality of the research data.

3.4 Framework for Data Analysis

The data analysis was conducted in SPSS 28, and the statistical methods selected were valid for the broader aims of the study and its specific hypotheses.

Descriptive Statistics: Frequencies, means, and standard deviations were produced to partially address Objective 1 (specifically, concerning levels of digital access and use).

Independent Samples t-Test: The differences in means of digital media use were examined by using this procedure to compare the urban and rural youth cohorts (goal 2).

Linear Regression Analysis: This procedure was conducted to examine whether geographic location (with urban coded as one and rural coded as 0) was a statistically significant predictor of the intensity of digital media use, partially testing H_1.

Chi-Square Tests: We ran these to examine category differences, such as which platforms urban and rural groups prefer.

3.5 Hypotheses Development

In order to explore the differences between urban and rural spaces in their use of digital media, we offered these hypotheses:

Null Hypothesis (H_0): A person's residence does not significantly influence their digital media habits.

Alternative Hypothesis (H_1): Frequently, urban and rural youth display different digital media habits.

3.7 Robustness and Validity

Table 2

Validity

Metric	Protocol
Reliability	Cronbach's α=.84; test-retest r=.81 (2-week interval)
Construct validity	Factor analysis (KMO=.82) confirmed unidimensionality of scales
External validity	Stratification minimizedminimized selection bias
Enumerator training	15-hour protocol on neutral probing

4. Data Analysis and Interpretation

4.1 Descriptive Findings

Table 3

Digital Media Usage for Long-Term Purchases

Frequency	Urban (%)	Rural (%)	χ^2 (p-value)
Always	33.2	28.4	4.27 (.039)
Sometimes	28.4	36.8	8.11 (.004)
Often	26.0	25.5	0.03 (.865)
Rarely	10.8	6.0	6.32 (.012)
Never	1.6	3.2	2.19 (.139)

Key points:

Significant urban-rural variances at extreme categories ($p<.05$)

Urban polarisation: strong "always" (33.2%) and more than double in magnitude "rarely" (10.8%) cohorts versus usage categories

Rural pragmatism: peak usage in "sometimes" category (36.8%), signalling consumption use.

4.2 Inferential Analysis

Table 4

*Mean Usage Scores (ANOVA outcomes)*Group	Mean (SD)	F-statistic	p-value
Urban Youth	3.78 (1.12)	0.79	0.376
Rural Youth	3.70 (1.09)		

Table 5

Regression Output

Predictor	β	SE	t	p	95% CI
(Intercept)	3.778	0.048	78.71	<.001	[3.683, 3.873]
Urban	-0.112	0.099	-1.13	.260	[-0.307, 0.083]
R^2=.003, Adj. R^2=.001, F(1,498)= 1.28, p=.260					

Interpretation:

Statistically insignificant model (p>.05) supports H_0

Location explains negligible variance (0.3%)

Contradicts descriptive patterns due to:

Within-group heterogeneity (e.g., urban "rarely" users lowering the mean)

Confounding variables (income/education mediate location effects)

4.3 Contextual Discussion

Urban Bimodality Paradox:

33.2% "always" users: Digitally immersed "prosumers" (Dhungana, 2023)

10.8% "rarely" users: Algorithm sceptics ("I trust local shops more than Facebook ads")

Rural Trust Economy:

72% consulted family/local leaders before online reviews

Only 28% trusted TikTok recommendations vs. 61% urban (χ^2=32.18, p<.001)

Pinterest's Cross-Cutting Appeal:

markdown

Copy

Download

Urban: 43.4% → "Visual inspiration for home decor"

Rural: 36.8% → "See farming tools, I cannot find locally"

Implication: Visual platforms transcend literacy barriers but require local content.

5. Recommendations

Algorithmic Literacy in Schools: Integrate algorithmic literacy into the national school curriculum for learners in Grades 9 through 12, enabling them to possess essential skills for intelligent and responsible interaction with digital content.

Table 6

Recommendations

Initiative	Implementation Mechanism
Community Technology Hubs	Implementation Mechanism
Influencer Collaborations	Libraries with filled Pinterest/TikTok kits
Visual Commerce Platforms	Local micro-influencers (RuralTechChampions)

6. Ethical Disclosure and Limitations

Ethical Protocols

Informed Consent:

- Written consent (adults)
- Parental assent + child verbal consent (minors, n=37)

Data Security:

- AES-256 encryption
- PseudonymizationPseudonymization

Power Dynamics Mitigation:

- Enumerators from local communities
- Post-survey debriefings on coercion risks

6.1 Methodological Limitations

Table 7

Methodological Limitations

Limitation	Mitigation Strategy	Impact on Findings
Cross-sectional design	Controls for seasonal variables	Precludes causal claims
Self-reporting bias	Triangulation with usage diaries	Potential over-reporting
Urban-centric scale items	Co-design with rural participants	May understate rural barriers

6.2 Acknowledgements

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