JDSS **Journal of Development and Social Sciences**
www.jdss.org.pk

RESEARCH PAPER

Beyond the Ballot: Inter-personal Trust, Social-Media Networks, and Emerging Class–Ethnic Cleavages Shape Vote Choice in Islamabad Capital Territory

[1]Shahid Mehmood and [2]Husnain Naseer

1. MPhil Scholar Department Political Science, GC University Lahore, Punjab, Pakistan
2. PhD Scholar, School of Political Science, Minhaj University Lahore, Punjab, Pakistan

| Corresponding Author: | Shahidmehmood324@gmail.com |

ABSTRACT

This study investigates how interpersonal political trust, social-media exposure, and class-ethnic cleavages shape vote choice in the Islamabad Capital Territory. The analysis is delimited to urban voters and applies a novel Credibility–Connectivity–Cleavage (3C) framework.Political behavior in Pakistan is increasingly shaped by both traditional networks of trust and new digital environments. Social media algorithms amplify identity-based narratives, while class and ethnic cleavages remain salient in electoral mobilization. Examining the interaction of these factors is crucial for understanding democratic accountability in rapidly urbanizing contexts.The study adopts a mixed-methods design. A two-wave panel survey was conducted with 1,200 registered voters (T1: October 2023; T2: February 2024). Digital-trace data from 400 consenting respondents were linked to survey responses to capture algorithmic personalization effects. Additionally, 30 semi-structured elite interviews provided qualitative insights into campaign strategies. Analytical techniques included fixed-effects and instrumental-variable models, supplemented by spatial discontinuity tests to validate causal claims.Findings show that interpersonal trust increases the likelihood of voting for a trusted candidate by 12 percentage points ($p < 0.01$). However, this effect diminishes by half beyond a 2-km trust radius and is neutralized when pro-candidate social-media exposure is high. Algorithmic targeting magnifies cleavage-consistent appeals, reducing the trust effect to 4 percentage points ($p < 0.05$) among voters primed by class-ethnic identity. Spatial discontinuity analyses corroborate these patterns, highlighting the geographic and digital boundaries of trust-based voting.The results suggest that regulating micro-targeted political advertising could limit the amplification of cleavage-based divisions. Strengthening offline civic intermediaries and neighborhood-level engagement may help rebuild interpersonal trust networks and foster more accountable democratic practices in Pakistan's urban centers.

| **KEYWORDS** | Vote Choice, Political Trust, Social Media Influence, Class Cleavage, Ethnic Cleavage, Pakistan Elections |

Introduction

On 8 February 2024 Pakistan staged its most digitally mediated election to date. In Islamabad Capital Territory (ICT)—the country's youngest, fastest-growing, and most demographically heterogeneous polity—turnout reached 58 %, propelled by 430 000 first-time voters, two-thirds of whom were under 30. Between 2017 and 2023 the city's population swelled by 43 %, driven by an influx of civil-service families, military personnel, tech-sector migrants, Pashtun traders, Hazara entrepreneurs, and low-wage labourers from Kashmir and southern Punjab. This rapid churn diluted traditional biradari networks and amplified ethnic and class anxieties, creating fertile ground for new forms of political communication. Candidates responded by tripling their social-media ad-spend, deploying WhatsApp micro-targeting, and reactivating mosque- and market-based brokers. Yet research still lacks micro-level evidence on how offline interpersonal trust, algorithmically curated online networks, and newly salient class-ethnic cleavages interact to shape vote choice in this setting.

This study addresses the gap by asking: How do interpersonal political trust, social-media exposure, and class-ethnic cleavages jointly determine vote choice in ICT? Existing scholarship on Pakistani elections privileges either patron-client ties (Wilder 2018), religious-sectarian appeals (Zahab 2021), or the aggregate impact of television and Twitter (Yusuf & Schoemaker 2021). Studies that do integrate offline and online spheres (Gigler & Bailur 2022) are either single-city snapshots or rely on self-reported social-media use rather than behavioural traces. Consequently, it is known little about (a) the spatial decay of interpersonal trust in a rapidly expanding city, (b) the causal effect of personalised digital content once trust and cleavage salience are taken into account, or (c) the conditions under which class-ethnic identities override or reinforce traditional broker–voter linkages.

To answer the question, study advance a Credibility–Connectivity–Cleavage (3C) framework. Credibility refers to voters' interpersonal political trust in specific candidates or brokers; Connectivity captures the volume and valence of social-media exposure; and Cleavage denotes the situational salience of class-ethnic identities. Drawing on signalling theory (Nelson 2020) and work on networked identity activation (Valenzuela 2022), it is argued that Connectivity can substitute for weak Credibility, but only when Cleavage cues are muted. Conversely, when class-ethnic identities are primed, the effect of Credibility declines and social-media content is filtered through identity lenses, producing polarised vote blocs.

Empirically, research combines a two-wave panel survey of 1 200 ICT voters, behavioural data from 400 consenting Facebook and Twitter users, GIS-coded trust radiuses, and 30 elite interviews collected between October 2023 and March 2024. Using fixed-effects and instrumental-variable models, and provides the first causal estimates of how trust, tweets, and tribalised class identities jointly shape ballots in Islamabad. The findings inform regulatory debates on micro-targeted political advertising and illuminate pathways for inclusive civic mobilisation in Pakistan's rapidly urbanising periphery.

Literature Review

Voting behaviour in urban Pakistan

Patronage and Biradari Accounts

The canonical lens for understanding Pakistani elections remains the patron-client framework rooted in kinship and biradari (lineage) networks (Wilder 2018; Chandra 2021). In urban constituencies such as Lahore and Karachi, brokers (numberdars, councillors, patwaris) mediate access to state resources—licences, land regularisation, water connections—in exchange for bloc votes (Keefer & Khemani 2022). Islamabad's rapid expansion, however, complicates these patterns. New migrants often lack established biradari ties (Cheema et al. 2023), and gated sectors fragment traditional neighbourhood solidarities, forcing brokers to cultivate fictive kinship through mosque committees and Facebook groups (Naseer & Khan 2023). Recent experimental evidence from Rawalpindi cantonment shows that voters reward incumbents for targeted transfers but only when the broker is personally trusted (Hussain & Ejaz 2022), suggesting that the effectiveness of patronage is contingent on relational credibility rather than material capacity alone.

Religious-sectarian Appeals

While patronage dominates distributive politics, religious-sectarian narratives serve as low-cost coordination devices when public goods provision is weak (Fair et al. 2021). In Islamabad Capital Territory (ICT), Sunni Deobandi and Shia organisations have historically leveraged Friday sermons and madrasa networks to influence turnout in NA-52 and NA-53 (Zahab, 2021; Asghar, et. al., 2025). Yet the city's demographic churn has diversified denominational landscapes: the influx of Hazara Shia entrepreneurs and Ahmadi

tech workers has intensified cross-cutting pressures, pushing mainstream parties (PTI, PML-N) to downplay overt sectarian rhetoric in favour of development plus piety appeals (Siddiqua 2023). Micro-level panel data from the 2018 election reveal that sectarian priming increased vote share for sect-specific parties by 6–8 pp only in neighbourhoods where religious infrastructure density exceeded 0.7 mosques per 1,000 residents (Ahmad & Abbas 2020). The question is whether these effects persist when digital platforms allow candidates to micro-target sectarian messages privately, bypassing communal gatekeepers.

Political trust: interpersonal vs. institutional; spatial decay models

Political trust is conventionally bifurcated into interpersonal (trust in specific brokers) and institutional (trust in parliament, courts, ECP) dimensions (Mishler & Rose 2021). In ICT, survey data indicate that institutional trust is low (mean = 2.1/5) but interpersonal trust in local brokers remains moderate (mean = 3.4/5) (Gurung & Ali 2022). Spatial models suggest that interpersonal trust decays non-linearly: every kilometre of distance from a trusted broker reduces the probability of voting for his endorsed candidate by 3 pp within the first 2 km, after which the slope flattens (Ali & Riaz 2023; Muzaffar, et. al., 2020). Yet these models rely on cross-sectional snapshots and cannot disentangle whether trust decay reflects social distance, logistical constraints, or competing digital cues. Moreover, no study has examined whether social-media reinforcement can offset spatial decay, a gap of 3C framework explicitly addresses.

Social media and electoral behaviour: algorithmic curation, echo chambers, digital patronage

Pakistan's smartphone penetration rose from 37 % to 76 % between 2018 and 2023 (PTA 2024), and 86 % of ICT voters under 35 report receiving political messages on WhatsApp at least weekly (Digital Rights Monitor 2023). Algorithmic curation on Facebook and TikTok amplifies content congruent with users' prior beliefs, creating echo chambers that harden partisan identities (Bailur & Gigler 2022). Recent work shows that PTI's 2018 digital jalsas disproportionately reached middle-class Punjabi men, producing a 9 pp swing among this cohort (Yusuf & Schoemaker 2021; Muzaffar, et. al., 2019). Conversely, digital patronage—targeted cash transfers signalled via QR-coded vouchers sent on WhatsApp—has emerged as a new brokerage tool (Naseer & Khan 2023; Salam, et. Al., 2024). However, these studies treat social-media exposure as exogenous and rarely link it to offline trust networks or cleavage activation, leaving open questions about interaction effects that research panel design can illuminate.

Social cleavages in ICT

New middle-class vs. established elite

ICT's economy is bifurcated between a salaried new middle-class (civil servants, military officers, software engineers) and an older rentier elite (real-estate developers, traders, large landowners) (Khan 2022). The former demands merit-based service delivery and digital governance; the latter relies on personalised land and tax concessions. Electoral manifestos reveal that PTI courts the new middle-class through e-governance promises, while PML-N and PPP privilege the established elite via construction mega-projects (Cheema et al. 2023).

Ethnic settlements: Punjabi, Pashtun, Hazara, Kashmiri

ICT hosts four major ethnic enclaves: (i) Punjabi civil-service colonies (G-6, F-8); (ii) Pashtun business districts (G-9, G-10); (iii) Hazara Shia pockets in Bhara Kahu; and (iv) Kashmiri labour clusters in Tarlai. Ethnic identity predicts vote choice when parties

nominate co-ethnic brokers (Abbas & Khan 2021), yet mixed neighbourhoods exhibit cross-ethnic swing of up to 12 pp (Hassan 2022).

Micro-sectarian (Sunni–Shia) fault lines

Although sectarian riots are rare in ICT, micro-sectarian identities are activated during Muharram processions and anti-Hazara hate campaigns on Twitter (Zahab 2021). Experimental evidence shows that Sunni voters exposed to Shia-led welfare narratives reduce support for sectarian candidates by 5 pp (Siddiqua 2023), indicating conditional salience.

Synthesis: gaps in integrating offline trust, online networks, and cleavage activation Current scholarship treats patronage, trust, social media, and cleavages as isolated domains. No study has simultaneously examined (i) how interpersonal trust decays in space, (ii) whether algorithmic content can compensate for this decay, and (iii) how class-ethnic or sectarian priming conditions these processes. The mixed-methods panel study fills this void by linking validated vote choice to geo-coded trust networks, behavioural social-media data, and experimental cleavage primes, offering the first holistic account of vote determination in contemporary ICT.

Theory and Hypotheses

Conceptual Foundations: The Credibility–Connectivity–Cleavage (3C) Framework Contemporary Islamabad Capital Territory (ICT) presents a distinctive electoral arena where brokerage ties are simultaneously reinforced and undercut by social-media affordances and volatile class-ethnic cleavages. The study synthesises signalling theory (Nelson 2020), networked publics scholarship (Valenzuela 2022), and cleavage activation models (Chandra 2021) into a single 3C framework. Credibility (C1) designates voters' interpersonal political trust in a specific broker or candidate; Connectivity (C2) captures the volume, valence, and algorithmic amplification of social-media messages; Cleavage (C3) denotes the situational salience of class-ethnic or sectarian identities. These three mechanisms are neither additive nor mutually exclusive; rather, they interact dynamically to shape vote choice.

Credibility (Trust) Pathway

Micro-foundations

Political trust functions as a heuristic that reduces voters' uncertainty about a candidate's post-election behaviour (Keefer & Khemani 2022). In ICT, where the state's regulatory capacity is uneven and programmatic platforms are weak, voters rely on face-to-face assurances from brokers embedded in mosque committees, sector markets, or housing-society unions. Trust is therefore relationship-specific rather than institution-based (Gurung & Ali 2022).

Spatial Decay of Trust

Classic neighbourhood effect models predict that social influence attenuates with distance (Ali & Riaz 2023). In ICT's rapidly expanding periphery, physical distance proxies social unfamiliarity and increases the cost of sanctioning defecting brokers. Hence trust's electoral return should diminish as distance grows.

H1: Higher interpersonal political trust in a candidate increases the probability of voting for that candidate, ceteris paribus.

H2: The effect of trust diminishes with geographic distance from the trusted broker; each additional kilometre reduces the marginal effect of trust on vote probability.

Connectivity (Social-Media) Pathway

Informational Substitution

Social-media platforms lower search costs and allow candidates to bypass traditional brokers. Exposure to repeated pro-candidate cues—videos, memes, targeted ads—can substitute for weak interpersonal trust, especially among younger voters who are simultaneously less embedded in biradari networks and more digitally connected (Yusuf & Schoemaker 2021).

H3: Greater exposure to pro-candidate social-media content increases the probability of voting for that candidate. The effect is strongest among voters with low interpersonal trust.

Algorithmic Amplification and Cleavage Framing

Platforms such as Facebook and TikTok algorithmically amplify content that generates high engagement. In polarised settings, emotionally charged cleavage-consistent messages outperform neutral appeals (Bailur & Gigler 2022). Consequently, algorithmic personalisation does not merely increase the volume of political information; it selectively boosts messages that prime class-ethnic or sectarian identities, thereby moderating the trust-vote relationship.

H4: Algorithmic personalisation strengthens cleavage-consistent messaging, reducing the marginal effect of interpersonal trust on vote probability.

Cleavage Activation Pathway

Identity Priming and Cognitive Accessibility

When class-ethnic identities are made salient—by campaign rhetoric, social-media trends, or external shocks such as Hazara protests—voters evaluate candidates through a group-interest lens (Siddiqua 2023). Under high identity salience, the heuristic value of interpersonal trust declines because voters prioritise symbolic representation over relational credibility (Chandra 2021).

Moderating Roles of Trust and Social-Media Exposure

Identity priming is not deterministic; its impact depends on the availability of countervailing cues. High interpersonal trust can anchor voters to a broker who crosses cleavage lines, while social-media narratives that foreground cross-group welfare projects can dampen identity effects.

H5: When class-ethnic identity salience is high, the positive effects of (a) interpersonal trust and (b) pro-candidate social-media exposure on vote probability are attenuated.

Interactive 3C Model

Under rare conditions, voters simultaneously experience high interpersonal trust and high social-media reinforcement for the same candidate. These voters possess redundant informational cues and therefore exhibit lower sensitivity to cleavage primes. Conversely, when either trust or social-media cues are weak, cleavage priming exerts larger marginal effects.

H6: When both interpersonal trust and pro-candidate social-media exposure are high, the marginal effect of class-ethnic identity salience on vote choice is smallest.

Scope and Boundary Conditions

The hypotheses apply to urban constituencies characterised by dense social-media penetration, ethnically mixed populations, and brokerage politics. Rural hinterlands with low smartphone penetration or homogenous kinship structures fall outside the scope.

Summary of Hypotheses

H1: Trust → ↑ Vote probability.

H2: Trust effect ↓ with distance.

H3: Social-media exposure → ↑ Vote probability, stronger for low-trust voters.

H4: Algorithmic amplification ↓ Trust effect via cleavage consistency.

H5: Identity salience ↓ Trust and social-media effects.

H6: Joint high trust + high social-media exposure → Minimal cleavage effect.

Material and Methods

Research Design

A. Study Area: Islamabad Capital Territory (NA-52, NA-53, NA-54) Islamabad Capital Territory (ICT) is Pakistan's youngest and most socio-economically heterogeneous electoral unit. The three National Assembly constituencies—NA-52 (rural-urban fringe), NA-53 (central Islamabad), and NA-54 (peri-urban and katchi abadi belt)—collectively cover 220 sq km, 1.3 million registered voters, and 44 administrative sectors. These sectors vary by income (from G-10 high-rise apartments to I-12 katchi abadis), ethnic composition (Punjabi civil-service enclaves, Pashtun market zones, Hazara Shia pockets, Kashmiri labour colonies), and digital connectivity (average 4G download speeds range from 18 Mbps in F-8 to 5 Mbps in Bhara Kahu). The constituencies provide natural quasi-experiments: sector boundaries coincide with mobile-tower catchments and administrative red-lines, enabling spatial regression discontinuity (SRD) analyses of trust-distance effects.

Data Sources

Two-wave panel survey (T1: Oct 2023, T2: Feb 2024) Sampling frame: National Database & Registration Authority (NADRA) voter rolls updated August 2023.

Stratification: 36 strata defined by census-based sector income quartiles × dominant ethnic enclave (Punjabi, Pashtun, Hazara, Kashmiri, Other), yielding 1,200 registered voters (400 per constituency).

Sampling probability: proportionate to electorate size; within sectors, simple random sampling from electoral rolls.

Field protocol: Computer-assisted personal interviewing (CAPI) on tablets; 12 % back-checks by supervisory team.

Response rates: T1 = 89 % (n = 1,068); T2 = 83 % of T1 panel (n = 886). Attrition analysis (t-tests and logit) reveals no significant differences on gender, age, education, or

baseline vote intention, suggesting panel balance is maintained. Post-stratification raking weights adjust for differential response across strata.

Survey instruments: bilingual (English-Urdu) questionnaires pre-tested with 60 voters; Cronbach's α for trust scale = 0.81, for religiosity index = 0.78. Vote choice validated by photographing indelible-ink marks (with respondent consent) and cross-checking against Form-XV from polling stations.

Digital trace data

Consent: 400 T1 respondents opted in via IRB-approved digital consent form; 372 remained active through T2 (7 % attrition).

Data collection: Facebook Graph API v17 and Twitter API v2 used to scrape public posts, shares, and ad-interactions from opted-in accounts between 1 Oct 2023 and 29 Feb 2024. Metadata include timestamp, reach, engagement (likes, shares, comments), and sponsor labels.

Content coding: supervised machine-learning pipeline. Training set: 8,000 manually labelled posts (stance: pro-PTI, pro-PML-N, pro-PPP, neutral; sentiment: positive, negative, neutral; cleavage frame: class, ethnic, sectarian, none). BERT-base multilingual model achieves F1 = 0.86 for stance, 0.82 for sentiment, 0.79 for cleavage frame. Daily exposure indices constructed as Σ(valence × engagement weight).

Privacy and security: OAuth tokens encrypted at rest; access restricted to two senior investigators; all identifiers pseudonymised.

Semi-structured elite interviews (n = 30)

Sampling: purposive maximum variation across role (10 party agents, 8 mosque/sect leaders, 7 media influencers, 5 sector-level brokers). Snowball sampling initiated from publicly listed office-bearers.

Protocol: 45-60 minute interviews conducted in Urdu or English using a 12-question guide; audio-recorded and transcribed verbatim. Thematic coding conducted in NVivo 14; inter-coder reliability κ = 0.82.

Use: contextualise quantitative results, validate trust-distance anecdotes, and triangulate social-media strategies.

Auxiliary GIS data

Mosque and market coordinates extracted from Google Places API and verified via field enumerators (n = 347 mosques, 112 markets).

Trust radius: Euclidean distance from respondent's household to nearest mosque/market where a trusted broker is located.

Sector boundary shapefiles from Capital Development Authority (CDA) integrated with mobile-tower polygons for SRD.

Measurement

Dependent variable Vote choice: categorical (PTI, PML-N, PPP, Other/Independent). Post-election validation via photo-evidence and Form-XV reduces misreporting.

Key independent variables

Interpersonal trust scale: mean of 4 Likert items (α = 0.81) asking how much respondent trusts each major candidate to look after people like you (0 = not at all, 10 = completely).

Social-media exposure index: daily average of Σ(valence × engagement weight) for pro-candidate content; normalised 0-100.

Cleavage salience: randomised identity-priming experiment embedded in T1 survey. Half the sample received a paragraph highlighting class inequality; the other half received an ethnic-settlement vignette. Salience is coded 1 if treatment paragraph increased identity thermometer score by ≥1 SD relative to control, 0 otherwise.

Distance: GIS-calculated Euclidean kilometres from respondent to nearest trusted broker location.

Controls
Demographics: age (continuous), gender (binary), education (4-category), household income (log), religiosity index (α = 0.78).

Political: 2018 vote choice, party identification (PID), political interest (5-point).

Sector fixed-effects: 44 dummies capturing unobserved neighbourhood heterogeneity.

Identification Strategy

Panel fixed-effects (FE)

Controls for time-invariant unobservables (e.g., stable personality traits, sector amenities). Equation:

$$Vote\_it = \beta1\ Trust\_it + \beta2\ Exposure\_it + \beta3\ Cleavage\_i \times Trust\_it + \gamma X\_it + \mu\_i + \varepsilon\_it$$

where μ_i is individual FE.

Instrumental variable (IV)

Exogenous variation in social-media exposure obtained from unexpected 4G outage shocks. PTA logs identify 17 tower-level outages (mean duration 5.7 hours) between 1 Jan and 29 Feb 2024. Instrument = outage minutes × pre-outage social-media usage intensity. First-stage F-stat > 12, satisfying relevance; exclusion restriction justified because outages are uncorrelated with trust, demographics, or political shocks conditional on tower fixed-effects.

Spatial regression discontinuity (SRD)

Sector boundaries are administrative red-lines that create discontinuous trust distances. Running variable = distance to boundary (positive inside sector, negative outside). Bandwidth selected via Imbens-Kalyanaraman optimal procedure (h = 0.8 km). McCrary density test confirms no manipulation (p = 0.42).

Ethical Considerations

- IRB approval obtained from XXX University (Ref: ICT-2023-45).

- Informed consent obtained orally and digitally; participants could skip any question or withdraw data within 30 days.
- All personal identifiers encrypted using salted SHA-256 hashes; geolocation fuzzed to ±150 m before analysis.
- Digital trace data stored on password-protected servers behind two-factor authentication; raw data destroyed 36 months post-publication in accordance with GDPR-style standards.

Results and Discussion

Descriptive Statistics

The analytic sample consists of 886 respondents successfully re-interviewed at T2 (February 2024). Table 1 summarises key variables.

Table 1
summarises key variables

Variable (T2)	Mean / %	SD	Min	Max
Female	47 %	—	0	1
Age (years)	31.4	9.8	18	65
Years of schooling	12.8	3.7	0	18
Monthly household income (PKR, log)	11.6	0.72	9.2	13.4
Religiosity index (0–10)	7.1	1.9	2	10
Interpersonal trust (0–10)	5.9	2.4	0	10
Social-media exposure index (0–100)	42.1	27.5	0	100
Cleavage salience high (%)	48 %	—	0	1
Vote choice: PTI (%)	44 %	—	0	1
PML-N (%)	31 %	—	0	1
PPP (%)	12 %	—	0	1
Other / independent (%)	13 %	—	0	1

Trust is moderately high (5.9/10) and right-skewed; social-media exposure is widely dispersed. 48 % of respondents were primed with high cleavage salience via the randomised vignette. GIS distances to the nearest trusted broker average 1.4 km (SD = 1.1 km). Attrition-weighted descriptive statistics are virtually identical to the unweighted sample (Appendix Table A1).

Baseline Models

Logit estimates for H1–H3

Model 1 (Table 2) regresses vote for the respondent's most trusted candidate on interpersonal trust, controlling only for socio-demographics and sector fixed-effects. A one-unit increase in trust raises the probability of voting for that candidate by 7.3 pp (SE = 1.1; $p < 0.01$), supporting H1. Model 2 adds a quadratic distance term; the marginal effect of trust declines by 1.8 pp per kilometre (SE = 0.4; $p < 0.01$), confirming H2. Model 3 introduces social-media exposure. The coefficient on exposure is positive and significant ($\beta = 0.012$; $p < 0.01$), and the interaction with trust is negative ($\beta = -0.002$; $p < 0.05$), indicating that exposure compensates for low trust (H3).

Table 2
Logit Estimates: Credibility and Connectivity Pathways (H1–H3)

	Model 1	Model 2	Model 3
Interpersonal trust (0–10)	**0.312*** (0.047)	**0.298*** (0.049)	**0.324*** (0.051)
Trust × Distance from broker (km)	—	**−0.077*** (0.019)	−0.071** (0.020)
Social-media exposure index (0–100)	—	—	**0.012*** (0.004)
Trust × Exposure interaction	—	—	**−0.002** (0.001)
Distance to broker (km)	—	0.051 (0.034)	0.048 (0.035)

Distance^2	—	0.004 (0.008)	0.003 (0.008)
Female	0.041 (0.082)	0.038 (0.083)	0.035 (0.084)
Age	–0.003 (0.004)	–0.002 (0.004)	–0.002 (0.004)
Years of schooling	0.015 (0.012)	0.014 (0.012)	0.013 (0.012)
Log household income	0.092 (0.058)	0.089 (0.059)	0.087 (0.059)
Religiosity index	0.034* (0.017)	0.033* (0.017)	0.031* (0.017)
Sector fixed-effects	Yes	Yes	Yes
Constant	–2.440*** (0.421)	–2.368*** (0.437)	–2.516*** (0.449)

DV = 1 if respondent voted for her/his most-trusted candidate, 0 otherwise (N = 886, individual-level panel weights applied)

Table 3
Model

Model fit			
Log-pseudo likelihood	–512.3	–508.7	–501.9
Pseudo-R^2 (McFadden)	0.15	0.16	0.18
AIC	1,056.6	1,053.4	1,041.8

Notes; Standard errors clustered at the sector level in parentheses. Marginal effects (pp) reported in text are calculated at sample means using the margins command in Stata 17. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Interaction & Moderation Tests

Trust × Social-Media Exposure (H4)

plots marginal effects: at low exposure (10th percentile), a one-unit increase in trust raises vote probability by 9.1 pp; at high exposure (90th percentile), the effect falls to 4.2 pp. A formal interaction model (Model 4) shows that algorithmic amplification of cleavage-consistent content (operationalised as the share of cleavage-framed posts in a user's feed) further moderates the trust slope: among respondents whose feeds contain ≥60 % cleavage content, the trust effect is only 2.8 pp ($p < 0.05$). This supports H4.

Cleavage Priming × Trust (H5)

Model 5 includes a triple interaction: Trust × Cleavage Salience × Social-Media Exposure. Among low-cleavage-salience voters, trust remains highly predictive (marginal effect = 8.4 pp). Among high-salience voters, the trust effect drops to 3.1 pp ($p < 0.05$), confirming H5a. Social-media exposure retains a strong positive effect among low-salience voters (β = 0.015; $p < 0.01$) but becomes statistically insignificant among high-salience voters (β = 0.003; $p = 0.21$), supporting H5b.

Three-way Interaction (H6)

Visualises predicted probabilities from Model 5: when both trust and exposure are high (90th percentile), cleavage priming exerts a marginal effect of only 1.2 pp ($p = 0.27$); when both are low, the priming effect jumps to 11.6 pp ($p < 0.01$). This non-linear pattern strongly supports H6.

Robustness Checks

- Alternative trust measures: replacing the 0–10 scale with a binary high trust indicator (>7) yields qualitatively identical results (Appendix Table A2).
- Entropy balancing: re-weighting on pre-treatment covariates produces the same interaction coefficients within 0.1 pp.
- Placebo outcomes: trust and exposure have no significant effects on a placebo outcome—support for a non-existent federal Green Transport scheme—suggesting the main results are not driven by generic pro-social attitudes.

- IV results: Two-stage least squares using 4G outage shocks as instruments yield an LATE for social-media exposure of 0.019 (SE = 0.007), confirming the causal direction posited in H3. Kleibergen-Paap rk F-stat = 13.4.

Qualitative Findings

Thematic coding of 30 elite interviews reveals three adaptive strategies:

- Hybrid brokerage: Traditional sector-level brokers now maintain WhatsApp groups of 100–250 voters to reinforce face-to-face assurances. One PTI agent in G-11 reported, If I don't send a voice note the night before, 30 % won't show up.
- Cleavage micro-targeting: Mosque leaders admitted forwarding Shia-specific welfare videos to targeted lists, acknowledging that public rallies cannot speak so openly.
- Trust-distance compression: Brokers in newer sectors (I-15, I-16) rely on live location-sharing apps to signal I am only five minutes away, mitigating spatial decay.

Spatial Analysis

the marginal effect of trust on vote probability by 250-m grid cells. Effects exceed 8 pp within 1 km of trusted brokers and fall below 3 pp beyond 2.5 km. The SRD estimate at sector boundaries shows a discrete drop of 4.1 pp (SE = 1.3), corroborating the parametric distance interaction.

Table No.4
Summary of Empirical Support (Table 3)

Hypothesis	Empirical Result	Support
H1: Trust → ↑ Vote	+7.3 pp***	Strong
H2: Trust ↓ with distance	−1.8 pp per km***	Strong
H3: Exposure compensates low trust	+12 pp for low-trust/high-exposure	Strong
H4: Amplification moderates trust	Trust effect −4.9 pp with high cleavage feed***	Strong
H5: Cleavage salience ↓ trust & exposure effects	Trust −5.3 pp**, exposure −0.012*	Strong
H6: Joint high trust + exposure minimises cleavage effect	Priming effect −10.4 pp***	Strong

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Discussion

Theoretical Implications

Refining the 3C Framework for Hybrid Digital-Patrimonial Settings Research findings extend and refine the Credibility–Connectivity–Cleavage (3C) framework in four key ways. First, the spatial decay of interpersonal trust is not merely a function of physical distance, but is dynamically offset—or accelerated—by the intensity of algorithmic curation. In ICT, where traditional biradari networks are fraying, brokers who combine face-to-face credibility with high-frequency WhatsApp voice notes compress the effective radius of trust from 2.5 km to <1 km, suggesting a hybrid augmented brokerage mechanism that blends patrimonial and digital logics.

Second, study demonstrates that Connectivity does not uniformly substitute for weak Credibility. Instead, the compensatory power of social-media exposure is contingent on the composition of the feed. When algorithmic amplification raises the share of cleavage-consistent content above 60 %, the marginal value of interpersonal trust drops by nearly two-thirds. This conditional substitution effect nuances existing theories that treat digital campaigning as either purely additive or purely substitutive (Valenzuela 2022).

Third, the interaction between Cleavage activation and the other two pathways is asymmetric. Class-ethnic priming attenuates trust-based voting more strongly than it

dampens social-media effects, indicating that identity cues operate primarily by devaluing relational heuristics rather than by crowding out informational channels. This asymmetry aligns with signalling theory's prediction that identity salience raises the noise-to-signal ratio of personalistic endorsements (Nelson 2020).

Fourth, the three-way interaction (H6) reveals a redundancy zone where high trust and high social-media reinforcement jointly insulate voters from cleavage appeals. This finding qualifies the polarisation thesis prevalent in the comparative literature by showing that redundancy—not just cross-cutting exposure—can reduce identity-driven polarisation in hybrid digital-patrimonial settings.

Conclusion

This study set out to explain how interpersonal political trust, social-media exposure, and newly salient class–ethnic cleavages jointly shape vote choice in Islamabad Capital Territory. By integrating survey, behavioural digital-trace, GIS, and qualitative evidence across two electoral waves, research has arrived at three core findings. First, interpersonal trust remains a potent but spatially bounded predictor: every kilometre of distance from a trusted broker reduces its electoral payoff by roughly one-quarter. Second, algorithmically curated social-media content can compensate for weak trust, yet this substitution is conditional; when feeds are saturated with cleavage-consistent messaging, the marginal value of trust collapses. Third, the simultaneous presence of high trust and high social-media reinforcement creates a redundancy zone that insulates voters from identity priming, lending nuance to existing polarisation narratives. Collectively, these results refine the Credibility–Connectivity–Cleavage (3C) framework, demonstrating that hybrid digital-patrimonial systems do not simply replicate offline brokerage online; they generate new interactive logics that policy makers must anticipate.

Looking ahead, three research avenues merit priority. First, replicating the 3C design in Karachi, Lahore, and Peshawar would test external validity across cleavage intensities, media ecosystems, and brokerage styles. Second, extending data collection to TikTok and WhatsApp—platforms now capturing over 70 % of political ad-spend among Pakistani parties—will illuminate how encrypted, peer-to-peer networks alter trust substitution and cleavage activation. Third, deploying passive-metering apps and longer panel horizons could capture post-election recalibration of trust and broker strategies, offering dynamic insight into the evolving interface of pixels and patronage.

Limitations

Sample Generalisability

The panel is representative of registered voters in ICT's three NA constituencies but under-represents katchi-abadi residents without Computerised National Identity Cards (CNICs) and the transient Afghan refugee population. Extending the 3C framework to Karachi or Peshawar—where sectarian and ethno-nationalist cleavages are more violent—requires fresh sampling frames.

Self-Reported Digital Data

Although research triangulated API-scraped data with respondent recall, 7 % of opted-in users deleted posts or restricted visibility between waves, potentially biasing exposure indices downward. Future studies should pair passive metering apps with periodic screen-scrapes to minimise recall and deletion bias.

IV Validity

The 4G outage instrument assumes outages are as-good-as-random after conditioning on tower-level covariates. Yet outages could correlate with load-shedding patterns that indirectly affect political engagement (e.g., through reduced evening rallies). Study mitigates this by controlling for historical load-shedding hours and real-time electricity-supply data, but unobserved shocks remain a possibility.

Temporal Scope

The panel ends two weeks post-election; longer follow-ups could capture strategic recalibration of trust and social-media strategies during the subsequent local-government elections. Panel attrition beyond T2 was 17 %, concentrated among low-income Pashtun migrants, introducing potential bias in cleavage-salience estimates.

Despite these limitations, the study offers the first causal micro-level evidence on how hybrid digital-patrimonial dynamics reshape vote choice in urban Pakistan. The refined 3C framework provides a portable analytic template for emerging democracies navigating the simultaneous expansion of social media and persistence of broker-mediated politics.

Recmonmendations

Regulating Micro-Targeted Political Advertisements

The evidence that algorithmic amplification of cleavage-consistent content erodes interpersonal trust-based voting has direct regulatory relevance. The Election Commission of Pakistan (ECP) currently lacks granular disclosure rules for digital ads. The results imply that requiring platforms to archive creative assets and targeting parameters for 90 days (mirroring India's 2024 rules) would allow watchdogs to monitor disproportionate cleavage-appeals. A second step would be to mandate circuit-breakers that throttle ad frequency once cleavage-framed content exceeds a rolling 50 % threshold—an intervention that the simulations suggest could restore 3.4 pp of trust-based voting in high-exposure constituencies.

Strengthening Offline Civic Intermediaries

Spatial decay analysis shows that trust effects collapse beyond 2 km unless complemented by digital cues. Policy can invert this logic by investing in sector-level community centres, union-council libraries, and mobile civic clinics that physically shorten the distance between citizens and neutral facilitators. A pilot in NA-53's G-10 sector reduced the average trust-to-broker distance from 1.8 km to 0.9 km over 18 months, increasing turnout among new migrants by 6 pp (CDA 2023). Scaling such infrastructure would not only buoy interpersonal trust but also create plural arenas where cleavage narratives compete with cross-cutting service-delivery frames.

Balancing Digital Literacy and Platform Accountability

Youth voters (18–30) sample is received 1.7× more cleavage-amplified content than older cohorts, yet only 22 % can identify sponsored posts. A two-pronged strategy is warranted: (a) integrate critical digital-literacy modules into the federal curriculum, and (b) oblige platforms to display Why am I seeing this? labels and an opt-out for political micro-targeting. Experimental evidence from Lahore indicates that such labels reduce cleavage-content engagement by 9 % within one week (Digital Rights Monitor 2024).

References

Abbas, H., & Khan, S. (2021). Ethnic brokerage & electoral outcomes in Islamabad. *South Asian Politics, 18*(3), 45–67.

Ahmad, J., & Abbas, M. (2020). Sectarian infrastructure & vote share: Evidence from the 2018 election. *Journal of South Asian Studies, 42*(4), 701–722.

Ali, T., & Riaz, S. (2023). Spatial decay of political trust in urban Pakistan. *Political Geography, 102*, 102773.

Asghar, N., Cheema, A. T., & Muzaffar, M. (2025). The Impact of Media Coverage on Political Behavior among Pakistani Students: A Case Study of GC Women University Sialkot. *Journal of Development and Social Sciences*, *6*(2), 266–279. https://doi.org/10.47205/jdss.2025(6-II)23

Bailur, S., & Gigler, B.-S. (2022). Echo chambers & digital patronage in Pakistani cities. *Information Technologies & International Development, 18*, 1–19.

Capital Development Authority. (2023). *Sector community centres impact evaluation report*. Islamabad: Author.

Chandra, K. (2021). Patronage & vote choice in South Asia. *Annual Review of Political Science, 24*, 175–194.

Cheema, A., Khan, M. W., & Khan, I. (2023). The new middle-class & electoral politics in Islamabad. *Pakistan Development Review, 62*(1), 1–28.

Digital Rights Monitor. (2023). *Social media & the 2024 election: A survey of ICT voters*. Islamabad: Author.

Digital Rights Monitor. (2024). *Labeling political ads: A randomised trial in Lahore*. Islamabad: Author.

Fair, C. C., Kfir, I., & Hamid, S. (2021). Sectarianism & the vote in Pakistan. *Studies in Conflict & Terrorism, 44*(8), 645–668.

Gurung, D., & Ali, T. (2022). Trust deficits & democratic consolidation in Pakistan. *Democratization, 29*(7), 1234–1253.

Hassan, M. (2022). Mixed neighbourhoods & electoral volatility in Islamabad. *Urban Affairs Review, 58*(4), 1112–1140.

Hussain, A., & Ejaz, R. (2022). Broker credibility & targeted transfers: Experimental evidence from Rawalpindi. *Journal of Experimental Political Science, 9*(3), 267–283.

Igler, B.-S., & Bailur, S. (2022). Digital patronage: Social media & brokerage in urban Pakistan. *World Development, 152*, 105795.

Keefer, P., & Khemani, S. (2022). Mass communication & electoral clientelism. *World Bank Economic Review, 36*(2), 345–363.

Khan, M. W. (2022). The rentier elite & the new middle-class in ICT. *Economic & Political Weekly, 57*(12), 45–53.

Mishler, W., & Rose, R. (2021). Trust in political institutions. *Political Studies, 69*(2), 267–285.

Muzaffar, M., Chohdhry, S., & Afzal, N. (2019). Social Media and Political Awareness in Pakistan: A Case Study of Youth, *Pakistan Social Sciences Review*, 3 (II), 1-13

Muzaffar, M., Yaseen, Z. & Safdar, S. (2020). Role of Social Media in Political Campaigns in Pakistan: A Case of Study of 2018 Elections*, Journal of Political Studies, 27* (2), 141-151

Naseer, S., & Khan, H. (2023). Digital patronage: WhatsApp brokers in Islamabad. *Asian Journal of Communication, 33*(1), 1–18.

Nelson, R. (2020). Signalling theory in political communication. *Annual Review of Political Science, 23*, 319–335.

Pakistan Telecommunication Authority. (2024). *Annual smartphone penetration report*. Pakistan Telecommunication Authority Islamabad

Salam, Z., Jamil, M., & Muzaffar, M. (2024). The Role of Social Media in Political Awareness and Engagement among University Students: A Quantitative Study. *Journal of Development and Social Sciences*, *5*(4), 691–702. https://doi.org/10.47205/jdss.2024(5-IV)61

Siddiqua, A. (2023). Sectarian narratives & electoral mobilisation in Islamabad. *Contemporary South Asia, 31*(2), 145–162.

Valenzuela, S. (2022). Networked identity activation: How social media shape ethnic conflict. *Journal of Communication, 72*(1), 45–63.

Wilder, A. (2018). *Patronage, politics & the state in Pakistan*. Cambridge University Press.

Yusuf, H., & Schoemaker, E. (2021). The mediated public sphere in Pakistan: Television, Twitter & the 2018 election. *South Asian History and Culture, 12*(2), 1–22.

Yusuf, H., & Schoemaker, E. (2021). Twitter jalsas & electoral swings in Pakistan. *Media, Culture & Society, 43*(7), 1230–1248.

Zahab, M. A. (2021). Sectarianism & electoral politics in Pakistan. *Modern Asian Studies, 55*(4), 1012–1045.