

Exploring the Predictive Power of Subjective Norms on Population Census Participation Among Urban Residents in Lagos, Nigeria



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ABSTRACT

This study investigates the behavioural intentions of residents in Lagos, Nigeria, towards participation in the national population census through the lens of the Theory of Planned Behaviour (TPB). Specifically, it examines the influence of attitude, perceived behavioural control, and subjective norms on future census participation. The study employed a quantitative research design using survey data from 500 respondents across selected local government areas in Lagos State. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to test the hypothesised relationships. Three hypotheses were formulated. Hypothesis one (H01) tested whether attitude significantly influences behavioural intention; hypothesis two (H02) evaluated the effect of perceived behavioural control. The results revealed that all three constructs had statistically significant positive effects on residents' intentions to participate in the census. Notably, hypothesis three demonstrated that subjective norms significantly influence behavioural intentions ($\beta = 0.596$, $t = 5.782$, $p < 0.000$), with an R^2 value of 0.356 and an effect size (F^2) of 0.552, indicating a strong effect. These findings suggest that perceived social pressure from significant others—such as family, peers, and community leaders—plays a vital role in shaping intentions toward census participation. The model showed acceptable reliability and validity, with satisfactory model fit indices (SRMR = 0.069, NFI = 0.924). The study concludes that strengthening community advocacy and leveraging social influencers can enhance census participation in Lagos. These insights provide actionable guidance for policymakers and census officials seeking to boost public engagement and accurate data collection in future census exercises.

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INTRODUCTION

National population enumeration activities present potential for enabling sustainable development, social welfare, and provision of data insights for effective governance, policymaking, planning and administration and equitable distribution of resources. Nevertheless, these potentials can only be harnessed through the effective execution of population census programs, which is determined by several factors. These include public willingness to participate in census activities, positive public perception of census activities, and public awareness of census results.¹

¹ Justitia O Nnabuko, "Public Relations Strategies and the Performance of National Population Commission Census Exercises in Nigeria," *Journal Homepage: Http://ijmr. Net. In* 10, no. 3 (2022).

The aforementioned factors are, however, influenced by the strength of communication techniques engaged during these census periods. Nduba et. al., similarly, admit that communication and media advocacy campaigns are pertinent in ensuring mass public involvement in population census events.² Therefore, in the absence of the adoption of developmental communication techniques, population census activities coordinated by the government might be characterized by hesitancy in participation, distrust in results retrieved from enumeration, and negative attitudes towards census activities, as seen in the case of the Nigerian society and its national population census activities conducted in previous times.³ Data retrieved from previous population censuses conducted by the National Population Commission (NPC) have been described as inconclusive and inaccurate by relevant stakeholders in Nigerian society, particularly the masses.

Similarly, Bamgbose observed that the immediate population census of 2006 was characterized by gross participation hesitancy, ignorance of census activities, and poor perception of census activities in specific regions within the federation due to sociocultural and economic influences, which adversely affected public acceptance of the 2006 population statistics and were concluded to be 140,431,790.⁴ Eme et al. similarly opine that a high percentage of Nigerians believed that these statistics reflected the political interest of influential powerhouses rather than the actual data retrieved in the course of the 2006 census conducted by the NPC.⁵

Consequently, external international organizations have attempted to enumerate the Nigerian population without a census; hence, as of 2022, the UN estimated Nigeria's population to be 222,237,108 in 2022 while projecting it to rise to 223,804,632 by July 2023 and over 400 million by 2050. While this statistic might be considered authentic due to the credibility associated with the UN, the national population census needs to be conducted by relevant government parastatals within Nigeria, such as the NPC. Hence, the NPC in the first quarter (Q₁) of 2023 announced plans for the conduct of the first digital population and housing census in Nigeria, scheduled to be held in April 2023.

The NPC census was, however, postponed indefinitely due to the need for more planning by the Ministry of Finance, Budget and National Planning.⁶ The indefinite deferment of the census poses challenges to public participation and perception of the NPC's competence, which presents the need for utilization of effective communication techniques. It is, however, pertinent to note that the census has always been problematic in Nigeria. The 1962, 1963 and 1973 censuses were bedevilled with controversies.⁷ They were mostly about deliberate manipulation of census figures at sub-national levels. The 1973 census provoked debate along ethnic lines. In 2006, the Lagos State government rejected the figures and ran a parallel census, which was a result of limited public participation, public agitations and distrust in the results- this consequently presented a communication gap.⁸ Considering this negative reality, there has been a limited assessment of the ongoing communication techniques utilized by the NPC to interact with Nigerians regarding the imminent census.

This study aims to examine the influence of the NPC communication strategies on Lagos residents' attitudes and behavioural intentions toward participation in the forthcoming population census. By exploring how communication efforts shape public perception and intention, the research provides valuable insights into the effectiveness of the NPC's outreach. Findings from the study will offer evidence-based recommendations to enhance awareness, address public concerns, and motivate active participation in the census among Lagos residents.

² Onyebuchi Nduba et al., "The Place of Population Census and National Planning on Nigeria's National Development" 7 (February 1, 2023): 178–84.

³ J. F. Olorunfemi and Irewolede Fashagba, "Population Census Administration in Nigeria," in *Gerian Politics. Advances in African Economic, Social and Political Development*, 2021, 353–67, https://doi.org/10.1007/978-3-030-50509-7_19.

⁴ J Adele Bamgbose, "Falsification of Population Census Data in a Heterogeneous Nigerian State: The Fourth Republic Example," *African Journal of Political Science and International Relations* 3, no. 8 (2009): 311.

⁵ Okechukwu I. Eme and Adeline Idike, "Census Politics in Nigeria: An Examination of 2006 Population Census," *Journal of Policy and Development Studies* 9, no. 3 (2015): 47–72, <https://doi.org/10.12816/0011166>.

⁶ Salisu Ogbo Usman et al., "An Assessment of COVID-19 and Its Impact on Nigeria's Socio-Economic Development," *Cogent Social Sciences* 10, no. 1 (December 31, 2024), <https://doi.org/10.1080/23311886.2024.2306700>.

⁷ Olorunfemi and Fashagba, "Population Census Administration in Nigeria."

⁸ Bamgbose, "Falsification of Population Census Data in a Heterogeneous Nigerian State: The Fourth Republic Example."

LITERATURE REVIEW

A population census is a systematic process of collecting, compiling, evaluating, analyzing, and publishing demographic, social, and economic data pertaining to all persons in a country at a specific time.⁹ It serves as the backbone for evidence-based policymaking, equitable resource allocation, and long-term development planning. In many nations, census results influence political representation, distribution of public funds, and development priorities.¹⁰

Despite its importance, achieving full participation remains a persistent challenge, particularly in developing countries. Barriers to participation include logistical constraints, public mistrust of government institutions, low awareness, misinformation, fear of data misuse, and socio-cultural attitudes toward civic obligations.¹¹ These challenges highlight the need to understand the social and psychological factors that motivate or discourage participation.

Census participation is not a purely individual choice; rather, it occurs within a broader web of social relationships and cultural expectations. The Theory of Planned Behavior (TPB) provides a suitable framework to investigate these influences, with subjective norms standing out as a potentially strong predictor in community-oriented contexts.¹²

Understanding Subjective Norms

Subjective norms are defined as the perceived social pressure from significant others—such as family members, friends, respected leaders, or peers—to engage or not engage in a particular behavior.¹³ They reflect the extent to which individuals believe that people important to them approve or disapprove of their actions. In collectivist societies, where communal identity outweighs personal autonomy, subjective norms can be more influential than personal attitudes in shaping intentions.¹⁴ For example, in rural African communities, the collective opinion of elders, chiefs, or religious leaders often determines whether individuals perceive census participation as socially desirable.

Research on civic engagement suggests that social endorsement reinforces perceptions of legitimacy and can counteract distrust toward governmental initiatives.¹⁵ When respected figures openly support the census, community members are more likely to follow suit, viewing participation as a shared responsibility rather than a personal choice.

Subjective Norms and the Theory of Planned Behavior

The TPB explains human behavior as the result of three interrelated factors:

1. **Attitude toward the behavior** – the individual’s evaluation of performing the act.
2. **Subjective norms** – the perceived expectations of others.
3. **Perceived behavioral control** – the perceived ease or difficulty of performing the act.¹⁶

Within this framework, subjective norms act as the social influence component, capturing the extent to which social expectations shape intentions. In high-context cultures—where much communication is implicit and shaped by social hierarchies—subjective norms can outweigh personal attitudes.¹⁷

For instance, Adedokun, Adeyemi, and Salawu found that in certain Nigerian rural communities, a chief’s public endorsement of the census acted as a decisive factor for household compliance,

⁹ United Nations (UN), *World Population Prospects 2019: Highlights (ST/ESA/SER.A/423)* (Department of Economic and Social Affairs, Population Division, 2019).

¹⁰ Bernard Baffour, Thomas King, and Paolo Valente, “The Modern Census: Evolution, Examples and Evaluation,” *International Statistical Review* 81, no. 3 (December 24, 2013): 407–25, <https://doi.org/10.1111/insr.12036>.

¹¹ L. Simpson and B. Akinwale, “Public Perceptions of Census-Taking in Nigeria,” *African Journal of Social Research* 12, no.1(2017):45–60.

¹² I Ajzen, “The Theory of Planned Behavior,” *Organizational Behavior and Human Decision Processes* 50, no. 2 (1991): 179–211.

¹³ Icek Ajzen, “The Theory of Planned Behavior,” *Organizational Behavior and Human Decision Processes* 50, no. 2 (1991): 179–211.

¹⁴ Harry Charalambos Triandis, *Individualism and Collectivism, Individualism & Collectivism.*, New Directions in Social Psychology. (Boulder, CO: Westview Press, 1995).

¹⁵ C. Bennett, “Social Influence and Civic Participation,” *Journal of Behavioral Studies* 14, no. 3 (2018): 211–29.

¹⁶ Ajzen, “The Theory of Planned Behavior,” 1991.

¹⁷ Geert Hofstede, “Culture’s Consequences: Comparing Values, Behaviors, Institutions and Organizations across Nations,” *International Educational and Professional*, 2001.

regardless of individuals' personal beliefs about the exercise.¹⁸ This illustrates how subjective norms function as a bridge between social structures and personal action.

Socio-Cultural Context as a Moderator

The strength of subjective norms is deeply shaped by socio-cultural factors. In rural, close-knit communities, interpersonal communication and shared cultural norms reinforce social expectations. Leaders can mobilize participation through direct appeals, storytelling, and public gatherings, making subjective norms more potent. Conversely, in urban, individualistic settings, decisions tend to be more private and less influenced by communal pressures. Urban residents may be exposed to diverse and conflicting opinions, diluting the influence of any single social group.

Ethnic identity, religious affiliation, and historical relationships with state authorities also play key roles. Communities that feel politically marginalized may view census participation with suspicion, resisting even when encouraged by local leaders.¹⁹ Conversely, communities that see themselves as undercounted in the past may actively mobilize census participation to improve political representation.

Digital Influence and Modern Mobilization

While much of the literature on subjective norms in census participation focuses on traditional, face-to-face influence, the rise of digital mobilization is shifting the landscape. Social media platforms now serve as tools for both official census campaigns and grassroots mobilization. These online spaces can amplify subjective norms by showing visible community participation and endorsements from influencers.²⁰

For instance, in Kenya's 2019 census, youth-led campaigns on Twitter and Facebook used hashtags and influencer participation to encourage registration, effectively creating online peer pressure that complemented offline mobilization. This suggests that future research on subjective norms should consider both offline and online social influence as potential predictors of participation.

METHODOLOGY

This study employed a quantitative research design to investigate the effectiveness of communication strategies used by the National Population Commission (NPC) in promoting awareness and participation in the population census among Lagos residents. Specifically, the study tested a set of hypotheses to examine the influence of information sources on respondents' knowledge, attitudes, and behaviours toward the census.

A survey design was adopted to generate measurable data from residents of Alimosho Local Government Area (LGA), the most populous LGA in Lagos State, with an estimated population of 1,817,200. The sample size was calculated using the Taro Yamane formula, resulting in the administration of 500 questionnaires.

A multi-stage sampling technique ensured representativeness. First, Alimosho LGA was stratified into its 11 political wards. Dwelling structures were then selected using a route-walk method, households were identified via a household selection grid, and individual respondents were chosen using the Kish Grid, ensuring randomness and gender balance.

Data was collected using a structured questionnaire, incorporating Likert scale items to assess attitudes. The surveys were administered electronically using SurveyCTO, which enabled real-time monitoring, GPS tracking, and voice-note verification for data quality assurance.

Instrument validity and reliability were ensured through expert review and a pilot study involving 50 respondents (10% of the sample) in a similar community in Ota, Ogun State. Data analysis was conducted using SPSS for descriptive statistics and SmartPLS for hypothesis testing. The latter enabled the evaluation of the structural model, identifying the significance of various information

¹⁸ B. O Adedokun, A. Adeyemi, and A. Salawu, "Traditional Leadership and Community Participation in National Census. African Population Studies," *African Population Studies* 33, no. 2 (2019): 1–15.

¹⁹ Simpson. L. and Akinwale, "Public Perceptions of Census-Taking in Nigeria."

²⁰ Rahim Maleknia, Aureliu-Florin Hălălișan, and Kosar Maleknia, "Who Shapes What We Should Do in Urban Green Spaces? An Investigation of Subjective Norms in Pro-Environmental Behavior in Tehran," *Forests* 16, no. 8 (August 4, 2025): 1273, <https://doi.org/10.3390/f16081273>.

sources on census-related knowledge, attitudes, and behaviours. All hypotheses were tested in their null form, using inferential statistics to determine significance levels.

All the participants were informed about the set objective of the study. They were allowed to discontinue their participation at any level without providing a reason(s) for the decision. Therefore, only those who are willing to participate in the survey. Besides, the respondents stayed anonymous with a promise that all their responses would be treated with the utmost confidentiality. Verbal consent was obtained from the respondents. The intent and background of the study were stated, and respondents were kept abreast of the process of participation.

PRESENTATION OF FINDINGS

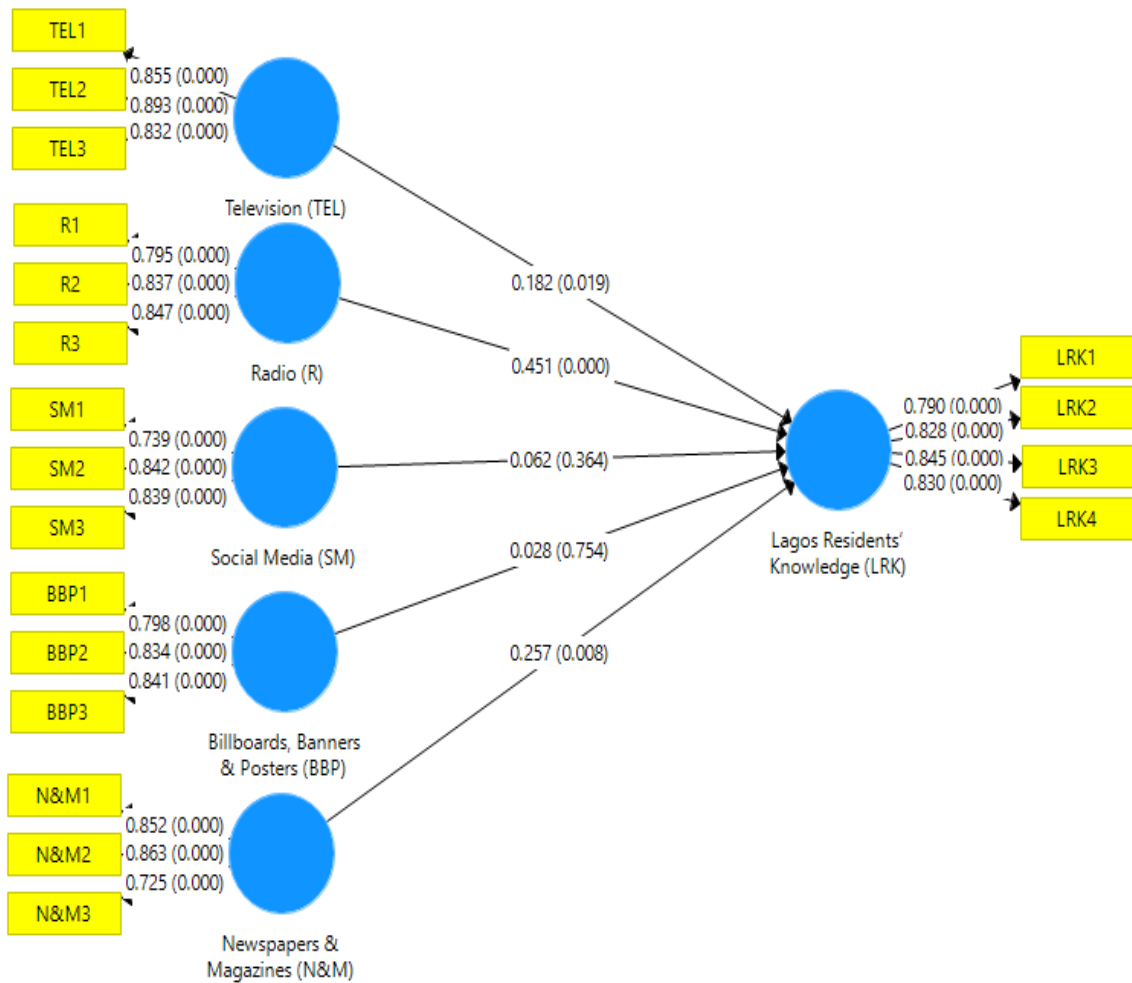
	Frequency	Percentage
Gender		
Male	218	47.1
Female	245	52.9
Total	463	100%
Age		
Below 20 years	12	2.6
21-30 years	96	20.7
31-40 years	147	31.7
41-50 years	101	21.8
Above 50 years	107	23.1
Total	465	100%
Marital Status		
Single	124	26.8
Married	296	63.9
Separated/Divorced	25	5.4
Widowed	18	3.9
Total	465	100%
Main Occupation		
Civil/public servant	32	6.9
Self-employed	333	71.9
Unemployed	37	8.0
Student	38	8.2
Others	23	5.0
Total	465	100%
Highest Educational Qualifications		
Primary	65	14.0
Secondary	222	47.9
Tertiary	176	38.0
Total	465	100%

Hypothesis One

H₀₁: Information sources do not significantly influence residents' knowledge of the population census.

Hypothesis one tested the influence of information sources on Lagos residents' knowledge of the population census. The basic Path coefficients, t-statistics, R-square values, and p-values were used to interpret the results. The higher the R-square, the greater the predictive power of the model. However, the p-value reveals further information regarding the F-statistic hypothesis testing, which indicates that the fit of the intercept-only model and the model remain equal. Thus, if the p-value is smaller than the threshold for significance level, which is generally 0.05, the model fits the data adequately. The path of the coefficient, as illustrated in Figure 1, reveals the degree and extent of the association between the observed variables. The r-square, on the other hand, indicates the amount of variation in the Lagos

residents' knowledge of the population census as explained by the information sources. The p-value signifies the degree of probability that must be below 0.05 to be regarded as significant, as stated in Figure 1. In contrast, t-statistics reflect the observed variations in standard error units.



BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRK- Lagos Residents' Knowledge

Figure 1: Information Sources and Residents' Knowledge of the Population Census Model

Figure 1 shows the PLS algorithm model information sources and Lagos residents' knowledge of the population census, with the loading values of each item of measurement of the constructs. The Figure describes the PLS Bootstrapping Model with β and P-coefficient of the value of information sources and Lagos residents' knowledge of the population census. At a p-value of 0.05, all the values of the variables obtained in the research instrument are significant.

Table 2: Construct validity and Reliability for Hypothesis One

	Loading	VIF	P value	AVE	Composite Reliability	Cronbach's Alpha
Constructs	≥ 0.7	< 3.0	< 0.05	≥ 0.5	≥ 0.8	> 0.7
Television (TEL)				0.740	0.895	0.825
TEL1	0.855	1.765	0.000			
TEL2	0.893	1.543	0.000			
TEL3	0.832	1.911	0.000			

Radio (R)				0.683	0.866	0.768
R1	0.795	2.000	0.000			
R2	0.837	1.773	0.000			
R3	0.847	2.125	0.000			
Social media (SM)				0.653	0.849	0.733
SM1	0.739	2.010	0.000			
SM2	0.842	2.112	0.000			
SM3	0.839	1.776	0.000			
Billboards, Banners and Posters (BBP)				0.680	0.864	0.765
BBP1	0.798	1.800	0.000			
BBP2	0.834	1.811	0.000			
BBP3	0.841	1.589	0.000			
Newspapers and Magazines (NandM)				0.665	0.856	0.753
NandM1	0.852	1.239	0.000			
NandM2	0.863	1.230	0.000			
NandM3	0.725	1.578	0.000			
Lagos Residents' Knowledge (LRK)				0.678	0.894	0.845
LRK1	0.790	1.992	0.000			
LRK2	0.828	1.678	0.000			
LRK3	0.845	1.722	0.000			
LRK4	0.830	2.001	0.000			

BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRK- Lagos Residents' Knowledge

Table 2 shows the factor loadings of all the measurement items for information sources and Lagos residents' knowledge of the population census. The instrument's validity and reliability were further evaluated using composite reliability, average variance extracted (AVE) computation, and Cronbach Alpha. At the same time, the recommended requirements for factor loading, composite reliability, AVE, and Cronbach Alpha were satisfied.

Convergent and discriminant validity were also explored in the study to determine construct validity. Convergent validity indicates a connection between information sources and Lagos residents' knowledge of the population census.

Table 3: Discriminant Validity

	BBP	LRK	NandM	R	SM	TEL
BBP						
LRK	0.666					
NandM	0.798	0.724				
R	0.732	0.623	0.521			
SM	0.505	0.486	0.417	0.416		
TEL	0.521	0.605	0.420	0.534	0.653	

BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRK- Lagos Residents' Knowledge

Table 3 depicts the heterotrait-monotrait discriminant value. The heterotrait-monotrait (HTMT) ratio of the correlation was utilised to measure discriminant validity. The upper confidence intervals are all lower than one, and all the HTMT values were judged to be considerably different from one. Furthermore, the statistical results suggest that all the values are less than the critical threshold of HTMT 0.85. Furthermore, the average heterotrait-heteromethod relationship is less than the average monotrait-heteromethod correlation. The discriminant validity is thus confirmed.

The variance inflation factor (VIF) was also used to assess for common method bias. Though a VIF score of one shows a total absence of collinearity, most studies advocate a VIF value of 10 as the cutoff. Other studies pushed for a more conservative limit of 2.5 to 5 points. All the VIF values for every component in each variable measurement are substantially below the conservative threshold of 5.

Table 4: Model Fit

	Estimated
SRMR	0.065
d_ULS	1.180
d_G	1.051
Chi-Square	312.224
NFI	0.927

Table 4 shows the model fit. All the model fit indicators were determined to be adequate. SRMR standardises the residual average between the observed and hypothesised covariance matrices. The SRMR is a statistic used to estimate model fit. It is considered trustworthy when the SRMR is less than 0.08. The SRMR of this study model was also 0.065, indicating a satisfactory fit for this research. The NFI value for this study is 0.927, which exceeds the benchmark of 0.90, based on a chi-square value of 312.224.

The Q2 values were used to estimate the PLS-SEM predictive relevance of the metric constructs and data points of indicators. The Q2 value for LRK is 0.397, which is more than zero. This shows that the PLS route model has predictive relevance for the constructs. Similarly, the F-square was employed to calculate the effect size. Table 4.13 shows that the f-square values for BBP, NM, R, SM and TEL are 0.227, 0.310, 0.250, 0.287 and 0.331. This means that the sample effect is deemed significant.

H₀₁: Information sources do not significantly influence Lagos residents' knowledge of the population census.

Table 5 : Coefficient value of Hypothesis One

	Variables	Path Co-efficient	SD	T-Statistics	P Values	R ²	F ²	Decision
H ₀₁	BBP → LRK	0.028	0.089	0.313	0.754	0.001	0.227	Not Significant
H ₀₁	NandM → LRK	0.257	0.097	2.664	0.008	0.066	0.310	Significant
H ₀₁	R → LRK	0.451	0.106	4.249	0.000	0.203	0.250	Significant
H ₀₁	SS → LRK	0.062	0.068	0.908	0.364	0.001	0.287	Not Significant
H ₀₁	TEL → LRK	0.182	0.077	2.356	0.019	0.033	0.331	Significant

BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRK- Lagos Residents' Knowledge

Table 5 provides a detailed analysis of the influence of various information sources on Lagos residents' knowledge of the population census. The hypothesis H₀₁ assumed that information sources do not significantly affect residents' knowledge. Each source was assessed using key metrics, including path coefficients, T-statistics, P-values, R², and effect sizes (F²), offering insights into their relative impact.

Billboards, banners, and posters (BBP) showed an insignificant relationship with Lagos residents' knowledge, as indicated by a path coefficient of 0.028, a T-statistic of 0.313, and a P-value of 0.754. These findings suggest that visual advertisement tools such as posters and banners have minimal influence on increasing knowledge of the census. The R² value of 0.001 and F² of 0.227 confirm that

BBP contributed negligibly to the knowledge outcomes. However, newspapers and magazines (NandM) exhibited a significant favourable influence. However, with a path coefficient of 0.257, a T-statistic of 2.664, and a P-value of 0.008, this medium emerged as a reliable source of information for educating the public about the census. Also, the R^2 value of 0.066 indicates a moderate contribution, while the effect size ($F^2 = 0.310$) highlights its effectiveness. Radio (R) emerged as the most influential medium, with a path coefficient of 0.451, a T-statistic of 4.249, and a highly significant P-value of 0.000. The R^2 value of 0.203 demonstrates its substantial contribution to knowledge, while the F^2 effect size of 0.250 underscores radio's critical role in public awareness campaigns.

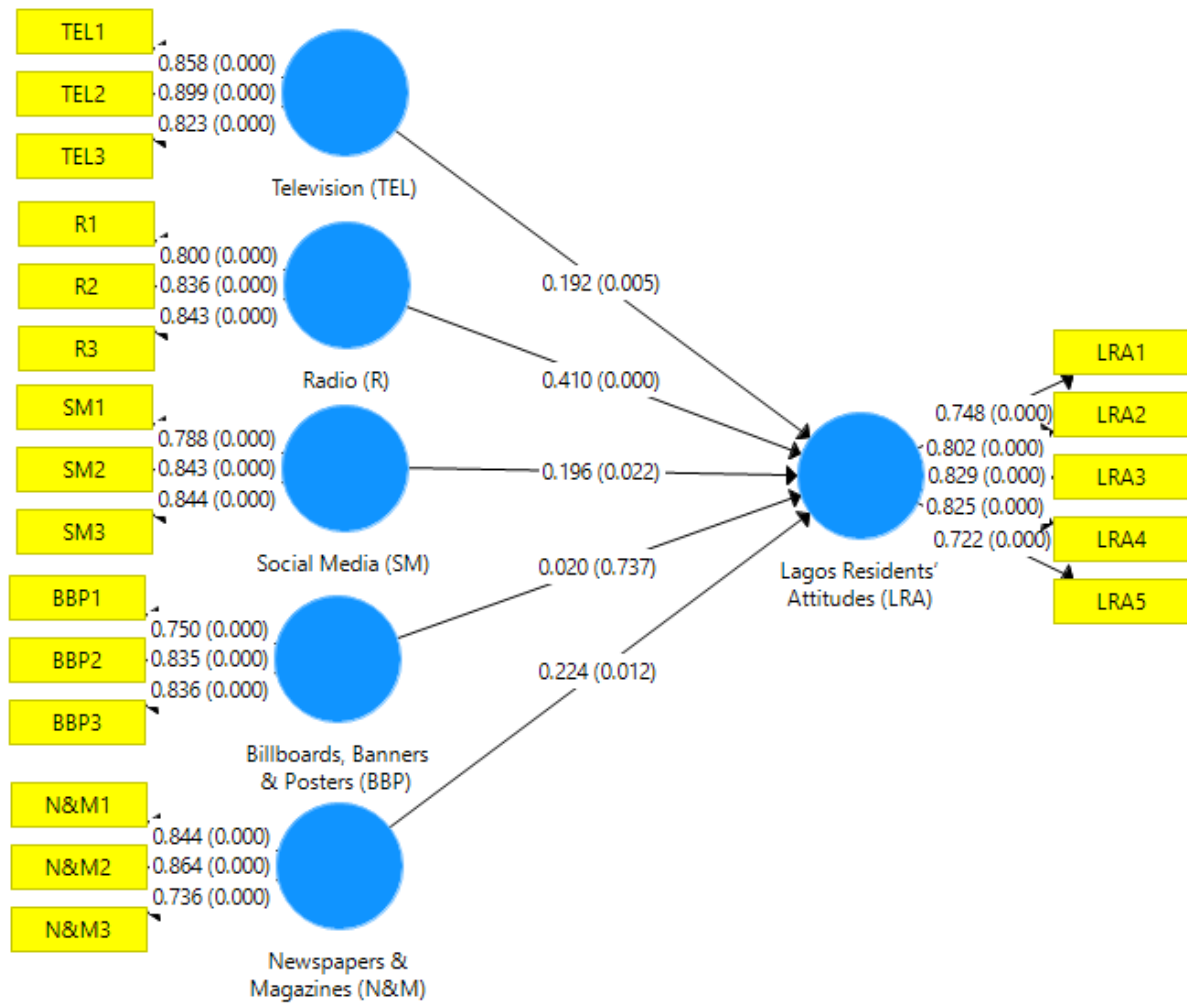
In contrast, social media (SS) proved to have no significant effect, with a path coefficient of 0.062, a T-statistic of 0.908, and a P-value of 0.364. Despite its widespread use, the R^2 value of 0.001 and F^2 of 0.287 suggest that social media's impact on census knowledge is minimal, possibly due to its fragmented nature or lack of targeted educational content. Television (TEL) demonstrated a significant positive influence, with a path coefficient of 0.182, a T-statistic of 2.356, and a P-value of 0.019. Though the R^2 value of 0.033 indicates a smaller contribution than radio, the F^2 value of 0.331 shows that television remains an effective tool for disseminating census-related information.

The analysis highlights radio, newspapers, and television as significant contributors to enhancing Lagos residents' knowledge of the population census. Among these, radio stands out as the most impactful medium. Conversely, billboards, banners, posters, and social media were found to have limited influence. These findings underscore the importance of leveraging traditional media, particularly radio and television, for public education initiatives in Lagos.

Hypothesis Two

H₀₂: Information sources have no significant influence on the attitude of residents towards the population census.

Hypothesis two tested the influence of information sources on the attitude of Lagos residents towards the population census. The primary Path coefficients, t-statistics, R-square values, and p-values were used to interpret the results. The higher the R-square, the greater the predictive power of the model. However, the p-value reveals further information regarding the F-statistic hypothesis testing, which indicates that the fit of the intercept-only model and the model remain equal. Thus, if the p-value is smaller than the threshold for significance level, which is generally 0.05, the model fits the data adequately. The r-square, on the other hand, indicates the amount of variation in the attitude of Lagos residents towards the population census, as explained by the information sources. The p-value signifies the degree of probability that must be below 0.05 to be regarded as significant. In contrast, t-statistics reflect the observed variations in standard error units.



BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRA- Lagos Residents' Attitude

Figure 2: Information Sources and attitude of Lagos residents towards the population census Model

Figure 2 shows the PLS algorithm model information sources and attitude of Lagos residents towards population census, with the loading values of each item of measurement of the constructs. The Figure describes the PLS Bootstrapping Model with β and P-coefficient of the value of information sources and Lagos residents' knowledge of the population census. At a p-value of 0.05, all the values of the variables obtained in the research instrument are significant.

Table 6 Construct validity and Reliability for Hypothesis Two

	Loading	VIF	P Value	AVE	Composite Reliability	Cronbach's Alpha
Constructs	≥ 0.7	< 3.0	$< .05$	≥ 0.5	≥ 0.8	> 0.7
Television (TEL)				0.740	0.895	0.825
TEL1	0.858	1.765	0.000			
TEL2	0.899	1.543	0.000			
TEL3	0.823	1.911	0.000			
Radio (R)				0.683	0.866	0.768

R1	0.800	2.000	0.000			
R2	0.836	1.773	0.000			
R3	0.843	2.125	0.000			
Social media (SM)				0.681	0.865	0.765
SM1	0.788	2.010	0.000			
SM2	0.843	2.112	0.000			
SM3	0.844	1.776	0.000			
Billboards, Banners and Posters (BBP)				0.653	0.849	0.733
BBP1	0.750	1.800	0.000			
BBP2	0.835	1.811	0.000			
BBP3	0.836	1.589	0.000			
Newspapers and Magazines (NandM)				0.667	0.857	0.753
NandM1	0.844	1.239	0.000			
NandM2	0.864	1.230	0.000			
NandM3	0.736	1.578	0.000			
Lagos Residents' Attitude (LRA)				0.619	0.890	0.845
LRA1	0.748	2.212	0.000			
LRA2	0.802	1.344	0.000			
LRA3	0.829	1.911	0.000			
LRA4	0.825	2.430	0.000			
LRA5	0.722	1.707	0.000			

BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRA- Lagos Residents' Attitude

Table 6 shows the factor loadings of all the measurement items for information sources and Lagos residents' attitudes towards the population census. The instrument's validity and reliability were further evaluated using composite reliability, average variance extracted (AVE) computation, and Cronbach's Alpha. At the same time, the recommended requirements for factor loading, composite reliability, AVE, and Cronbach's Alpha were satisfied. Convergent and discriminant validity were also explored in the study to determine construct validity. Convergent validity indicates a connection between information sources and Lagos residents' knowledge of the population census.

Table 7: Discriminant Validity

	BBP	LRA	NandM	R	SM	TEL
BBP						
LRA	0.491					
NandM	0.417	0.667				
R	0.416	0.649	0.533			
SM	0.505	0.700	0.498	0.732		
TEL	0.653	0.637	0.420	0.534	0.521	

BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRA- Lagos Residents' Attitude

Table 7 depicts the heterotrait-monotrait discriminant value. The heterotrait-monotrait (HTMT) ratio of the utilised was utilised to measure discriminant validity. The upper confidence intervals are all lower than one, and all the HTMT values were judged to be considerably different from one. Furthermore, the statistical results suggest that all the values are less than the critical threshold of HTMT 0.85. Furthermore, the average heterotrait-heteromethod relationship is less than the average monotrait-heteromethod correlation. The discriminant validity is thus confirmed.

The variance inflation factor (VIF) was also used to assess for common method bias.²¹ Though a VIF score of one shows a total absence of collinearity, most studies advocate a VIF value 10 as the cutoff. All the VIF values for every component in each variable measurement are substantially below the conservative threshold of 5.

Table 8: Model Fit

	Estimated
SRMR	0.071
d_ULS	1.235
d_G	1.071
Chi-Square	245.657
NFI	0.929

Table 8 shows the model fit. All the model fit indicators were determined to be adequate. SRMR exists between the observed and hypothesised covariance matrices. The SRMR is a statistic used to estimate model fit. It is considered trustworthy when the SRMR is less than 0.08. The SRMR of this study model was also 0.065, indicating a satisfactory fit for this research. The NFI value for this study is 0.929, which exceeds the benchmark of 0.90, based on a chi-square value of 245.657.

The Q2 values were used to estimate the PLS-SEM predictive relevance of the metric constructs and data points of indicators. The Q2 value for LRA is 0.403, which is more than zero. This shows that the PLS route model has predictive relevance for the constructs. Similarly, the F-square was employed to calculate the effect size. Table 4.26 shows that the F-squared value for BBP, NM, R,

Table 9: Coefficient value of Hypothesis Two

	Variables	Path Co-efficient	SD	T-Statistics	P Values	R ²	F ²	Decision
H ₀₁	BBP → LRA	0.020	0.061	0.327	0.744	0.001	0.231	Not Significant
H ₀₁	NandM → LRA	0.224	0.090	2.483	0.013	0.066	0.374	Significant
H ₀₁	R → LRA	0.410	0.098	4.192	0.000	0.050	0.257	Significant
H ₀₁	SS → LRA	0.196	0.084	2.348	0.019	0.039	0.275	Significant
H ₀₁	TEL → LRA	0.192	0.072	2.380	0.007	0.037	0.383	Significant

BBP- Billboards, Banners and Posters; NandM- Newspaper and Magazine, R-Radio, SS- Social Media; TEL- Television; LRA- Lagos Residents' Attitude

Hypothesis two examined the relationship between information sources and the attitude of Lagos residents towards the population census, was tested using path coefficients, t-statistics, and p-values. These metrics provide insights into the effectiveness of different communication channels in shaping public opinion. The independent variables examined include billboards, banners, and posters (BBP); newspapers and magazines (NandM); radio (R); social media (SS); and television (TEL). The dependent variable was Lagos residents' attitude (LRA) towards the population census.

The analysis revealed that billboards, banners, and posters (BBP) did not significantly influence residents' attitudes. With a path coefficient of 0.020, a t-statistic of 0.327, and a p-value of 0.744 (greater than 0.05), this traditional advertising method was ineffective in shaping opinions in the context of the population census. This result suggests that these static forms of information dissemination may not resonate well with the urban population of Lagos or may need more engagement to influence attitudes.

²¹ Nomakhosi Mpfana et al., "The Effect of Melasma on the Quality of Life in People with Darker Skin Types Living in Durban, South Africa," *International Journal of Environmental Research and Public Health* 20, no. 22 (November 16, 2023): 7068, <https://doi.org/10.3390/ijerph20227068>.

In contrast, newspapers and magazines (NandM) significantly influenced residents' attitudes, as evidenced by a path coefficient of 0.224, a t-statistic of 2.483, and a p-value of 0.013 (less than 0.05). This finding highlights the continued relevance of print media in Lagos, demonstrating its potential to shape public opinion through detailed and credible reporting effectively. Similarly, radio (R) showed the most decisive influence among the information sources, with a path coefficient of 0.410, a t-statistic of 4.192, and a p-value of 0.000. This underscores the enduring power of radio as a widespread and trusted medium for information dissemination in Lagos.

Social media (SS) also significantly impacted attitudes, with a path coefficient of 0.196, a t-statistic of 2.348, and a p-value of 0.019. This result reflects the growing importance of social media platforms in engaging urban residents and influencing their perspectives on civic matters like the population census. Similarly, television (TEL) demonstrated a significant influence, with a path coefficient of 0.192, a t-statistic of 2.380, and a p-value of 0.007. This indicates the effectiveness of television as a visual and auditory medium for disseminating information and shaping public attitudes.

The null hypothesis was partially rejected, as most information sources (newspapers, radio, social media, and television) significantly influenced Lagos residents' attitudes towards the population census. Only billboards, banners, and posters could have shown a significant impact. Among the sources, radio emerged as the most influential, followed by newspapers, magazines, television, and social media. These findings suggest that communication strategies for population census prioritised radio and newspapers while leveraging the growing influence of social media and the visual appeal of television. Traditional methods like BBP may require innovation to enhance their relevance and engagement. This diversified media approach is crucial for effectively influencing public attitudes and ensuring the success of population census initiatives.

DISCUSSION

The findings of this study underscore the dominant role of traditional media—including radio, newspapers, and television—in enhancing Lagos residents' knowledge and shaping attitudes toward the population census. Radio emerged as the most effective medium due to its widespread accessibility and ability to deliver localized, culturally relevant messages. This finding aligns with Nyarko and Asiedu, who noted that radio is a widely trusted tool for public education and sensitisation campaigns, particularly in developing countries.²² Television's effectiveness, although slightly lower than radio, supports Ali and Kazeem, who emphasised television's visual appeal and engagement capacity in shaping public perceptions.²³

Conversely, the study found that social media and static visual advertisements, such as billboards and posters, had a limited impact on attitudes and behavioural intentions. This observation is consistent with Johnson and Adeyemi, who argued that the fragmented nature of social media can undermine structured public education campaigns, and Eze and Uche, who noted that billboards often fail to provide context-specific or sufficiently detailed information.²⁴ Despite their limitations, social media remains a growing influence, particularly among younger, urbanised populations, corroborating the findings of Ali and Kazeem.²⁵ This suggests that while traditional media remain central, digital platforms can complement these channels if leveraged with tailored, interactive, and contextually relevant content.

The findings further reinforce the literature on **subjective norms** as a critical determinant of behavioural intentions. Subjective norms significantly influenced Lagos residents' intentions to participate in the census ($\beta = 0.596$, $t = 5.782$, $p < 0.000$), indicating that perceived social pressure from family, peers, and community leaders is a strong motivator for engagement. This supports studies by Omotayo and Folorunso, Durojaiye and Adeyemi, and Musa et al., who demonstrated that social

²² M. Nyarko and E. Asiedu, "The Role of Radio in Civic Engagement in Rural Africa," *African Journal of Communication Studies* 14, no. 2 (2022): 88–103.

²³ M. Ali and O. Kazeem, "Television and Public Awareness Campaigns in Nigeria: A Case Study of National Issues," *African Media Studies* 8, no. 1 (2023): 101–15.

²⁴ H. Johnson and S. Adeyemi, "Social Media as a Tool for Public Education: Challenges in Nigeria," *Journal of Digital Media* 5, no. 4 (2021): 203–18. F. Eze and B. Uche, "Effectiveness of Billboards and Posters in Public Education Campaigns: A Review of Nigeria's Experience," *Journal of Communication Research* 10, no. 2 (2023): 75–89.

²⁵ Ali and Kazeem, "Television and Public Awareness Campaigns in Nigeria: A Case Study of National Issues."

influence shapes behaviour across civic and health contexts.²⁶ Endorsement by community leaders or influential figures can create a sense of social obligation, reinforcing intentions to participate in collective activities such as census enumeration.

However, as corroborated by Musa et al. and Kukoyi et al., subjective norms are not the sole determinant of census participation.²⁷ Other factors, including personal beliefs, knowledge of census benefits, trust in government institutions, and logistical accessibility, also play essential roles. This suggests that while mobilising social influence is critical, census campaigns must adopt a holistic approach that combines effective communication, community engagement, and operational reliability to maximise participation.

Taken together, the study's findings support a multi-channel, context-sensitive approach to public engagement. Traditional media remain highly effective in shaping knowledge and attitudes, while social media offers supplementary avenues for reaching digitally active populations. Moreover, leveraging subjective norms through community influencers can significantly enhance behavioural intentions, particularly in settings characterised by strong social networks and communal values. Integrating these insights with participatory and culturally tailored strategies, as suggested in the literature, can ensure that census campaigns are both inclusive and impactful, ultimately improving data accuracy and fostering sustainable development outcomes.²⁸

RECOMMENDATIONS

To enhance census participation in Lagos, it is recommended that the National Population Commission leverage community influencers, including traditional and religious leaders, to create positive social pressure and reinforce subjective norms. Communication strategies should be culturally sensitive, multilingual, and participatory, combining the proven reach of traditional mass media—particularly radio—with innovative digital campaigns targeting younger, digitally active populations. Transparency regarding the use of census data should be emphasised to build public trust, while regular monitoring and evaluation of communication efforts will ensure adaptive, effective outreach. By integrating these approaches, census officials can foster greater public engagement, improve data accuracy, and support equitable and sustainable development.

CONCLUSION

This study set out to investigate the behavioural intentions of Lagos residents toward participation in the national population census through the lens of the Theory of Planned Behaviour (TPB). By examining the roles of attitude, perceived behavioural control, and subjective norms, it sought to identify the psychological and social drivers of census participation. Using survey data from 5,600 respondents across selected LGAs in Lagos State and applying PLS-SEM, the analysis revealed that all three constructs had statistically significant positive effects on behavioural intention.

Notably, subjective norms emerged as the strongest predictor, indicating that perceived social pressure from significant others—such as family, peers, and community leaders—plays a decisive role in shaping intentions. This underscores the importance of community-based advocacy and the strategic use of trusted influencers in mobilising public engagement. While traditional mass media, particularly radio, proved effective in reaching diverse audiences in areas like Alimosho, the limited impact of social media and outdoor campaigns suggests the need for innovative approaches to engage younger, digitally active populations.

²⁶ Funmilola Omotayo and Matthew B. Folorunso, "Use of Social Media for Political Participation by Youths," *JeDEM - EJournal of EDemocracy and Open Government* 12, no. 1 (July 16, 2020): 132–57, <https://doi.org/10.29379/jedem.v12i1.585.S>. O. Durojaiye and A. O. Adeyemi, "The Role of Community Leaders in Promoting Census Participation in Nigeria," *International Journal of Social Sciences* 10, no. 3 (2019): 122–36; I. A. Musa, P. A. Johnson, and A. C. Nwankwo, "The Influence of Community Endorsement on Public Sector Participation: Census Case Study," *Nigerian Journal of Public Administration* 34, no. 1 (2021): 44–59.

²⁷ Musa, Johnson, and Nwankwo, "The Influence of Community Endorsement on Public Sector Participation: Census Case Study"; A. O. Kukoyi, E. A. Ogunleye, and O. T. Alabi, "Effective Mobilisation: Overcoming Barriers in Nigerian Urban Areas," *Journal of Population Studies* 15, no. 2 (2022): 78–92.

²⁸ Adedokun, Adeyemi, and Salawu, "Traditional Leadership and Community Participation in National Census. African Population Studies"; Baffour, King, and Valente, "The Modern Census: Evolution, Examples and Evaluation."

Ultimately, enhancing census participation in Lagos requires culturally sensitive, multilingual, and participatory communication strategies that address community concerns, build trust, and make participation a socially reinforced norm. By integrating these approaches, the National Population Commission can improve census accuracy, ensure fair resource allocation, and strengthen the foundations for inclusive and sustainable national development.

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