Studying the drivers of face-to-face political dialogue using PLS-SEM

Nargis Sultana
Texas A&M International University, USA
Comilla University, Bangladesh

Alicia Marie Garcia
Texas A&M International University, USA

Kyle Kelly
Texas A&M International University, USA

Carlos Evaristo Flores
Texas A&M International University, USA

Fahad Zeya
Comilla University, Bangladesh

Abstract

Drawing on Media Naturalness Theory (MNT), we examine the key drivers of face-to-face (F2F) political dialogue using structural equation modeling via partial least squares (PLS-SEM), based on survey data from the 2013 Lower Saxony Election Study. The analysis was conducted using WarpPLS, a leading and user-friendly PLS-SEM software tool. The results reveal that political interest and election interest are the most influential predictors of F2F political dialogue. Beyond the political context, these findings offer valuable insights for business organizations aiming to enhance marketing communication, customer engagement, and stakeholder relationships through more natural, in-person interactions. This study contributes to the behavioral communication literature and offers practical implications for business strategy in an increasingly digitalized environment.

Keywords: Media Naturalness Theory; Face-to-Face Political Dialogue; Political Interest; Election Interest; Structural Equation Modeling; Partial Least Squares; WarpPLS.

Introduction

Today, traditional F2F political dialogue is declining due to our increasingly digital society, despite its importance for civic engagement and democratic participation. This study examines the behavioral and demographic drivers of F2F political dialogue and extends these valuable insights to inform business strategy. By understanding the drivers that motivate F2F communication,

organizations can enhance key strategic areas, such as marketing outreach, customer engagement, and stakeholder relationship management.

The study is grounded in MNT, which is rooted in evolutionary biology. MNT posits that F2F communication is the most natural form of communication, as it reduces cognitive load and ambiguity while fostering greater levels of engagement and emotional expressiveness. According to MNT, five core elements contribute to the naturalness of communication: co-location, synchronicity, facial expression, body language, and speech (Kock, 2004). These elements make F2F communication particularly effective in both political and business contexts.

Illustrative model and data

We employed WarpPLS, a leading PLS-SEM and user-friendly software tool, which enables the modeling of nonlinear relationships between variables by identifying the best-fitting nonlinear curves between linked variables and using them to calculate more accurate path coefficients (Kock, 2019). PLS-SEM was selected for our analysis due to its robustness to non-normal data distributions (Kock, 2016).

Figure 1 illustrates the model that serves as the basis for our discussion. The dependent variable captures the use of F2F contact as the primary communication channel for political dialogue. The independent variables include election interest, political interest, perceived government influence, education level, sex, and age, with the latter three representing demographic predictors. In total, six hypotheses were developed, grounded in MNT, to examine how behavioral and demographic predictors influence F2F political dialogue.

Figure 1: Illustrative model used
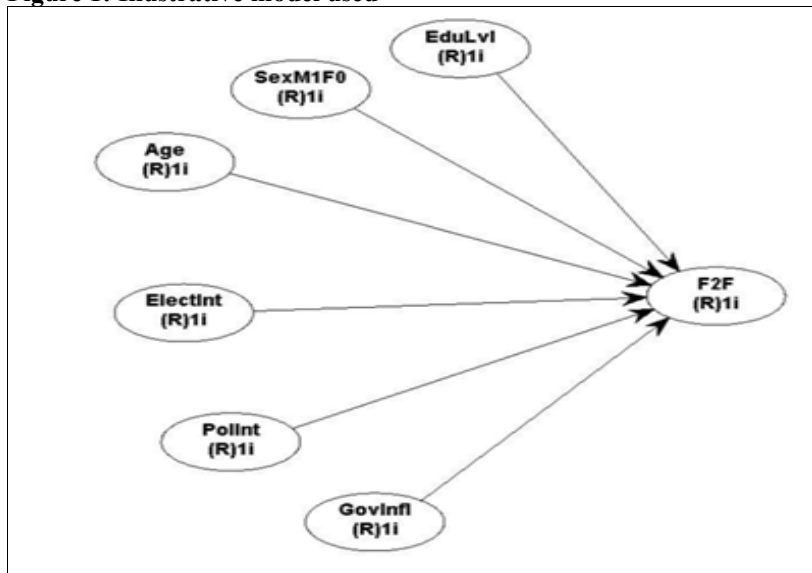
Notes: ElectInt = Election Interest; PolInt = Political Interest; GovInfl = Government Influence; EduLvl = Education Level; F2F = Face-to-Face Political Dialogue; M = Male; F = Female.

The model is based on the theoretical expectation that election interest (ElectInt), political interest (PolInt), perceived government influence (GovInfl), education level (EduLvl), sex (coded as 1 for males), and age exert direct, positive effects on engagement in F2F political dialogue. All six predictors are included as direct inputs without mediators, allowing for a clear assessment of their individual contributions.

We utilized data from the 2013 Lower Saxony Election Study, accessed via the Harvard Dataverse. The study was conducted through a two-wave online survey (pre- and post-election), administered using the Confirmit Horizons Platform. The initial sample included 1,878 respondents. After applying quality control measures, including time thresholds, trap questions, and straight-lining, a final sample of 983 valid observations was retained for analysis.

Indicator correlation fit indices used in PLS-SEM

After conducting a SEM analysis, researchers can obtain a model-implied indicator correlation matrix and compare it with the actual indicator correlation matrix, which is derived directly from the data being analyzed (Kock, 2020). The indicator correlation fit indices quantify the differences between the two matrices (Kock, 2020). These indices, referred to here as model quality indices, in the PLS-SEM analysis produce more accurate and robust estimates. Their use assumes that they capture key parameters that offer valuable information about the model's validity. In this analysis, we focus on using model quality indices in PLS-SEM to enhance the robustness of the results.

Figure 2 presents the model quality indices. The model exhibits strong explanatory power, with high Average R-squared and Average Adjusted R-squared values. Multicollinearity was low, as indicated by an Average Variance Inflation Factor (AVIF) of 1.688 and an Average Full Collinearity VIF (AFVIF) of 1.901. Importantly, the full collinearity test also contributes to establishing discriminant validity, which refers to the degree to which constructs are distinct from one another in a model (Rasoolimanesh, 2022).

Figure 2: Model quality indices

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Model fit and quality indices
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Average path coefficient (APC)=0.191, P<0.001
Average R-squared (ARS)=0.594, P<0.001
Average adjusted R-squared (AARS)=0.592, P<0.001
Average block VIF (AVIF)=1.688, acceptable if <= 5, ideally <= 3.3
Average full collinearity VIF (AFVIF)=1.901, acceptable if <= 5, ideally <= 3.3
Tenenhaus GoF (GoF)=0.771, small >= 0.1, medium >= 0.25, large >= 0.36
Simpson's paradox ratio (SPR)=1.000, acceptable if >= 0.7, ideally = 1
R-squared contribution ratio (RSCR)=1.000, acceptable if >= 0.9, ideally = 1
Statistical suppression ratio (SSR)=1.000, acceptable if >= 0.7
Nonlinear bivariate causality direction ratio (NLBCDR)=0.833, acceptable if >= 0.7
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A lack of discriminant validity in a model leads to uncertainty, such as whether the results genuinely reflect the underlying relationships in the data or are supported due to redundancy between constructs within the model (Rasoolimanesh, 2022). Unlike other approaches, the full collinearity test applies to both reflective and formative constructs. It can also be tested in WarpPLS, as it satisfies the necessary criteria for assessment within the software (Rasoolimanesh, 2022). Given these advantages, we use a full collinearity test in the model. Figure 3 shows the AFVIF value for all constructs, which is lower than 3.3, establishing discriminant validity for the constructs in the model (Rasoolimanesh, 2022). These results help alleviate concerns, particularly associated with the behavioral constructs in the model. Finally, the model exhibits excellent overall quality. The Goodness-of-Fit (GoF) value of 0.771 indicates a strong model-data fit. Moreover, the causality assessment indices – including Simpson's Paradox Ratio, R-Squared Contribution Ratio (RSCR), and Statistical Suppression Ratio (SSR) – each equal 1.000, indicating the model

makes causal sense as it is free from major causal inconsistencies and supports theoretically plausible relationships (Kock, 2022b).

PLS-SEM Results

Figure 3 shows the main results of the PLS-SEM analysis, presenting the standardized path coefficients for each hypothesized relationship. The direct effects of political interest ($\beta = 0.345$, $P < 0.001$), election interest ($\beta = 0.340$, $P < 0.001$), and government influence ($\beta = 0.146$, $P < 0.001$) are all statistically significant and positively associated with F2F political dialogue. Additionally, the demographic variables – education level ($\beta = 0.083$, $P < 0.001$), sex ($\beta = 0.135$, $P < 0.001$), and age ($\beta = 0.094$, $P < 0.001$) – emerge as significant predictors.

Figure 3: Model with results
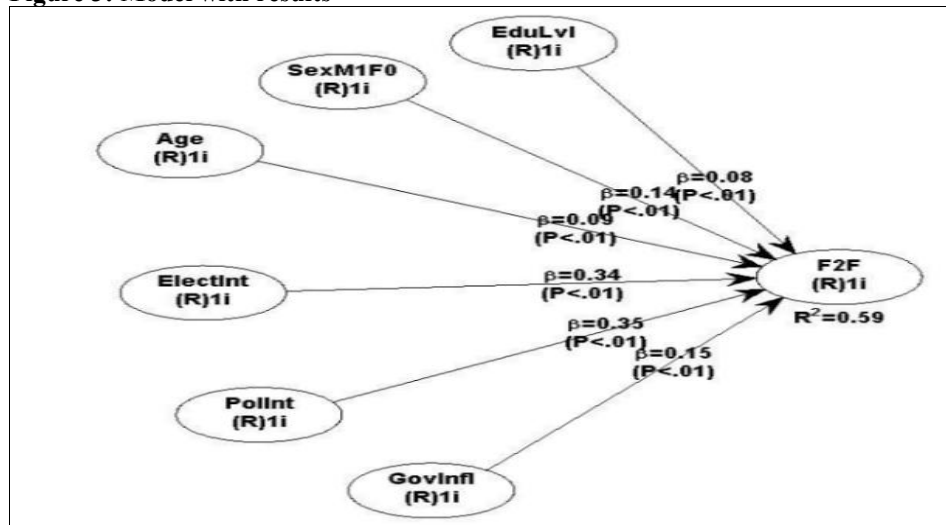
Among all predictors, political interest and election interest are the strongest determinants of F2F political dialogue, followed by government influence. The findings further indicate that males, older individuals, and those with higher educational attainment are more likely to engage in F2F political dialogue.

Overall, these results provide empirical support for MNT in the context of political communication. Individuals with greater political and election interest, along with stronger perceptions of government influence, are significantly more likely to engage in F2F political dialogue. Additionally, demographic characteristics play a key role, reinforcing the importance of education, sex, and age in shaping communication preferences.

Beyond the political context, understanding the drivers that motivate F2F communication, organizations can explore the drivers of F2F communication within their settings to enhance business strategies, including direct marketing communication and customer engagement, while also indirectly contributing to stronger stakeholder relationships.

Conclusion

In this study, we used WarpPLS to analyze the key drivers of F2F political dialogue through PLS-SEM, based on survey data. The model quality indices provide an abundance of information

about the model and are analyzed. The results revealed that political interest and election interest are the most influential predictors of F2F political dialogue in the model.

Theoretically, the model reinforces MNT by demonstrating that behavioral and demographic factors directly influence individuals' preferences for F2F communication. Practically, the results extend beyond the political domain, offering valuable insights for business organizations seeking to enhance F2F engagement in an increasingly digitalized world.

Acknowledgments

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