

Utilization of Sociometrics in Protocol Communication Mapping in Higher Education Organizations

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ABSTRACT

This study examines the organizational communication network within the Surabaya Education Foundation of August 17, 1945 (YPTA Surabaya), particularly focusing on its protocol unit, which manages ceremonial activities and institutional relations. Given the complexity of the structure and the intensity of official activities, a structured and efficient communication network is essential. Using a sociometrics-based communication audit approach, the research maps the communication network of the protocol unit and assesses its effectiveness. The research method involves a descriptive qualitative case study, with data collected through observation, in-depth interviews, and documentation. Sociometric analysis is employed to visualize relationships through sociograms, identifying key communication nodes, dominant actors, and those less involved in the flow of information. The findings reveal a centralized communication network, heavily reliant on a few key individuals as the main conduits for information. Informal communication patterns dominate coordination, leading to potential message distortion and coordination issues. The study concludes that the protocol unit's effectiveness is significantly impacted by the uneven communication structure and recommends strengthening the network with formal communication mechanisms, clearer SOPs, and enhanced coordination within the protocol unit. This research contributes to the development of communication audit studies in educational organizations and offers insights into sociometrics-based network mapping.

Keyword: Communication Audit; Protocols; Communication Networks; Sociometrics, Educational Organizations.

INTRODUCTION

Communication is the main foundation for carrying out organizational functions, especially in complex coordination across units (Caniago, 2024; Mohammed, 2024). At the Surabaya Education Foundation on August 17, 1945, the effectiveness of communication was crucial for the success of various official activities. The protocol unit is a strategic component that plays a key role in managing information and ensuring the smooth running of institutional events (Kusumajaya et al., 2023). However, broad organizational dynamics often create communication barriers, both structural and interpersonal. Therefore, an in-depth analysis is needed to understand the patterns of protocol communication networks and the effectiveness of their implementation (Nurhayati et al., 2016). So far, research on organizational communication in educational institutions has focused more on the communication patterns of leaders, lecturers, and education staff rather than on protocol units.

Sociometrics-based communication audits are also rarely applied to map the flow of information in ceremonial units in the world of education. The lack of such research leaves a

gap in understanding the strategic position of the protocol in the foundation's internal communication system. In addition, no study has specifically addressed the relationship between the structure of communication networks and the effectiveness of protocol functions (Setiyono et al., 2022). In practice, various units in higher education are often involved simultaneously in protocol activities, making relationships between individuals a key factor in successful coordination. Communication auditing has developed into one of the strategic approaches to assess the quality, effectiveness, and efficiency of information flows in organizations (Simorangkir, 2024).

Communication audits not only evaluate the messages conveyed but also examine network structures, individual communication behaviors, cooperation patterns, and obstacles in the daily communication process (Suwatno, 2019). Communication audits are a systematic process that allows organizations to understand how communication aligns with organizational goals and to identify aspects needing improvement to enhance performance. In the context of university organizations, communication audits are increasingly important due to the complex, layered nature of institutions consisting of academic units, administrative bureaus, research institutions, public service units, and external relations (Anindyo et al., 2022). Each unit has different interests and communication patterns, often involving formal and informal interactions. In implementing protocol activities, universities must maintain standards of professionalism, rapid response, and cross-unit coordination to ensure events run effectively, orderly, and in accordance with institutional ethics.

Communication audits in protocol units are becoming increasingly relevant because protocol activities demand precise coordination, clear instructions, and synchronization between units such as public relations, administrative bureaus, campus security, and related faculties. In reality, however, protocol communication flows are often not formally documented and rely heavily on informal networks, personal experiences, and certain interpersonal relationships. This is where communication audits function to identify whether existing communication patterns align with the ideal structure or if bottlenecks interfere with activity effectiveness.

Protocol activities are one of the strategic functions in modern organizations, including universities, because they directly relate to the institutional face, image, and quality of internal and external relationships (Setiyono et al., 2022). In the context of higher education, protocol is not only understood as a ceremonial system but also as a communication coordination system that unites many units to ensure institutional activities run in an orderly, effective manner and in accordance with academic ethical standards (Lupitasari et al., 2023).

Protocol is an institutional mechanism that regulates how university leaders appear in public forums, how relationships with external guests are conducted, how the structure of official events is built, and how organizational messages are conveyed through movement, spatial planning, and procedures. Basically, protocols are part of the organization's identity. The way universities organize graduation ceremonies, inaugurations, senate meetings, ministry visits, and VIP guest handling reflects the institution's values, culture, and

professionalism. Therefore, the protocol function requires a combination of formal standards—such as protocol rules regulated in Law Number 9 of 2010—with managerial skills, cross-unit communication, and high social sensitivity (BPK RI, 2010).

In many cases, the success of an institutional event depends not only on technical planning but also on the effectiveness of communication among protocol actors in carrying out coordination. Communication protocols are dynamic, informal, and involve interpersonal preferences, so a mapping method is needed that objectively describes social relations between organizational members. This is where sociometrics play an important role (Simorangkir, 2024).

Sociometry, as a method of measuring social relationships in a group, allows researchers to visualize patterns of proximity, choice, rejection, and communication flows between individuals (Rochani et al., 2019). Through sociometry-based communication network analysis, university organizations can identify key players, communication bottlenecks, and strengths and weaknesses in protocol communication structures. This mapping is increasingly relevant in the modern context, when universities must be more responsive and professional in governing official events (Kusumajaya et al., 2023). The utilization of sociometrics in organizational communication research has been widely applied in schools, companies, and social institutions, but studies on its application to university protocol units remain relatively limited (Fazli & Ardi, 2025).

In fact, protocol units have unique characteristics because they combine administrative work, external relationships, and intensive coordinated communication (Zusrony et al., 2019). Therefore, this study seeks to fill this gap by comprehensively examining the utilization of sociometrics in protocol communication mapping in higher education organizations.

This gap underlies the need for new research that comprehensively examines these aspects. This research is motivated by the need to understand how internal communication networks affect the effectiveness of protocol functions in complex organizations such as YPTA Surabaya. The purpose of this study is to map the pattern of information flow and identify the key factors that influence coordination of protocol activities. The research hypothesis assumes that protocol effectiveness is strongly influenced by the structure of centralized communication networks and the dominance of informal communication.

METHOD

This study used a descriptive qualitative approach with a case study design that focused on the dynamics of protocol communication networks as an integrated system within the YPTA Surabaya environment. The research population included all members involved in protocol activities, such as protocol staff, structural officials, and employees with direct roles in internal information flow. The sample was determined using purposive sampling, which involved selecting informants based on their involvement, strategic roles, and knowledge of the protocol's communication process. The instruments used included observation, in-depth interviews, and participatory interviews to collect comprehensive data.

The research procedure was carried out through the data collection stage, followed by data reduction to select relevant information, and data validity testing using source triangulation, method triangulation, and time triangulation to ensure robust findings. This literature review examined relevant theoretical and empirical studies on (1) sociometry as a method of mapping interpersonal relationships, (2) social network analysis (SNA) and communication network theory, (3) communication audit as an approach to evaluating organizational communication systems, and (4) characteristics of communication protocols in the context of higher education (Fazli & Ardi, 2025). The main goal was to assemble the theoretical basis and findings from previous research to formulate operational concepts, hypotheses, and research gaps that justified this study.

Institutional protocols involved ritual, coordinated, and representational activities—such as rector inaugurations, graduations, or official visits—that required synchronization across units (Zusrony et al., 2019). The success of protocols depended on role clarity, resource readiness, and speed of situational response. However, empirical studies showed that protocol implementation often relied on informal networks and experienced individuals who served as "tongue connectors" between units (Kusumajaya et al., 2023).

The main challenges of protocol communication in higher education included the heterogeneity of units with different communication cultures, limited SOP documentation accessible to all parties, reliance on verbal communication and instant messaging, and the risk of coordination failure when key actors were unavailable (Amrullah et al., 2022). These problems made communication mapping (through sociometry/SNA) an important diagnostic tool to improve SOPs, training, and role distribution.

After the network structure was identified, a qualitative stage explored the reasons behind emerging patterns. In-depth interviews were conducted with key informants, such as the head of protocol, senior staff, and personnel who appeared to occupy central positions in the network map. Non-participatory observations were also conducted during protocol activities to understand natural communication dynamics not captured by sociometry, such as body language, coordination improvisation, and situational interactions (Charismana et al., 2022).

Data validity was maintained through triangulation of sources, methods, and theories, ensuring that each quantitative finding was supported by relevant qualitative explanations. Quantitative data analysis involved calculating degree centrality, betweenness centrality, and closeness centrality, while qualitative analysis used thematic coding to identify themes related to communication patterns, barriers, and the role of informal reinforcement in network structures (Sit et al., 2025). These results provided a comprehensive overview of how protocol communication functioned, who the key actors in the network were, and how interpersonal relationships and organizational structures shaped the effectiveness of protocol coordination in the university environment.

RESULTS AND DISCUSSION

The research findings suggest that protocol communication networks tend to be centered around a few key individuals who act as the primary liaison in relaying information between leaders and implementing units. This situation makes some protocol members seem isolated from the flow of information, potentially leading to a lack of synchronization in task execution. Furthermore, the dominance of informal communication channels was identified as the most frequently used channel compared to formal communication channels, creating a risk of message distortion. Overall, the structure of the communication network is uneven and requires a more systematic strengthening of coordination mechanisms.

The research findings also confirm that centralized communication structures can facilitate coordination but also increase the risk of congestion when key actors are not available (Reing et al., 2025). Dependence on specific individuals makes the distribution of information unstable, so it is important to build a more structured and well-documented communication system. The dominance of informal channels emphasizes the need for clarity in formal communication channels, especially to ensure the consistency of messages.

The lack of involvement of some protocol members also reflects an imbalance of roles in the coordination of activities, which can reduce the effectiveness of program implementation. Therefore, it is necessary to improve communication SOPs and special training for protocol members to improve professionalism and effectiveness of coordination.

Data collection through sociometrics showed that respondents consistently chose certain colleagues as the individuals they most often communicated with in the preparation and implementation of protocol activities (Arum Sukmawati, 2022). Most respondents chose people who were in one division or had adjacent daily tasks. Sociometric data shows that 78% of respondents provide the same three main choices throughout instrument charging. Relationship mapping shows the existence of naturally formed communication groups (Lv et al., 2016). There are three main communication groups that emerge based on the results of filling out the sociometric choice list, namely the protocol administration group, the technical implementation group, and the group that regularly interacts with university leaders. Each group showed a relatively stable pattern of preferences (Ferdin et al., 2024).

The data shows that some individuals are chosen by respondents in much higher numbers than other members. These individuals get the highest number of choices in the categories of "most frequently contacted" and "most trusted party in coordination of activities". The number of choices received ranged from 18–26 out of the total respondents. There was also a small group of respondents who obtained a very low number of choices or were not chosen at all by their colleagues. In this group, the number of choices ranges from 0–3.

These findings show an uneven communication relationship within the protocol unit, especially among some new staff. Sociometric instruments that measure communication preferences under urgent conditions show that respondents tend to choose the same colleagues as their daily preferences (Rochani et al., 2019). In situations that require a quick response, respondents' choice leads to individuals who are considered easy to contact and quick to

respond. As many as 82% of respondents gave consistent answers between routine communication and emergency communication.

Data collection also showed that cross-divisional communication occurred at a lower frequency than internal communication within divisions. The frequency of preference for individuals from other divisions only appeared in the range of 12% of all sociometric entries. This can be seen in the filling pattern that shows the dominance of choice over colleagues in the work group (Setiyono et al., 2022). In the context of relationships with leaders, respondents provided relatively limited choices. Only a small number of respondents placed the protocol unit leader as the party who communicated most directly.

Choices for leaders are more emerging. Sociometric data also shows that the coordination of protocol activities depends a lot on certain individuals who are at the center of informal communication flows (Darlan, 2024). In several major activities, respondents chose individuals who served as field liaisons as the most frequently contacted figures. This pattern appears in more than half of the total respondents.

The findings of the sociometric questionnaire illustrate a strong preference for informal communication through personal channels, such as direct conversations or text messages. Respondents rarely choose parties who are usually contacted through formal channels such as letters or official memoranda (Ferdin et al., 2024).

This form of informal communication is more dominant in routine activities and large campus events (Lamirin et al., 2023). In general, sociometric results describe the structure of communication relationships in college protocol units that tend to be centered on a few specific individuals, with small groups having a low frequency of contact. Respondents' preference patterns also show a high reliance on work-based communication, as well as a tendency to maintain the same communication choices in various situations.

CONCLUSION

This study examined the formation and implementation of communication networks in the protocol function at YPTA Surabaya using a descriptive qualitative approach and sociometric analysis, revealing a centralized network where information flow concentrated among key individuals acting as primary liaisons between leaders and implementing units. While this structure enhanced coordination efficiency, it fostered dependency on specific actors and potential barriers, with informal communication dominating due to its flexibility and speed—yet leading to risks like message distortion, poor documentation, and information asymmetry, especially in activity preparation. Despite effective ceremonial organization, protocol success hinged on internal coordination and communication quality, underscoring the need for stronger formal systems via clearer SOPs, official channels, and regular mechanisms to boost professionalism. For future research, investigators could longitudinally track network evolution post-SOP implementation to assess sustained improvements in decentralization and resilience against key actor absences.

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