

# The Meaning of Digital Era Public Communication Using Luhmann's System Theory: A Case Study of Central Java Provincial Government, 2018-2022

Nur Imroatus Sholikhah<sup>a1,\*</sup>, Hermin Indah Wahyuni<sup>a,2</sup>, Rahayu<sup>a,3</sup>

<sup>a</sup> Communication Department of Gadjah Mada University, Jl. Sosio Yustisia No.1, Karang Malang, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281, Indonesia

<sup>1</sup> nurimroatus@mail.ugm.ac.id\*; <sup>2</sup> hermin\_iw@ugm.ac.id; <sup>3</sup> rahayu@ugm.ac.id

\* Corresponding author

## ARTICLE INFO

### Article history

Received 2024-01-01

Revised 2024-10-17

Accepted 2025-04-30

### Keywords

Meaning process

Public Communication

Autopoiesis

Local Government

Digital Environment

## ABSTRACT

This study explores the meaning of public communication by Indonesia's local governments in response to the digital environment. The research aims to examine how local government public communication systems adapt to their meaning of the digital landscape. Grounded in Niklas Luhmann's social system theory, which posits meaning as a stimulus for systems to respond to environmental changes, this study views meaning as the energy that enables a system to autonomously select its needs and methods (autopoiesis) for adaptation. Autopoiesis responds to meaning through three processes: communication (social dimension), evolution (temporal dimension), and differentiation (functional dimension). The meaning stimuli in this study will be explained in terms of their potential for enabling the system to perform autopoiesis. The research employs a case study of the meaning of digital-era public communication by the Central Java Provincial Government (Pemprov Jawa Tengah). Operationally, the meaning is examined by observing how Pemprov Jawa Tengah gives meaning to the digital era and depicts its public communication landscape throughout 2018-2019. Data is collected through interviews and documentation of statements made by Pemprov Jawa Tengah in online media. The results indicate that the social dimension of giving meaning to public communication by local governments in the digital era influences the system's considerations through interactions with the political system, e-government system, information technology system, and media system. In the temporal dimension, the developed meaning will impact public communication systems in three phases: dissemination phase 1 (2018-2019), responsive phase (2020-2021), and dissemination phase 2 (2022). These three phases in the evolutionary dimension elucidate the meaning conducted by local governments, dominated by considerations of the public communication function for quickly responding to public service complaints, strengthening performance reputation, and enhancing the popularity of local government leaders. The implications of this research finding highlight the significant role of the relationship between meaning and organizational governance. In this regard, the development of public communication governance at the local government level, which is predominantly bureaucratic, will encounter turbulence in adapting to the rapid pace and evolving meanings of the digital era as perceived by its members. Consequently, an in-depth examination of governance development through the lens of a social systems approach is critically needed.



## 1. Introduction

The development of digital communication technology has intensified the utilization of various digital communication media by the public. The transformation is signified by the emergence of new media, such as social media and other digital information channels [1], [2], [3], [4]. This leads to a change in the public communication environment.

The changing landscape of public communication in the digital era causes most organizations, including the local government, to make some adjustments to their public communication system [5], [6], [7], [8]. Studies found that the changes in the digital environment have expanded the observation, in that it is not only about the public discourse quality, but also the quantity, e.g. virality [9], [10], *engagement* [11], [12], [13], popularity [14], [15], and the likes.

The Provincial Government of Central Java (Pemprov Jawa Tengah) was one of the local government icons active in responding to the digital era. In the last few years, Pemprov Jawa Tengah showed an increase in public communication activities through diverse digital platforms. For example, at the beginning of 2016, Ganjar Pranowo, the Governor of Central Java at that time, ordered all local government leaders in Central Java to have a social media account to interact with the people. It became an alternative for the local governments to conduct *e-blusukan* (online exploration) to gather aspirations or receive complaints from the people (Purbaya, 2016). In a further development, the Local Government Agencies (Organisasi Perangkat Daerah/OPD) are also active users of various social media platforms.

The intensive public communication established by the Pemprov Jawa Tengah in the digital era has brought up new meanings influencing the development of its public communication system. For instance, in terms of human resources, an office needs a social media management staff to adapt to the digital era. In addition, Pemprov Jawa Tengah also interpreted the political context progressing along the candidacy of Ganjar Pranowo as one of the local government heads included in the Presidential election in 2024.

Meaning as referred to in several studies is defined as a way taken by the local government to anticipate responses to the changes in the digital communication environment [16], [17], [18], [19]. The consideration can be influenced by several factors. For example, Christensen and Lægreid (2020) describe an adaptive response to a public communication environment as a meaning-making process of how the actors of an organization use arguments and cultural symbols as a part of the organizational strategies and crisis management. Therefore, meaning results from various organizations select the most relevant meanings to the internal needs.

Meanwhile, in the context of digital era public communication, organizational meaning selection upon environmental changes is not only in the form of meaning exchanges. Indeed, in the digital era, meaning is created through “a battlefield of constructions of meanings” [20]. Technology contributes to adding organizational needs, such as increasing the efficiency of individual performance within the organization or opening the opportunity for external parties to “intervene” in changing the organization. For example, political changes also transform the democratic climate demanding transparent public information. The digital era allows information to flow from various sources. As a result, more than becoming transparent, the information from the government tends to be compared and contradicted with the information obtained from other sources.

In developing the system, the meaning made by the government of public communication, on the one hand, allows the system to be more adaptive. However, on the other hand, the diverse meanings adapted make the system more complex. Macnamara and Zeffass (2012) argue that public communication established by the local government in the digital era wastes the budget.

The implication of meaning complexity in developing a system lies in the adjustability of the system to its functions. For example, when Pemprov Jawa Tengah interpreted digital era public communication as a media for political competition among local government leaders, it also established public communication that “maintains” the leader’s image.

Functionalist school, referring to the idea of Talcott Parsons, believes that interaction with the environment can create various meanings but not function. Meaning making of the environment is necessary to ensure the contribution of the system to the environment, not the other way round. The relationship between the system and the environment must be clear. The system cannot make double

contingency by intervening in other systems. Double contingency in Parsons' theory of meaning is considered an alternative to adding another order into a system with another order of a different system [21].

Niklas Luhmann (1995) criticizes Parsons' idea by seeing the double contingency of meaning as the consequence of the interaction among systems. The meaning will always go along the interaction between a system and the environment. Indeed, a system may change its function along the interaction. For example, public communication during the Reformation era was different from that of the new order due to the government's political system resonance that changed from authoritative to democratic.

In the digital era, the resonance of information technology in the public communication system may exclude democracy and tend to emphasize the newness of information or the emotional effect of such information. Nevertheless, the changing function of the public communication system is a mechanism of evolutive adaptation. A public communication system tends to be "meaningless" if it is not developed, which is in Luhmann's concept it is called entropy.

The research proposes Niklas Luhmann's social system theory to explain the adaptation of the local government public communication system in the digital era through the meaning underlying the changes in the local government public communication functions. Luhmann views meaning as a part of self-referential of a system positioning meaning not as an act to "understand" the environment with a system having "reference surplus." Instead, Luhmann emphasizes meaning as stimuli to a system in maintaining a defense mechanism based on needs and methods (autopoiesis). Therefore, the environment is not seen as an absolute threat and a system is neither static nor dynamic. Meaning determines the system to "need or ignore" changes based on necessity simpler from the environment.

## 2. Theoretical Framework

### 2.1. Meaning in Niklas Luhmann's Perspective

In the studies of organizational communication, the system approach defines an organization as an entity that is always interacting with the environment through information processing. One of the prominent theories of organizational communication is proposed by Karl Weick (1995) with the concept of sensemaking. Weick explains that an organization is a series of sensemaking processes carried out by the members. Sensemaking in the context of organization establishment assumes organization as a response to a situation delivered in organized information (Weick et al., 2005, p. 409).

In further development, Choo (2007) with the Knowing Organization concept, describes decision-making as a concept indicating the organization's existence. Choo also places sensemaking as one of the processes in making decisions within an organization since the main actors (stakeholders) are the ones making sense. In particular, Choo observes how individuals involved in the organization process information to achieve three results: creating collective identity and context for the sake of actions and reflection, developing new knowledge and abilities, and making decisions utilizing the resources and abilities to conduct purposeful actions [22].

The concepts accentuated by Weick and Choo about sensemaking depict "double contingency" discussed by Luhmann. However, Luhmann rejects the idea that the actor serves as a decision-maker of the "ego." The idea that the ego is a "decision maker" as referred to in Parson's theory about "contingency" in the sense of "depending on" referring to the ego's dependency to change expectations and actions becomes the main issue criticized by Luhmann.

Luhmann prefers the ideas of contingency based on Aristotle's modal theory, arguing that contingency is "something given (something experienced, expected, remembered, fantasized) in the light of its possibly being otherwise; it describes objects within the horizon of possible variations". It means that the actions of the ego do not depend on the actors in absolute meaning. Instead, it is a temporary dependency on the series of alternative options that occurred through communication. Without communication, an actor cannot develop his choices. Communication allows an actor to act in a social interaction. In other words, social interaction is a consequence not of the mutual

dependency of ego and alters, but the confrontation of at least two autonomous systems that make their own selections in relation to one another [21].

Luhmann's argument upon the "non-absoluteness" of the system dependency on actors is much related to Edmund Husserl's theory of phenomenology about the transcendental subject. It explains that rationality does not constitute the domain of the awareness system through the meaning-making process [23]. Meaning in this regard is defined as having similarity with that of Marx Weber's *verstehen* or rational actions that have the capabilities to distinguish his own system and that of another. For example, in political or economic systems, rationality distinguishes the communal domain from *fiducia* [24].

Luhmann radically constructed the definition of communication which was previously dependent on actors. He argues that communication is the system of selecting information, utterance, and understanding. Actors are observed from their roles in the social environment only when they establish communication. Luhmann uses the system operation of communication to criticize the existing sociological approaches, in that it "fails" to provide a "solution" for social life [25].

In the process of making meaning, selections of meaning made by actors occur and are conditioned by communication, especially when the actor selects the information. The selection made by the actor is "temporary." Meanwhile, the "temporary selection" occurs in the information realm that is not fully exposed to the actor. If a system depends on an actor, it will be much "disappointed" by the actor's problems, such as sickness, death, greed, betrayal, and others.

Luhmann's premise of the existence of communication is not easily understood, especially by those who perceive communication as the actions of an actor. Indeed, Luhmann specifically criticizes Habermas' concept of communicative action, calling it "nonsense." Luhmann argues that communicative action is wasteful because it tries to motivate a subject under the rationality that it enlivens the public spaces. Meanwhile, subjective rationality has psychological dimensions that are individual, making it inconsistent in taking actions [26].

According to Luhmann, meaning processing in communication refers to a code of system that is modified in binary as positive and negative [27], p. 6). It shows that the limits of a system's function are the form of meaning communicated through semantic codification. This then distinguishes the system code of one and another. For example, the legal code is different from that of the economy. The legal system code is legal/illegal or lawful/unlawful, while the economic code is payment/non-payment. Therefore, the social system operates in two methods: opened and closed, meaning that it is "open for meaning" and closed for "codes."

In turn, public communication meaning is concerned with how strong/weak the meaning is against the public communication code. In several literatures, public communication functions are constructed in various meanings attempting to optimize the public's interest through public discourses [28], [29], [30]. In terms of government, public communication in the digital era deals with the optimized people's participation in discussing public services. In the digital era, social media is said to improve public active participation compared to the previous era [31].

In the constructions of meaning, the binary code of public communication semantically constitutes the optimization or minimalization of public expectation towards public discourses. The binary code serves to control the public communication system when interacting with the environment. It means that public communication differs from non-public communication when the resulting public discourses can develop public expectations. Conversely, public communication is considered to have a minimum function when the discourses discourage the public from having new expectations or cause disbelief in hopes.

## 2.2. Meaning Stimuli to the Autopoiesis of Public Communication System

Daniel Lee in *The Society of Society: The Grand Finale of Niklas Luhmann* (2000) explains that identifying a system as growing or decreasing can be conducted in three processes: communication (social dimension), evolution (temporal dimension), and differentiation (functional dimension). Autopoiesis is operated by communication by making meaning of the environment in order to survive, fulfill temporal dimension, or differ from other systems within the functional dimensions.

In social system theory, meaning stimuli to social dimension is observed through the system's abilities in double contingency. As a part of the system, meaning becomes a selection mechanism

that decides the necessity for a system to change. At the same time, meaning can also select the irritability elements of the need for social change. Luhmann perceives double contingency of meaning as the consequence of the system's interaction with the environment. He compares the condition to two people interacting in which interaction is implausible when each blockade another's influence. In the theory, the system is strong when it can survive from double contingency.

Meanwhile, the temporal dimension describes the system's ability to select meaning based on self-referential "experience" from time to time. The system's meaning needs may be influenced by the system's interaction with the environment based on the previous experience to develop the future system through meaning selection of the present. Selection of past experiences, future needs, and present meaning occurs in autopoiesis [32].

Therefore, meaning in the temporal dimension does not operate based on "rational" consideration. Instead, it is based on self-referential considerations to ensure the continuity and sustainability of the system. The temporal dimension is proposed by Luhmann to show that the system interacting with the environment develops in an evolutive way.

Further, in social system theory, evolution proves that a system can do anything by referencing any aspect within to reduce the environment's complexity. Indeed, evolution is not a process; it is a series of variations, selection, and stabilization [33]. Variation describes the attempts made by the system to conduct a trial-and-error process. Variation allows a system to run the selection process that leads to the stabilization as an element in a system.

The functional dimension of the local government public communication system in the digital era specifically ensures that the social and temporal dimensions developed by the system produce meaning development of public communication function and emphasize that the functions are different from other systems. Several studies exemplify that the main issue of public communication system adaptation developed by an organization in responding to the digital era is making "exaggerated" or "less adaptive" meaning. Both have different measurements but equally operate on behalf of the public communication system.

Moreover, other studies explain that the local government public communication function is measured by improving its internal capacity in understanding new media platforms [34], identifying digital era public interest dynamics, handling communication crisis [35]; maintaining coordination with the central government, considering the characteristics of norms or local issues, synergizing with the stakeholders of new media at the local level, and anticipating the impacts of budget-spending resulted from public communication activities [36].

In the context of democratic society, public communication function is related to the meaning of the digital environment contributing to the development of public communication management that reflects the spirit of openness and deliberation. The public communication in the digital era is expected to encourage the local government to be more responsive [37], more open to the people [38], [39], [40], enthusiastic in strengthening democratic climate [41], [42], [43], encouraging towards the public's participation in decision making [44].

Public communication meaning in the digital era will vary the functions. Hence, it becomes debatable whether the local government adaptation needs to be limited or not. Those in favor of the delimitation expect that the meaning made by the local government will not deviate "much" from the purposes of improving public services, especially the ones dealing with political interests [8]. Meanwhile, those against the delimitation believe that the digital era has become a deliberate public space that encourages global transformation in the local government quality services and public interaction [45].

### 3. Method

The research employed the qualitative approach with a case study method to analyze the meaning of digital era public communication made by Pemrov Jawa Tengah in 2018 – 2022. A case study is selected because autopoiesis of a system means to show the system conducting self-referential with specific meaning it is developed. In this case, the meaning made by Pemrov Jawa Tengah about the digital era of public communication becomes a phenomenon that is different from other local governments. As a study, the meaning-making of the digital era public communication by Pemrov

Jawa Tengah depicts the local government developing public communication meaning as a response to the digital era changes complexity.

Pemprov Jawa Tengah was selected based on three considerations. First, the government system at the provincial level has a broader area of authority and responsibility compared to the regency or city. Second, the public communication of Pemprov Jawa Tengah has shown progress in the last few years, indicated by the establishment of policies for public communication and the increased budget for public communication from year to year. Third, Ganjar Pranowo, the Central Java governor at that time, became one of the local government leaders included in the political discourses and was popular in social media. Consequently, the public communication system of Pemprov Jawa Tengah intersects with the political system and other systems intersecting with political systems. These considerations map the complexity of the public communication environment of Pemprov Jawa Tengah.

Meanwhile, the duration was selected not without reason. Since the establishment of Regional Apparatus Organizations (OPD) of the Communication and Information Agency (Diskominfo) in Central Java Province in 2017, Pemprov Jawa Tengah made a “great” adaptation in 2018 in response to the digital era. Hence, throughout 2018-2022, the digital public communication landscape experienced changes, such as the intensive use of TikTok and YouTube that overtook Instagram's domination. Besides, the COVID-19 pandemic posed challenges to Pemprov Jawa Tengah in 2020 – 2022.

### 3.1. Variables and Data Collecting Techniques

The meaning of public communication by Pemprov Jawa Tengah was observed in two variables. The first is the meaning of the digital era and the digital era public communication understood by Pemprov Jawa Tengah. Second is the portrait of public communication throughout 2018 – 2022 comprising statements made by Pemprov Jawa Tengah in the media. The variables help to understand the meaning stimuli at the temporal and functional dimensions of the system.

The data were collected through interviews and documentation of public statements made by Pemprov Jawa Tengah through online media. The interviews were conducted with the informants having immediate authority in terms of task and main function concerning public communication. The informants included regional heads, officials of Public Relations and Leadership Protocols (Humas and Prokompim), and the officials of the Communication and Information Agency (Diskominfo) of Pemprov Jawa Tengah. The interviews were conducted online via Zoom meetings and face-to-face from March to August 2022. The respondents were the Central Java Governor, Head of the Sub-division of Publication and Media Relations, Public Relations and Protocols Bureau, Head of Communication and Information Agency, Head of Public Communication and Information of the Communication and Information Agency, and Section Head of Public Opinions.

The documentation of the statements made in online media throughout 2018 – 2022 was carried out using clipping techniques assisted by an Intelligent Media Analytic (IMA) machine. The data consisted of the statements made by the Governor and OPD under the keywords of “Jawa Tengah.” IMA is a data-crawling application that browses news from 9,236 online media in Indonesia. The machine categorizes the text based on the given keywords.

### 3.2. Data Analysis Techniques

The data of the case study research were analyzed in several steps: data collecting based on categories, direct interpretation, pattern determining based on similarities of two or more categories, and generalization (Stake, 1995). Before the data were interpreted, the text, which included interview transcripts and online media news, was categorized. Further, the study employed content analysis techniques to investigate the meaning of public communication as an adaptation method to social, temporal, and functional dimensions.

## 4. Results and Discussion

The results discuss the meaning of the digital era as a “new era” to be responded to by Pemprov Jawa Tengah. Their responses were influenced by their meaning of the digital era. The interviews generated statements about the meaning of the digital era: shifting channels of public communication, competition in information and freedom of speech, quantification of public

communication achievement, acceleration of public service responses, “*e-blusukan* (online exploration)” and “simplifying politics”, development of dialog and responsive approaches, communication that is based on public expectations, and emphasis on creativity and innovation.

Meanwhile, the meaning of local government public communication in the digital era also entails risks, such as digital footprints, open competition among local governments, communication performance aligning with digital platform development, wasteful budgeting, and reliable human resources in digital communication fields. However, the meaning also develops several potentials, such as the familiarization of “*e-blusukan*” and “simplification of politics,” dialogue and responsive approaches, communication that is based on public expectation, and emphasis on creativity and innovation.

Regarding the meaning of the statements made by Pemprov Jawa Tengah, including the governor or the OPD, in online media throughout 2018-2022, the research concluded five intensive issues. The first is a political issue concerning the 2018 Regional Election (Pilkada 2018) and 2019 Presidential Election (Pilpres 2019). The public statements of the governor were made into campaign materials. In Pilkada 2018, when Ganjar Pranowo became the incumbent against Sudirman Said, he criticized the performance of the previous period. Meanwhile, in Pilpres 2019, the contents were about the consolidation made by Ginanjar with the central government or with the regencies regarding his accompanying Joko Widodo, who was an incumbent president and from the same party, while visiting Central Java.

The second issue is about health. Throughout 2020-2021, the public statements by Pemprov Jawa Tengah were dominated by the responses to handling and preventing the COVID-19 pandemic. In the first year of the pandemic, Pemprov Jawa Tengah initiated relocations and reallocations for the budget to handle the pandemic, as well as preparing the hospitals to anticipate the increasing cases of COVID-19. Other issues are concerning layoffs and the controversial Omnibus Law concerning the Draft of Work Creation.

In the second year of the pandemic, Pemprov Jawa Tengah made many statements concerning the implementation and reinforcement of vaccination, public activity restrictions (PPKM), and recovery in tourism and educational sectors. In 2021, health issues, such as stunting, were popular through a program called *Jateng Gayeng Nginceng Wong Meteng* (lit. Central Java Aiming for Pregnant Women) (5Ng). The program is to prevent stunting and targets pregnant women by ensuring that they are well-nourished.

The third issue is about disaster management, especially hydrometeorology which occurred in several areas of Central Java. The Provincial Disaster Mitigation Agency (BPDB) of Central Java carried out mitigation activities to anticipate landslides and floods due to heavy rainfall in Tegal, Purbalingga, Purworejo, Brebes, and Demak regencies.

The fourth issue is the digital-based economy. In 2018, Pemprov Jawa Tengah facilitated the improvement of MSMEs' productivity by establishing the MSMEs Center in Semarang for consultation and *Sadewa Market*, an android-based shopping application. These accommodated 800 MSME actors in Central Java. Besides, the Local Financial and Asset Management Board (BPKAD) enforced non-cash transactions in the local areas, allowing the board to monitor the spending reports (SPJ) in real time.

The fifth is about corruption prevention. In 2022, the Central Java Governor supervised the declaration of *Janji Kinerja* (Performance Oath) and *Pencanangan Pembangunan Zona Integritas Menuju Wilayah Bebas Korupsi and Wilayah Birokrasi Bersih dan Melayani* (Launching of Integrity Zone Establishment towards Corruption-Free Areas and Clean and Servicing Bureaucracy Areas-WBBM) by the officials of Regional Office of the Ministry of Law and Human Rights of Central Java.

#### 4.1. Meaning Stimuli to the Social Dimension

The shifting channel of public communication is the meaning selected through interactions with the digital information and communication technology (ICT) system. Pemprov Jawa Tengah interprets public communication in the digital era as an inseparable issue from the emergence of new media influenced by digital industries [46], [47].

The influence of public communication meaning of the ICT system is also observable in the meaning selection in the information overload and freedom of speech. Various digital platforms have facilitated and accelerated information distribution as well as opened unlimited spaces for opinions. The emergence of various platforms has transformed the public's interaction patterns [48], [49], [50], making people vulnerable to information disruption [51], [52], post-truth discourses [53], [54], [55], and others.

In addition, irritation of the ICT system exists in the meaning of quantification of public communication performance assessment. It concerns the performance measurement of the effectiveness of digital media utilization, such as the ability of public communication to increase virality [9], [56] and engagement [11], [12], [13].

Irritation of digital ICT systems also appears in the meaning of risks and potentials of public communication. Understanding the risk of digital footprints, information vulnerability, and reliable human resources in digital technology utilization are influenced by the system. Public communication risks interpreted by the local government in the digital era are mostly concerned with the domination of big data and artificial intelligence (AI) [57], [58] as a monitoring and analysis tool that documents local government public communication in a longer period.

On the other hand, the interaction of the local government's public communication meaning system in the digital era with the digital ICT system generated resonance on the digital ICT system. The meaning of the digital public communication potential has opened the opportunities for dialogs. One of the developments of dialog systems resonated by the public communication meaning system is intelligent open-domain dialog systems. The development is influenced by the availability of conversational data in larger numbers and current advancements in conversation-based Artificial Intelligence. Open-domain dialog system aims to ensure the sustainability of meaningful communication-based interaction in social changes through semantic codification, consistency, and interactivity [59].

The irritation of other public communication meanings comes from the political system. The political system intensively irritates the local government's public communication meaning in the digital era. It is evident in the public statements that were dominated by political issues throughout 2018-2019. The tendency of the political system to influence the local government's public communication meaning is caused by two reasons. First, the regional head is selected through a general election and supported by political parties. Second, both regional heads and OPD have a chance to accumulate their political modal through information distribution [60]. Political system irritation in this case lies in the need to increase reputation and popularity [14], [15].

Through the interaction with the political system, the meaning system in local government public communication gives resonance to the system. Among the resonances are changes in forms, patterns, and political marketing strategy through digital media utilizing public issues in the local areas to strengthen electability [61], [62].

Irritability and resonance in the social dimension of local government public communication meaning system come from other systems: public administration system, economy system, disaster system, and public participation system in the digital era. In other words, the local government develops a public communication meaning system through the system's internal need selections to select the meanings utilized to irritate the system as an adaptation mechanism. It is also used to irritate other systems to confirm the function's difference in making social changes.

#### **4.2. Meaning Stimuli to the Temporal Dimension**

In the meaning system of the local government public communication in the digital era, the evolution of meaning can be recognized from the extent to which the local government shows the meaning selection development from time to time, especially from 2018 to 2022.

In 2018-2019, the local government's public communication meaning in the digital era was mostly influenced by the political and digital ICT systems. Regarding the political system, public communication meaning became a part of the campaign that was conducted by distributing information about the performance or working plan through digital public communication channels. The agenda was to strengthen the electability of the incumbent of the Pilkada 2018-2020, Ganjar

Pranowo. The development of the meaning system in the campaign utilized the government's communication models that were dominated by the necessity to disseminate information.

Throughout 2018-2019, public communication meaning utilizing information dissemination aimed at expanding the scope of information concerning the performance of Pemprov Jawa Tengah. This is evident in the statements regarding the introduction of the MSME productivity improvement programs (UMKM Center and Sadewa Market). Public communication meaning selected public issues in the local areas by determining the programs having positive performance sentiments.

The public communication meaning of Pemprov Jawa Tengah changed from the dissemination phase to the second phase, which was responsive, in 2020-2021. Throughout the year, the COVID-19 pandemic became a prominent public issue that the meaning system of Pemprov Jawa Tengah needed to respond to the situation. Several issues regarding the prevention and management of COVID-19 caused the local government to select public statements, which included budget reallocation, health facilities procurement, enforcement of PPKM, and clarification of misinformation about COVID-19 vaccination.

Other issues arising in 2020-2021 were floods and stunting that occurred in several areas of Central Java. It led Pemprov Jawa Tengah to select their public statements, which was making meaning of the responses and crisis. Throughout the year, the public communication system of Pemprov Jawa Tengah selected statements from the intensity of public issues shared through digital media.

Meanwhile, in 2022, the responsive phase changed to the second stage of the dissemination phase. The decreasing intensity of news regarding the issues in Central Java returned the public statements to the dissemination phase. However, the second dissemination phase was different from the first one in 2018-2019, in that it was much irritated by the political system meaning. At this stage, Pemprov Jawa Tengah emphasized more on the performance to improve the reputation.

Public statements made throughout 2022. The public statements in 2022 dealt with the Central Java governor's agenda in accompanying the president while visiting the strategic projects in several areas in Central Java. Besides, the governor also supported the Declaration of Performance Oath and the Launching of Integrity Zone Establishment to be Corruption-Free Areas and Clean and Servicing Bureaucracy Areas organized by the officials of the Regional Office of the Ministry of Law and Human Rights of Central Java.

### **4.3. Meaning Stimuli to the Functional Dimension**

In the present study, the optimization of the local public discourse was established by Pemprov Jawa Tengah by developing a public communication function of the meaning related to public information transparency and open space for public participation. In particular, it concerns the digital public communication potential in opening dialog spaces and the familiarization of *e-blusukan*.

Nevertheless, at the same time, Pemprov Jawa Tengah also developed meaning to improve the systems through public communication functions in the digital era to accelerate and strengthen the performance reputation. Several meanings, such as quantification of performance achievement in online or social media were based on the forms of virality, engagement, and popularity having positive tones. Unfortunately, the assessment forms cannot be treated as a reference to ensure the publicity values in public communication.

Meaning stimuli to the public communication function as the positive image building further influences the development of public communication system oriented towards the organization instead of the public. This leads to decreasing public communication systems and increasing government communication systems. Consequently, meaning sensitivity tends to be more responsive towards the government issues rather than the public.

Meaning stimuli to public communication for the reputational functions influences Pemprov Jawa Tengah in establishing public communication through digital channels. As depicted in the meaning stimuli to the temporal dimension, Pemprov Jawa Tengah tended to develop the statements in the context of disseminating performance information. Public communication in the form of a critical response is preferred when public issues dominate, and public communication inaccuracy poses a risk to reputation.

The more meaning stimuli to the reputation-building function, the easier the local government's public communication system to respond to the environment's need for reputation. For example, the economic systems will consider the local government's public communication to maximize financial profits. Another example is the political systems will consider government public communication to improve electability.

#### 4.4. Blind Reflexivity Tendency

The ability of the local government's public communication system in the digital era to reduce environmental complexity is determined by the meaning selection developed by the system. Luhmann confirms that meaning as the motor of system autopoiesis works to ensure social system growth [63]. As a social system motor, double contingency of meaning can simultaneously increase and decrease the system.

The meaning of the digital era environment as the stimuli to the local government's public communication system makes progress by developing the system's sensitivity reflecting on the public interests. The broader the system horizon, the stronger the system reflexivity in developing the function and public communication system publicity values. However, the research indicates that the system's meaning sensitivity has not been able to develop.

There are three inhibitions in the digital era public communication meaning as a system's reflection. First, the influence of ICT system horizon that brings to the digital era meaning an era of information competition through various public communication platforms that also change the public interaction patterns [48], [49], [50], make people vulnerable to information disruption [52], [64], exposure to post-truth discourses [53], [54], [55], and the likes. The existing platforms allow the measurement of public communication performance in relation to digital media utilization effectiveness, such as in the ability to increase virality [9], [65] and engagement [11], [12], [13]. Besides, the risks of digital footprint make local governments use big data systems and artificial intelligence (AI) [57], [58] as monitoring tools.

Second, a reflection of the meaning of the ICT system irritation encourages the public communication management of Pemprov Jawa Tengah to open the reputation system through performance achievement stimulation, indicated by popularity or virality. Popularity with positive sentiments become a significant part of developing the public communication system of local governments in Indonesia. In the present study, meaning has opened "reputational competition" among local governments. "Competition" has constituted a new meaning, explaining that public communication system reflexivity is influenced by competition based on performance image. The meaning also provides stimuli to the meaning that negative sentiments occurring along with popularity will risk the reputation.

Consequently, the reputation system influencing public communication as "reputation competition" among local governments gives resonances to the political system. Both governors and OPD have a great chance to accumulate their political capital through the reputational campaign in the digital media [60]. Political system irritation of the local government's public communication meaning system in the digital era constitutes the necessity to increase reputation and popularity [14], [15]. Nevertheless, through interaction with the political system, the local government's public communication meaning also gives resonances as discussed in various research as a change of form, pattern, or political marketing strategies in digital media utilizing public issues in the local areas as a part to strengthen electability [61], [62].

Third, the digital era meaning as the acceleration of response, indeed, utilizes old meanings, such as in responding to public service complaints by the public. The term "old" illustrates that responding to and handling public complaints about services are common practices and constitute the government's obligation. In the digital era, the local government's public communication system develops a condition that "yearns" for fast responses, leading to the vulnerability of public communication meaning that was irritated by the meaning of other systems, such as politics.

As exemplified by Z. Su & Meng (2016b), public communication established in authoritarian countries tends to be responsive. The research argues that the condition needs more "investigation" because the people may be used to minimum responses from the government. Hence, public "sensitivity" of the response quality decreases. Further, the government is aware of selecting the

“preferred” responses or the minimum risk to reputation and controls towards public expectations (2016b, pp. 53–54).

## 5. Conclusion

The present study concluded that the local government's public communication meaning system throughout 2018-2022 was developed in the social dimension through intense meaning selection processes irritated by several systems: politics, digital information and communication technology, public administration, and disaster. Meanwhile, the temporal dimension was developed in three phases of public communication meaning: the first stage of information dissemination, responsive, and the second stage of information dissemination. The difference between the first and second stages of information dissemination lies in the selection of public issues. At the first stage, the issues were dominated by the campaign needs, while the second performance reputation with positive sentiments. It means that public communication as a response system only occurs in a situation categorized as a “crisis.”

Through social and temporal dimensions, the meaning system of local government public communication in the digital era developed two public communication functions: information transparency system and public participation. In general, the development has not been significant in strengthening the local government's public communication codes, which is establishing public service expectations through the optimization of the local public discourses. However, meaning development also provides stimuli to the system that improves the reputation and popularity of the regional leaders.

The meaning of the digital era public communication tends to develop the reflection of public communication systems as a part of digital information and communication technology. Besides, the need to maintain a reputation from the threats of information vulnerability in the digital era encourages the public communication system reflection of Pemrov Jawa Tengah to meaning that emphasize the government's performance rather than the meaning concerning the improvement of quality and public interest. Reflection in terms of reputation indicates that public communication system development is limited to the government's communication needs that prioritize performance socialization or strengthen the agenda for the sake of the leaders' reputation.

For further development of the meaning system, the local government needs to interact more with the system that is specifically oriented towards the strengthening of sector discourses being the issues in the local areas. Among the issues are education, health, and security. Besides, other key issues, such as agriculture and disaster risks are also significant in the meaning selection of public communication systems.

## References

- [1] C. Haythornthwaite, “Strong, weak, and latent ties and the impact of new media,” *Inf. Soc.*, vol. 18, no. 5, 2002, doi: 10.1080/01972240290108195.
- [2] H. Jenkins, S. Ford, and J. Green, *Spreadable media: Creating value and meaning in a networked culture*. 2013. doi: 10.3983/twc.2014.0633.
- [3] Z. Papacharissi, “The virtual sphere: The internet as a public sphere,” *New Media Soc.*, vol. 4, no. 1, 2002, doi: 10.1177/14614440222226244.
- [4] D. V. Shah, N. Kwak, and R. L. Holbert, “‘Connecting’ and ‘disconnecting’ with civic life: Patterns of internet use and the production of social capital,” *Polit. Commun.*, vol. 18, no. 2, 2001, doi: 10.1080/105846001750322952.
- [5] M. Djerf-Pierre and J. Pierre, “Mediatized local government: Social media activity and media strategies among local government officials 1989-2010,” *Policy Polit.*, vol. 44, no. 1, 2016, doi: 10.1332/030557315X14434624683411.
- [6] M. D. Guillamón, A. M. Ríos, B. Gesuele, and C. Metallo, “Factors influencing social media use in local governments: The case of Italy and Spain,” *Gov. Inf. Q.*, vol. 33, no. 3, 2016, doi: 10.1016/j.giq.2016.06.005.

- [7] A. Cahaya Puspitaningrum, "Strategy to Use Local Government's Facebook Page to Improve Public Services," *J. Sist. Inf.*, vol. 15, no. 2, 2019, doi: 10.21609/jsi.v15i2.788.
- [8] P. Silva, A. F. Tavares, T. Silva, and M. Lameiras, "The good, the bad and the ugly: Three faces of social media usage by local governments," *Gov. Inf. Q.*, vol. 36, no. 3, 2019, doi: 10.1016/j.giq.2019.05.006.
- [9] S. Alhabash and A. R. McAlister, "Redefining virality in less broad strokes: Predicting viral behavioral intentions from motivations and uses of Facebook and Twitter," *New Media Soc.*, vol. 17, no. 8, 2015, doi: 10.1177/1461444814523726.
- [10] Y. Kim, "Toward an effective government-public relationship: Organization-public relationship based on a synthetic approach to public segmentation," *Public Relat. Rev.*, vol. 41, no. 4, 2015, doi: 10.1016/j.pubrev.2015.06.020.
- [11] J. E. Carlisle and R. C. Patton, "Is Social Media Changing How We Understand Political Engagement? An Analysis of Facebook and the 2008 Presidential Election," *Polit. Res. Q.*, vol. 66, no. 4, 2013, doi: 10.1177/1065912913482758.
- [12] M. K. Feeney, E. Welch, and M. Haller, "Social Media, Civic Engagement, and Technology Use in Local Government Agencies: Findings from a National Survey," *SSRN Electron. J.*, 2017, doi: 10.2139/ssrn.3069940.
- [13] G. Rowe and L. J. Frewer, "A typology of public engagement mechanisms," *Sci. Technol. Hum. Values*, vol. 30, no. 2, 2005, doi: 10.1177/0162243904271724.
- [14] A. Casero-Ripollés, "Impact of covid-19 on the media system. Communicative and democratic consequences of news consumption during the outbreak," *Prof. la Inf.*, vol. 29, no. 2, 2020, doi: 10.3145/epi.2020.mar.23.
- [15] J. D. King and J. E. Cohen, "What determines a governor's popularity?," *State Politics and Policy Quarterly*, vol. 5, no. 3, 2005. doi: 10.1177/153244000500500302.
- [16] S. Coleman and J. Firmstone, "Contested meanings of public engagement: exploring discourse and practice within a British city council," *Media, Cult. Soc.*, vol. 36, no. 6, 2014, doi: 10.1177/0163443714536074.
- [17] W. Laenens, W. Van den Broeck, and I. Mariën, "Channel choice determinants of (Digital) government communication: A case study of spatial planning in Flanders," *Media Commun.*, vol. 6, no. 4, Theoretical Reflections and Case Studies, 2018, doi: 10.17645/mac.v6i4.1652.
- [18] M. Plotnikof, "Negotiating collaborative governance designs: A discursive approach," *Innov. J.*, vol. 20, no. 3, 2015.
- [19] Y. A. Ahmed, M. N. Ahmad, N. Ahmad, and N. H. Zakaria, "Social media for knowledge-sharing: A systematic literature review," *Telematics and Informatics*, vol. 37, 2019. doi: 10.1016/j.tele.2018.01.015.
- [20] B. van Ruler, "Agile public relations planning: The Reflective Communication Scrum," *Public Relat. Rev.*, vol. 41, no. 2, 2015, doi: 10.1016/j.pubrev.2014.11.008.
- [21] R. Vanderstraeten, "Parsons, Luhmann and the Theorem of Double Contingency," *J. Class. Sociol.*, vol. 2, no. 1, pp. 77–92, 2002, doi: 10.1177/1468795X02002001684.
- [22] C. W. Choo, *The Knowing Organization: How Organizations Use Information to Construct Meaning, Create Knowledge, and Make Decisions*. 2007. doi: 10.1093/acprof:oso/9780195176780.001.0001.
- [23] J. Arnoldi, "Sense making as communication," *Soz. Syst.*, vol. 16, no. 1, 2010, doi: 10.1515/sosys-2010-0103.
- [24] N. Luhmann, *Introduction to Social System*. Cambridge: Polity Press, 2013. doi: 10.1097/YCO.0000000000000634.

- [25] N. Luhmann, *Social Systems*. Stanford: Stanford University Press, 1995.
- [26] K. C. Bausch, "The Habermas/Luhmann debate and subsequent Habermasian perspectives on systems theory," *Syst. Res. Behav. Sci.*, vol. 14, no. 5, 1997, doi: 10.1002/(SICI)1099-1743(199709/10)14:5<315::AID-SRES173>3.0.CO;2-Z.
- [27] J. Arnoldi, "Niklas Luhmann: An Introduction," *Theory, Cult. Soc.*, vol. 18, no. 1, 2001, doi: 10.1177/02632760122051607.
- [28] J. Braun and T. Gillespie, "Hosting the public discourse, hosting the public: When online news and social media converge," *Journal. Pract.*, vol. 5, no. 4, 2011, doi: 10.1080/17512786.2011.557560.
- [29] J. Hutchinson, "Micro-platformization for digital activism on social media," *Inf. Commun. Soc.*, vol. 24, no. 1, 2021, doi: 10.1080/1369118X.2019.1629612.
- [30] Y. Ye, P. Xu, and M. Zhang, "Social media, public discourse and civic engagement in modern China," *Telemat. Informatics*, vol. 34, no. 3, 2017, doi: 10.1016/j.tele.2016.05.021.
- [31] D. Agostino, "Using social media to engage citizens: A study of Italian municipalities," *Public Relat. Rev.*, vol. 39, no. 3, 2013, doi: 10.1016/j.pubrev.2013.02.009.
- [32] M. Tada, "Time as sociology's basic concept: A perspective from Alfred Schutz's phenomenological sociology and Niklas Luhmann's social systems theory," *Time Soc.*, vol. 28, no. 3, 2019, doi: 10.1177/0961463X18754458.
- [33] G. Ritzer and D. Goodman, *Teori Sosiologi Modern (Edisi Keenam)*. Jakarta: Kencana, 2004.
- [34] N. DePaula and E. Dincelli, "Information strategies and affective reactions: How citizens interact with government social media content," *First Monday*, vol. 23, no. 4, 2018, doi: 10.5210/fm.v23i4.8414.
- [35] B. F. Liu, I. A. Iles, and E. Herovic, "Leadership under Fire: How Governments Manage Crisis Communication," *Commun. Stud.*, vol. 71, no. 1, pp. 128–147, 2020, doi: 10.1080/10510974.2019.1683593.
- [36] J. Macnamara and A. Zerfass, "Social Media Communication in Organizations: The Challenges of Balancing Openness, Strategy, and Management," *Int. J. Strateg. Commun.*, vol. 6, no. 4, 2012, doi: 10.1080/1553118X.2012.711402.
- [37] S. J. Eom, H. Hwang, and J. H. Kim, "Can social media increase government responsiveness? A case study of Seoul, Korea," *Gov. Inf. Q.*, vol. 35, no. 1, 2018, doi: 10.1016/j.giq.2017.10.002.
- [38] M. W. Graham, "Government communication in the digital age: Social media's effect on local government public relations," *Public Relations Inq.*, vol. 3, no. 3, 2014, doi: 10.1177/2046147X14545371.
- [39] M. W. Graham, E. J. Avery, and S. Park, "The role of social media in local government crisis communications," *Public Relat. Rev.*, vol. 41, no. 3, 2015, doi: 10.1016/j.pubrev.2015.02.001.
- [40] G. Moss, H. Kennedy, S. Moshonas, and C. Birchall, "Knowing your publics: The use of social media analytics in local government," *Inf. Polity*, vol. 20, no. 4, 2015, doi: 10.3233/IP-150376.
- [41] A. Dunan, "Government Communications in Digital Era: Public Relation and Democracy," *J. Pekommas*, vol. 5, no. 1, 2020, doi: 10.30818/jpkm.2020.2050108.
- [42] H. Hong, "Government websites and social media's influence on government-public relationships," *Public Relat. Rev.*, vol. 39, no. 4, 2013, doi: 10.1016/j.pubrev.2013.07.007.
- [43] A. A. Nugroho, "Effect of Digital Community Toward Democracy Process: Digital

- Participation Analysis In Indonesia,” *J. Good Gov.*, vol. 15, no. 2, 2020, doi: 10.32834/gg.v15i2.123.
- [44] I. Aurylaite, “The empowerment of local government to involve the citizens into political decision-making process to use the social network ‘facebook,’” *Public Policy Adm.*, vol. 16, no. 1, 2017, doi: 10.5755/j01.ppa.16.1.18014.
- [45] N. Ellison and M. Hardey, “Social Media and Local Government: Citizenship, Consumption and Democracy,” *Local Gov. Stud.*, vol. 40, no. 1, pp. 21–40, 2014, doi: 10.1080/03003930.2013.799066.
- [46] C. Fuchs, *Digital Capitalism: Media, Communication and Society Volume Three*. 2022. doi: 10.4324/9781003222149.
- [47] E. Oztemel and S. Gursev, “Literature review of Industry 4.0 and related technologies,” *Journal of Intelligent Manufacturing*, vol. 31, no. 1. 2020. doi: 10.1007/s10845-018-1433-8.
- [48] A. R. Dennis and S. T. Kinney, “Testing Media Richness Theory in the New Media: The Effects of Cues, Feedback, and Task Equivocality,” *Inf. Syst. Res.*, vol. 9, no. 3, 1998, doi: 10.1287/isre.9.3.256.
- [49] W. Pieterse, W. Ebbens, and J. van Dijk, “Personalization in the public sector. An inventory of organizational and user obstacles towards personalization of electronic services in the public sector,” *Gov. Inf. Q.*, vol. 24, no. 1, pp. 148–164, 2007, doi: 10.1016/j.giq.2005.12.001.
- [50] G. Shao, “Understanding the appeal of user-generated media: a uses and gratification perspective,” *Internet Research*, vol. 19, no. 1. 2009. doi: 10.1108/10662240910927795.
- [51] J. Jumansyah, A. Alaydrus, B. Budiman, and B. Alamsyah, “Urban Disaster Management in Government Communication Perspective,” *Kanal J. Ilmu Komun.*, vol. 9, no. 2, 2021, doi: 10.21070/kanal.v9i2.1057.
- [52] M. J. Walsh and S. J. Clark, “Co-Present Conversation as ‘Socialized Trance’: Talk, Involvement Obligations, and Smart-Phone Disruption,” *Symb. Interact.*, vol. 42, no. 1, 2019, doi: 10.1002/symb.382.
- [53] V. Bufacchi, “Truth, lies and tweets: A Consensus Theory of Post-Truth,” *Philos. Soc. Crit.*, vol. 47, no. 3, 2021, doi: 10.1177/0191453719896382.
- [54] S. Lewandowsky, U. K. H. Ecker, and J. Cook, “Beyond Misinformation: Understanding and Coping with the ‘Post-Truth’ Era,” *J. Appl. Res. Mem. Cogn.*, vol. 6, no. 4, 2017, doi: 10.1016/j.jarmac.2017.07.008.
- [55] S. Waisbord, “Truth is What Happens to News: On journalism, fake news, and post-truth,” *Journal. Stud.*, vol. 19, no. 13, 2018, doi: 10.1080/1461670X.2018.1492881.
- [56] J. Kim, “Why do people take to the streets? Understanding the multidimensional motivations of protesting publics,” *Public Relat. Rev.*, vol. 44, no. 4, 2018, doi: 10.1016/j.pubrev.2018.05.002.
- [57] Z. Engin and P. Treleaven, “Algorithmic Government: Automating Public Services and Supporting Civil Servants in using Data Science Technologies,” *Comput. J.*, vol. 62, no. 3, 2019, doi: 10.1093/comjnl/bxy082.
- [58] T. Lepage-Richer and F. McKelvey, “States of computing: On government organization and artificial intelligence in Canada,” *Big Data Soc.*, vol. 9, no. 2, 2022, doi: 10.1177/20539517221123304.
- [59] M. Huang, X. Zhu, and J. Gao, “Challenges in Building Intelligent Open-domain Dialog Systems,” *ACM Trans. Inf. Syst.*, vol. 38, no. 3, 2020, doi: 10.1145/3383123.
- [60] M. Habibi, N. N. Muksin, D. Kurniawan, and A. Perdanaraya, “Komunikasi Politik Kepala Daerah di Media Sosial (Studi pada Akun Facebook Anies Baswedan, Ridwan Kamil dan

- 
- Ganjar Pranowo),” *Potret Pemikir.*, vol. 26, no. 2, 2022, doi: 10.30984/pp.v26i2.2059.
- [61] P. M. F. Coelho, P. A. P. Correia, and I. G. Medina, “Social media: A new way of public and political communication in digital media,” *Int. J. Interact. Mob. Technol.*, vol. 11, no. 6, 2017, doi: 10.3991/ijim.v11i6.6876.
- [62] Y. P. Yuan *et al.*, “Government Digital Transformation: Understanding the Role of Government Social Media,” *Gov. Inf. Q.*, vol. 40, no. 1, 2023, doi: 10.1016/j.giq.2022.101775.
- [63] A. Viskovatoff, “Foundations of Niklas Luhmann’s theory of social systems,” *Philos. Soc. Sci.*, vol. 29, no. 4, 1999, doi: 10.1177/004839319902900402.
- [64] F. F. Alamsyah, D. W. Sjuchro, S. Karlinah, and H. Agustin, “Exploring the Different Opportunities For Information Diversity in the Digital Disruption Era,” *Rev. Int. Geogr. Educ. Online*, vol. 11, no. 5, 2021, doi: 10.48047/rigeo.11/5/19.
- [65] J. W. Kim, “They liked and shared: Effects of social media virality metrics on perceptions of message influence and behavioral intentions,” *Comput. Human Behav.*, vol. 84, 2018, doi: 10.1016/j.chb.2018.01.030.