



Language contestation in the virtual linguistic landscape of the official website of Malang City: Indonesian and Javanese Dialects

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ABSTRACT

This study examines language contestation in the virtual linguistic landscape (VLL) of the official website of Malang City Government, focusing on the interaction between Indonesian and Javanese dialects. While previous studies emphasize the dominance of national languages in digital governance, this study critically interrogates whether such dynamics represent contestation, coexistence, or symbolic marginalization. Using a concurrent mixed-methods design, data were collected from 55 indexed web pages through systematic content analysis, supported by policy documentation and semi-structured interviews with website administrators (n = 3). The analysis integrates linguistic distribution, language style, and communicative function within a VLL framework. The findings reveal that Indonesian overwhelmingly dominates administrative and informational functions, while Javanese dialects appear in limited symbolic forms, such as service names and cultural expressions. Rather than indicating active contestation, this pattern reflects a hierarchical linguistic order shaped by institutional norms, regulatory constraints, and digital governance practices. This study contributes theoretically by reconceptualizing “language contestation” in digital institutional spaces as structured hierarchy rather than direct competition. Practically, it highlights the need for more functional integration of regional languages in digital governance to support linguistic diversity beyond symbolic representation.

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Introduction

The development of digital technology has transformed the way language appears, is produced, and is contested in the public sphere, including in the context of digital governance. Official regional government websites now serve not only as media for delivering administrative information but also as symbolic spaces where linguistic identities are negotiated and represented to the wider public (Ivkovic & Lotherington, 2009). In the Indonesian context, Bahasa Indonesia, as the national language, holds a dominant position that is legitimized both legally and ideologically. In contrast, local languages, including Javanese dialects, tend to occupy a peripheral position in official digital spaces (Keles et al., 2020; Prihatini et al., 2024). The city of Malang presents an interesting linguistic reality: its community actively uses the Javanese dialect in social contexts, yet Bahasa Indonesia dominates the official government website. This situation raises sociolinguistic issues regarding the competition between national and regional languages in the virtual linguistic landscape and how institutional policies and practices influence language selection (Gomaa, 2020). Empirical evidence shows that the use of the Javanese dialect in government digital spaces is

generally symbolic and limited. At the same time, informative and regulatory functions are almost entirely carried out by Bahasa Indonesia (Paramarta et al., 2022; Pangesti & Prihatini, 2021). Therefore, this phenomenon underscores the urgency of scientific study of language contestation within the virtual linguistic landscape of regional governments.

Studies on Linguistic Landscape (LL) and Virtual Linguistic Landscape (VLL) have advanced rapidly, examining how language is used, positioned, and interpreted in physical and digital spaces (Ivkovic & Lotherington, 2009). Various studies have shown that digital spaces exhibit linguistic dynamics distinct from those of physical spaces because they are influenced by institutional policies, technology, and the characteristics of a broader, more heterogeneous audience (Gomaa, 2020; Mujianto, 2018). Keles et al. (2020) emphasized that in institutional VLL, the dominant language is generally reinforced by *de jure* policies, while minority languages rely more on *de facto* practices. In Indonesia, linguistic landscape studies are still dominated by research on physical spaces, such as city signage and signage, which demonstrate the dominance of Indonesian and the marginalization of regional languages (Ardhian et al., 2023; Taylor-Leech, 2012). Studies of VLL at the local government level remain relatively limited, although research in Bali shows that regional languages remain marginalized in official digital spaces despite support from local regulations (Paramarta et al., 2022). Existing literature has not fully explained how language contestation occurs on official government websites, which simultaneously serve administrative, symbolic, and interactive functions, nor has it fully linked language distribution to language style and user interaction.

Given empirical reality and the limitations of previous studies, this study aims to analyze the forms and patterns of contestation over the use of Indonesian and Javanese dialects in the virtual linguistic landscape of the official website of Malang City. This study not only examines the distribution of languages quantitatively but also examines how languages are used across various digital communication functions, such as informative, symbolic, and interactive (Gomaa, 2020). Furthermore, this study aims to uncover *de jure* and *de facto* factors that influence language choice, language style, and user interaction patterns in the digital government space. *De jure* factors include regulations, language policies, and institutional norms that mandate the use of Indonesian as the state's official language. In contrast, *de facto* factors include social practices, local creativity, and user responses to the language in use (Keles et al., 2020; Mujianto & Sudjalil, 2021). With these objectives, this study seeks to provide a more comprehensive understanding of the negotiation between national and regional languages in official digital spaces. This research also aims to answer the fundamental question of the extent to which official local government websites can function as spaces for preserving regional languages or actually strengthen the dominance of the national language. This study also aims to reconceptualize language contestation in digital institutional spaces as a hierarchical and ideologically structured process rather than mere linguistic coexistence.

Although VLL studies have developed internationally, a significant research gap remains in Indonesia, particularly regarding official local government websites in Javanese-speaking areas. Previous studies have focused more on the physical linguistic landscape or discussed VLL in general, without a specific focus on the linguistic contestation between national and regional languages in the digital government space (Ardhian et al., 2023; Taylor-Leech, 2012). The novelty of this research lies in its focus on the official Malang City website as an institutional digital space that reconciles national policy interests and local identities. Furthermore, this research integrates analysis of language distribution, language style, and user interactions within a coherent VLL framework, transcending a purely descriptive approach. The urgency of this research is further heightened by the increasing role of official government websites as primary sources of public information and symbols representing regional identities in the digital era (Paramarta et al., 2022; Dwijayanti & Mujianto, 2020). Without critical analysis, the digital government space has the potential to become an arena for linguistic homogenization that ignores local linguistic diversity, making this research important both academically and policy-wise. This study therefore contributes not only empirically but also theoretically by reframing contestation as a form of structured linguistic hierarchy within digital governance.

This research is expected to make significant theoretical and practical contributions to sociolinguistics and language policy studies. Theoretically, this research enriches the study of the Virtual Linguistic Landscape by presenting an analysis of language contestation in the context of Indonesia's digital government, an area still relatively underexplored. The findings of this research expand the understanding of the interaction between *de jure* and *de facto* factors in shaping the virtual linguistic landscape, as well as the negotiation process between national and regional languages in official digital spaces (Gomaa, 2020; Keles et al., 2020). Practically, this research contributes to local governments in designing language representation strategies that are more sensitive to local identities without neglecting the administrative and legal functions of Indonesian. Furthermore, this research can serve as a reference for developing policies to preserve regional languages in the digital era by optimizing official government websites and online platforms (Ambarsari & Mujianto, 2022; Anam et al., 2024). Thus, this research contribution is not

only relevant to scientific development but also has real implications for the practice of language policy and the preservation of linguistic diversity in Indonesia's digital space.

While previous studies on linguistic landscape in Indonesia have largely focused on physical spaces or descriptive accounts of digital language use, limited attention has been paid to how institutional digital platforms structure language hierarchy and symbolic representation. Moreover, the concept of "language contestation" in the Virtual Linguistic Landscape (VLL) remains under-theorized, often treated as simple co-presence rather than a structured power relation.

This study fills the identified gap by critically examining language contestation as a hierarchical and ideologically mediated process within digital governance, integrating aspects of linguistic distribution, communicative function, and institutional constraints. In doing so, it moves beyond a purely descriptive sociolinguistic approach and offers a more critical perspective on how language operates within institutional digital environments. The analysis focuses on the distribution of Indonesian and Javanese dialects in the virtual linguistic landscape of the Malang City Government website, examines the extent to which this distribution reflects patterns of contestation, coexistence, or symbolic marginalization, and explores how *de jure* and *de facto* factors shape language choice, linguistic style, and user interaction in the context of digital governance.

Method

This study employed a mixed-methods approach with a concurrent design, in which quantitative and qualitative data were collected simultaneously within a single research phase to gain a comprehensive understanding of language contestation in the virtual linguistic landscape (Creswell & Creswell, 2018). This approach was chosen because the study of the Virtual Linguistic Landscape requires both quantitative mapping of language distribution and qualitative social and institutional interpretation (Ivkovic & Lotherington, 2009). Quantitative methods were used to map the distribution of Indonesian and Javanese dialects. In contrast, qualitative methods were used to analyze the functions, styles, and contexts of the policies and practices of their use. The concurrent design enabled the integration of findings, thus complementing the research results (Gomaa, 2020).

The object of this research is the official website of the Malang City Government, representing the institutional virtual linguistic landscape at the local government level. The object was selected for its function as an official medium for conveying public information, as a symbol of regional identity, and as a means of interaction between the government and the public (Keles et al., 2020). Data sources include textual and visual content on the main page, service menus, news, announcements, and public service features. Additional data were obtained from documentation of national and regional language policies, as well as observations of the comment feature and the site's connectivity with official government social media. Data source selection was carried out purposively to align with the research objectives, enabling structural, symbolic, and interactional analyses of language dynamics.

Data collection was conducted through systematic observation, documentation, and digital content analysis. Observations were conducted by examining site structures, search-engine-indexed pages, and user-interaction features to gain a comprehensive understanding of language representation. Documentation was used to collect language regulations, government policies, and visual and textual archives representing the use of Indonesian and Javanese dialects. Digital content analysis was conducted by identifying and classifying language according to categories, functions, and styles (Gomaa, 2020). To improve data accuracy, researchers used a web crawler to identify indexed pages and to determine language distribution.

Data analysis was conducted in sequential, systematic stages. The first stage was data reduction, sorting site content by page type, language, and communicative function. The second stage involved data categorization, grouping the use of Indonesian and Javanese dialects based on distribution, style, and context of use (Creswell & Creswell, 2018). The third stage was interpretive analysis, integrating quantitative and qualitative data to interpret symbolic meanings and implications for language policy. This analysis considered both *de jure* and *de facto* factors in explaining language dominance. The final stage was drawing conclusions linked to the research objectives and the VLL framework.

To ensure the validity and reliability of the data, this study employed source and technique triangulation. To ensure reliability, a second coder independently analyzed 20% of the dataset, resulting in an inter-coder agreement of 92%. Source triangulation was conducted by comparing data from website content, policy documentation, and observations of user interactions. Technique triangulation was conducted by combining observation, documentation, and digital content analysis (Creswell & Creswell, 2018). Furthermore, data re-checking was conducted through repeated readings of the content and language classifications to minimize interpretation bias. The reliability of the analysis was strengthened by

the use of established theoretical frameworks for the Linguistic Landscape and Virtual Linguistic Landscape, ensuring high credibility and a strong potential for replication in similar contexts.

Results and Discussion

Results

This study analyzes the language distribution on the official website of the Malang City Government to obtain an overview of the language conditions as of July 31, 2023. The initial stage of the analysis was carried out by identifying indexable pages using a website crawler, following the Search Engine Optimization (SEO) methodology framework, which bases analysis on indexed pages. The identification results show that there are 55 indexed pages, with a very low percentage of Javanese dialect use, namely less than 1% compared to Indonesian. The 55 indexed pages were selected using an SEO-based crawling technique to ensure that only publicly accessible and algorithmically visible pages were included. This approach reflects actual user exposure and enhances ecological validity. Furthermore, an analysis of the site portal's heading structure shows that the use of the Javanese dialect is limited to second-level headings (H2), at 30%, while the other headings are entirely in Indonesian can be seen in Table 1 and 2.

Table 1. Demographics of heading tag usage on the official website of the Malang City Government

No	Heading	Word Count	Language Distribution		Javanese to Indonesian (%)
			Indonesian	Javanese language	
1	H1	3	3	0	-
2	H2	6	4	2	30%
3	H3	12	12	0	-

Table 2. Indexable pages on the official Malang website portal and their language distribution

No	Index page	Language Distribution		Javanese to Indonesian (%)
		Indonesian	Javanese language	
1	https://malangkota.go.id/beranda/	1376	3	< 1%
2	https://malangkota.go.id/sejarah-malang/	1034	0	0%
3	https://malangkota.go.id/tri-bina-cita/	1044	5	< 1%
4	https://malangkota.go.id/visi-dan-misi/	641	0	0%
5	https://malangkota.go.id/program-pembangunan/	662	0	0%
6	https://malangkota.go.id/makna-lambang/	671	0	0%
7	https://malangkota.go.id/geografis/	884	0	0%
8	https://malangkota.go.id/wali-kota-malang-dari-masa-ke-masa/	658	0	0%
9	https://malangkota.go.id/sambutan-wali-kota-malang/	539	0	0%
10	https://malangkota.go.id/badan-dan-kantor/	739	0	0%
11	https://malangkota.go.id/bagian/	864	0	0%
12	https://malangkota.go.id/daftar-eksekutif/	1486	0	0%
13	https://malangkota.go.id/daftar-legislatif/	1350	0	0%
14	https://malangkota.go.id/daftar-forkopimda/	741	0	0%
15	https://malangkota.go.id/dinas/	972	0	0%
16	https://malangkota.go.id/kecamatan-dan-kelurahan/	684	0	0%
17	https://malangkota.go.id/rsud-kota-malang/	593	0	0%
18	https://malangkota.go.id/layanan-kedaruratan/	536	0	0%
19	https://malangkota.go.id/kesehatan/	2368	0	0%
20	https://malangkota.go.id/perpustakaan/	945	0	0%
21	https://malangkota.go.id/pendidikan/	1432	0	0%
22	https://malangkota.go.id/rumah-sakit/	1094	0	0%
23	https://malangkota.go.id/apotek/	635	0	0%
24	https://malangkota.go.id/bank/	796	0	0%
25	https://malangkota.go.id/bioskop/	588	0	0%
26	https://malangkota.go.id/kesenian/	729	4	< 1%
27	https://malangkota.go.id/pasar-rakyat/	770	5	< 1%
28	https://malangkota.go.id/pusat-perbelanjaan/	653	0	0%
29	https://malangkota.go.id/hotel-guesthouse-penginapan/	789	0	0%
30	https://malangkota.go.id/rumah-makan-cafe/	983	1	0%

31	https://malangkota.go.id/sarana-olah-raga/	830	0	0%
32	https://malangkota.go.id/museum/	559	0	0%
33	https://malangkota.go.id/co-working-space/	536	0	0%
34	https://malangkota.go.id/kantor-polisi/	636	0	0%
35	https://malangkota.go.id/kota-malang-dalam-angka-mda/	581	0	0%
36	https://malangkota.go.id/apbd/	640	0	0%
37	https://malangkota.go.id/sakip-kota-malang/	620	0	0%
38	https://malangkota.go.id/sakip-perangkat-kota-malang/	801	0	0%
39	https://malangkota.go.id/lakip-kota-malang/	824	0	0%
40	https://malangkota.go.id/ipkd/	630	0	0%
41	https://malangkota.go.id/peraturan-daerah/	829	0	0%
42	https://malangkota.go.id/peraturan-walikota/	1106	0	0%
43	https://malangkota.go.id/surat-edaran/	1036	0	0%
44	https://malangkota.go.id/rencana-pembangunan-daerah/	654	0	0%
45	https://malangkota.go.id/daftar-informasi-publik/	536	0	0%
46	https://malangkota.go.id/kerja-sama/	573	0	0%
47	https://malangkota.go.id/laporan-keterangan-pertanggungjawaban-lkpj/	565	0	0%
48	https://malangkota.go.id/pengaduan-online/	717	8	< 1%
49	https://malangkota.go.id/retribusi/	991	0	0%
50	https://malangkota.go.id/dpa/	574	0	0%
51	https://malangkota.go.id/rka/	566	0	0%
52	https://malangkota.go.id/realisasi-apbd/	605	0	0%
53	https://malangkota.go.id/category/berita/	1137	0	0%
54	https://malangkota.go.id/category/pengumuman/	1122	0	0%
55	https://malangkota.go.id/agenda/	550	0	0%

The distribution of Javanese dialect usage compared to Indonesian on indexed pages on the official Malang City Government website shows a very limited proportion, at less than 1%. This study argues that this distribution inequality is closely related to *de jure* factors, namely the lack of regional policies or regulations that explicitly support the preservation and use of Javanese dialects in the digital government space. This condition is increasingly relevant, given that the study of the Virtual Linguistic Landscape (VLL) is still relatively new, resulting in a lack of policies that specifically regulate the representation of regional languages in the official digital realm. A similar phenomenon is also found on the official website of the Bali Provincial Government. Although regulations for the preservation of regional languages have been implemented in the physical linguistic landscape through Governor Regulation Number 80 of 2018, the use of Balinese in the virtual linguistic landscape of the official government website remains symbolic, limited to logos, slogans, and some forms of code-switching in the site's content. Meanwhile, written information content remains dominated by Indonesian and English. These findings indicate that the existence of regulations in the physical space has not automatically implied the strengthening of regional languages in the digital space.

The findings of this study also align with those of a study of the physical linguistic landscape in Malang City. Previous research indicated that the use of Javanese on public signs and information boards reached only 2.05% in the newer part of Malang City (Malang Kota Baru) and 0.96% in the Old City area. This proportion is not significantly different from the results of this study, which indicates that Javanese dialects are also rarely used in the virtual linguistic landscape. On the official Malang City Government website, Javanese dialects are found primarily in symbolic expressions in the names of digital services. The SAMBAT service, which lexically means "complain," serves as a platform for public complaints about various issues in Malang City. Meanwhile, IZOL is an acronym for the Online Licensing Information System, which provides licensing services for healthcare workers and businesses. The term IZOL is associated with the Javanese word *ijol*, meaning "exchange," although the lexical meaning and function of the service are not entirely identical. This difference in meaning suggests that the use of Javanese terms serves more as symbols representing local identity than as a means of substantive communication.

Furthermore, the Javanese dialect is also used in the SIMBAHE service, which facilitates online payments for sports facility rentals. Lexically, *simbahe* means 'grandfather or grandmother' in Javanese, so this term serves as a symbolic marker of the presence of regional languages in the official digital space. Another service, SAMDALANG, serves as a platform for sharing information about youth activities in Malang City. The term *samdalang* lexically refers to the puppeteer figure in the Javanese *wayang* tradition, which is generally associated with conservative Javanese culture. The use of these terms shows that the Javanese

dialect is primarily used as a symbol of cultural identity, while the communicative function of conveying information remains dominated by Indonesian. Thus, the contestation of language in the virtual linguistic landscape of the official Malang City Government website tends to place Javanese dialect in the symbolic realm, rather than as the primary operational language, as shown in Figure 1.

Language Style in Websites



Fig. 1. Sambat (complaining), Izol (exchanging goods), SIMBAH-E, and SAM DALANG appear on the main website

Style and Language Patterns in Websites

Based on observations of website headlines, articles, and available information services, the use of Indonesian on the official website of the Malang City Government tends to be formal. Essentially, a formal style adheres to established linguistic norms and conventions, ensuring effective communication in situations that demand clarity, professionalism, and mutual respect. The use of this style demonstrates a commitment to clear and structured communication and facilitates interaction in contexts that demand a certain level of seriousness and authority. Furthermore, the formal use of Indonesian reflects the Malang City Government's adherence to national policy, particularly by prioritizing nationalism over regional identity, as stipulated in Presidential Regulation Number 63 of 2019 concerning the use of Indonesian in government administration.

In classifying findings related to language style and patterns, this study follows the classification of language styles by level of formality proposed by Zulaekho (2011). Based on this classification, there are five types of language styles: frozen, formal, consultative, casual, and intimate.

Frozen Style

The frozen style is the most formal and/or oratorical style of language. This style is generally used in highly formal and symbolic situations, such as state ceremonies, legal documents, and formal scripts. The main characteristic of the frozen style is minimal interaction between the writer and the reader, leaving the reader no room to refute or respond directly to the content of the speech.

Formal Style

Formal style is commonly used in formal situations that require precise language. According to Richards (1985), a formal language style is characterized by careful attention to pronunciation, word choice, and sentence structure. Characteristics of formal style include the use of standard language, a relatively slow speech rate, technical vocabulary, complex and varied grammatical structures, the use of full names in greetings, the avoidance of repeating keywords, and the use of synonyms to maintain linguistic variety.

Consultative Style

The consultative style is considered the most neutral or unmarked style of language. According to Penalosa (1981), this style is used in semi-formal communication situations and is considered common among average speakers. The consultative style is commonly found in group discussions, everyday conversations in educational and work environments, and dialogic business interactions.

Casual Style

Casual style is a language style typically used in informal situations by speakers who share similar age, education, social status, ethnicity, or social proximity. This style is characterized by the use of non-standard vocabulary, such as everyday language, slang, and, in some cases, taboo expressions.

Intimate Style

The intimate style is characterized by highly personal, internal language in close relationships. According to Penalosa (1981), the main characteristics of this style include the use of secret codes. These

special terms indicate closeness in the relationship, rapid, incomplete speech, nonverbal cues, and nonstandard language forms can be seen in Table 3.

Table 3. Distribution of Language Styles and Patterns on the Official Website of the Malang City Government

	<i>Frozen Style</i>	<i>Formal Style</i>	<i>Consultative Style</i>	<i>Casual Style</i>	<i>Intimate Style</i>
Page	0	All Pages	0	Sambat (1)	Main website (2), Beranda (5), Sambat (1), PPID (17), SAMDALANG (2), SIMBAHE (1)
Frequency	0	All Pages	0	1	28

Based on observations, the formal language style is the dominant one on the official website of the Malang City Government. In addition, there were 28 occurrences of intimate language style characterized by the use of local vocabulary such as sambat, arek, nawak, and ngalam. Meanwhile, casual language style appeared only once, namely in the use of the word ngakak on the Sambat page. These findings indicate the phenomenon of walikan, or word reversal, which is characteristic of the Malang people's language. Walikan is a form of word reversal commonly found in youth languages. This process involves a total reversal of phonemes in words originating from Malangan Javanese as well as from Indonesian, Arabic, and English, such as malaḡ becomes ḡalam and kawan becomes nawak. The resulting words are used in Malangan Javanese speech, with variation levels depending on the speaker's fluency.

User interaction within the website

We assessed the interaction between visitors and website operators, noting that all articles, news, and announcements had no comments whatsoever. The absence of user comments suggests limited interaction; however, this should not be interpreted as user reluctance alone. It may also reflect platform design constraints, access barriers, or the institutional nature of government websites as one-way communication channels. We believe visitors are reluctant to respond to the website, and the reasons behind this remain unknown. We believe this lack of comments is due to the complexity of the registration process, while individuals prefer to express their opinions through comments. Furthermore, visitors' time constraints are likely also a significant factor, as they consume content passively rather than taking the time to comment can be seen in Figure 2.

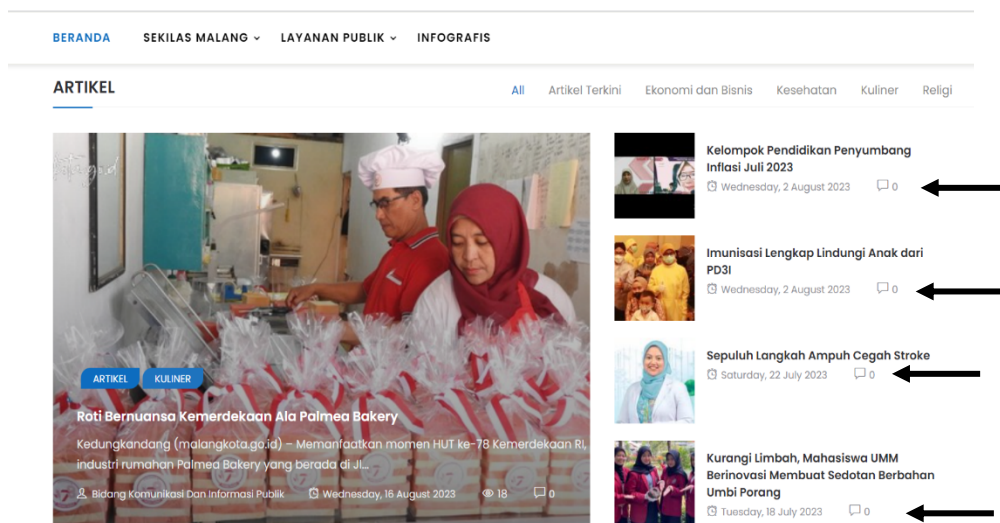


Fig. 2. News pages that have no comments found

However, website operators provide a platform for reader interaction, resulting in more meaningful feedback. Using Instagram and Twitter significantly increases the comment section: each Instagram post averages 4-5 comments, and in viral cases, it can reach 100. Unlike Twitter, the 'reply' feature on each tweet averages fewer than 1 reply or retweet. On Instagram, we observed the frequent use of the Javanese dialect, but our research did not address this issue. Future studies could consider examining the overall virtual linguistic landscape across both websites and social media. Furthermore, for Twitter, we argue that the platform does not significantly contribute to visitor-operator communication, given the distinct nature of

these digital platforms. Furthermore, differences in algorithms and user demographics may influence this difference can be seen in Figure 3.

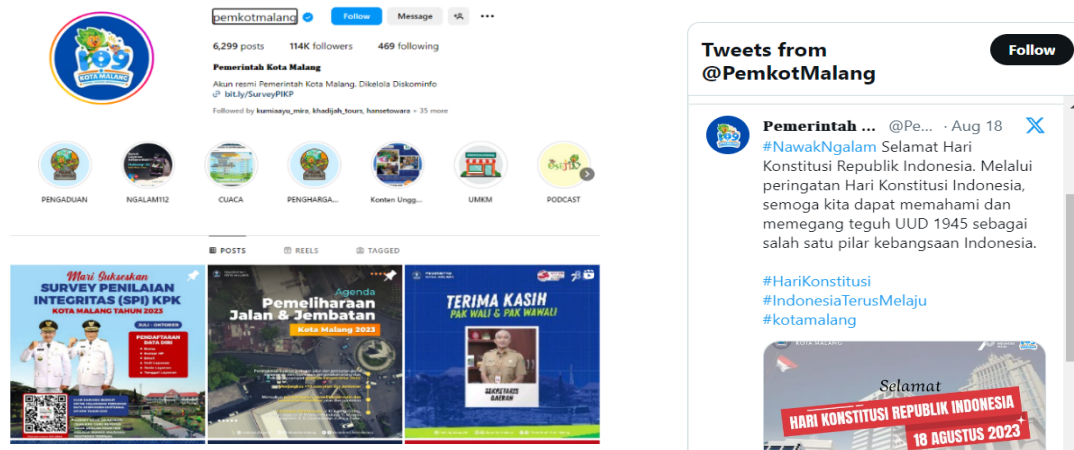


Fig. 3. Alternative platforms for engaging visitors

De jure and de facto strategies for preserving Javanese dialect in the digital realm

Preserving Javanese dialects in the digital realm requires a comprehensive strategy that integrates de jure and de facto approaches. In the digital era, Javanese dialects face serious challenges due to the dominance of Indonesian as the official national language and English as the global language. Therefore, efforts to preserve regional languages cannot rely solely on symbolic practices but must be supported by formal policies and complementary social practices.

De Jure Strategy

UNESCO de jure emphasizes the importance of governments in providing equal support to dominant and minority languages through multilingual policies. Clear regulations are needed to protect regional languages and encourage their use in public spaces, including digital spaces. UNESCO also warns that languages not mastered by a large proportion of younger people are vulnerable, as demonstrated by numerous cases in multilingual countries (Lantaya et al., 2021). Therefore, de jure language preservation policies are believed to strengthen the virtual linguistic landscape significantly.

De Facto Strategy

De facto, Javanese dialect preservation can be achieved through practice-based initiatives, such as the production of Javanese-language digital content in the form of websites, social media, videos, and podcasts. The development of digital learning resources, online cultural campaigns, and technological support, such as digital dictionaries and translation tools, helps strengthen the sustainability of the Javanese language in the digital space. Collaboration between communities, government, and technology players is key to keeping the Javanese dialect alive and relevant in the digital age.

Discussion

Instead of reflecting genuine contestation, the findings indicate an institutionalized linguistic hierarchy in which Indonesian functions as the legitimate language of governance, while Javanese dialects are confined to symbolic roles. This suggests that contestation in digital institutional spaces operates as structured inequality rather than open competition. The results of this study substantively indicate that the virtual linguistic landscape of the official Malang City Government website is dominated by Indonesian, while the Javanese dialect is present to a very limited extent and is more symbolic (Aini et al., 2023; Amos, 2017). This dominance is evident not only in the quantitative distribution of languages on indexed pages but also in the consistent use of formal language styles in almost all informative and administrative content. Analytically, these findings indicate that the digital government space is positioned as a representation of state authority that demands compliance with official language norms. In this context, Indonesian gains institutional legitimacy as the primary operational language, while the Javanese dialect does not achieve an equivalent communicative function despite its social dominance in Malang City (Nash, 2016). The Javanese dialect is placed in the symbolic realm through service names, slogans, and typical Malang vocabulary. Interview and observation data reinforce that this language choice is part of an institutional practice

oriented towards administrative prudence and regulatory compliance. Thus, language contestation does not occur through open competition but rather within a hierarchical structure that positions Indonesian as the legitimate language and Javanese dialects as markers of cultural identity (Gomaa, 2020; Keles et al., 2020).

When linked to previous research, these findings demonstrate continuity and broaden the perspectives of the Virtual Linguistic Landscape study. Paramarta et al.'s (2022) research in Bali demonstrated that regional languages remain marginalized in official digital spaces despite support from local regulations. This finding aligns discursively with the study's findings. However, this study has analytical advantages because it demonstrates that regional language marginalization also occurs in contexts without explicit regional language policies, such as Malang City. Compared to studies of the physical linguistic landscape in Malang, which showed low visibility of Javanese on public boards (Paramarta et al., 2022; Symaco, 2017), this study extends the analysis to digital spaces and demonstrates that this pattern of dominance persists in a more systematic and institutionalized manner. Furthermore, this study goes beyond mapping language distribution but links language choice to language style and user interaction patterns, aspects rarely analyzed in an integrated manner in previous VLL research (Gomaa, 2020). Thus, this study not only confirms previous findings but also enriches the understanding of language contestation in the relationship between policy, institutional practices, and digital technology (Yoniantini, 2021; Sahril et al., 2019).

Reflecting on the findings of this study shows that analyzing language contestation in the virtual linguistic landscape opens up a critical understanding of language as an instrument of symbolic power in the digital space of government. The research aims to uncover the forms and patterns of language contestation not only to map the languages used but also to reveal the institutional logic behind these language choices (Yan, 2019). The presence of Javanese dialectal elements in service acronyms and typical Malangan vocabulary demonstrates a symbolic strategy to maintain local identity without disrupting the stability of the official language (Peck & Banda, 2014). This reflection confirms that the integration of regional languages in the official digital space has not been directed at strengthening communicative functions, but rather at their representational function. The benefit of this study lies in its demonstration that preserving regional languages in the digital era is not sufficient through symbolism alone, but requires more substantive and sustainable planning (Lu et al., 2020). Thus, this study encourages policymakers and academics to reconsider the assumption that the presence of regional language symbols is sufficient to represent linguistic diversity, especially in an increasingly dominant digital context (Landry & Bourhis, 1997).

The theoretical implications of this research lie in strengthening the concept of the Virtual Linguistic Landscape as a space for negotiation between language policy and digital social practices. The research findings indicate that institutional and technological factors play a significant role in shaping language hierarchies, so that VLL cannot be understood solely as a reflection of people's everyday language use (Goebel, 2014). Practically, the results of this study indicate the need for a language policy strategy that is more adaptive to the characteristics of the digital space. For local governments, these findings can serve as a basis for formulating policies on the use of regional languages on official websites that are more proportional and functional, without reducing the clarity of public information. Furthermore, practical implications extend to digital communication design, where regional languages can be selectively integrated into cultural, educational, or participatory content (Erikha, 2018; Fitriati & Rata, 2021). Thus, this study guides using research findings not only to develop sociolinguistic theory but also to inform language policy and governance in digital government (Wulansari, 2020; Zaman et al., 2023).

The findings of this study can be understood as the result of a complex interaction between *de jure* and *de facto* factors. The *de jure* factor is reflected in the dominance of Indonesian as the official state language, which is normatively required in government communications. The absence of regional regulations explicitly governing the use of Javanese dialects in digital spaces results in regional languages lacking a strong legal basis for operational use (Savitri et al., 2022; Winarti et al., 2024). On the other hand, the *de facto* factor arises from social practices and pragmatic considerations of website administrators, such as the need for clarity in information, heterogeneous audiences, and the institution's professional image. Interview data indicate that concerns about ambiguity of meaning and potential misinterpretation are the primary reasons for restricting the use of Javanese dialects (Itaristanti, 2020). Therefore, the results of this study cannot be understood as a rejection of regional languages, but rather as a compromise between administrative demands and efforts to maintain local identity symbolically (Kusno, 2021; Putikadyanto et al., 2024).

Based on the research findings and analysis, several strategic actions are needed to balance language contestation in the virtual linguistic landscape. Local governments can formulate digital language policies that provide clear space for the use of regional languages in specific contexts, such as cultural content,

participatory services, and public campaigns (Sartini, 2022). Furthermore, collaboration between linguists, digital content managers, and policymakers is needed to design guidelines for the use of regional languages that maintain clarity of communication. Community engagement through interactive regional language content can also be a de facto strategy to increase the visibility and functionality of local languages in digital spaces. These actions align with UNESCO recommendations regarding language preservation in the digital era. Therefore, this research goes beyond critical analysis but also offers concrete action directions to bridge the interests of linguistic nationalism and the preservation of local identity in the digital government space (Elika & Nurhayati, 2024; Abdullah & Wulung, 2023).

Conclusion

This study concludes that language contestation in the virtual linguistic landscape of the official Malang City Government website operates in a hierarchical and symbolic manner rather than as a functionally equal competition between Indonesian and Javanese dialects. Indonesian functions as the primary operational language for informative, administrative, and regulatory content, reflecting institutional authority and alignment with national policy, while Javanese dialects are limited to symbolic use in service names, acronyms, and local vocabulary. The minimal level of user interaction further indicates that the website serves predominantly as a one-way communication platform, enabling covert language contestation through institutional legitimacy. These findings affirm that language contestation in virtual linguistic landscapes should be understood as an ideologically structured and hierarchical process. This study contributes to the advancement of Virtual Linguistic Landscape research in Indonesia by emphasizing that digital linguistic spaces are shaped by policy, technology, and administrative practices rather than merely reflecting community language use, and by proposing a comprehensive analytical framework that integrates language distribution, style, and user interaction. Practically, the results offer valuable insights for local governments in developing digital communication strategies that are both administratively effective and sensitive to linguistic diversity. However, this study is limited to a single institutional context, suggesting that future research should expand to comparative analyses across different regions, incorporate social media platforms to capture more interactive dynamics, and employ longitudinal and qualitative approaches to better understand the evolving interplay between language policy, technology, and public participation.

Declarations

- Author contribution** : M. Isnaini conceptualized the study, designed the research framework, and led the writing of the manuscript. Arif Budi Wuriyanto contributed to data collection, data analysis, and interpretation of the findings. Ho Ngoc Hiu contributed to data validation, literature review, and language editing. All authors reviewed, revised, and approved the final version of the manuscript.
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- Ethics Approval** : This study does not involve human subjects requiring formal ethical approval. However, any interview data used in this study were collected with informed consent from participants, and confidentiality has been maintained.
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