

Linguistic Landscapes and Cultural Identity Formation in Multilingual Urban Spaces

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ABSTRACT

Purpose: This study examines how linguistic landscapes in multilingual urban spaces of Palu, Indonesia, contribute to cultural identity formation by exploring language distribution, visibility, and the relationship between public signage, cultural recognition, and belonging.

Subjects and Methods: A qualitative case study was conducted using a linguistic landscape framework. Data were collected through field observations, photographic documentation, and semi-structured interviews with nine participants, comprising five community members, two business owners, one shop owner, and one urban resident. Data were analyzed through thematic analysis and linguistic landscape categorization, distinguishing top-down institutional signs from bottom-up community and commercial signs. Triangulation was conducted across visual, textual, and interview evidence.

Results: Four themes emerged: language distribution, top-down and bottom-up signage, linguistic visibility and cultural identity, and identity negotiation. Indonesian predominated in official and regulatory signs, while commercial and community spaces showed greater use of English, local, and heritage languages. Bottom-up signage demonstrated linguistic creativity through code-mixing, translation, transliteration, and culturally meaningful visual elements. Heritage-language visibility supported cultural recognition and belonging, whereas limited visibility was associated with perceived marginalization. Multilingual signage also balanced commercial accessibility with cultural continuity.

Conclusions: Linguistic landscapes reflect institutional hierarchies while enabling everyday identity negotiation. Inclusive urban language planning should recognize multilingual practices and support heritage-language visibility and culturally diverse representation in public spaces.

INTRODUCTION

Contemporary urban spaces are increasingly characterized by linguistic plurality resulting from globalization, migration, tourism, digital connectivity, and intensified social mobility (Judd & Calhoun, 2015; Bansal, 2024; Griffin et al., 2016). Languages encountered on shop signs, public notices, advertisements, street names, institutional boards, and other forms of public signage are therefore more than instruments for transmitting information. They constitute visible representations of how societies organize cultural difference, assign social value to languages, and negotiate belonging in everyday spaces. Recent linguistic landscape research demonstrates that public signage can simultaneously communicate practical information, express cultural affiliations, and reproduce ideological distinctions between dominant, minority, national, and

global languages (Muriungi & Mudogo, 2021; Wekjira & Bátyi, 2024; Napu, 2024). This makes the urban linguistic landscape an important site for examining how multilingualism becomes materially and symbolically visible in everyday life.

The significance of linguistic landscapes becomes particularly evident in cities where national, local, heritage, migrant, and international languages coexist (Sakhiyya & Martin-Anatias, 2023; Vandenbroucke, 2015; Santos, 2025). Language choices in such settings are rarely random because the selection, ordering, size, script, and visual prominence of languages can indicate the intended audience, institutional authority, commercial orientation, and cultural positioning of sign producers. Research in Indonesia, for example, shows that Indonesian frequently occupies a dominant position in formal and public signage, whereas English and local languages may perform different commercial, symbolic, or identity-related functions (Benu et al., 2023; Artawa et al., 2023; Napu, 2024). Similar patterns have been reported in other multilingual contexts, where dominant languages tend to receive greater visual prominence while minority or heritage languages are restricted to more localized or symbolic functions (Savski, 2021; Wu & Huang, 2025). Consequently, linguistic visibility provides an empirical entry point for examining how power, recognition, and cultural difference are spatially organized.

Recent scholarship has also moved beyond simply counting languages on signs. The analytical focus has increasingly shifted toward understanding how signs participate in identity construction, language ideology, and social negotiation. Research on Jiangnan Road in Wuhan demonstrates how linguistic choices contribute to the construction of urban identity. An and Zhang (2024) analyzed 1,308 official and unofficial signs and found that English was associated with modernity, internationalization, and commercial purposes, while Chinese linguistic forms contributed to cultural identification and historical distinctiveness. Their findings illustrate how linguistic landscapes reflect the interaction of economic, historical, cultural, and political identities. English was associated with modernity and internationalization, whereas Chinese forms contributed to cultural identification and historical distinctiveness. Research in Thailand similarly shows that multilingual and multimodal signage can actively construct ethnic identities, with dominant languages receiving greater visual prominence while minority languages acquire localized and symbolic functions (Wu & Huang, 2025). These findings indicate that linguistic landscapes should not be treated merely as inventories of languages but as dynamic semiotic environments in which identities are continuously represented and negotiated.

The relationship between linguistic visibility and cultural identity is particularly important because public recognition is partly mediated through what becomes visible in shared urban spaces. The presence of a heritage language can provide symbolic recognition to a community, while its limited visibility may indicate unequal linguistic status or reduced public representation. Studies in Maluku, for example, demonstrate that local, national, and foreign languages occupy different spatial and functional domains, with language selection being strongly influenced by geographical, historical, religious, and socioeconomic contexts (Iye et al., 2023). In Bali, the coexistence of Indonesian, Balinese, and English on commercial signage similarly illustrates how local identity, national identity, tourism, and economic interests are negotiated simultaneously (Artawa et al., 2023; Purnawati et al., 2025). These studies establish that language visibility is connected to identity, but they also reveal that such relationships are context-dependent rather than uniform across multilingual urban environments.

Another important dimension concerns the relationship between top-down and bottom-up signage. Government agencies and formal institutions generally produce signs within regulatory and language-policy frameworks, whereas businesses, community organizations, and individuals exercise greater flexibility in selecting languages and visual resources. Recent research shows that these two domains may reproduce different linguistic ideologies. In Mojokerto, for example, Indonesian dominated public signage and reflected adherence to national language policy, while Javanese, despite being widely spoken by the local population, appeared less frequently (Rohmah & Wijayanti, 2023). In contrast, commercial and community-generated signage may employ multilingual combinations, transliteration, code-mixing, and symbolic language choices to address specific audiences or construct particular identities (Siziba & Maseko, 2024; Napu, 2024). The distinction between institutional and community signage is therefore essential for

understanding who has the authority to make particular languages visible and how alternative forms of linguistic expression emerge in everyday urban spaces.

Despite these developments, an important conceptual problem remains. Much recent linguistic landscape research continues to emphasize what languages are visible, where they occur, and what functions they perform, while the relationship between such visible configurations and the lived process of cultural identity formation remains less fully explained. Existing studies have provided valuable evidence of language distribution, language policy, commercial motivations, translation practices, ethnic identity, and symbolic representation (Benu et al., 2023; Iye et al., 2023; Napu, 2024; Wu & Huang, 2025). However, these strands of research are often examined separately. Studies focusing on language distribution do not necessarily explain how residents interpret that distribution in relation to belonging. Studies focusing on identity often concentrate on particular ethnic, tourism, or commercial settings rather than examining how different types of urban signage collectively contribute to identity negotiation. Consequently, the field still needs an integrated explanation connecting language visibility, spatial distribution, signage authority, and residents' perceptions of cultural recognition and belonging.

The research gap can therefore be formulated in three dimensions. First, there is a conceptual gap. Existing studies frequently examine linguistic distribution, language policy, commercial communication, or identity construction as relatively distinct analytical concerns. What remains insufficiently developed is an integrated account of how these dimensions interact within the same urban linguistic landscape to shape cultural identity. Second, there is an interpretive gap. A substantial proportion of linguistic landscape research identifies patterns in public signage, but comparatively less attention is given to how residents and other urban actors interpret those patterns and connect them to recognition, belonging, cultural continuity, or marginalization. Third, there is a contextual gap. Recent empirical studies have examined specific environments such as markets, tourist areas, commercial streets, universities, ethnic communities, and borderlands, but their findings remain highly context-specific (Artawa et al., 2023; Purnawati et al., 2025; Wu & Huang, 2025). A broader examination of multilingual urban spaces is needed to understand how institutional and community-produced signs interact across different spatial and social functions.

This study addresses these gaps by conceptualizing the linguistic landscape not simply as a visible collection of languages but as a social and semiotic infrastructure through which cultural identity is represented, recognized, and negotiated. It examines the distribution and visibility of languages, the distinction between top-down and bottom-up signage, and the ways multilingual signs are interpreted in relation to cultural recognition and belonging. The study consequently moves from the question of "which languages are visible?" toward the more theoretically significant question of "how does linguistic visibility become meaningful for cultural identity?" This approach enables the study to connect material features of public signage with the social experiences and identity negotiations of multilingual urban communities.

The study therefore aims to examine how linguistic landscapes in multilingual urban spaces contribute to cultural identity formation by analyzing three interconnected processes: the spatial distribution of languages, the relationship between institutional and community-generated signage, and the interpretation of linguistic visibility in relation to cultural recognition and belonging. By integrating these dimensions, the study contributes to current linguistic landscape scholarship by positioning public signage as an active site of identity negotiation rather than merely a passive reflection of existing linguistic diversity.

LITERATURE REVIEW

Linguistic Landscape as a Socio-Semiotic Urban Space

Recent scholarship increasingly conceptualizes linguistic landscape as a multidimensional study of language and semiotic resources in public space rather than simply the description of written languages. Gaho et al. (2022) explain that linguistic landscape research concerns the presence and organization of linguistic signs, symbols, labels, advertisements, and other visual representations in public environments. More recent spatial approaches emphasize that linguistic landscapes should be understood in relation to the material and social characteristics of the places

where signs are produced, displayed, and interpreted (Malinowski et al., 2023). The meaning of a sign therefore cannot be separated entirely from its location, audience, institutional context, and relationship with other semiotic resources.

This perspective is particularly relevant to multilingual cities because urban public spaces contain multiple layers of linguistic meaning. Signs may simultaneously perform informational, symbolic, commercial, political, and cultural functions. Napu (2024), for example, demonstrates that multilingual signage in Gorontalo is not merely a combination of languages but also a translation space in which linguistic choices respond to different communicative audiences and identity concerns. The study of 123 bilingual signs showed differences between official and non-official translation practices, indicating that institutional and commercial actors use multilingual signage for different purposes.

The socio-semiotic perspective consequently allows linguistic landscapes to be examined as spaces where social meanings become materially visible (Wijaya et al., 2026; Ng & Tay, 2026). Language selection, script, typography, spatial placement, and combinations of languages may communicate different assumptions about social status, cultural authenticity, economic value, and intended audiences. This understanding provides an important theoretical foundation for examining the relationship between multilingual signage and cultural identity.

Language Visibility, Power, and Spatial Organization

Language visibility is closely connected to questions of power because not all languages receive equal space, prominence, or legitimacy in public environments. Recent research demonstrates that dominant languages often occupy more prominent positions, while minority and heritage languages may be limited to localized or symbolic functions. Savski (2021), for instance, illustrates how linguistic landscapes can become sites where language policy, identity, and struggle intersect. Similarly, research on multilingual communities in Thailand demonstrates that dominant languages are visually prioritized, whereas minority languages often operate within more localized and symbolic domains (Wu & Huang, 2025).

The Indonesian context provides further evidence of this unequal distribution. Benu et al. (2023) found that local-language vitality can be examined through the visibility of language in public spaces, while Iye et al. (2023) demonstrate that local, Indonesian, and foreign languages occupy different spatial and functional domains in Maluku. Their findings indicate that language choice is strongly contextual and associated with geographical, historical, religious, and socioeconomic conditions.

The relationship between visibility and power is also evident in commercial environments. Artawa et al. (2023) found that Indonesian, Balinese, and foreign languages coexist in Bali's hotel and restaurant signage, with English strongly associated with international tourism and commercial purposes while Indonesian and Balinese simultaneously represent national and local identities. The coexistence of these languages demonstrates that linguistic landscapes can accommodate contradictory pressures, including economic globalization, national language policy, and local cultural preservation. This literature suggests that linguistic visibility should not be interpreted simply as evidence of linguistic diversity. The degree, position, frequency, and function of visibility are equally important because they reveal how different languages are valued and positioned within urban space.

Linguistic Landscape and Cultural Identity Formation

Cultural identity represents another major dimension of recent linguistic landscape scholarship. Identity is increasingly understood as dynamic and relational rather than as a fixed characteristic attached to particular ethnic or linguistic groups. Public signage contributes to this process because languages and cultural symbols displayed in public spaces provide resources through which individuals and communities represent who they are and how they wish their spaces to be understood.

Research in Wuhan demonstrates this process particularly clearly. The area's linguistic landscape reflected competing historical, cultural, economic, and political identities. Chinese linguistic forms contributed to cultural and historical identification, while English was associated with

modernity, internationalization, and commercial purposes. The linguistic landscape consequently became a site where the identity of the area was continuously negotiated rather than simply represented.

Comparable findings emerge from research on minority and ethnic communities. Their findings demonstrate that minority languages can perform symbolic and localized identity functions even when dominant languages receive greater visual prominence. Identity formation therefore involves both the presence of particular languages and the relationships between languages within the same semiotic space.

The relationship between language and identity is also evident in migrant and diasporic contexts. Research on Asturian restaurants in Madrid shows how linguistic and semiotic resources can reconstruct connections with a homeland and establish a sense of cultural place within a different urban environment. Such findings reinforce the view that linguistic landscapes are not simply representations of demographic composition. They are also mechanisms through which communities actively produce, reproduce, and negotiate cultural meanings.

Top-Down and Bottom-Up Signage

The distinction between top-down and bottom-up linguistic practices remains important for understanding how linguistic authority operates in public space. Top-down signs are generally associated with government institutions, public authorities, and formal organizations, whereas bottom-up signs are produced by businesses, community groups, and individuals. The distinction is analytically useful because the two domains may embody different motivations and linguistic ideologies.

Recent Indonesian research illustrates this contrast. In Mojokari, Indonesian dominates across public signage and reflects the influence of national language policy, while the limited presence of Javanese suggests a gap between the language used by the population and the language made publicly visible (Rohmah & Wijayanti, 2023). By contrast, commercial and community-generated signs often demonstrate greater linguistic creativity and flexibility. Siziba and Maseko (2024), for example, show that bottom-up signage can become a site of multilingual contestation in which English, local languages, and commercial interests interact.

Napu's (2024) study of Gorontalo provides further evidence that institutional and non-institutional signs can follow different translation practices. Official signage demonstrated more standardized translation patterns, whereas non-official commercial signage exhibited greater variation. These findings suggest that the linguistic landscape is shaped by multiple actors whose interests are not necessarily identical.

The top-down/bottom-up distinction is therefore important for this study because cultural identity may be constructed differently depending on who controls the sign, what language is selected, and which audience is being addressed. Institutional signage may communicate official recognition, while community-generated signage may provide space for local identity, cultural expression, commercial positioning, or resistance to dominant linguistic norms.

Multilingual Signage and Identity Negotiation

Recent research increasingly shows that multilingual signage should be understood as a form of identity negotiation rather than simply as a strategy for accommodating multiple audiences. Purnawati et al. (2025), for example, demonstrate that Indonesian, English, and Balinese in the Badung Smart Heritage Market perform different communicative and cultural functions. The continued presence of Balinese language and script provides a mechanism for expressing local heritage, while Indonesian and English increase accessibility to wider audiences.

Similarly, research in Timor-Leste demonstrates that multilingual advertising signs reflect sociocultural interaction, identity negotiation, and power relations. Similarly, Martins and Gomes (2025) examined 142 advertising signs at Timor Plaza in Dili, Timor-Leste. Their findings demonstrate that multilingual advertising reflects sociocultural interaction, identity negotiation, and power relations. English was associated with global appeal and modernity, whereas Tetun supported cultural relevance and accessibility for local audiences.

Multilingual signage can therefore simultaneously accommodate several objectives. It may provide practical information, attract consumers, signal modernity, preserve heritage, express ethnic affiliation, and establish a particular cultural image. This multiplicity means that identity cannot be inferred simply from the presence or absence of one language. Instead, identity emerges through relationships among languages, their visual prominence, spatial placement, symbolic associations, and interpretations by people who encounter the signs.

Research Positioning

The reviewed literature establishes that linguistic landscapes are increasingly understood as dynamic spaces where language, power, culture, and identity intersect. Studies from Indonesia and other multilingual contexts have generated substantial evidence concerning language distribution, translation, language policy, commercial practices, ethnic identity, and multimodal signage (Benu et al., 2023; Iye et al., 2023; Artawa et al., 2023; Napu, 2024; Purnawati et al., 2025; Wu & Huang, 2025). However, the literature remains fragmented across these analytical dimensions.

The present study is positioned at the intersection of these strands. Rather than treating language distribution, signage authority, and cultural identity as independent phenomena, it examines them as interconnected processes within the same urban linguistic environment. The central proposition is that cultural identity formation is influenced not only by which languages are present but also by which languages become visible, who makes them visible, where they are positioned, what functions they perform, and how urban actors interpret their presence.

This positioning provides a sharper analytical framework for understanding linguistic landscapes as an active mechanism of cultural identity formation. The study consequently extends recent linguistic landscape research from the documentation of multilingual signs toward an examination of the relationship between visibility, power, recognition, belonging, and identity negotiation.

METHODOLOGY

Research Design

This study employed a qualitative case study design within a linguistic landscape framework to examine how multilingual public signage contributes to cultural identity formation in urban spaces. A qualitative case study was considered appropriate because the phenomenon under investigation is situated within a specific social and spatial context and requires an in-depth examination of the relationship between observable linguistic practices and participants' interpretations of those practices (Yin, 2018). The study did not treat linguistic signs merely as textual objects but examined them as socially situated semiotic resources through which language visibility, cultural recognition, belonging, and identity negotiation become expressed in everyday urban environments. The design therefore integrated visual evidence from public signage with experiential evidence obtained from community members and sign producers.

Research Location and Participants

The study was conducted in Palu, Central Sulawesi, Indonesia, an urban setting in which national, local or heritage, and international linguistic resources can occur across institutional, commercial, and community spaces. The research focused on publicly visible signage in different urban contexts, including official or institutional environments, commercial areas, and community-oriented spaces. These contexts were examined comparatively to identify differences in language distribution, signage authority, communicative function, and cultural representation. The interview component involved nine participants, consisting of five community members (CM-01–CM-05), two business owners (BO-01–BO-02), one shop owner (SO-01), and one urban resident (UR-01). The participant categories were selected to capture different relationships with multilingual signage. Community members provided perspectives concerning heritage-language visibility, cultural recognition, and belonging, while business and shop owners provided information about the practical and cultural considerations underlying language choices in commercial signs. The urban resident provided an additional perspective on everyday

experiences of multilingual public space. Participant identities were protected through coded identifiers rather than personal names.

Data Collection Techniques and Instruments

Data were collected through field observation, photographic documentation, and semi-structured interviews. These complementary techniques enabled the study to connect observable characteristics of linguistic landscapes with the meanings attributed to them by people who produce or encounter public signage. Field observation focused on language choice, language combinations, spatial positioning, communicative function, sign producer, and the distinction between institutional and community-generated signage. Photographic documentation was used to preserve visual evidence of the signs and to support subsequent categorization of linguistic and semiotic features. The principal interview instrument was a semi-structured interview guide containing open-ended questions concerning participants' perceptions of language visibility, reasons for selecting particular languages, differences between official and privately produced signage, cultural recognition, belonging, and the role of multilingual signage in everyday communication. The flexible structure of the interviews allowed participants to elaborate on experiences that were not anticipated by the initial questions. The researcher also used field notes to document contextual observations surrounding the photographed signs and interviews. The use of multiple sources of evidence is consistent with case study methodology, in which observations, interviews, and visual materials can be integrated to establish a stronger chain of evidence (Yin, 2018).

Data Analysis

The data were analyzed using thematic analysis and linguistic landscape categorization. The analysis proceeded iteratively from the identification of linguistic features to the interpretation of their social and cultural meanings. First, photographed signs and field observations were categorized according to language pattern, sign producer, communicative function, and spatial context. Signs were subsequently classified into top-down and bottom-up categories. Top-down signs referred primarily to governmental or institutional signage, whereas bottom-up signs included signs produced by businesses, community members, and other private actors. Second, interview data were examined through thematic coding. Initial codes focused on recurring concepts such as language visibility, cultural recognition, belonging, marginalization, audience accessibility, economic considerations, cultural continuity, and identity negotiation. Related codes were then grouped into broader themes. Thematic analysis was selected because it provides a systematic approach for identifying and interpreting patterns of meaning across qualitative data while maintaining an auditable analytical process (Braun & Clarke, 2021). The analysis generated four principal themes corresponding to the Results: (1) language distribution across urban linguistic landscapes, (2) top-down and bottom-up linguistic signs, (3) linguistic visibility and cultural identity, and (4) identity negotiation through multilingual signage. These themes were subsequently interpreted by comparing interview accounts with observational and photographic evidence.

Validity, Reliability, and Trustworthiness

Because this study adopted a qualitative design, methodological quality was addressed through the principles of credibility, dependability, confirmability, and transferability rather than statistical validity and reliability. The study employed data triangulation by comparing three sources of evidence: field observations, photographic documentation, and semi-structured interviews. Triangulation is particularly important in qualitative case studies because the convergence of evidence from different sources can strengthen the credibility and dependability of interpretations (Janis, 2022). Credibility was strengthened by comparing participants' statements with the linguistic patterns observed in public signage. For example, the reported association between heritage-language visibility and cultural recognition was examined against the actual distribution of heritage-language signs in community-oriented spaces. Dependability was supported through systematic categorization and iterative coding of the observational and interview data. Confirmability was addressed by grounding interpretations in documented signs and participant accounts rather than relying solely on researcher assumptions. Transferability

was supported through contextual description of the urban setting, participant categories, signage characteristics, and analytical procedures. The methodological reporting was also structured in accordance with established qualitative reporting principles, particularly the SRQR and COREQ frameworks, which emphasize transparency regarding research design, participants, data collection, analysis, and researcher procedures.

Table 1. Participant Characteristics

Participant category	Participant codes	Number
Community members	CM-01–CM-05	5
Business owners	BO-01–BO-02	2
Shop owner	SO-01	1
Urban resident	UR-01	1
Total	9 participants	9

Source: Semi-structured interviews conducted in Pahu.

Table 1 summarizes the participants whose interview accounts are reported in the Results. The participant structure provides perspectives from both community members and producers/users of public signage, enabling the analysis to connect linguistic visibility with practical communication and cultural identity. The use of coded participants also maintains confidentiality while allowing the reader to distinguish individual contributions throughout the findings.

RESULTS AND DISCUSSION

This section presents the findings from the qualitative case study of linguistic landscapes in selected multilingual urban spaces. The results are organized around four themes that emerged from the analysis of field observations, photographic documentation, and semi-structured interviews: (1) language distribution across urban spaces, (2) differences between top-down and bottom-up linguistic signs, (3) linguistic visibility and cultural identity, and (4) identity negotiation through multilingual signage. The findings are presented descriptively and analytically to show how language choices, sign types, and residents' experiences were connected across public, commercial, and community spaces. The integration of observational and interview data also shows how visible patterns in the linguistic landscape corresponded with participants' perceptions of recognition, belonging, cultural expression, and everyday communication. The analysis followed the qualitative procedures described in the methodology, including thematic coding, categorization of linguistic signs, and comparison across observational and interview evidence.

Language Distribution Across Urban Linguistic Landscapes

The field observations showed a clear pattern in the distribution of languages across different types of urban signage. The national language was most visible in official and regulatory environments, particularly on government-related signs, street information, public notices, and other institutional displays. These signs generally followed a standardized format and used language in a direct and formal manner. Their primary function was informational and regulatory, and their standardized appearance also distinguished institutional spaces from commercial and community spaces.

A different pattern was found in commercial and community-based areas. Shop signs, food stalls, religious spaces, and small businesses displayed a wider combination of national, international, and heritage or local languages. Heritage languages were particularly visible in areas where specific cultural or ethnic communities were concentrated. Thus, language distribution was not uniform across the urban landscape. Instead, the choice of language varied according to the social location, function, and intended audience of each sign.

Table 2. Distribution of Languages Across Urban Signage

Signage category	Dominant language pattern	Main function	Observed characteristic
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Official/government signage	National language	Regulation and public information	Standardized and institutional
Commercial signage	National + international languages	Economic communication	Audience-oriented and flexible
Community-based signage	Heritage/local languages	Cultural and community expression	Localized and identity-oriented

Source: Field observations and photographic documentation reported in the study.

The interview data supported the pattern observed in the public signage. A community member explained that the heritage language was used more freely in community-oriented locations, while official environments required the national language:

“We usually use our heritage language on shop signs or in religious places because people around here understand it. But for anything official, we must follow the national language. Otherwise, it would not be accepted. We know which language is okay for each place. At home and in the community, our language feels normal. In official places, we have to change the way we speak and write.” (CM-01)

This account corresponds with the observed concentration of heritage languages in informal and community-based spaces. Another community member similarly described the limited geographical visibility of the heritage language:

“Our language only appears in places where our community is strong, not in official spaces. You can see it around our shops and community places. Outside those areas, it becomes much less visible. People still use the language, but they do not always put it on signs. It feels like the language belongs to our community area. It is not really part of the wider official city space.” (CM-02)

The findings therefore indicate a functional differentiation in language use. The national language occupied the most visible institutional domains, while heritage languages were more strongly associated with community and informal domains. Commercial signage occupied an intermediate position because business owners used combinations of languages according to the audience they wanted to reach.

A business owner described this practical consideration:

“If I want to attract more customers, especially visitors, I combine the national language with an international one. Using only our local language would limit who can read the sign. We want local people to understand it, but visitors should understand it too. So we usually put the common language first. Sometimes we add our local words because they are important to us. It is really about getting customers while keeping something from our culture.” (BO-01)

The observation and interview data together show that language choice was closely related to spatial function and audience. Official spaces favored standardized national-language use, while commercial and community spaces allowed greater linguistic flexibility.

Top-Down and Bottom-Up Linguistic Signs

The analysis identified two broad categories of linguistic signs: top-down signage and bottom-up signage. Top-down signs were associated with government or institutional authorities, whereas bottom-up signs were produced by individuals, community members, and private businesses. The two categories differed in both language choice and visual characteristics.

Top-down signs were generally standardized, formal, and dominated by the national language. In some cases, an international language was added to increase accessibility. However, local or heritage languages were rarely visible in this category. Bottom-up signs demonstrated considerably greater linguistic flexibility. They included combinations of national, international,

and heritage languages, as well as code-mixing, parallel translation, transliteration, and locally meaningful visual elements.

Table 3. Characteristics of Top-Down and Bottom-Up Linguistic Signs

Sign type	Language pattern	Visual/linguistic characteristics	Primary function
Top-down	Predominantly national; occasionally international	Formal, standardized, regulated	Institutional information and regulation
Bottom-up	National, international, and heritage languages	Flexible, mixed, creative	Commercial communication and identity expression

Source: Field observations and photographic documentation.

The distinction was also evident in participants' descriptions of public signage. A shop owner emphasized that institutional signs and privately produced signs served different social purposes:

“Official signs follow rules, but shop signs show who we really are. The government signs have to look the same and use the proper language. Our signs are different because we choose what we want to show. We can use local words, different styles, and symbols from our culture. Customers can see where we come from through the sign. So for us, the sign is not only about giving information.” (SO-01)

A community member made a similar distinction between formal government communication and community-created signs:

“Government boards are clear and formal, but they don’t represent our daily life. When people make their own signs, they can include our language and symbols. That makes the sign feel closer to our community. We can show things that are not usually seen on government boards. Sometimes the words are mixed with our local language. It feels more like something made by people who live here.” (CM-03)

These findings show that the source of a sign influenced the degree of linguistic flexibility available to its producer. Institutional signs followed established language conventions, whereas privately produced signs provided greater room for local expression. The bottom-up signs consequently contained more visible evidence of multilingual and culturally specific practices.

The photographic and observational data further showed that bottom-up signage was not limited to language alone. Cultural symbols, visual design, typography, and combinations of scripts were also used to communicate local identity. These elements appeared alongside multilingual wording and strengthened the cultural character of community and commercial signs.

Linguistic Visibility and Cultural Identity

A third major finding concerned the relationship between language visibility and participants' perceptions of cultural recognition. Participants generally associated the public presence of their heritage language with acknowledgment of their community. Conversely, limited or absent representation was associated with feelings of invisibility. The findings are summarized in Table 4.

Table 4. Perceived Relationship Between Linguistic Visibility and Cultural Identity

Level of linguistic visibility	Reported participant perception	Cultural meaning identified in the data
High visibility	Recognition and belonging	Culture is publicly acknowledged
Limited visibility	Invisibility and marginalization	Culture receives less public recognition

Source: Semi-structured interviews and thematic analysis.

One community member directly connected public visibility with cultural value:

“Seeing our language on the street makes us feel that our culture matters here. It is different when you only use the language at home. When other people can see it, they know that our community is here. It makes the language feel more accepted. Even a small sign can make us feel included. For us, that kind of visibility is important.” (CM-04)

Another participant described public language as a form of recognition:

“When our language is written in public places, it feels like the city accepts us as part of it. It is more than words; it is recognition. We see our language and feel that our people are not forgotten. If there is no sign in our language, sometimes the place feels less connected to us. We still live here, of course, but the public space does not always show that. That is why seeing our language outside the home means something to us.” (CM-05)

The interview findings corresponded with the observed distribution of heritage-language signs. Where heritage languages were visible, they were commonly associated with community-oriented locations, businesses, religious spaces, and culturally specific environments. Their visibility provided a public marker of community presence. In contrast, their limited presence in official spaces indicated that cultural recognition was not evenly distributed across the urban linguistic landscape.

The findings also show that linguistic visibility had an experiential dimension. Participants did not describe signage simply as a means of transmitting information. They interpreted visible language as an indication of whether their cultural background was recognized in the wider urban environment. This pattern was particularly apparent in participants’ descriptions of heritage-language signs as markers of belonging.

Identity Negotiation Through Multilingual Signage

The fourth theme concerned the ways residents and business owners negotiated identity through deliberate language choices. The data showed that multilingual signage was often shaped by two simultaneous considerations: the need to communicate with a broad audience and the desire to retain cultural identity.

Table 5. Identity Negotiation Strategies in Linguistic Landscapes

Identity strategy	Language practice	Purpose identified in the data
Economic reach	Use of national/international language	Attracting broader audiences
Cultural affirmation	Inclusion of heritage language	Maintaining cultural connection
Hybrid identity representation	Mixed-language signage	Combining local and contemporary identities

Source: Semi-structured interviews, field observations, and thematic analysis.

An urban resident explained the use of mixed languages as part of everyday life:

“We mix languages because that’s how we live part tradition, part modern city life. We use the local language with family and community members. But outside, we also use the national language and sometimes English. The signs are showing the same thing that happens in daily life. It does not feel strange to see different languages together. For us, mixing them is just normal.” (UR-01)

A business owner similarly described the practical and cultural reasons for combining languages:

“I need the national and international languages so everyone can understand and come in. But I still add our traditional words to show where we come from. If I only use the local language, some customers may not understand it. If I remove the traditional words, the sign loses something important to us. So I try to put both together. It works for the business and still keeps our identity visible.” (BO-02)

The findings demonstrate that multilingual signage was not simply the result of random language mixing. Participants described language selection as a practical process involving audience, business needs, cultural attachment, and everyday multilingual practices. National and international languages expanded communicative reach, while heritage languages maintained a visible connection with cultural background.

The interview and observational findings further indicate that multilingual signage was shaped by both practical and cultural considerations. Business owners used national and international languages to communicate with wider audiences, while heritage or local languages were retained to express cultural background and community belonging. The combination of these considerations resulted in different forms of multilingual and mixed-language signage across the observed urban spaces. Figure 1 summarizes the process identified from the qualitative data, showing how the multilingual urban environment was reflected in public signage, how language choices were influenced by practical and cultural considerations, and how these choices became part of everyday identity negotiation.

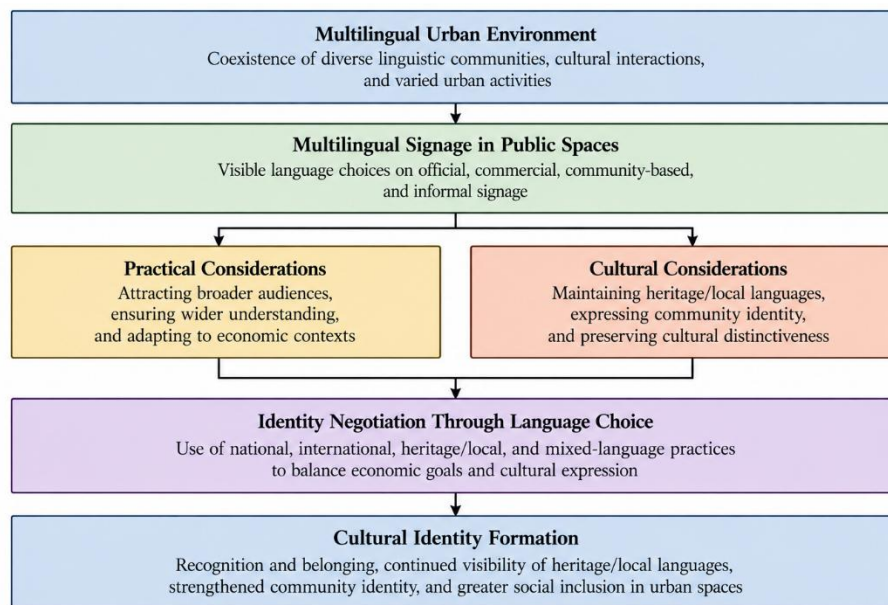


Figure 1. Process of Cultural Identity Formation Through Multilingual Signage
Source: Field observations, photographic documentation, and thematic analysis of semi-structured interviews.

As shown in Figure 1, the process began with the multilingual character of the urban environment, where different linguistic and cultural communities interacted within shared public spaces. These conditions were reflected in the language choices visible on official, commercial, community-based, and informal signage. The findings show that language selection was not based on a single consideration. Practical factors, particularly the need to reach broader audiences and ensure wider understanding, encouraged the use of national and international languages. At the same time, cultural considerations encouraged the continued visibility of heritage and local languages.

The convergence of these considerations produced multilingual and mixed-language practices. Participants described these practices as part of their everyday urban experience rather than as an unusual form of language use. The combination of languages allowed business owners and community members to communicate with diverse audiences while maintaining visible connections with their cultural backgrounds. This pattern was particularly evident in bottom-up signage, where producers had greater freedom to select languages, symbols, and visual forms.

The final stage in the figure represents cultural identity formation as reflected in the participants' experiences. The interview findings indicate that the visibility of heritage languages contributed to perceptions of recognition and belonging. Participants also associated the presence of their language in public spaces with the continued visibility of their community. Thus, multilingual signage functioned not only as a means of communication but also as a visible expression through

which cultural identity was maintained and negotiated in everyday urban life. This finding is consistent with the participants' descriptions of mixed-language signage as a way of balancing contemporary urban communication with cultural continuity.

Across the four themes, the qualitative evidence reveals a consistent relationship between language choice, spatial context, institutional authority, and identity expression. Official spaces were characterized by standardized national-language use, while community and commercial spaces provided greater opportunities for multilingual and culturally specific expression. The interview data further showed that participants attached social meaning to these patterns. Heritage-language visibility was associated with recognition and belonging, while limited visibility was associated with reduced public representation. At the same time, multilingual signage allowed residents and business owners to negotiate between economic participation and cultural continuity.

The results therefore identify the linguistic landscape as a differentiated urban space in which language visibility varies according to the producer of the sign, the location, the intended audience, and the social function of the signage. The findings are consistent across the three principal sources of qualitative evidence used in the study field observation, photographic documentation, and participant interviews thereby providing a triangulated account of multilingual practices in the selected urban spaces.

Discussion

Language Distribution and the Spatial Organization of Multilingualism

The first finding demonstrates that language distribution across the urban linguistic landscape is structured by spatial function rather than simply reflecting the existence of multiple languages. The dominance of the national language in official and regulatory signage, together with the greater presence of international and heritage languages in commercial and community spaces, indicates that linguistic visibility is organized according to institutional authority, communicative purpose, and intended audience. This pattern is consistent with recent linguistic landscape research showing that public signage provides visible evidence of how language policy, social hierarchy, and communicative needs intersect in urban environments. Studies in Indonesia have similarly found stronger national-language visibility in official spaces and greater linguistic diversity in privately produced signs.

The finding also corresponds with research conducted in other multilingual contexts. Muriungi and Mudogo (2021) reported that English dominated both top-down and bottom-up signs in Kenyan universities, while Kiswahili, despite its official status, had limited public visibility. Savski (2021) similarly showed that linguistic landscapes can expose tensions between formal language policy and grassroots language practices. These comparisons support the interpretation that the spatial organization identified in the present study is part of a broader relationship between language visibility and institutional power.

A notable difference, however, is that the present findings do not portray commercial and community spaces as simply replacing the dominant language with minority languages. Instead, these spaces function as intermediate linguistic domains in which national, international, and heritage languages coexist. This interpretation is close to findings from Bali, where Indonesian, Balinese, and foreign languages simultaneously serve political, commercial, and cultural purposes. Similar dynamics have been documented in multilingual commercial spaces in Malaysia and in border regions where language choices respond simultaneously to commercial objectives and identity considerations.

Theoretically, the finding extends the linguistic landscape perspective by demonstrating that spatial differentiation should be understood as an interaction between institutional authority and everyday communicative agency. The practical implication is that language planning should not treat urban signage as a uniform category. Government agencies can maintain clarity in official communication while allowing appropriate space for heritage languages in culturally significant and community-oriented locations. The novelty of the present study lies in connecting spatial language distribution with participants' interpretations of recognition and belonging rather than examining signage only

as an inventory of languages. This approach provides a more socially grounded explanation of why particular languages become visible in particular urban spaces.

Top-Down and Bottom-Up Signage as Negotiated Linguistic Authority

The second finding concerns the distinction between top-down and bottom-up signage. The analysis shows that top-down signs tend to reproduce standardized national-language practices, whereas bottom-up signs allow greater multilingual flexibility, including language mixing, translation, transliteration, and culturally meaningful visual choices. This distinction should not be interpreted simply as a difference in sign production. It represents two different forms of linguistic authority. Institutional producers possess regulatory authority over official public communication, while private businesses and communities exercise everyday agency through their own linguistic choices. The present finding therefore reinforces the view that linguistic landscapes are spaces where institutional norms and lived language practices interact.

Recent research provides strong support for this interpretation. Siziba and Maseko (2024), for example, found that bottom-up shop signs in Bulawayo reproduced dominant English ideologies while simultaneously providing space for hybrid linguistic practices. Napu's (2024) study of Gorontalo also found that official translations were more strongly associated with top-down practices, whereas non-official translations were more prevalent in commercial settings. Research in Bali similarly identified tensions between nationally regulated Indonesian-language use and privately produced signs oriented toward international visitors. These studies suggest that bottom-up signage should not automatically be interpreted as resistance. It may reproduce dominant linguistic values while also creating opportunities for local cultural expression.

The present study contributes a further dimension by demonstrating that participants themselves perceive this distinction as meaningful. The interview evidence indicates that official signs are associated with rules and standardized communication, while privately produced signs are perceived as more capable of expressing everyday community life. This experiential dimension is important because much linguistic landscape research emphasizes the visual characteristics of signs, whereas the present study links sign production with how urban residents interpret cultural representation. Recent research on ethnic identity construction in Thailand similarly demonstrates that public signage can combine linguistic and multimodal resources to construct and negotiate identity (Gu & Phanthaphoommee, 2026; Phanthaphoommee & Gu, 2026; Aini, 2026).

The theoretical contribution therefore lies in conceptualizing top-down and bottom-up signage as complementary components of negotiated linguistic authority. Practically, this suggests that language policy should consider privately produced signage as part of the wider linguistic ecology rather than focusing exclusively on government signs. Businesses and community organizations can become important actors in maintaining cultural visibility, while public authorities can provide guidelines that support accessibility without suppressing local linguistic expression. The novelty of the finding lies in connecting the institutional/grassroots distinction with participants' understanding of who has the right to represent cultural identity in public space. Such an interpretation moves beyond a simple top-down versus bottom-up classification toward a more relational understanding of linguistic power.

Linguistic Visibility, Recognition, and Cultural Belonging

The third finding indicates that linguistic visibility has consequences beyond communication. Participants associated the presence of heritage languages in public spaces with recognition, belonging, and cultural legitimacy, whereas limited visibility was interpreted as a form of reduced public representation. This finding supports the theoretical proposition that linguistic landscapes operate as symbolic environments in which communities evaluate whether their language and cultural identity are publicly acknowledged. Recent studies increasingly demonstrate that visible language choices can function as markers of social identity, cultural capital, and community recognition.

The relationship between visibility and identity is also evident in studies outside the Indonesian context. Bhujel & Sinha (2024) research in Darjeeling demonstrates that linguistic landscapes can function as mechanisms of social identity construction in multilingual public spaces. Yang and Zhou

(2025) further argue that linguistic landscapes can contribute to cultural cognition and identity by embedding cultural meanings in visible public environments. Research on bilingual shop signs in Saudi Arabia also demonstrates how Arabic and English coexist in commercial spaces, where language selection is related to translation practices, visual prominence, and the communicative needs of local and international audiences (Alotaibi & Alamri, 2022).

The present findings are particularly significant because recognition emerged not simply from the quantity of heritage-language signs but from participants' interpretations of their presence. A small sign could acquire considerable symbolic significance when participants understood it as evidence that their community was visible in the wider urban environment. This differs from approaches that evaluate linguistic vitality primarily through the frequency or numerical distribution of languages. Research on Kupang, for example, emphasizes the existence and vitality of local languages in public space, whereas the present study adds an experiential dimension by showing how language visibility is interpreted by community members themselves (Yannuar et al., 2025; Benu et al., 2025; Hakim, 2023; Muin et al., 2026).

The theoretical contribution is therefore the identification of linguistic visibility as an experiential dimension of cultural identity formation. Language visibility does not merely indicate whether a language exists in a city; it can influence how community members interpret their position within that city. This insight has practical implications for urban planning, cultural policy, and public communication. Municipal authorities could incorporate heritage languages into selected public signage, cultural districts, community facilities, and heritage spaces without requiring every sign to become multilingual. Such measures could increase cultural representation while maintaining communicative clarity.

The novelty of the study lies in connecting three elements that are frequently examined separately: public language visibility, perceived recognition, and cultural belonging. Rather than treating signage as a passive reflection of demographic diversity, the findings suggest that visible linguistic representation participates in how residents interpret their relationship with the urban environment. This perspective strengthens the argument that inclusive linguistic landscapes should be understood not only as communication infrastructure but also as symbolic infrastructure for cultural recognition and social inclusion.

Multilingual Signage as a Mechanism of Identity Negotiation

The fourth finding shows that multilingual signage represents an active process of identity negotiation. Participants did not select languages exclusively according to linguistic preference. Their choices reflected the need to reach broader audiences, support commercial activities, maintain cultural connections, and communicate a sense of local identity. The coexistence of national, international, and heritage languages therefore reflects a balancing process between economic participation and cultural continuity. This finding is consistent with recent research showing that commercial and public signs frequently combine languages to respond simultaneously to globalization, audience expectations, and local identity.

Research in Indonesia provides particularly close comparisons. Purnawati et al. (2025) found that Indonesian and English dominated communication strategies at Badung Smart Heritage Market, while Balinese language and script remained important for expressing local identity. Studies of culinary signage in Yogyakarta and public signage in Maluku similarly demonstrate that language selection is influenced by commercial context, location, culture, religion, and audience. Research in Timor-Leste and Lahore also indicates that multilingual or localized English practices can serve both communicative and identity-related purposes.

The present study differs from purely commercial explanations because it demonstrates that multilingual practices are also embedded in everyday cultural experience. Participants described language mixing as a normal part of urban life, suggesting that hybrid signage reflects lived multilingualism rather than merely a marketing technique. This interpretation corresponds with Costley et al. (2023) analysis of translanguaging spaces in Zambia, where public writing demonstrates changing relationships among languages and social practices. Research on Hong Kong likewise shows that degrees of multilingualism can function as socio-indexical resources that communicate meanings about social position and place.

The theoretical contribution of this finding is the conceptualization of multilingual signage as a negotiation mechanism between economic accessibility and cultural continuity. This complements identity theories that view cultural identity as dynamic rather than fixed. A practical implication is that urban businesses and community organizations do not necessarily need to choose between international accessibility and local identity. Strategic combinations of languages can provide broader communicative reach while retaining culturally meaningful expressions. Public authorities can facilitate this process by encouraging multilingual design principles in culturally significant areas and by involving community representatives in decisions concerning public signage.

The study's novelty lies in linking multilingual language choice with the process represented in Figure 1, where the urban multilingual environment creates conditions for signage practices, practical and cultural considerations shape language selection, and those selections become resources for identity negotiation. This framework moves beyond viewing multilingual signs as static objects and instead conceptualizes them as active social practices through which urban actors negotiate who they are, whom they address, and how they want their community to be represented. Such an interpretation provides a useful bridge between linguistic landscape research, sociolinguistic identity studies, and urban cultural analysis.

Limitations and Future Research Directions

Several limitations should be acknowledged. First, the study employed a qualitative case study design focused on selected multilingual urban spaces, meaning that the findings should be interpreted as contextually grounded rather than statistically representative of all multilingual cities. The methodological strength of combining field observation, photographic documentation, and semi-structured interviews provides triangulation, but the interpretation remains dependent on the locations and participants included in the case. Second, the study emphasizes visible signage and participant interpretations, so it does not systematically measure how different groups actually respond to particular signs. Third, the available data do not provide a sufficiently detailed longitudinal dimension to determine how linguistic visibility changes over time in response to migration, economic development, tourism, or changes in language policy.

Future research could extend the study through comparative multi-site designs involving different cities, neighborhoods, or cultural communities. Longitudinal research could examine whether heritage-language visibility increases or decreases as commercial development and urban transformation occur. Further studies could also combine linguistic landscape analysis with interviews involving sign producers, sign viewers, local government officials, and community organizations to examine differences between production and reception. Digital linguistic landscapes should also be incorporated because social media, business platforms, QR-based signage, and digitally mediated public communication increasingly interact with physical urban landscapes. Recent work on public signage and multilingual communication already demonstrates the value of connecting physical signs with broader communicative practices. Future research could therefore develop a more integrated model linking language visibility, policy, commercial practice, digital communication, and cultural identity formation across physical and digital urban spaces.

CONCLUSION

This study demonstrates that linguistic landscapes in multilingual urban spaces function not only as communicative resources but also as important sites of cultural identity formation, recognition, and negotiation. The findings show that national languages remain dominant in official and institutional signage, while commercial and community spaces provide greater opportunities for the visibility of international, heritage, and local languages. Bottom-up multilingual practices allow urban residents and business owners to balance practical communication and economic accessibility with cultural expression and continuity. The visibility of heritage languages was associated with stronger perceptions of cultural recognition and belonging, whereas limited visibility could contribute to feelings of marginalization. These findings indicate that linguistic landscapes are dynamic social spaces in which language choice reflects institutional power, everyday agency, and the continuing negotiation of cultural identity. The study therefore highlights the importance of more inclusive approaches to urban language planning that

recognize multilingual realities and provide greater space for culturally diverse linguistic representation in public spaces.

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