Social Media and Higher Education: A Linguistic Analysis of Identity Construction of Pakistani Universities

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Abstract

This study rigorously explores the linguistic strategies employed by Pakistani universities for identity construction on social media platforms, focusing primarily on X[4] (formerly known as Twitter). Utilizing a robust methodology of corpus-assisted discourse analysis, we scrutinized a substantial dataset comprising 2861 tweets. These were collected from the official X accounts of two leading Pakistani universities, National University of Sciences and Technology (NUST) and Lahore University of Management Sciences (LUMS), during the academic year 2021/2022. Our in-depth analysis uncovered distinctive linguistic patterns, particularly in the use of pronouns and specific multi-word key terms that each university employs to construct its identity. Intriguingly, the linguistic choices made by these institutions were found to significantly shape their digital identities, reflecting both individuality and broader cultural themes. The study augments existing research in the field by offering novel and context-specific insights into the dynamics of identity construction via social media. It underscores the pivotal role language plays in the organizational branding landscape. Furthermore, the findings from this research serve as a valuable resource for informing and refining communication strategies, not only for educational institutions but also for organizations at large that aim to construct and effectively manage their digital identities on social media platforms.

Keywords

Linguistic Strategies; Identity Construction; Social Media; Corpus-Assisted Discourse Analysis; Pakistani Universities; Digital Identities; Cultural Themes; Multi-word Key Terms; Organizational Branding; Communication Strategies

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4   Twitter Inc. has replaced its iconic bird logo with a new 'X' emblem, as announced by CEO Elon Musk in July 2023

Социальные сети и высшее образование: лингвистический анализ формирования идентичности пакистанских университетов

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Аннотация

Это исследование скрупулезно изучает языковые стратегии, которые пакистанские университеты используют для создания своего образа в социальных сетях, в частности, на платформе Х[4] (ранее известной как Twitter). В работе применяется методология корпусного дискурс-анализа для изучения обширного набора данных, состоящего из 2861 твитов. Эти данные были собраны из официальных аккаунтов Х двух ведущих пакистанских университетов – Национального университета наук и технологий (NUST) и Лахорского университета управленческих наук (LUMS) за 2021/2022 учебный год. В результате глубокого анализа были выявлены отличительные языковые модели, особенно в использовании местоимений и специфических ключевых словосочетаний, которые каждый университет применяет для создания своего имиджа. Интересно, что языковые предпочтения этих учреждений существенно повлияли на формирование их цифровой идентичности, отражая как индивидуальные особенности, так и более широкие культурные темы. Исследование дополняет существующие научные работы в этой области, предлагая новые и специфичные для контекста выводы о динамике создания образа через социальные сети. Оно подчеркивает ключевую роль языка в сфере организационного брендинга. Кроме того, результаты этого исследования представляют ценный ресурс для разработки и уточнения коммуникационных стратегий, не только для образовательных учреждений, но и для организаций в целом, стремящихся создать и эффективно управлять своей цифровой идентичностью в социальных сетях.

Ключевые слова

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4   Twitter Inc. заменила свой иконический логотип с птичкой новой эмблемой "Х", как об этом объявил генеральный директор Илон Маск в июле 2023 года

Introduction

Social media, as internet-based platforms, afford users the capacity to engage opportunistically and present themselves selectively, either synchronously or asynchronously, to a wide array of audiences, encompassing both broad and niche segments. These audiences derive value from content created by users and the perceived sense of interaction with others; (Carr & Hayes, 2015). According to Ibrahim (2022), social media has permeated various aspects of contemporary life, with colossal platforms like Facebook[1], X (formerly known as Twitter), Instagram**, and YouTube hosting vast numbers of users, presenting companies with abundant opportunities to connect with customers and followers. Social networks also offer ongoing promotional prospects. Success for businesses hinges on attentive listening to customer feedback on social media. Furthermore, to foster brand loyalty, brands employ dedicated community managers on social media to diligently observe and engage with discussions concerning their respective brands.

According to Benson and Morgan (2018), social technologies serve as valuable tools for content production, collaboration, and communication. Ortiz-Ospina and Roser (2023) stated that the remarkable rise of social media exemplifies how rapidly and significantly social behaviors can transform. Today, one-third of the global population engages with social media regularly, a reality that seemed unimaginable merely a generation ago. As described by Koay et al. (2020), social media marketing activities encompass the perceptions of consumers regarding a company or brand's involvement in diverse social media marketing endeavors.

In the context of higher education, the utilization of social media by students plays a pivotal role in fostering creativity and active engagement in academic pursuits (Gulzar et al., 2022). In the past, educational institutions held the belief that marketing efforts might compromise the quality of education imparted. However, as competition intensified, the necessity for marketing strategies became evident. As revealed by Chaudhari and Bhornya (2022), a majority of the top 25 universities in Asia and Africa presently employ platforms such as Facebook**, X, LinkedIn, and YouTube for their digital and social media marketing endeavors. Interestingly, these universities differ in terms of the purposes behind their usage and the extent to which they embrace digital technology.

According to Ibrahim (2022), social media offers several advantages as a marketing tool. Firstly, it proves cost-effective compared to traditional offline marketing campaigns. Additionally, the vast user base on social media platforms makes it easier to reach and engage with potential customers. Social media networks facilitate successful relationship-building with existing customers, fostering brand loyalty and cultivating lifelong patronage.

As mentioned by Assimakopoulos et al. (2017), numerous universities presently maintain profiles and groups on social networking sites, providing a platform for

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1   **Social network belonging to a company recognized as extremist in the territory of the Russian Federation

students to interact with faculty members, facilitating resource sharing, and fostering the expression of the learner voice. Moreover, Ali et al. (2020) asserted that Pakistani institutes of higher education have actively embraced a corporate-like branding approach, effectively engaging with social media to maximize its benefits. In this context, social media adoption in the higher education sector has gained widespread acceptance among students, teachers, and management. It serves a multifaceted role, encompassing functions such as networking facilitation, marketing, and recruitment support, collaboration, teaching and learning facilitation, and presenting opportunities for career management and entrepreneurship.

X stands out as a highly influential social media tool in the realm of education. Consequently, numerous X accounts affiliated with higher education institutions have surfaced. The advent of the COVID-19 pandemic further amplified this trend, leading to an influx of new accounts and the abandonment of existing ones (Almu-rayh & Alahmadi, 2022). According to Khan et al. (2020), X offers its users various functionalities, including the ability to post tweets, retweet content related to specific subjects, send messages to friends and family, and follow other users. On the other hand, as stated by Beverly (2013), X has emerged as a significant force in reshaping public relations practices for colleges and universities nationwide. The platform enables these institutions to disseminate information, engage with diverse audiences, and foster mutually beneficial relationships.

The findings from the research conducted by Sörensen et al. (2023) concerning Swiss universities indicate a recent surge in communication on Instagram** among higher education institutions, while there was no significant increase in communication on Facebook** or X. Among these institutions, research universities exhibited the highest X usage, whereas universities of applied sciences had the most active presence on both Instagram** and Facebook**. In contrast, universities specializing in teacher education demonstrated the lowest level of activity across all platforms. Notably, the content of communication across all types of HEIs primarily centered around self-referential topics. The analysis of HEIs' utilization of social media communication with respect to hypertextuality and multimodality revealed a generally high level of adaptation to these affordances.

In a comprehensive review of 103 peer-reviewed scientific studies spanning the last decade (2007–2017), conducted by Malik et al. (2019), X emerged as a valuable educational tool across both formal and informal learning settings. The analysis revealed X's efficacy in facilitating communication owing to its high accessibility, novel attributes, and real-time format. Various stakeholders, including students and teachers, employ X as a pedagogical instrument to access information, engage in interactive discussions, participate in communities of shared interests, and exchange insights on specific subjects. Additionally, X possesses the potential to augment students' learning capabilities, as well as enhance their motivation and engagement in the learning process due to its distinctive features and non-traditional teaching approach.

Veletsianos et al. (2017) observed that higher education institutions have widely adopted social media platforms. Their examination of Canadian public universities' utilization of X revealed considerable variation in participation patterns across different institutions. Despite the prevailing notion of X being an interactive platform, these institutions predominantly employ it for disseminating information and creating highly positive depictions of institutional life. While some aspects of the portrayed representations are authentic, they are also incomplete and potentially misleading. Such representations pose challenges for students and faculty who aim to leverage social media for gaining accurate insights into campus life or engaging in meaningful online interactions within these spaces.

According to Page (2012), X represents a diverse and multifaceted discourse environment, where the nature of communication varies depending on the type of X user and is likely to undergo further evolution in time. Within the linguistic landscape of X, hashtags play a crucial role as a form of currency, facilitating visibility and potential interactions among site members. Hashtags serve the purpose of making specific terms easily discoverable to others interested in tweets centered around the same topic. Moreover, hashtags extend beyond promoting visibility, as they embody characteristics associated with participatory culture.

Background

X's Role in Higher Education

X, a micro-blogging site for online news and social networking, is a widely used social media platform to follow trending current issues, share personal views, and important information regarding political debate, sensitive social issues, natural disasters, pandemics, and crisis events, making it an effective communication tool to seek the attention and responses of the government and other stakeholders, and publicly accessible X data containing insightful demographics, such as user location, is a valuable resource in exploring the relationship between the geo-socio-political context and specific research phenomena (Veletsianos et al., 2017; Wise, 2021). X has grown continuously steadily from 2019 to 2022.

According to scholarly research, X is regarded as a highly influential social media platform in the realm of education (Almurayh & Alahmadi, 2022). X is an online social networking site that emphasizes brief (280-character maximum) updates that may contain text, links, photos, and hashtags. X is not only suitable for extensively disseminating information (such as university updates), but also for connecting with campus community members and responding to their inquiries (Wojcik & Hughes, 2019).

X is used by institutions not just as a means of broadcasting information to the community but also as a means for debates on a variety of topics to develop naturally through the use of hashtags, with users freely engaging in "affinity spaces" with others who have similar interests (Carpenter et al., 2019; Kimmons et al., 2018). As a result, the use of X in higher education is highly crucial since it allows users
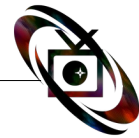
to engage with one another through the use of hashtags and share information about academic events.

Organizational and Brand Identity Theories

Research on identity, though predominantly conceptual in nature, has been extensively discussed by scholars such as Kapferer (1986), Cheney and Christensen (2001), Albert and Whetten (1985), Fombrun (1996) and Fombrun and Rindova (2000).

Kapferer, a luminary in the realm of brand identity research, posits a bifurcation of brand identity into internal and external segments. The internal component, as per Kapferer (1986), encompasses considerations such as mission, values, strategy, and brand architecture, further segmented into the triad of culture, personality, and self-image. Conversely, the external component encapsulates elements born from the dynamic interplay between the brand and its external environment, which includes facets like reflected consumer perceptions, the relationship dynamics between consumers and the brand, and tangible attributes. This external aspect holds pronounced significance, particularly for corporate brands, given their perpetual engagements with diverse stakeholder groups.

In an era characterized by heightened scrutiny and omnipresent critiques, numerous organizations grapple with the intricate task of formulating and upholding their identities (Albert & Whetten, 1985; Cheney & Christensen, 2001). The media, in its evolving role, exhibits an intensified focus on the internal workings of organizations, zealously spotlighting any incongruence between the projected corporate persona and the actual organizational deeds. Such amplified attention is further amplified by business analysts who, transcending traditional economic performance metrics, increasingly incorporate assessments of internal business modalities including, but not limited to, strategic planning, managerial approaches, operational procedures, and commitment to corporate social responsibility (Fombrun, 1996; Fombrun & Rindova, 2000).

Identity Construction on Social Media

The ongoing technological revolution has led to the widespread proliferation of social media, encompassing various realms of communication. As posited by Husnain and Toor (2017), this phenomenon has ushered in innovative methods of interpersonal interaction. Social media's emergence has significantly impacted how companies establish connections with their clientele, offering not only cutting-edge and efficient services but also rapid and convenient modes of communication. These platforms are characterized by their spontaneity, visual appeal, and global accessibility, enabling broadcasting across different regions, contingent upon the presence of internet connectivity.

According to Khan et al. (2020), social media platforms offer users the opportunity to express themselves, access information about global events, and share such content with their friends and family in their contact lists. The diverse and easily accessible nature of social media, coupled with its affordability, has significantly enhanced the lives of millions of individuals. Some users utilize these plat-

forms for academic purposes, while others leverage them for marketing initiatives. Additionally, social media serves as a means for social interaction, enabling users to forge new connections and maintain existing relationships. Notably, prominent contemporary social media sites include Facebook**, X, YouTube, and WhatsApp.

Pringle and Fritz (2019) conducted a study exploring the utilization of social media by universities to promote their brands. The findings indicated that X was predominantly employed for broadcasting research achievements and showcasing the university's accomplishments, particularly during real-time events. Conversely, Facebook** adopted a more informal conversational style and incorporated diverse types of content. Among the universities under study, Ryerson University stood out for its extensive use of videos in postings, while other universities incorporated photos in their Facebook** posts. Each social media platform offers distinct avenues for engaging with online audiences. The varying social media strategies adopted by each university, and the contrasting approaches between X and Facebook**, may be a reflection of efforts to target specific stakeholders present on these platforms.

Universities and Social Media Engagement

Social media platforms have become an integral component of the communication tactics employed by higher education institutions (HEIs) worldwide. Public communication has gained significance for HEIs, prompting many of them to adopt social media as a means to engage with their stakeholders (Sörensen et al., 2023). Chaudhari and Bhornya (2022) asserted that the rising usage of digital technologies has brought about transformations in consumer behavior, business models, marketing strategies, and competitive capabilities, and the domain of educational organizations is no exception to this digital proliferation. According to their study, platforms like Facebook** and X are proving beneficial for higher educational institutions to establish targeted connections with students, making social media channels an ideal avenue for engaging and interacting with the younger generation.

As per Benson and Morgan (2018), higher education institutions face specific challenges in effectively utilizing social media. While social media offers numerous opportunities that students increasingly expect, it also carries potential negative consequences. The importance of social networking is widely acknowledged, being considered a transformative innovation in higher education. Social media is progressively gaining a unique status among educational technologies, garnering attention from both academic and industry researchers. The adoption of social media for academic purposes has become inevitable due to its widespread acceptance by end-users.

As per the study conducted by Chugh et al. (2021) regarding social media usage among higher education academics, it became apparent that academics predominantly utilize social media for research and career development purposes, with a focus on networking, rather than emphasizing its role in supporting teaching and learning activities. Encouragingly, the findings indicated that academics are

increasingly recognizing the potential of social media to expand their influence beyond traditional academic circles, as it enables them to share their research with a much broader audience compared to traditional academic publications.

According to the findings of Pringle and Fritz (2019) research, the University of Toronto exhibited the largest X network, boasting a greater number of participants compared to Queen's University and Ryerson University. By employing Netlytic, the study analyzed and compared the affiliations of the top ten posters within each network and their respective universities. In examining the University of Toronto's network of most active posters, it was observed that all of the top posters were associated with the university, indicating a predominant focus on disseminating information and promoting university-related content. Conversely, at Queen's University, 90% of the top 10 posters had affiliations with the university, while at Ryerson University, this proportion was merely 40%, suggesting a tendency towards a more conversational approach in their X engagement.

Pakistani Universities and Social Media Presence

The research conducted by Ali et al. (2020) revealed that a significant proportion, amounting to 90%, of higher education institutions in Pakistan maintain a presence on social media. These institutes display varying levels of engagement with their audiences. The primary findings indicate that the majority of Pakistani universities and higher education institutions actively utilize social media for marketing purposes and admission campaigns, aiming to attract potential students from across the country. Additionally, they employ social media platforms to promote their academic accomplishments, share information about the latest conferences and innovations, enhance their public image by demonstrating a strong commitment to community service, and foster connections between academia and industry.

As per the research conducted by Naeem et al. (2023), universities adopt diverse multimodal features on social media platforms to portray their identities. Specifically, private universities in Lahore employ various discursive strategies encompassing language, images, and visual design elements to effectively convey targeted messages and create intended impressions among their audience. These strategies incorporate persuasive techniques, including showcasing campus facilities, emphasizing academic accomplishments, and promoting extracurricular activities. The aim is to establish themselves as esteemed educational institutions providing a holistic and enriching experience for their students.

The purpose of this study is to examine the linguistic strategies employed by two prominent Pakistani universities, NUST and LUMS, in their X discourse through the application of corpus-assisted discourse analysis. By investigating these linguistic strategies, the aim is to shed light on how language plays a crucial role in the construction of institutional identities on social media platforms. Additionally, the study seeks to explore how the use of specific linguistic elements in universities' tweets contributes to their institutional branding and shapes their interactions

within the digital space. This research endeavors to make significant contributions to the fields of communication studies and applied linguistics, offering valuable insights and practical guidance for universities and other organizations seeking to effectively utilize social media for identity construction and communication purposes.

Research Questions

The present study aims to answer the following research questions;

RQ1. What linguistic strategies do Pakistani universities employ on X to construct their digital identities, as revealed by a corpus-assisted discourse analysis?

RQ2. How does the use of specific linguistic elements in universities' X discourse contribute to their institutional branding and shape their interaction within the digital space?

Method

Data Collection

For this research, the data was collected from the official X accounts of two leading Pakistani universities: the National University of Sciences and Technology (NUST) located in Islamabad, and the Lahore University of Management Sciences (LUMS) based in Lahore. The data collection period extended from September 1, 2021, to September 30, 2022, covering the academic year 2021/2022. To ensure the selection of prominent universities, the two institutions were chosen based on their inclusion in the top 600 QS World University Rankings for the year 2022. Additionally, the selection of universities for the analysis of tweets was based on their consistent and regular activity on X, ensuring the representation of esteemed higher education institutions in the study.

A total of 2,861 tweets (61,185 words) were gathered from the official X accounts of NUST and LUMS within the specified time frame. These tweets formed the primary corpus for the analysis, and each tweet was examined to identify the linguistic strategies employed by the universities to construct their digital identities on the social media platform, X. The corpus-assisted discourse analysis technique was employed to meticulously examine and interpret the linguistic features present in the collected tweets. By applying this method, the research aims to discern the specific language patterns, stylistic choices, and communication strategies utilized by the universities in their X discourse.

To aid in the identification of key linguistic features, the research team utilized Sketch Engine software, which facilitated multi-word key term analysis. Additionally, a comprehensive word list was compiled, highlighting the most frequently used words, pronouns, and hashtags in the tweets posted by NUST and LUMS.

The comprehensive data collection and analysis procedure undertaken in this study are expected to provide valuable insights into the linguistic mechanisms

employed by universities to shape their online identities and interactions on social media. By understanding how language is strategically utilized for institutional branding and engagement, this research contributes to the broader fields of communication studies and applied linguistics, while also offering practical guidance for universities and organizations seeking to optimize their presence on social media platforms.

Analytical Framework

Corpus-Assisted Discourse Analysis (CADA) is a methodological approach used for examining and interpreting naturally occurring texts, known as corpora, with the assistance of computer software (Baker, 2020). In this study, CADA was employed as the analytical framework to investigate the X discourse of two prominent Pakistani universities, NUST and LUMS. The corpora consist of 2,861 tweets collected from the official X accounts of these universities during the academic year 2021/2022.

Within the CADA framework, special attention was given to the analysis of key words, pronouns, and hashtags present in the collected tweets. Key words provide valuable insights into the central themes and topics addressed by the universities in their X communication. Pronouns, on the other hand, offer valuable clues about the universities' self-representation and their engagement with various stakeholders. Additionally, the study focused on hashtags, which serve as essential signifiers of specific discourse communities and topical discussions within the digital space (Baker, 2020; Cunha et al., 2011; Kricfalusi, 2009; Labrecque et al., 2020).

The significance of choosing key word, pronoun, and hashtag analysis lies in its ability to uncover the linguistic strategies utilized by universities to construct and project their digital identities on social media platforms. By exploring these linguistic elements, the research seeks to discern the universities' branding tactics, interaction patterns, and messaging strategies. Through this comprehensive analysis, the study aims to shed light on how language is strategically employed to shape institutional identities and establish a strong online presence. The findings from this analysis are expected to contribute valuable insights to the fields of communication studies and applied linguistics, while also offering practical implications for universities and organizations seeking to enhance their social media communication strategies.

Data Analysis

Keyword Analysis

In the context of keyword and term extraction, a keyword refers to a single-token item that appears with greater frequency in a given corpus than in a reference corpus, indicating its specificity to the focus corpus. Although a keyword may not be among the most frequent words in the corpus, its frequency exceeds what

would be expected based on comparison with the reference corpus, which provides a baseline for typical word frequencies in the language (Baker, 2020).

Figure 1. LUMS Keywords Analysis (Lemma and Multiword Key terms)

In the context of Institutional Identity and Infrastructure, several multi-word keywords highlight the emphasis on prominent figures associated with LUMS (Figure 1 and Table 1). Names like "Syed Babar Ali", "Suleman Dawood", "Syed Maratib Ali", "Syed Ahsan Ali", are significant, as they are the namesakes of various LUMS schools, showcasing their institutional legacy. The positions like "VC Lums", "Pro Chancellor", and "Vice Chancellor" underscore the leadership roles that shape the institution's operations. Additionally, "Pakistan Pavilion" could indicate the university's participation or hosting of exhibitions or other major events that elevate its status on the international stage.

The Academic Programmes theme (Table 1) emphasizes LUMS' wide range of study programs, catering to various fields and educational levels. The emphasis on "Management Programme", "MBA Programme", "Executive MPhil Education Leadership", "Undergraduate Programme", "Executive MBA Programme", "Chemistry Programme", and "Graduate Programme" highlights LUMS' diverse academic offerings, signifying the comprehensive range of academic disciplines provided by the university. This underscores the institution's commitment to a wide-ranging, quality education for its students (Table 1).

As for Community and Student Body (Table 1), the repeated mention of "Lums Alumnus", "Lums Community", "Deserving Student", "Talented Student", "NOP Scholar", "New Batch", "Valedictorian Class", and "National Outreach Programme" reflects the university's focus on its community and student achievements. It signifies the value placed on student successes and the nurturing of a strong community. The emphasis on terms like "Deserving Student" and "Talented Student" connotes the importance placed on student merit and potential. Similarly, the mention of the "National Outreach Programme" indicates LUMS' commitment

to inclusivity and diversity in its student body. Overall, these themes and keywords provide a comprehensive overview of LUMS' identity and how it is constructed and communicated on X.

Key Themes	Keywords with Frequency
Institutional Identity and Infrastructure	"Syed Babar Ali School (22)", "Suleman Dawood School (16)", "Syed Maratib Ali School (13)", "Syed Ahsan Ali (13)", "VC Lums (7)", "Pro Chancellor (7)", "Vice Chancellor (11)", "Pakistan Pavilion (6)"
Academic Programmes	"Management Programme (14)", "MBA Programme (10)", "Executive MPhil Education Leadership (9)", "Undergraduate Programme (8)", "Executive MBA Programme (6)", "Chemistry Programme (5)", "Graduate Programme (5)"
Events and Meetings	"UMS Live (35)", "Lums Live Session (32)", "Consortium Meeting (15)", "Alumni Homecoming (13)", "Facebook** Live (6)", "Summer Semester (7)"
Community and Student Body	"Lums Alumnus (9)", "Lums Community (7)", "Deserving Student (9)", "Talented Student (8)", "NOP Scholar (5)", "New Batch (6)", "Valedictorian Class (4)", "National Outreach Programme (4)"
Social Issues and Advocacy	"Honour Crime (8)", "Honour Killing (6)", "Patriarchal Violence (5)", "Income Inequality (9)", "Community Police (6)", "Learning Loss (5)"
Teaching and Learning	"World-Class Education (9)", "Teaching Excellence (6)", "Experiential Learn (5)"
Marketing and Campaigns	"Lums Campaign (5)", "Generous Contribution (6)"
Notable Figures	"Syed Babar Ali (22)", "Saba Karim Khan (9)", "Farhan Syed (8)", "Shahid Hussain (8)", "Maryam Riaz (7)", "Ramiz Raja (7)", "Nasira Iqbal (5)", "Shmyla Khan (5)"

Table 1. Key themes of LUMS drawn from key word analysis of tweets

Linguistic strategies are meticulously deployed to unravel the brand identity of LUMS as conveyed on X. Through the examination of multi-word keywords, the analysis elucidates the institution's legacy, leadership roles, academic breadth, and emphasis on community values. The use of specific terminologies such as "Management Programme" or "NOP Scholar" not only accentuates LUMS' diverse academic offerings but also its commitment to inclusivity. The strategic implementation of linguistic tools, as showcased in the tables, is pivotal in uncovering how LUMS crafts and communicates its institutional identity. The intricate interplay between linguistic strategies and brand identity underscores the potency of language in shaping and projecting the essence of an institution in the digital world of social media (Table 1).

Lemma		Term	
1	nust	1	nust school
2	c3a	2	nust centre
3	pro-rector	3	nust college
4	rizwan	4	dr rizwan riaz
5	s3h	5	nust islamabad campus
6	riaz	6	career advisory
7	ceme	7	chief guest
8	asab	8	rector nust
9	islamabad	9	undergraduate admission
10	commercialisation	10	advanced studies

Figure 2. NUST Keywords Analysis (Lemma and Multiword Key terms)

The Institutional Identity and Infrastructure theme features keywords that revolve around various constituent units and important roles within the NUST organization, such as "Nust School", "Nust Centre", "Nust College", "Nust Islamabad Campus", "Rector Nust", and "Nust Institute" (Figure 2 and Table 2). These terms highlight NUST's diverse institutional structure and its range of departments and schools. The recurring reference to "Nust Student", "Nust Family", "Nust Admissions Directorate", and "Nust Admission" emphasizes NUST's student-centric approach and its focus on providing a community-like experience. Moreover, keywords such as "Nust Entry", "Nust Business School", and "Nust Innovation" could suggest a focus on entrepreneurial aspects and a future-oriented vision in their identity construction.

For Academic and Research Activities (Table 2), phrases like "Career Advisory", "Undergraduate Admission", "Advanced Studies", "Applied Biosciences", and "Manufacturing Engineering" represent the wide array of academic and professional development opportunities available to students. The references to "Research Showcase", "Awareness Session", "Market-Ready Innovation", and "Research Capability" indicate NUST's commitment to fostering an environment conducive to cutting-edge research and innovation. This reaffirms the university's role as a center for academic and research excellence.

Key Themes	Keywords with Frequency
Institutional Identity and Infrastructure	"Nust School (53)", "Nust Centre (35)", "Nust College (34)", "Nust Islamabad Campus (32)", "Rector Nust (30)", "Nust Institute (21)", "Islamabad Campus (18)", "Nust Student (19)", "Nust Family (14)", "Nust Admissions Directorate (14)", "Nust Admission (14)", "Nust Entry (12)", "Nust Business School (12)", "Nust Innovation (12)"
Academic and Research Activities	"Career Advisory (32)", "Undergraduate Admission (28)", "Advanced Studies (29)", "Applied Biosciences (18)", "Manufacturing Engineering (19)", "Admissions Directorate (16)", "Research Showcase (15)", "Awareness Session (14)", "Market-Ready Innovation (13)", "Research Capability (15)", "Materials Engineering (14)", "Undergraduate Programme (12)", "Showcase of Excellence (11)"
Events and Sessions	"Chief Guest (41)", "Interactive Session (16)", "Awareness Session (14)", "Interested Participant (13)"
Social and Community Outreach	"Nust Flood Relief Fund (11)", "Flood Relief (16)"
Notable Figures	"Dr Rizwan Riaz (33)", "Dr Noreen Akhtar (13)", "Javed Mahmood Bukhari (12)", "Deputy Director C3A (11)", "Pro-Rector Research (16)", "Pro-Rector Academic (12)"
Communication and Announcement	"Account Title (14)", "News of the Passing (14)", "Last Date (22)", "Sat Basis (16)", "Selection List (17)", "PK82 HABB (14)", "Departed Soul (14)"
Social and Academic Disciplines	"Pakistan Center (17)", "Technology Park (17)", "Social Sciences (33)", "National Science (15)"
Alumni and Success Stories	"Nust Alumnus (13)"

Table 2. Key themes of NUST drawn from key word analysis of tweets

Lastly, in the Notable Figures theme (Table 2), the repeated mentions of notable figures like "Dr Rizwan Riaz", "Dr Noreen Akhtar", "Javed Mahmood Bukhari", "Deputy Director C3A", "Pro-Rector Research", and "Pro-Rector Academic" underscore the importance of these individuals in shaping the academic and institutional life of the university. Their repeated mentions could serve as a strategy to associate NUST with these figures, further enhancing the university's prestige and repute. Similarly, the frequent mention of NUST alumni in their communications contributes to the construction of a successful and prestigious image of the university. Overall, these themes and keywords provide a nuanced overview of NUST's identity construction and marketing on X (Table 2).

In the analysis presented, a meticulous application of linguistic strategies is evident in decoding NUST's brand identity as projected on X. By scrutinizing specific multi-word keywords and phrases, the analysis unveils NUST's vast institutional framework, its student-focused ethos, and its commitment to innovative research. Expressions such as "NUST School", "NUST Innovation", and "Career Advisory" not only spotlight the institution's academic diversity but also hint at its forward-thinking, entrepreneurial spirit. Additionally, the recurrent mentions of esteemed figures and alumni work strategically to bolster the institution's image of excellence and prestige. The adroit utilization of linguistic techniques, as reflected in the table, is instrumental in demystifying how NUST meticulously crafts and disseminates its institutional identity. The inherent synergy between the chosen linguistic strate-gies and the resulting brand identity accentuates the profound role of language in sculpting and broadcasting an institution's essence in the digital world (Table 2).

Hashtag Analysis

Hashtags are used on X to classify messages, propagate ideas and also to promote specific topics and people. They can be used not only to add context and metadata to the posts, but also for promotion and publicity (Cunha et al., 2011; Kricfalusi, 2009).

In the Learning and Academics theme, hashtags such as "#learningwithout-borders", "#imagineyourfuture", "#lumslive", "#lumslearninginstitute", and "#lums" convey a strong emphasis on education and the academic aspects of LUMS (Figure 3). These hashtags reflect the university's commitment to high-quality education, fostering intellectual curiosity, and encouraging live learning experiences. They also suggest a desire to position LUMS as a leading institution in terms of academic offerings and pedagogical innovation.

	Word	Frequency
1	#learningwithoutborders	360
2	#imagineyourfuture	198
3	#lumslive	175
4	#beingluminite	47
5	#adayforlums	46
6	#orientation2022	19
7	#pakistanedx	15
8	#homeforlife	14
9	#	13
10	#conferenceonrightsofpersonswithdisabilities	11

Figure 3. LUMS Hashtags

The University Life theme (Table 3) features hashtags like "#beingluminite", "#adayforlums", "#orientation2022", "#homeforlife", "#baltistanexperience", "#summertosuccess", "#newbeginnings", "#togetherwithlums", and "#adaytolums". These hashtags highlight various aspects of campus life and the student experience at LUMS, such as campus events, orientation for new students, everyday experiences, and the concept of LUMS being a "home for life". They suggest that LUMS seeks to create a strong community feel among its students and staff, and that it values experiences outside the classroom as much as academic learning.

Key Themes	Hashtags with Frequency
Learning and Academics	"#learningwithoutborders (360)", "#imagineyourfuture (198)", "#lumslive (175)", "#lumslearninginstitute (1)", "#lums (1)"
University Life	"#beingluminite (47)", "#adayforlums (46)", "#orientation2022 (19)", "#homeforlife (14)", "#baltistanexperience (10)", "#summertosuccess (5)", "#newbeginnings (4)", "#togetherwithlums (1)", "#adaytolums (1)"
Alumni	"#alumnihomecoming2022 (8)", "#lumsalumchat (5)", "#alumschat (4)", "#alumchat (3)"
Community and Social Issues	"#conferenceonrightsofpersonswithdisabilities (11)", "#ourwomenourpride (4)", "#internationalwomensday (1)"
Partnerships and Collaborations	"#pakistanedx (15)", "#lumsxuobs (11)", "#cimpaschoolpakistan (4)"
Celebrations and Holidays	"#eidmubarak (2)", "#pakistanresolutionday (1)", "#quaidday (1)", "#hajjmubarak (1)", "#eidmiladunnabimubarak (1)", "#iqbalday (1)", "#newyear (1)", "#christmas (1)"
University Recognition	"#aacsbinspires (1)"

Table 3. Key themes of LUMS drawn from Hashtags of tweets

Under the Partnerships and Collaborations theme (Table 3), hashtags like "#pakistanedx", "#lumsxuobs", and "#cimpaschoolpakistan" showcase LUMS's engagement in collaborations with other entities. Such interactions potentially contribute to a dynamic learning environment, enabling the university to stay current with global educational trends. The Celebrations and Holidays theme (Table 3) suggests that LUMS is a diverse and inclusive institution that celebrates cultural, religious, and national events, potentially promoting a sense of unity among students and staff.

Overall, the themes and hashtags used by LUMS on X reflect its emphasis on academic excellence, a vibrant university life, collaboration, diversity, and a sense of community. This portrayal could serve to attract potential students, reassure stakeholders, and affirm the institution's position in the higher education

landscape. Through adept linguistic strategies, LUMS's brand identity on X is articulated using distinctive hashtags. Themes like Learning and Academics (Table 3), with hashtags such as "#learningwithoutborders", spotlight LUMS's commitment to innovative education. The University Life theme evokes a sense of community and holistic student experiences, as depicted by "#beingluminite" and "#homeforlife". Partnerships and Collaborations highlight global engagements, while Celebrations and Holidays emphasize cultural inclusivity. These carefully curated hashtags serve to not only accentuate LUMS's academic distinction and vibrant campus life but also its global outreach and cultural diversity, positioning it uniquely in the higher education domain (Table 3).

The themes and hashtags used by NUST on X provide an in-depth understanding of the university's focus areas and aspirations. Under the University Identity theme, hashtags such as "#nust", "#definingfutures", "#nustfamily", "#iamnust", "#nustxkarachi2021", "#nustvisits", "#nustpartnerships", "#nustpartners", and "#announcement" suggest a strong sense of institutional pride and belonging (Figure 4). They convey NUST's commitment to shaping the future through quality education, community engagement, and collaboration. These hashtags indicate that NUST is actively building its identity as a prestigious institution dedicated to contributing to national development.

	Word	Frequency
1	#nust	587
2	#definingfutures	538
3	#nustfamily	55
4	#pakistan	47
5	#iamnust	32
6	#	30
7	#nustxkarachi2021	24
8	#campusbreathesagain	24
9	#admissions2022	24
10	#ugadmissions	21

Figure 4. NUST Hashtags

Regarding the Campus Life and Events theme (Table 4), hashtags like "#campusbreathesagain", "#admissions2022", "#ugadmissions", "#convocation2022", "#rise2022", "#fics", "#stiratnust", "#friday", and "#blessed" offer insights

into the vibrant campus life at NUST. These hashtags denote various aspects such as university admissions, convocations, events, and the overall student experience. The use of these hashtags implies that NUST is eager to showcase its vibrant campus life, perhaps to engage potential students and the wider community.

Key Themes	Hashtags with Frequency
University Identity	"#nust (587)", "#definingfutures (538)", "#nustfamily (55)", "#iamnust (32)", "#nustxkarachi2021 (24)", "#nustvisits (12)", "#nustpartnerships (10)", "#nustpartners (9)", "#announcement (9)"
Campus Life and Events	"#campusbreathesagain (24)", "#admissions2022 (24)", "#ugadmissions (21)", "#convocation2022 (7)", "#rise2022 (5)", "#fics (5)", "#stiratnust (5)", "#friday (8)", "#blessed (8)"
Social and Environmental Issues	"#floodsinpakistan (15)", "#floodrelief (11)", "#communityservice (6)"
Academic Disciplines and Research	"#uspcase (17)", "#hec (12)", "#tedxnust (11)", "#nstp (11)", "#research (10)", "#s3h (9)", "#defininginnovation (8)", "#engineering (6)", "#ceme (6)", "#seecs (5)", "#internationalisation (5)", "#robotics (4)", "#roboticschallenge (4)", "#knowledgesharing (4)"
Partnerships and Collaborations	"#millenniumfellows2021 (14)", "#nustpartnerships (10)", "#punjabrangers (5)"
Sports and Recreation	"#sticks (8)", "#nustsports (6)", "#volleyball (6)", "#tabletennis (5)"
Geographic Locations	"#pakistan (47)", "#karachi (13)", "#islamabad (7)", "#lahore (5)", "#turkey (4)"
Career and Opportunities	"#workshop (10)", "#vacancyannouncement (8)"

Table 4. Key themes of NUST drawn from Hashtags of tweets

In the Academic Disciplines and Research theme (Table 4), hashtags like "#uspcase", "#hec", "#tedxnust", "#nstp", "#research", "#s3h", "#defininginnovation", "#engineering", "#ceme", "#seecs", "#internationalisation", "#robotics", "#roboticschallenge", and "#knowledgesharing" highlight NUST's commitment to various academic disciplines and research. The prominence of these hashtags signals NUST's positioning as a research-intensive institution, and its eagerness to contribute to innovation and knowledge in various academic fields.

Finally, the Social and Environmental Issues theme underscores NUST's social responsibility efforts, suggesting that NUST is not only an academic institution but also an entity concerned with social and environmental issues. Overall, these hashtags and themes convey a comprehensive picture of NUST, reflecting its institu-

tional identity, academic strengths, social commitment, and vibrant campus life (Table 4).

The research analysis underscores the profound interplay between linguistic strategies and brand identity in higher education institutions. Through the meticulous selection and usage of hashtags, NUST crafts a robust linguistic framework that encapsulates its core values, aspirations, and institutional character. These linguistic markers, presented in tables, not only capture trending topics but also construct a narrative that resonates with its audience. This deliberate linguistic approach seamlessly merges with the overarching brand identity, reinforcing NUST's positioning in the digital space and emphasizing the intrinsic connection between language and institutional branding (Table 4).

Pronouns Analysis

According to Labrecque et al. (2020) pronouns play a significant role in brand engagement on social media. The impact of pronoun choices varies based on brand categorization and interacts with other content elements like images, videos, links, and hashtags. Utilizing appropriate pronouns strategically can enhance brand-consumer interactions and drive meaningful engagement on social media platforms.

The distribution of pronouns across various themes for LUMS, as analysed through corpus-assisted discourse analysis, offers valuable insights into the university's communication focus and strategy. The Community Involvement theme is characterised by the high frequency of first-person plural pronouns "we", "our", "us", and "ourselves". The use of these pronouns underscores LUMS' commitment to fostering a strong sense of community. It suggests that LUMS often positions itself as a collective body, emphasising teamwork and shared effort in its discourse. The significant presence of these pronouns could reflect a sense of collective identity and unity within the institution (Figure 5).

	Pronoun	Frequency
1	we	147
2	you	118
3	our	111
4	it	93
5	us	92
6	their	82
7	your	82
8	his	66
9	i	61
10	they	44

Figure 5. LUMS Pronouns List

In the theme of Addressing the Audience (Table 5), the second-person pronouns "you", "your", "yourselves", and "yourself" are prevalent. These pronouns indicate LUMS' direct engagement with its audience, showing an intention to establish an inclusive and conversational tone in its communications. The university seeks to engage directly with its audience, inviting them to envision themselves as part of the LUMS community.

The theme of Discussing Individuals (Table 5) is marked by third-person singular pronouns "he", "his", "she", "her", "him", and "myself". The occurrence of these pronouns implies that individual persons are frequently mentioned in LUMS' discourse, which could be referring to students, faculty, alumni or other individuals associated with the institution. This suggests that LUMS values individuals and their unique contributions or experiences.

Themes	Pronouns with Frequency
Community Involvement	"we (147)", "our (111)", "us (92)", "ourselves (3)"
Addressing the Audience	"you (118)", "your (82)", "yourselves (2)", "yourself (2)"
Discussing Individuals	"he (25)", "his (66)", "she (12)", "her (41)", "him (8)", "myself (1)"
Self-Reference	"i (61)", "my (16)", "me (20)"
Discussing Third Parties or Abstract Entities	"it (93)", "its (33)", "they (44)", "them (33)", "their (82)", "themselves (12)", "one (5)", "theirs (1)", "itself (1)"

Table 5. Analyzing LUMS's Key Themes via Pronouns in Tweets

Self-Reference is identified by the usage of first-person singular pronouns "I", "my", and "me". While these are used less frequently than other pronouns, their presence signals that LUMS sometimes shares individual perspectives, perhaps reflecting personal stories or experiences within its community.

Finally, the theme Discussing Third Parties or Abstract Entities is characterised by neutral pronouns such as "it", "its", "they", "them", "their", "themselves", "one", "theirs", and "itself". These pronouns indicate that LUMS frequently discusses third parties or abstract concepts. This might include conversations about external organizations, academic topics, or societal issues, suggesting that LUMS' focus goes beyond its immediate community, extending to broader societal and academic contexts (Table 5).

The analysis of LUMS' linguistic strategies, as illustrated through a corpus-assisted discourse analysis of pronoun distribution, intricately weaves the university's brand identity into its communication. The selective employment of first-

person plural pronouns in the Community Involvement theme showcases LUMS' emphasis on community cohesion and collective effort. On the other hand, the use of second-person pronouns in Addressing the Audience theme depicts LUMS' direct engagement approach, fostering inclusivity. Such linguistic choices not only shed light on the university's communication dynamics but also reinforce its brand identity as a cohesive, inclusive, and forward-thinking institution that values both the individual and the collective, while maintaining a broader societal and academic perspective (Table 5).

	Pronoun	Frequency
1	their	211
2	its	147
3	it	134
4	we	131
5	his	127
6	our	119
7	you	107
8	he	86
9	them	80
10	us	69

Figure 6. NUST Pronouns List

The distribution of pronouns across various themes for NUST, as identified through corpus-assisted discourse analysis, offers intriguing insights into the institution's communication style and focus.

Under the theme of Community Involvement, pronouns like "we", "our", "us", "yourselves", and "yours" are prominent. The frequency of these plural first-person and second-person pronouns signals the university's emphasis on community and collective effort (Figure 6). By frequently using these pronouns, NUST portrays itself as a collective entity that values teamwork and inclusion. The use of "we" and "our" indicates a strong sense of community and shared identity within the institution.

The theme of Addressing the Audience is characterized by the use of second-person pronouns: "you", "your", and "yourself". These pronouns imply direct engagement with the audience, suggesting that NUST actively seeks to create a conversational and inclusive atmosphere in its communications. It appears that NUST wants to speak directly to its audience, encouraging them to see themselves as part of the NUST community.

Themes	Pronouns with Frequency
Community Involvement	"we (131)", "our (119)", "us (69)", "yourselves (1)", "yours (1)"
Addressing the Audience	"you (107)", "your (66)", "yourself (6)"
Discussing Individuals	"he (86)", "his (127)", "she (44)", "her (27)", "him (7)", "himself (1)", "herself (1)"
Self-Reference	"i (26)", "my (4)", "me (3)"
Discussing Third Parties or Abstract Entities	"it (134)", "its (147)", "they (59)", "them (80)", "their (211)", "themselves (8)", "itself (1)", "one (1)"

Table 6. Analyzing NUST's Key Themes via Pronouns in Tweets

Discussing Individuals is marked by the use of third-person singular pronouns: "he", "his", "she", "her", "him", "himself", and "herself". The prevalence of these pronouns suggests that NUST often discusses individual people, possibly students, staff, or alumni. The usage of these pronouns may indicate the university's focus on individuals and their contributions, achievements, or experiences (Table 6).

The theme of Self-Reference includes first-person singular pronouns: "I", "my", and "me". Though these pronouns appear less frequently than others, their presence indicates that individual voices, opinions, or experiences are occasionally shared in NUST's discourse, possibly reflecting personal testimonials or stories.

Lastly, the theme Discussing Third Parties or Abstract Entities is characterized by neutral pronouns such as "it", "its", "they", "them", "their", "themselves", "itself", and "one". These pronouns indicate that NUST frequently discusses third parties or abstract entities, suggesting a broad focus that extends beyond the immediate university community. This might include discussions of academic concepts, external organizations, or societal issues.

NUST's use of pronouns, as analyzed through corpus-assisted discourse, reveals a strategic intertwining of linguistic choices with its brand identity. Emphasizing plural pronouns like "we" and "our" reinforces a sense of community, while the direct engagement through second-person pronouns showcases its inclusivity. The frequent mention of third-person singular pronouns underscores NUST's recognition of individual accomplishments. Through these linguistic strategies, NUST solidifies its brand image as a university that values both the collective spirit and individual contributions, while maintaining a broad perspective on academia and societal contexts (Table 6).

Discussion and Findings

The examination of key multi-word phrases, hashtags, and pronoun usage revealed important insights into the identity, community, and focus areas of two universities, LUMS and NUST. The analysis categorized the findings into various themes, which offered a comparative perspective.

At LUMS, the analysis revealed a significant emphasis on institutional identity and infrastructure, reflected in the frequent mentions of specific schools and leadership figures such as the Vice-Chancellor and Pro Chancellor. This suggests a strong sense of pride in their infrastructure and leadership. Moreover, LUMS' X discourse placed a considerable focus on academic programmes, including but not limited to MBA and undergraduate courses. These observations underscore the institution's dedication to academic excellence.

The LUMS analysis also pointed towards an active interaction with its audience, as indicated by the frequency of Events and Meetings themed keywords, with a particular focus on 'live' events. This denotes the university's robust focus on real-time engagement. The mention of notable figures within their discourse contributes significantly to the university's identity, indicating the value placed on individual contributions. The themes of Community and Student Body, Social Issues and Advocacy, and Teaching and Learning exhibited a strong commitment to community involvement, social advocacy, and the pursuit of quality education. The high frequency of first-person plural pronouns "we", "our", and "us" further emphasized a collective identity.

For NUST, the findings were slightly different. The university, like LUMS, placed heavy emphasis on institutional identity and infrastructure. The analysis revealed frequent mentions of specific schools, the Islamabad Campus, and roles such as the Rector. This denotes a strong pride in their expansive infrastructure and the efficacy of their leadership. There was a distinct focus on Academic and Research Activities, suggesting that NUST identifies as a research-oriented institution. Events and Sessions themed keywords imply an active engagement with students and the wider community. Furthermore, a clear emphasis on Social and Community Outreach demonstrates NUST's commitment to social responsibility. The pronoun usage mirrored that of LUMS, reinforcing a collective identity and community involvement.

Comparatively, the analysis pointed towards some key similarities and differences between the two institutions. Both LUMS and NUST place significant emphasis on institutional identity, community involvement, academic programmes, and events. This is reflected in their usage of first-person plural pronouns, along with the keywords and hashtags. However, LUMS appeared to be more focused on individual figures and live events for engagement, while NUST emphasized more on its infrastructure and academic/research activities. The first-person plural pronoun usage was high in both universities, suggesting a strong sense of community. However, LUMS exhibited a higher frequency, indicating a more collective voice in its communications. Lastly, LUMS placed a higher focus on social issues and advocacy, as suggested by the frequency of related keywords in their discourse.

Conclusions

In conclusion, the analysis of language use on X by LUMS and NUST provides critical insights into how these Pakistani universities shape their identities in the digital age. Both institutions strategically highlight their unique institutional identity, academic programmes, events, and community involvement to establish a recognizable brand. The frequency and nature of the engagement show the universities' conscious efforts to foster a sense of community and collective identity.

However, distinctions emerge in the specific strategies employed by the two universities. LUMS places more emphasis on individual figures and real-time engagement through live events, whereas NUST appears more focused on its expansive infrastructure and research activities. LUMS also shows a stronger commitment to social issues and advocacy. These differences in their digital communication strategies contribute to the uniqueness of each institution's identity.

The implications of this research extend beyond a simple comparison of two universities. Social media managers and policy-makers in higher education can draw upon these findings to shape their own institutions' digital communication strategies. The research elucidates how strategic language use on platforms such as X can build a strong and distinctive institutional identity, promote academic and research strengths, and foster a sense of community.

Moreover, this research highlights the power of social media as a tool for universities to communicate their commitment to social issues and advocacy. Given the growing expectations for institutions to take a stand on societal issues, such communication strategies can enhance a university's brand image and resonance with its audience.

In a world increasingly reliant on digital communication, this study underscores the significance of deliberate and strategic language use in shaping and communicating a university's identity and brand. By shedding light on these strategies, this research can help universities navigate the digital landscape more effectively. Furthermore, it serves as a foundation for further studies into digital identity formation and brand management in higher education institutions, potentially informing policy and best practice in this area.

Acknowledgments

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