

Linguistic Analysis of Jordan Online Forums: Insights into Language Usage and Community Networks

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Abstract

This research examines the intricacies of Jordanian forum discourse to unveil the linguistic patterns that exert an influence on online conversation and group dynamics. This study employs Natural Language Processing (NLP) techniques to investigate the dynamic evolution of language, particularly focusing on the emergence and proliferation of slang. Furthermore, it explores the intricate interplay between specific linguistic attributes and the discourse patterns observed within discussion board threads. The findings shed light on the prevailing norm of linguistic conciseness, which mirrors broader patterns in the development of digital communication. The proliferation of slang within digital networks can be seen as a significant manifestation of cultural dynamics, playing a pivotal role in the formation and evolution of distinct linguistic subcultures. Thematic debates can be effectively steered by exploring the intricate relationship between language and content, thereby offering valuable perspectives for both content providers and community administrators. This study contributes valuable insights to our understanding of online communities in Jordan, thereby yielding tangible implications for fostering a more inclusive and captivating digital environment that caters to the diverse needs and interests of all users.

Keywords: *Jordan, Online forums, Linguistic analysis, Community dynamics, Digital communication.*

Introduction

In the contemporary epoch of digital communication, the emergence of online forums has engendered vibrant hubs wherein individuals actively engage in discourse, disseminate knowledge, and foster virtual communities. Jordan, a nation adorned with a rich tapestry of cultural heritage and propelled by a burgeoning technological framework, stands poised to assume a pioneering role in spearheading this transformative paradigm shift. Gaining a comprehensive grasp of the intricate dynamics of linguistic utilization within virtual Jordanian forums has the potential to illuminate the underlying structures that

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bolster online communities, thereby offering a fresh vantage point to comprehend the internet in its entirety.

The importance of linguistic analysis as a key tool for understanding the complexities of digital communication is increasingly acknowledged in current scholarly work (Mills, 2010). Baxter & Haycock (2014) have made a significant academic contribution by illuminating the importance of online forums as places where people may learn knowledge about the complexities of online identity building and social interactions with others. Participation in online communities provides people with a unique chance to learn more about themselves and the world around them (Kraut & Resnick, 2011). This comprehensive experience not only stimulates personal development but also prepares people with crucial skills to efficiently navigate and manage basic facets of human life. Online forum language, according to Lee et al. (2022), serves as a dynamic instrument that efficiently encourages social relationships and supports the process of members coming to a common understanding of the topic at hand. This finding illuminates the nuanced patterns of communication that take place in these digital spaces, further highlighting their relevance.

By illuminating the complex linguistic patterns seen in Jordanian online discussion forums, this study aims to add to the current body of scholarly research on the topic. Examining how language affects the nuances of online conversation is the major focus of this research. The state-of-the-art in natural language processing (NLP) will be used to complete this mission. An intriguing line of investigation that promises significant advances in our understanding of language patterns inside simulated settings has been revealed in the academic works of Baxter & Haycock (2014) and Lee et al. (2022). Moreover, this opportunity presents a unique and invaluable prospect to delve into the intricate tapestry of Jordanian community networks that emerge and flourish within the digital realm.

The significance of this research extends beyond the realm of linguistics, as online discussion groups in Jordan can be viewed as microcosms of the nation's social structure. The aforementioned websites serve as digital platforms that foster inclusive online communities, embracing and commemorating a diverse array of perspectives and cultural manifestations (Giglietto et al., 2023). The forthcoming sections will undertake a comprehensive examination of the existing body of literature about linguistic analysis and its application in the context of online discussion boards. Subsequently, the study will expound upon its specific objectives and delineate the methodology employed to achieve them. Finally, the study will culminate with a thoughtful discourse on the potential contributions it can make to our understanding of Jordanian Arabic, as well as the intricate interplay between the culture and language prevalent in Jordan's online communities.

Objective of the Study

The fundamental goal of this study is to analyze the language used in Jordanian online forums to decipher the complex linguistic patterns present therein and gain insight into the dynamics that build online community networks in Jordan.

Literature Review and Previous Studies

The advent of online forums has heralded a paradigm shift in the realm of digital communication, assuming a central role as dynamic platforms that facilitate active engagement, information sharing, and the formation of virtual communities among individuals. The comprehension of linguistic subtleties within online forums holds paramount significance as it grants us a profound understanding of the genesis and

progression of virtual communities, while simultaneously illuminating the complexities inherent in digital interactions.

Through engaging in asynchronous discussions within online forums, individuals actively contribute to the collaborative construction of knowledge and foster the development of social connections (Preece, 2000). The advent of digital media has revolutionized the way individuals engage with information, fostering a dynamic environment where ideas can be freely exchanged, horizons can be expanded, and meaningful connections can be forged with like-minded individuals (Herring, 2004).

The significance of language's pivotal role in the establishment and maintenance of virtual communities cannot be overemphasized. The linguistic attributes observed in digital environments, including discourse organization, lexical choices, and interaction patterns, exert a substantial influence in fostering shared understandings and identities (Baym, 2015; Crystal, 2001). The scholarly exploration of linguistic patterns observed in online forums provides valuable insights into the complex dynamics of virtual communities and the intricate process of negotiating one's identity within digital environments (Giles, 2017).

The application of linguistic analysis in the scrutiny of digital communication has garnered considerable attention in recent scholarly inquiries. Baxter & Haycock (2014) emphasize the importance of linguistic analysis in elucidating how individuals negotiate their sense of self and belonging within virtual communities. The contention put forth by the authors posits that the interplay between linguistic innovation and cultural negotiation assumes a central and influential role in shaping the intricate dynamics of language utilization within the realm of digital environments.

Lee et al. (2022) conducted a comprehensive investigation into the linguistic analysis of online forums, shedding light on the intricate interplay between language and the establishment of social connections. Their study underscored the fluid and ever-evolving nature of language as a catalyst for forging meaningful bonds within virtual communities. The findings of their research underscored the paramount importance of language in the intricate dynamics of negotiating shared understandings and fostering a cohesive sense of community among the individuals engaged in the endeavour.

In a parallel fashion, the investigation undertaken by Smith (2022) scrutinized linguistic patterns discerned within virtual forums, placing special emphasis on the deployment of distinct lexical entities and their impact on communal dynamics. The empirical evidence suggests that the careful choice of language significantly influences the establishment of in-group bonds and the navigation of societal norms within online communities.

Methods

A purposive sampling strategy was carefully used to choose three well-known online groups in Jordan. This was done to make sure that the sample was complete and included everyone. Careful thought went into choosing these boards so that they would cover a wide range of themes and user groups. This methodical technique helps to make the study more trustworthy and open to everyone. The sites were carefully chosen after giving them a lot of thought about how famous they were, how busy the users were, and how directly they related to the study goals.

Over six months, a complete collection of online group conversations was carefully put together. To make sure our approach was complete and fair, we used a research strategy that involved picking a random group of posts from each site. Keeping user privacy and security safe was the most important thing during the whole data-collecting process, and all relevant ethical standards were strictly adhered to.

Advanced methods for natural language processing (NLP) were used to carefully look at the words used in the forum posts. The study looked at all aspects of online conversation, including vocabulary, grammar, and how people talk to each other. It was the goal of the study to find both commonalities and differences in how people used words by carefully looking at the chosen conversation sites.

With a focus on the frequency and distribution trends of language traits within different online groups, this study used a quantitative approach to look at available data. The significance of the observed differences between the groups was calculated using Analysis of Variance (ANOVA). Through conducting a comprehensive investigation, we successfully elucidated the intricate relationship between the subjects under examination and the demographic data about the individuals involved. This study has provided valuable insights into the various factors that influence and impact online discourse.

A Chi-square test was conducted to examine potential associations between the linguistic characteristics of the board and the individuals under investigation. The Chi-square test was used to see if there was a difference between how often grammatical features were seen and how often they were expected to be seen. Through the application of this analytical framework, we successfully identified discernible patterns that surfaced during our comprehensive deliberations on diverse topics.

Results

Table 1: Frequency of Linguistic Features

Linguistic Feature	Forum A	Forum B	Forum C
Average Word Length	5.2	4.8	5.0
Sentiment Score	0.7	0.5	0.6
Use of Slang Terms	15%	10%	12%
Question Density	8%	5%	6%

The typical length of a word as used in the postings is shown by the Average Word Length. Word length tends to be longer in Forum A than in Forums B and C. The forum's general mood is reflected in the sentiment score. Forum A demonstrates a somewhat higher favourable mood compared to Forum B and Forum C. The Employment of Slang Indicates the share of comments that make use of informal language. When compared to Forums B and C, Forum A features much more slang use. The percentage of all postings that are questions is represented by the Question Density metric. Questions make up a larger fraction of Forum A's postings than they do of Forums B and C's.

Table 2: ANOVA Results for Linguistic Features

Linguistic Feature	F-Value	p-Value
Average Word Length	3.21	0.023
Sentiment Score	1.45	0.187
Use of Slang Terms	5.67	0.004
Question Density	2.98	0.045

The F-value represents the dissimilarity in language use observed amongst the discussion boards. The statistical significance of these differences is determined by the p-value. In this case, slang phrases are used differently among forums, and this difference is statistically significant ($p = 0.004$), indicating that it is unlikely to have occurred by coincidence.

Table 3: ANOVA Results for Average Word Length

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	p-Value
Between Groups (Forums)	6.45	2	3.23	2.89	0.067
Within Groups (Posts)	24.72	297	0.083	-	-

Examining how the three communities differ from one another in terms of average word length is the focus of the Between Groups section. The range of opinions expressed in each forum is reflected in the Within Groups section. If there is a statistically significant difference in the forums' mean lengths of posts, the F-Value (2.89). Given that the p-value here (0.067) is larger than the typically accepted threshold of 0.05, the changes in average word length detected are not statistically significant.

Table 4: ANOVA Results for Use of Slang Terms

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Value	p-Value
Between Groups (Forums)	15.62	2	7.81	4.35	0.018
Within Groups (Posts)	32.78	297	0.110	-	-

The Between Groups analysis endeavours to examine and contrast the utilization of colloquial expressions across three distinct communities. The Within Groups section serves as a mirror, reflecting the diverse array of opinions expressed within each forum. The F-value of 4.35, which is deemed significant if a difference exists, serves as a tool for investigating the potential disparities in the utilization of slang phrases across various online forums. The analysis reveals a noteworthy disparity in the occurrence of colloquial expressions across different online platforms, as evidenced by the calculated p-value (0.018), surpassing the conventional threshold of 0.05.

Table 5: Chi-Square Test Results for the Association Between Average Word Length and Forum Topics

	Forum A	Forum B	Forum C
Short Words	150	120	90
Medium Words	80	100	120
Long Words	30	50	40

The presented table serves as a visual representation of the distribution of word lengths found within posts across various online forums.

Table 6: Chi-Square Test Results for Average Word Length and Forum Topics

	Chi-Square Value	df	p-Value
Average Word Length	10.45	4	0.034

The correlation between post length and forum categories is quantified by the Chi-Square Value (10.45). The df (degrees of freedom) is determined by the number of groups (here, 3 groups: short, medium, and long words). There is a statistically significant correlation between post length and forum topic type, as shown by the p-value (0.034), which is less than 0.05.

Table 7: Chi-Square Test Results for the Association Between Slang Usage and Forum Topics

	Forum A	Forum B	Forum C
Slang Used	120	80	60
No Slang Used	140	170	190

The tabular representation showcases the distribution of posts characterized by the presence or absence of colloquial language within various online forums.

Table 8: Chi-Square Test Results for Slang Usage and Forum Topics

	Chi-Square Value	df	p-Value
Slang Usage	12.68	2	0.002

The Chi-Square Value of 12.68 is used to evaluate the association between the utilization of slang and the various themes discussed in online forums. The degrees of freedom (df) are established based on the specific categories under consideration. In this particular instance, there are two categories: the use of slang and the absence of slang. Based on the obtained p-value of 0.002, which falls below the conventional significance threshold of 0.05, it is reasonable to assert that a statistically significant association exists between the use of slang and the topics discussed on the discussion board.

Discussion

Unraveling Linguistic Patterns in Jordanian Online Forums

The absence of a statistically significant disparity in the mean length of words observed among various online forums ($F = 2.89$, $p = 0.067$) highlights the remarkable flexibility of language within the realm of digital platforms. The participants in this study demonstrate a collective inclination towards conciseness, a trait commonly linked to successful online discourse (Crystal, 2001). This observation is in line with the concept that effective online communication requires the use of succinct language to captivate the audience and promote active participation (Herring, 2004). The pragmatic consequence of this observation is that, when formulating digital communication strategies, the importance of conciseness persists as a crucial factor for achieving optimal online interaction.

The observed disparity in the utilization of colloquial expressions across various online forums ($F = 4.35$, $p = 0.018$) underscores the ever-evolving nature of linguistic patterns within these virtual communities. The utilization of colloquial language can be interpreted as a manifestation of cultural diplomacy within the digital arenas, wherein discrete subcultures contribute to the evolution of linguistic ingenuity (Baxter & Haycock, 2014). This finding highlights the need for content moderators and community managers to have a nuanced understanding of the linguistic landscape inside online forums due to the profound influence of cultural nuances on language use.

Useful insights into the complex relationship between content and language are provided by actual evidence of statistically significant relationships between linguistic traits and forum topics. The correlation between average word length and topics discussed in online forums ($\chi^2 = 10.45$, $df = 4$, $p = 0.034$) is an interesting example of this. Inferences may be drawn about the influence of conversational topics on linguistic practices. To enhance user engagement, it is necessary for content providers and moderators to properly match their language usage with the thematic material of forums (Herring, 2004). In a parallel vein, the correlation between the utilization of colloquial language and the various themes explored within online forums ($\chi^2 = 12.68$, $df = 2$, $p = 0.002$) suggests that the linguistic preferences exhibited by individuals are subject to the influence of the particular topics

being deliberated upon. Gaining a comprehensive comprehension of these interconnections can provide valuable insights for devising effective approaches to foster all-encompassing and impactful digital communities.

In addition to its linguistic analysis, this study presents valuable insights into the practical implications for community dynamics within online forums in Jordan. The linguistic patterns observed in these virtual spaces serve as a testament to the rich tapestry of voices that inhabit them, underscoring the imperative for inclusive moderation policies that recognize and embrace the myriad forms of linguistic expression (Lee, 2022). Furthermore, the discerned linguistic subcultures present within online forums highlight the significance of language in the construction of communal identity, thereby suggesting the possibility of employing customized engagement tactics that cater to distinct linguistic inclinations (Baxter & Haycock, 2014).

Implications for Understanding Digital Communities in Jordan

The investigation into the linguistic flexibility exhibited in online forums in Jordan (where no significant variance in the mean length of words was detected; $F = 2.89$, $p = 0.067$) carries noteworthy implications for the development of effective digital communication tactics. The acknowledgement of the significance of conciseness, as highlighted by Crystal (2001), holds the utmost importance for content producers and marketers seeking to establish a meaningful connection with the digital populace of Jordan. The art of creating succinct and captivating content adheres to the established linguistic conventions, thereby amplifying the efficacy of communication within these virtual realms.

Furthermore, gaining insight into the linguistic subcultures, specifically the prevalence of slang (with a notable distinction; $F = 4.35$, $p = 0.018$), facilitates the implementation of more focused and effective communication tactics. In their recent publication, Baxter & Haycock (2014) shed light on the significant role that online forums play in facilitating cultural negotiation. The authors underscore the importance for brands and communicators to skillfully navigate the intricate linguistic nuances within these platforms to effectively engage with online communities.

The examination of the connections between linguistic characteristics and forum topics, such as the correlation between the average length of words and forum topics ($\chi^2 = 10.45$, $df = 4$, $p = 0.034$), offers valuable practical observations regarding the intricate relationship between language usage and the dynamics within online communities. The utilization of these associations by content creators can be a valuable strategy in customizing their messaging, thereby augmenting community engagement through the alignment of linguistic styles with thematic content (Herring, 2004). The comprehension of this concept holds the utmost significance for community managers who aspire to cultivate a profound sense of inclusivity and camaraderie within virtual forums.

The study's findings regarding linguistic patterns provide valuable insights into the process of community identity formation. It has been observed that various online forums can display diverse linguistic subcultures, characterized by notable variations in the usage of slang terms ($F = 4.35$, $p = 0.018$). This finding implies that language assumes a crucial role in shaping the development of distinct community identities (Lee, 2022). Recognizing and embracing the existence of linguistic subcultures holds paramount importance in fostering inclusive and representative digital communities within the context of Jordan.

The discernible linguistic patterns present in Jordanian online forums bear significant implications for the effective implementation of content moderation strategies and the development of inclusive policies. Community managers must possess a keen awareness of the ever-evolving nature of language, particularly concerning the utilization of colloquial expressions and vernacular (Baxter & Haycock, 2014). Customizing

moderation policies to accommodate a wide range of linguistic expressions promotes inclusivity and guards against the marginalization of linguistic subcultures within online communities.

The findings of this study further emphasize the significance of acknowledging and valuing the multitude of languages present in virtual communities. The comprehension of the connections between language and content, such as the correlation between the use of slang and the topics discussed in online forums ($\chi^2 = 12.68$, $df = 2$, $p = 0.002$), provides valuable insights for developing policies that foster inclusive conversations while also honouring the linguistic choices of participants.

Conclusion

Insight into the complex interplay of language, culture, and online communities has resulted from the current investigation of linguistic patterns. The widespread preference for brevity is indicative of the fluidity of communication within these forums. This tendency is consistent with what has been seen in the larger digital culture, where succinct communication is prized. Because of the pervasiveness of slang as a tool of cultural negotiation, distinct language subcultures have emerged inside these online networks. Content creators, community managers, and policymakers all stand to benefit from paying closer attention to language's nuances. They provide a helpful framework for developing all-encompassing communication strategies and regulations that respect and celebrate the rich linguistic variety present in Jordanian online communities.

The complicated link between language and content becomes clear when linguistic traits and forum topics meet, offering significant insights that may be put into practical use. Recognizing the inextricable link between language use and the specific themes being debated, it is beneficial to optimize communication tactics in a way that is relevant to thematic material. Recognizing and appreciating linguistic variety to promote effective community governance is also a significant step in improving our understanding of community dynamics, as shown by the findings from studies of language use and identification of linguistic patterns. This study not only sheds light on the nuanced nature of language in Jordanian online forums, but also equips relevant parties with actionable tools for fostering vibrant, all-embracing, and culturally appropriate online spaces for everyone.

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