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Evaluating Accuracy of Machine Translation of Iraqi Satirical Political Discourse: A Case Study of Faiq Al-Sheikh Ali's Twitter Page

تقييم دقة الترجمة الآلية للخطاب السياسي العراقي الساخر: تغريدات فائق الشيخ علي أنموذجاً

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Abstract:

This study examines the accuracy of machine translation (MT) in translating Iraqi satirical political discourse into English through selected tweets from Faiq Al-Sheikh Ali's official Twitter page. By comparing Twitter's auto-translation feature (powered by neural machine translation engines) with expert human translations, this qualitative case study evaluates English outputs to determine meaning preservation, pragmatic accuracy, and cultural resonance. Evaluation focuses on semantic accuracy, retention of sarcasm, interpretation of localized political allegories, and dialectal nuances. The findings reveal a significant performance gap in translating figurative and dialectal language. While literal propositional meaning is often transferred, MT engines consistently fail to convey humor, irony, and hyper-local references inherent in Iraqi political discourse, often generating misleading pragmatics. Human intervention remains indispensable for translating culturally loaded and politically sensitive dialectal texts.

Keywords: Iraqi Arabic Dialect, Machine Translation, Twitter, Political Humor, Pragmatic Failure, Multidimensional Quality Metrics (MQM).

المخلص:

تبحث هذه الدراسة في مدى دقة الترجمة الآلية (MT) عند نقل الخطاب السياسي الساخر في اللهجة العراقية إلى اللغة الإنجليزية، وذلك من خلال تحليل عينات مختارة من التغريدات المنشورة على الصفحة الرسمية للسياسي فائق الشيخ علي على منصة (X). تعتمد الدراسة على المنهج الكيفي (Qualitative Case Study) لمقارنة المخرجات الآلية المباشرة للمنصة مع الترجمة البشرية الخبيرة، بهدف قياس مدى الحفاظ على المعنى، والدقة التداولية، والأثر الثقافي. يركز التقييم على الدقة الدلالية، والقدرة على نقل التهكم والسخرية، وتفسير الإسقاطات السياسية المحلية والتراكيب اللهجية. أظهرت النتائج وجود فجوة كبيرة في أداء محركات الترجمة الآلية عند التعامل مع اللغات المجازية والتعبيرية؛ فبينما تنجح الآلة أحياناً في نقل المعنى الحرفي المباشر، فإنها تفشل بشكل متكرر في نقل السخرية، والفكاهة، والإشارات الثقافية والسياسية المركبة في اللهجة العراقية، مما يؤدي إلى انحرافات تداولية ومعنوية تؤكد ضرورة التدخل البشري لترجمة النصوص السياسية الحساسة ثقافياً.

الكلمات المفتاحية: اللهجة العراقية، الترجمة الآلية، تويتر، السخرية السياسية، الفشل التداولي، MQM.

Section One: Introduction & Conceptual Framework

1.1 Introduction

In contemporary political communication, social media platforms have transformed into primary arenas for political discourse, where satire serves as a potent instrument for critique and mobilization. Within the Iraqi context, politicians and public figures increasingly employ Iraqi dialectal Arabic—a register characterized by high cultural density, implicit irony, and historical allegory—to navigate a complex sociopolitical landscape. However, as these culturally-coded messages are broadcast to a global audience, international observers rely heavily on Automatic Machine Translation (AMT) features embedded in platforms like Twitter/X to decipher regional discourse.

Translating dialectal satire demands far more than surface semantic equivalence; it necessitates pragmatic mastery, cultural decoding, and context-aware interpretation. When automated algorithms attempt to process high-context dialectal Arabic, a tension arises between translation speed and fidelity.

This study evaluates whether modern Neural Machine Translation (NMT) models can capture the pragmatic essence of Iraqi satirical discourse or if critical subtexts remain lost in translation.

1.2 Problem of the Study

While state-of-the-art Neural Machine Translation (NMT) systems achieve high performance in standardized, formal registers (e.g., Modern Standard Arabic in news or administrative texts), they exhibit severe degradation when encountering informal, dialectal political discourse. Iraqi political satire relies heavily on humor, double entendres, local idioms, and indirect criticism. When translated automatically, short dialectal posts sound flat, overly literal, or pragmatically misleading. Consequently, non-Arabic speaking audiences risk misunderstanding the intended political commentary and cultural nuance.

1.3 Significance of the Study

This study underscores the inherent limitations of current NMT systems when processing dialectal Arabic satire. It demonstrates why sole reliance on automated translation in political intelligence and cross-cultural communication leads to misinterpretation. Furthermore, it highlights the essential role of human translators in handling politically loaded, culturally sensitive texts, providing valuable empirical insights for translation scholars, NMT developers, and computational linguists focusing on low-resource Arabic dialects.

1.4 Research Questions

1. What are the primary machine translation error types encountered when translating Iraqi satirical political tweets into English?
2. How do localized dialectal features and political references impact NMT pragmatic accuracy?
3. To what extent does machine translation fail to convey sarcasm and figurative meaning in high-context Iraqi political discourse?

1.5 Objectives of the Study

1. Evaluate NMT performance on Iraqi dialectal satire using a structured quality assessment framework.
2. Identify specific linguistic, cultural, and pragmatic failure modes in automated translation outputs.
3. Propose human reference translations that bridge the cross-cultural and pragmatic gap.

Section Two: Literature Review & Evaluation Framework

2.1 Theoretical Context and Recent Advances

Early evaluations of machine translation quality relied heavily on rule-based architectures and basic dictionary lookups, as highlighted in historical benchmarks like the ALPAC report (1966). Over the decades, evaluation methodologies evolved from macro/micro categorization (Van Slype, 1979) to automated n-gram overlap metrics such as BLEU (Papineni et al., 2002) and METEOR (Lavie & Agarwal, 2007). While automated string-matching metrics provide rapid system-level benchmarks, scholars emphasize their inability to evaluate pragmatic appropriateness, subtle sarcasm, or dialectal nuances (House, 2015; Zbib et al., 2012).

Recent advances in Neural Machine Translation (NMT) and Large Language Models (LLMs) have substantially improved fluency in high-resource languages (Koehn, 2020). However, dialectal Arabic—specifically Iraqi Arabic—remains a low-resource register characterized by spelling variations, lack of standardized orthography, and dense sociopolitical pragmatics (Habash, 2010; Saedi et al., 2021). Studies on machine translation of figurative language and humor (e.g., Al-Mahaseneha & Freihat, 2023) confirm that NMT architectures prioritize high-probability literal word alignments, frequently stripping away satirical intent and emotional resonance.

2.2 Evaluation Framework: Multidimensional Quality Metrics (MQM)

To systematically analyze the translation errors in this study, a qualitative adaptation of the Multidimensional Quality Metrics (MQM) framework (Lommel et al., 2014) is implemented. The evaluation categorizes MT failures into four core error typologies:

Error Typology	Definition & Scope	Impact on Satirical Discourse
1. Accuracy / mistranslation	Incorrect translation of lexical items or structural misinterpretation resulting in altered propositional truth.	Distorts the underlying factual statement or political event referenced.
2. Pragmatic / Sarcasm Loss	Failure to render illocutionary force, humor, irony, hyperbole, or tone.	Flattens satirical critique into an earnest statement, neutralizing political irony.

Error Typology	Definition & Scope	Impact on Satirical Discourse
3. Culture / Idiom Failure	Literal translation of hyper-local idioms, cultural metaphors, or regional proverbs.	Renders the English output unintelligible or culturally nonsensical to target readers.
4. Terminology / Entity Error	Misidentification of dialectal political figures, local institutional acronyms, or historical nicknames.	Creates confusion regarding key political actors or historical context.

Section Three: Methodology

This study adopts a qualitative case study design to conduct an in-depth analysis of machine-translated dialectal political satire. The primary data source comprises selected tweets published on the official Twitter/X page of the prominent Iraqi political figure Faiq Al-Sheikh Ali, known for his satirical commentary and heavy use of Iraqi dialectal idioms.

Four representative tweets containing complex satirical structures, dialectal expressions, and localized political allusions were selected as target data. The automatic translation outputs generated by Twitter's built-in NMT translation engine were collected directly alongside the original Arabic source texts. Each MT output was subjected to rigorous comparative evaluation against expert human translations produced by specialized translators. Errors were categorized using the adapted MQM framework across accuracy, pragmatics, cultural resonance, and terminology.

\Section Four: Analysis & Discussion

4.1 Tweet one

 ← Post فائق الشيخ علي/ كلمتي للنار... @faigalsheakh Follow العفو بنتي.. هاي الآية بيا سورة؟ أريد أصير مثلج.. بيا صورة؟! ولنقل بأي كتاب مقدس؟ بالزبور لو التوراة لو الإنجيل لو القرآن؟ يمعودين.. راجعوا خطبكم قبل أن تعتلوا المنابر. #قاطعوا_الانتخابات Translated from Arabic by Google Excuse me, my daughter... which surah is this verse from? I want to be like you... In what image?! Let's say which holy book? The Psalms, the Torah, the Gospel, or the Quran? Oh people... review your sermons before you ascend the pulpits. #قاطعوا_الانتخابات  Post your reply	العفو بنتي.. هاي الآية بيا سورة؟ أريد أصير مثلج.. بيا صورة؟! ولنقل بأي كتاب مقدس؟ بالزبور لو التوراة لو الإنجيل لو القرآن؟ يمعودين.. راجعوا خطبكم قبل أن تعتلوا المنابر. Excuse me, my daughter... which surah is this verse from? I want to be like you... in what image?! Let's say, which holy book? The Psalms, the Torah, the Gospel, or the Quran? Oh people... review your sermons before you ascend the pulpits.
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Comment:

The phrase “العفو بنتي” here is used sarcastically to mock the speaker and highlight their lack of knowledge about what they are talking about; it does not function as a polite expression of apology or permission as rendered in the translation.

Additionally, translating “صورة” as “image” is incorrect because it reflects a literal interpretation. In this context, the intended meaning is not “image,” but rather a sarcastic play on words targeting the speaker, who fails to distinguish between the pronunciation of “سورة” (Qur’anic chapter) and “صورة” (image). The machine translates “أريد اصير” literally and loses the humor.

“لنقل بأي كتاب مقدس؟ بالزبور لو التوراة لو الإنجيل لو القرآن؟”

Machine translation does not catch the irony. This part mentions different holy books to mock preachers' knowledge but machine translation just translates the names and misses the joke and cultural meaning. While the original text mentions and lists the holy books, it is not intended as a literal enumeration, as presented in the translation. Instead, it serves a sarcastic purpose, ridiculing the speaker whose statements lack any factual or credible basis.

Finally, the last segment The las “راجعوا خطبكم قبل أن تعتلوا المنابر”, does not specifically refer to religious preachers or those who deliver sermons from pulpits; rather, it targets individuals who speak publicly in the media without reliable sources or a sound foundation for their claims.

Suggested translation:

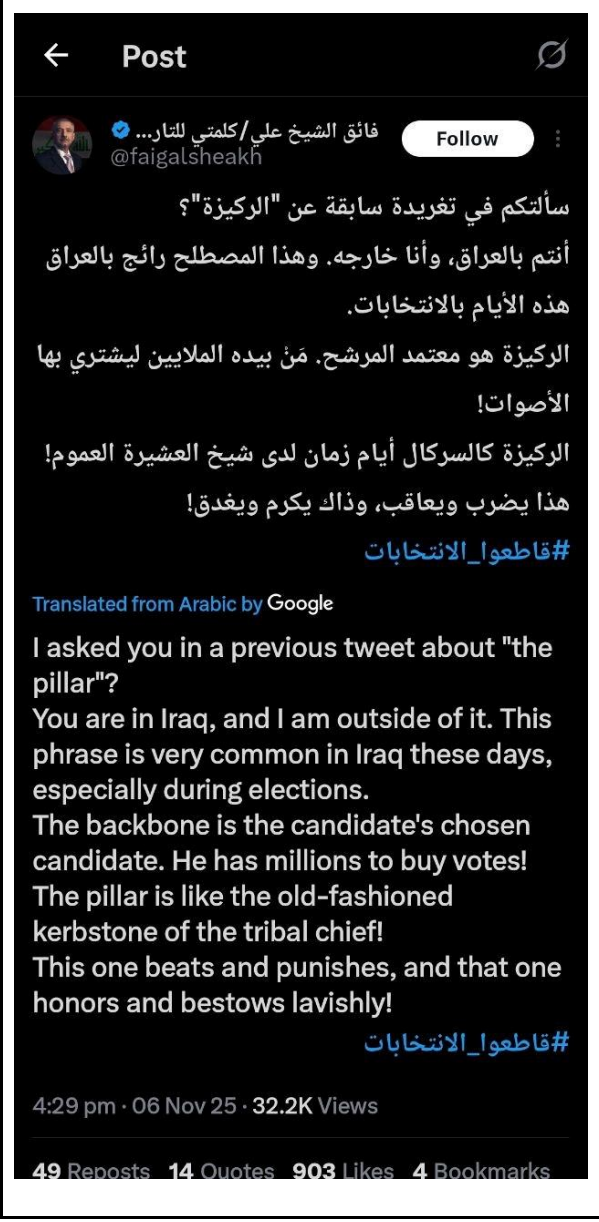
Oh dear... my girl, which surah is this verse from?

Do you even know how to pronounce Surah correctly?!

Do you even know from where this surah was taken? The Psalms, the Torah, the Gospel, or the Qur'an?

Come on, people... check what you're saying before you go out and speak publicly.

4.2 Tweet two

 ← Post فائق الشيخ علي / كلمتي للتار... @faigalsheakh Follow سألتكم في تغريدة سابقة عن "الركيزة"؟ أنتم بالعراق، وأنا خارجه. وهذا المصطلح رائج بالعراق هذه الأيام بالانتخابات. الركيزة هو معتمد المرشح. من بيده الملايين ليشتري بها الأصوات! الركيزة كالسركال أيام زمان لدى شيخ العشيرة العموم! هذا يضرب ويعاقب، وذاك يكرم ويغدق! #قاطعو_الانتخابات Translated from Arabic by Google I asked you in a previous tweet about "the pillar"? You are in Iraq, and I am outside of it. This phrase is very common in Iraq these days, especially during elections. The backbone is the candidate's chosen candidate. He has millions to buy votes! The pillar is like the old-fashioned kerbstone of the tribal chief! This one beats and punishes, and that one honors and bestows lavishly! #قاطعو_الانتخابات 4:29 pm · 06 Nov 25 · 32.2K Views 49 Reposts 14 Quotes 903 Likes 4 Bookmarks	سألتكم في تغريدة سابقة عن "الركيزة"؟ أنتم بالعراق، وأنا خارجه. وهذا المصطلح رائج بالعراق هذه الأيام بالانتخابات. الركيزة هو معتمد المرشح. من بيده الملايين ليشتري بها الأصوات! الركيزة كالسركال أيام زمان لدى شيخ العشيرة العموم! هذا يضرب ويعاقب، وذاك يكرم ويغدق! I asked you in a previous tweet about "the pillar"? You are in Iraq, and I am outside of it. This phrase is very common in Iraq these days, especially during elections. The backbone is the candidate's chosen candidate. He has millions to buy votes! The pillar is like the old-fashioned kerbstone of the tribal chief! This one beats and punishes, and that one honors and bestows lavishly!
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Comment:

The machine translated “الركيزة” as “pillar,” which is inaccurate in this context. Here, the term does not carry its literal meaning; rather, it is a widely used Iraqi expression referring to a person who holds influence over people and distributes gifts and assistance in order to secure votes for a particular candidate. Thus, the machine translation fails to convey the cultural context.

As for the phrase “أنتم بالعراق وأنا خارجه,” the speaker does not mean that they are literally inside or outside Iraq. Instead, he is addressing the audience by acknowledging that they are more familiar with the realities of their country and therefore know better who this “ركيزة” figure is.

The writer of the tweet then compares this influential agent to a well-known figure in Iraqi heritage known as the “سرکال.” According to the Oxford English Dictionary, this refers to “a man who is in a position of authority, especially one who owns land that is rented for farming.”

Finally, the writer explains that this “ركيزة,” much like the traditional سرکال, uses intimidation and coercion to control people, paving the way for the main candidate—who, in contrast, appears generous, offering gifts and rewards while punishing opponents. The writer is pointing to this as a manipulative electoral tactic.

Suggested translation:

In a previous tweet, I asked you about what’s called the ‘rakīza (pillar), right?

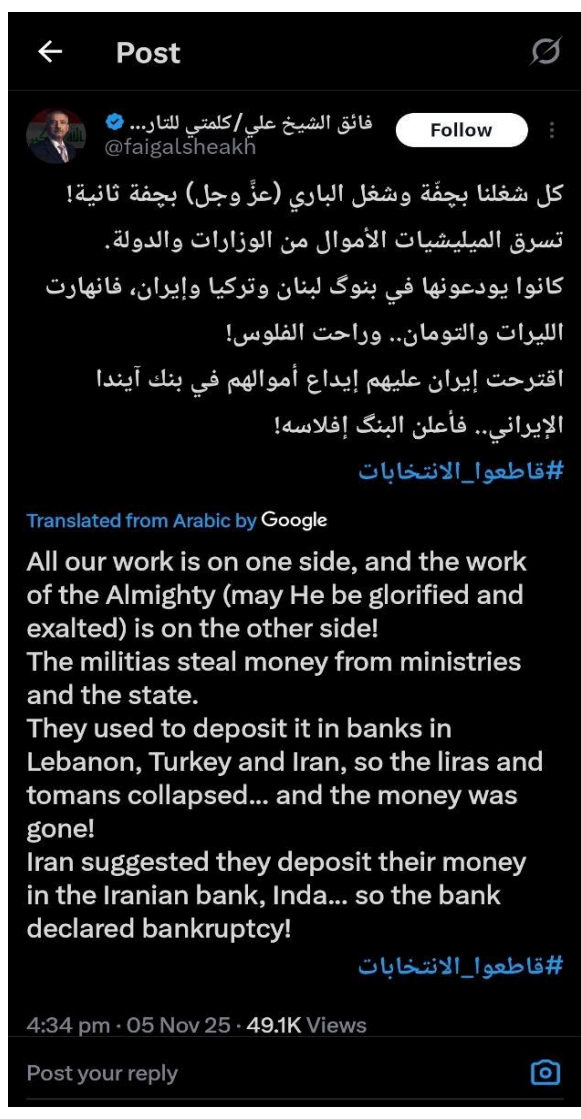
You know the situation in Iraq better than I do—this term has become very common during elections these days.

The rakīza is the candidate’s key agent—the one with the money to buy votes.

It’s similar to the old sarkāl (sarkar) figure in tribal times—someone who held local authority and control.

This one intimidates and pressures people, while the other presents himself as generous and rewarding. That’s how the game is played.

4.3 Tweet three

 ← Post فائق الشيخ علي / كلمتي للتار... @faigalsheakh Follow كل شغلنا بجفة وشغل الباري (عز وجل) بجفة ثانية! تسرق الميليشيات الأموال من الوزارات والدولة. كانوا يودعونها في بنوك لبنان وتركيا وإيران، فانهارت الليرات والتومان.. وراحت الفلوس! اقترحنا إيران عليهم إيداع أموالهم في بنك آيندا الإيراني.. فأعلن البنك إفلاسه! #قاطعوا_الانتخابات Translated from Arabic by Google All our work is on one side, and the work of the Almighty (may He be glorified and exalted) is on the other side! The militias steal money from ministries and the state. They used to deposit it in banks in Lebanon, Turkey and Iran, so the liras and tomans collapsed... and the money was gone! Iran suggested they deposit their money in the Iranian bank, Inda... so the bank declared bankruptcy! #قاطعوا_الانتخابات 4:34 pm · 05 Nov 25 · 49.1K Views Post your reply	كل شغلنا بجفة وشغل الباري (عز وجل) بجفة ثانية! تسرق الميليشيات الأموال من الوزارات والدولة. كانوا يودعونها في بنوك لبنان وتركيا وإيران، فانهارت الليرات والتومان.. وراحت الفلوس! اقترحنا إيران عليهم إيداع أموالهم في بنك آيندا الإيراني.. فأعلن البنك إفلاسه All our work is on one side, and the work of the Almighty (may He be glorified and exalted) is on the other side! The militias steal money from ministries and the state. They used to deposit it in banks in Lebanon, Turkey and Iran, so the liras and tomans collapsed... and the money was gone! Iran suggested they deposit their money in the Iranian bank, Inda... so the bank declared bankruptcy!
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Comment:

The first sentence “كل شغلنا بجفة وشغل الباري (عز وجل) بجفة ثانية” compare people's work with God's work in an ironic way; machine translation only gives the literal meaning and loses the irony.

The other statement “تسرق الميليشيات الأموال من الوزارات والدولة” talks about theft, but machine translation does not show the critical tone used in the original. Connected to previous statement, “كانوا يودعونها في بنوك لبنان وتركيا وإيران، فانهارت الليرات والتومان.. وراحت الفلوس” uses sarcasm to joke about money collapse, but machine translation translates it literally and misses the joke. The last part “اقترحنا إيران عليهم إيداع أموالهم في بنك آيندا الإيراني.. فأعلن البنك إفلاسه” mocks Iran and the bank failure, but machine translation loses the humor. Words like راححت الفلوس and انهارت الليرات and الطومان have cultural and funny meanings that machine translation cannot capture.

In this tweet, there are no major errors in the literal transfer of vocabulary; however, the cultural and sarcastic context is completely lost. The tweet is intended to mock the militias (as the writer of the tweets sees), portraying them as stealing public funds while people are unable to resist them. At the same time, the writer suggests—sarcastically—that divine intervention has punished them by causing

their money to be lost and wasted. This underlying irony is not conveyed at all in the machine translation.

Suggested translation:

All our efforts on one side—and God’s will on the other!

The militias loot money from ministries and the state.

They used to stash it in banks in Lebanon, Turkey, and Iran—then the currencies collapsed, and their money vanished.

So Iran suggested they deposit it in an Iranian bank called Inda... and that bank went bankrupt too!

Seems like, in the end, justice caught up with them.

4.4 Tweet four

 ← Post فائق الشيخ علي/كلمتي للتار... @faigalsheakh Follow 1000 مرة حذرتكم ما تراسلونني على الخاص وتسألوني أسئلة سخيفة. 1000 مرة نهتكم تبطلون هذا الأسلوب. بس يبدو ميفيد. راح يستلم الأدمن الحساب ويبدأ بالذين راسلونني على الخاص، ليلغي متابعتي لهم ويحظرهم. مستاهلين متسمعون حجابة. Translated from Arabic by Google I warned you 1000 times not to message me privately and ask me silly questions. I warned you 1000 times to stop this method. But it seems to be useful. The admin will take over the account and start with those who messaged me privately, unfollowing them and blocking them. You deserve to hear a story. 8:09 pm · 01 Oct 25 · 175K Views 53 Reposts 9 Quotes 2,172 Likes 23 Bookmarks	1000 مرة حذرتكم ما تراسلونني على الخاص وتسألوني أسئلة سخيفة. 1000 مرة نهتكم تبطلون هذا الأسلوب. بس يبدو ميفيد. راح يستلم الأدمن الحساب و يبدأ بالذين راسلونني على الخاص، ليلغي متابعتي لهم ويحظرهم. مستاهلين متسمعون الحجابة. I warned you 1000 times not to message me privately and ask me silly questions. I warned you 1000 times to stop this method. But it seems to be useful. The admin will take over the account and start with those who messaged me privately, unfollowing them and blocking them. You deserve to hear a story.
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Comment:

Let us begin with the contextual errors. The phrase “هذا الأسلوب” was translated as “this method,” which is inaccurate. The writer does not mean a systematic “method,” but rather a style of behavior or etiquette.

The machine translation rendered “بس يبدو مفيد” as “But it seems to be useful,” which conveys the exact opposite meaning. The intended meaning is that the repeated warnings against this behavior have been ineffective, as people continued acting in a way the writer disapproves of but machine translation doesn't catch the joke.

“الأدمن الحساب ويبدأ بالذين راسلونني على الخاص راح يستلم” explains what the admin will do, but machine translation misses the irony.

As for the final segment, “مستاهلين متسمعون الحجاية,” translated as “you deserve to hear a story” the writer actually means that whatever is about to happen to them is well deserved because they ignored the warnings. The phrase carries a tone of reprimand, not narration.

Suggested translation:

I've warned you a thousand times—don't message me privately and ask silly questions.

I've told you over and over to stop this kind of behavior.

But clearly, it's not working.

The admin will take over the account and start with those who messaged me privately—unfollowing and blocking them.

You've brought this on yourselves.

Section Five: Conclusion

This study evaluated the accuracy and pragmatic effectiveness of machine translation in handling Iraqi satirical political discourse on Twitter/X. The findings confirm that current NMT systems remain ill-equipped to process the high-context, culturally dense, and ironic nature of dialectal Arabic political commentary. While basic literal propositions are sometimes transferred, automated engines consistently fail to convey sarcasm, localized metaphors, and political allegories.

To overcome these challenges, future NMT development must incorporate larger dialect-specific parallel corpora and context-aware models capable of detecting pragmatic tone and figurative language. In the domain of political discourse and cross-cultural communication, human post-editing and expert translation remain indispensable to ensure accurate, culturally resonant interpretation

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