




Examining the Theorization Potential of Chat GPT-4 in Cultural Turn Theories of Translation Studies: A Focus on Qur'anic Cultural Elements

Mahsamaneh Abolhasani¹, Ebrahim Davoudi Sharifabad² , Mohammad Yazdani¹ 

1. Department of English Language, Imam Reza International University, Mashhad, Iran

2. Department of English Language, Baqir Al-Olum University, Qom, Iran

* Corresponding author: e.davoudi@bou.ac.ir

 <https://doi.org/10.22081/ttais.2024.70186.1040>

ARTICLE INFO

Article history:

Received: 6 August 2023

Revised: 19 October 2023

Accepted: 25 December 2023

Keywords:

Chat GPT4,

Cultural Turn,

Standardization,

Theorizing,

The Holy Qur'an.

ABSTRACT

The extensive training data of ChatGPT has facilitated theorizing in the field of Translation Studies, particularly during the cultural turn. Following this theorizing, a standardization framework was proposed. This study employed a qualitative and interdisciplinary approach, utilizing a descriptive method to interpret the data. The validated questions were based on the works of theorists associated with the cultural turn. Two scholars participated in structured and semi-structured interviews, employing a three-point Likert scale to capture their opinions on the proposed theory. Data analysis focused on the accuracy of ChatGPT-4's responses in relation to the scholars' opinions and references. The findings associated with the Likert scale were linked to task-oriented benchmarks, including factual/contextual understanding, coherence, and resolution of ambiguity. The results indicated a 29.3% weakness in ChatGPT-4's data analysis. The resolution of ambiguity resulted in a total of neutral responses at 44.8%. Scholars unanimously endorsed the cultural interaction theory, demonstrating a 100% capacity for theorizing by ChatGPT-4. In terms of coherence and summarization, the data suggested a stronger correlation with prompt engineering. The potential for theorizing concerning existing theory was found to be 77.7%, while the standard of theorizing by ChatGPT-4 was assessed at 68.9%. Surah Al-Fatiha was selected to exemplify cultural translation according to CIT, illustrating the theory's effectiveness in translating cultural-ideological texts. A comparison of ChatGPT-4's translations with those of six Quranic translators underscored its synthesizing abilities, with the incorporation of cultural interaction theory into prompts significantly enhancing its translation skills.

How to cite this article: Abolhasani, M., Davoudi Sharifabad, E. and Yazdani, M. (2024). Examining the Theorization Potential of Chat GPT-4 in Cultural Turn Theories of Translation Studies: A Focus on Qur'anic Cultural Elements. *International Journal of Textual and Translation Analysis in Islamic Studies*, 2(1), 42-68. doi: 10.22081/ttais.2024.69961.1034

© 2024 The Authors. Published by Ākhūnd-e Khorāsāni Center for Graduate Studies affiliated with Baqir al-Olum University of Qom.

This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).



1. Introduction

The scientific revolution gave rise to the contemporary academic idea of theory, especially in the natural sciences. The word *theory* is relatively new in English, originating in the 16th century (Tymoczko, 2013). Graham (1981) claimed that a comprehensive translation theory necessitates a formal investigation into the fundamental principles that determine an object and establish a method of analysis. In addition, a thorough theory of translation should also encompass a practical assessment process.

The general theory of translation is concerned with the foundational aspects of translation that are applicable across various modes and genres, encompassing written and oral forms, as well as diverse contexts such as scientific, technical, political, and artistic domains, among others, irrespective of language pairings (Dildorbekovna, 2022).

The theory of translation is typically categorized into three main areas: general, special, and particular theories. General translation theory focuses on the fundamental principles and concepts that underpin all types of translation, regardless of their specific characteristics. This encompasses written and oral translations, as well as various subtypes such as simultaneous, consecutive, one-sided, two-sided, scientific, technical, official, military, socio-political, artistic, cinematographic, and more. Recent studies, as noted by Liu et al. (2023), have seen a surge in articles discussing ChatGPT. The distribution of ChatGPT papers across different fields reveals that computational and language studies have been the most prominent areas of focus. Notable advancements in ChatGPT include large-scale pre-training, instruction-based fine-tuning, and reinforcement learning from human feedback. These advancements have enabled ChatGPT to be applied across numerous domains, including education, healthcare, reasoning, text generation, and scientific research. Liu et al. (2023) also highlighted future perspectives for ChatGPT, emphasizing the need for further exploration of its functionality, potential impacts, ethical considerations, and upcoming developments. The growing adoption of ChatGPT in research is evident in its use for creating various forms of text, such as phrases, sentences, and paragraphs. This trend has led to a proliferation of studies examining the potential applications and implications of ChatGPT's text-generating capabilities.

Research suggests that ChatGPT can enhance motion recognition by automating label generation, accurately translating natural language, and effectively summarizing content. ChatGPT demonstrates particular proficiency in simplifying complex medical documents and constructing logical schedules. However, it may not always outperform specialized models in certain tasks. Additionally, concerns persist regarding its reliability, originality, and ability to generate genuinely new material without significant human involvement (Liu et al., 2023).

Existing research in translation studies primarily focuses on ChatGPT's role as a translation tool or the ethical implications of AI in academic research. Sohail et al. (2023) summarized previous studies on ChatGPT centralization and conducted their own research exploring its future potential. Their work emphasized the possibility of using AI to assist in the theorizing process or even develop theories independently. They also highlighted the untapped capabilities of ChatGPT-4. The researchers aimed to elevate ChatGPT's status within the field, demonstrating its potential for theoretical contributions. To achieve this, they developed a standardization framework for theorizing with ChatGPT-4. This framework revealed the AI's capacity to theorize, encouraging further exploration of its capabilities by other researchers. The study delved into the cultural turn theory within

translation studies, identifying key concepts. Subsequently, the researchers proposed a standardized framework to evaluate ChatGPT-4's theorizing process. Through this research, they provided insights into standardization and the methods of generating new theories using AI.

2. Literature review

ChatGPT was specifically evaluated for its potential in managing and treating salivary gland disorders and sial endoscopy. The results demonstrated its promising capabilities in this area. However, as noted, it is essential to continue developing and refining these tools to ensure their reliability, safety, and effective clinical application (Chiesa-Estomba et al., 2023). The study's findings highlight ChatGPT's advancement from a machine-generated translator to an AI chatbot with positive potential for improving patient care.

ChatGPT-3's performance in introductory mechanics topics is rapidly approaching that of an expert physicist. Following the completion of their research, the authors became aware of Ref1, a previous publication that extensively analyzed ChatGPT-3.5's capabilities in a physics class, including a modified version of the FCI (West, 2023). West (2023) confirmed portions of their findings and extended the analysis to ChatGPT-3, demonstrating significant improvements in most areas. These results suggest that ChatGPT has the potential to respond in a manner indistinguishable from a human expert in the field of science. Lee (2023) explored the implications of this development on communication and the roles of language professionals, proposing a new approach that expands the boundaries of traditional translation. Lee advocates for a post-humanist perspective on translation, encouraging a broader view of skills, methods, and media in leveraging artificial intelligence as an extension of translators' abilities. These findings signal a new era in translation studies, potentially extending to a post-humanist approach to theorizing.

Theory evaluation in general concepts often centers on 'falsifiability', as proposed by Bacharach (1989). Falsifiability suggests that theories should be formulated in a way that allows for empirical testing and potential refutation. Bacharach also emphasized the importance of 'utility' as a bridge between theory and research. In this study, examples from the Holy Qur'an are used to illustrate the translation strategies based on the proposed theory, connecting theory to the research field. The falsifiability of the proposed theory was evaluated against existing theories within the cultural turn framework. To link the proposed theory to its practical scope, the six translations of Surah Al-Fatiha were selected for comparison based on their translation strategies. The Holy Qur'an contains various cultural elements that can be considered manifestations of cultural translation.

ChatGPT demonstrated potential in translating the Holy Qur'an, achieving relatively high METEOR scores (0.72 average, 0.89 compared to Thomas Irving's translation) but lower BLEU scores (0.69), suggesting room for improvement in word correspondence. The primary goal of the study was to explore the capabilities of machine learning tools like ChatGPT, rather than to evaluate the BLEU and METEOR metrics themselves. While these tools can enhance translations, human oversight remains crucial for ensuring accuracy and preserving the scripture's message (Dahia & Belbacha, 2024).

Table 1. The six translations of Al-Fatiha Surah (Hassan Zadeh et al., 2018)

| Ali's Translation | Arberry's Translation | Pickthall's Translation | Saheeh's Translation | Sarwar's Translation | Shakir's Translation |
|--|---|--|---|---|---|
| <p>1. In the name of Allah, Most Gracious, Most Merciful</p> <p>2. Praise be to Allah, the Cherisher and Sustainer of the worlds;</p> <p>3. Most Gracious, Most Merciful;</p> <p>4. Master of the Day of Judgment.</p> <p>5. Thee do we worship, and Thine aid we seek.</p> <p>6. Show us the straightway,</p> <p>7. The way of those on whom Thou hast bestowed Thy Grace, those whose (portion) is not wrath, and who go not astray.</p> | <p>1. In the Name of God, the Merciful, the Compassionate</p> <p>2. Praise belongs to God, the Lord of all Being,</p> <p>3. the All-merciful, the All-compassionate,</p> <p>4. The Master of the Day of Doom.</p> <p>5. Thee only we serve; to Thee alone we pray for succour.</p> <p>6. Guide us in the straight path,</p> <p>7. The path of those whom Thou hast blessed, not of those against whom Thou art wrathful, nor of those who are astray.</p> | <p>1. In the name of Allah, the Beneficent, the Merciful</p> <p>2. Praise be to Allah, Lord of the Worlds,</p> <p>3. The Beneficent, the Merciful</p> <p>4. Master of the Day of Judgment,</p> <p>5. Thee (alone) we worship; Thee (alone) we ask for help.</p> <p>6. Show us the straight path,</p> <p>7. The path of those whom Thou hast favoured; Not the (path) of those who earn Thine anger nor of those who go astray.</p> | <p>1. In the name of Allah, the Entirely Merciful, the Especially Merciful.</p> <p>2. [All] praise is [due] to Allah, Lord of the worlds.</p> <p>3. The Entirely Merciful, the Especially Merciful,</p> <p>4. Sovereign of the Day of Recompense</p> <p>5. It is You we worship and You we ask for help.</p> <p>6. Guide us to the straight path –</p> <p>7. The path of those upon whom You have bestowed favor, not of those who have evoked [Your] anger or of those who are astray.</p> | <p>1. In the Name of Allah, the Beneficent, the Merciful.</p> <p>2. All praise belongs to Allah, Lord of the Universe,</p> <p>3. the Beneficent, the Merciful</p> <p>4. and Master of the Day of Judgment</p> <p>5. (Lord), You alone We do worship and from You alone we do seek assistance</p> <p>6. (Lord), guide us to the right path,</p> <p>7. the path of those to whom You have granted blessings, those who are neither subject to (Your) anger nor have gone astray</p> | <p>1. In the name of Allah, the Beneficent, the Merciful.</p> <p>2. All praise is due to Allah, the Lord of the Worlds.</p> <p>3. The Beneficent, the Merciful.</p> <p>4. Master of the Day of Judgment.</p> <p>5. Thee do we serve and Thee do we beseech for help.</p> <p>6. Keep us on the right path.</p> <p>7. The path of those upon whom Thou hast bestowed favors. Not (the path) of those upon whom Thy wrath is brought down, nor of those who go astray.</p> |

Humans have limitations, while artificial intelligence (ChatGPT-4) can complement human capabilities to mitigate these constraints. Although artificial neurons operate at a much faster pace, they have fewer connections compared to biological neurons. Conversely, artificial neural networks are generally larger in scale but require significantly more power and time to process and recognize scenes than the human brain. AI agents can perform deductive and inductive reasoning but cannot engage in abductive (imaginative) reasoning (Tecuci, 2024). Therefore, AI agents can assist humans in overcoming their limitations, such as time constraints, while humans can contribute their ability to judge based on data and achieve a presumed goal.

3. Methodology

This interdisciplinary research explored the potential of AI chatbots, particularly ChatGPT4, for theorizing within translation studies. It focused on cultural theories and employed descriptive methods. The researcher used a three-phase approach to validate the proposed theory:

- **Theoretical Comparison:** The theory was compared to concepts from cultural turn theories in Translation Studies.
- **Task-Oriented Benchmarks:** ChatGPT4's performance was evaluated on tasks related to the proposed theory. Its ability to respond and achieve better qualitative outcomes was assessed using a 3-point Likert scale.
- **Expert Validation:** Translation studies scholars rated the proposed theory and thesis abstract using a 3-point Likert scale.

This structured three-phase approach provided a comprehensive evaluation of the theory's effectiveness. It also proposed a framework for standardizing AI chatbot theorizing. Finally, the researcher detailed the strategies and procedures used throughout the project to answer the fourth research question. The third phase served as a bridge between the first two phases, connecting them.

3.1. Theoretical framework

The accuracy of ChatGPT4's responses to Ray's (2023) work was assessed using a 3-point Likert scale (Acceptable, Neutral, Unacceptable). Acceptable answers to all sections (factual/contextual understanding, proposed theory, and its relation to cultural turn theories) were considered accurate.

The validated questions focused on factual understanding, ambiguity resolution, and coherence. A high percentage of neutral responses indicated ambiguity in ChatGPT4's answers. Bassnett (2002) and Munday et al. (2016) were used to evaluate ChatGPT4's

responses to cultural turn concepts, while Jaakkola (2020) and As-Safi (2011) were used to assess the proposed theory in general terms.

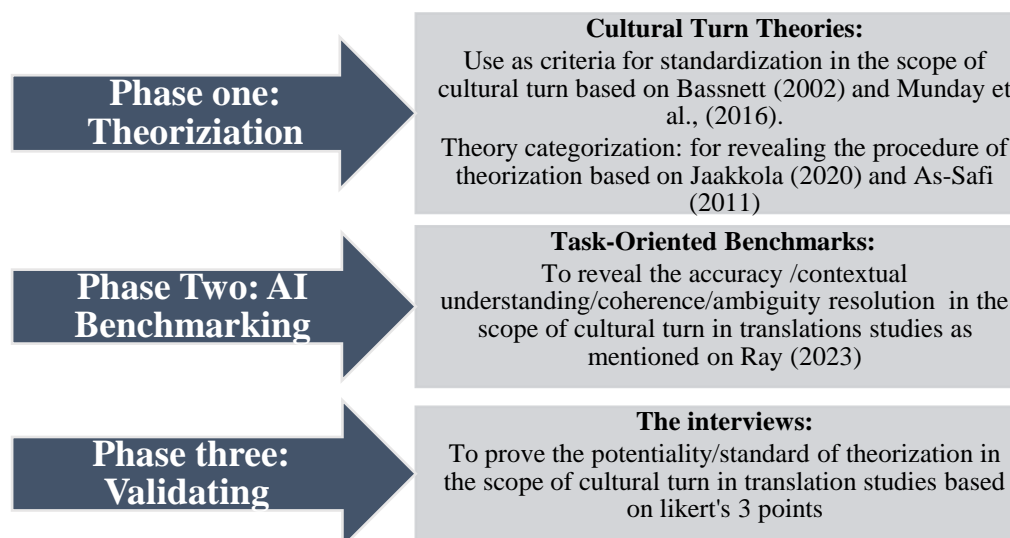


Figure 1. Theoretical framework

3.2. Data collection procedures

To address the proposed topic, the following research questions were formulated:

- How can the theorizing potential of ChatGPT4 in cultural theories within translation studies be standardized?
- How standardized is ChatGPT4's theorizing in cultural turn with respect to existing theories?
- Do translation studies scholars approve of the theorizing potential of ChatGPT4 in cultural theories within translation studies?
- What strategies and procedures can ChatGPT4 use to theorize in the cultural turn area about existing theories?

✓ **Question Development:** Questions were designed based on key works in Translation Studies, such as Bassnett (2002) and other cultural turn theorists, and validated by scholars.

✓ **AI Engagement:** Interactions with ChatGPT-4 were conducted using the validated questions, focusing on theories related to the cultural turn.

✓ **Theory Standardization:** Specific questions were posed to standardize theories around cultural turn discussions within AI interactions, and relevant references were sourced from literature. A Likert scale was used to connect scholars' evaluations to task-oriented benchmarks (factual/contextual understanding, coherence, and ambiguity resolution).

✓ **Data Recording:** AI responses were documented and supplemented with scientific literature for comparison.

✓ **Evidence Assessment:** ChatGPT-4's responses were assessed against existing scholarship to evaluate its theorization capacity (Bassnett, 2002; Munday et al., 2016).

✓ **Expert Feedback:** The research data, along with an abstract and validated questions, were shared with two Translation Studies scholars for semi-structured interviews. A three-point Likert scale was used to evaluate theorization potential, and the scholars also provided additional feedback.

✓ **Conclusion Formation:** Final conclusions regarding ChatGPT-4's theorization capabilities in Translation Studies were drawn by the researcher and supervisors.

3.2. Data analysis procedures

The analysis of the first research question involved integrating references from cultural turn theories into the proposed theory, with its strengths and weaknesses identified through expert feedback. For the second research question, the proposed theory was compared with Jaakkola's (2020) theory categories, aligned with As-Safi's (2011) translation types, and evaluated against Bell's model for theorization. To assess the theorization process by ChatGPT-4, an accuracy-based method was employed, evaluating the standardization of the proposed theory with expert feedback used to calculate the ratio of acceptable versus neutral responses. Feedback from Translation Studies scholars was gathered for the third research question through various interview formats: a structured interview with Scholar No. 1, a semi-structured interview on the proposed theory with Scholar No. 3, and an unstructured interview on theorization procedures with Scholar No. 2. Scholar No. 1's insights were crucial for verifying coherence in the summarized findings, which aligned with three-point Likert scale responses. The final step involved systematically comparing the proposed theory with existing frameworks to clarify theorization steps. The methodologies from the first three questions informed the last question, which included an unstructured interview with Scholar No. 2 to refine strategies and procedures for theorization by ChatGPT-4.

4. Data analysis

Due to its efficiency and better performance in the researcher's region, the Telegram AI Chatbot (ChatGPT-4) was used for data gathering. Integrating OpenAI's ChatGPT with a Telegram chatbot offers an effective tool for accessing diverse information. The chatbot enables smooth user interactions, reducing errors and enhancing engagement. Its intuitive design allows for quick information retrieval, making it especially useful for prospective students seeking details about Semarang State Polytechnic. This technology significantly improves the ease and efficiency of obtaining information (Avisyah et al., 2023). For Bassnett (2002, pp.44-45):

The purpose of translation theory, then, is to reach an understanding of the processes undertaken in the act of translation and, not, as is so commonly misunderstood, to provide a set of norms for effecting the perfect translation"

The proposed theory by Chat GPT4 ‘cultural interaction theory’:

Translators play a crucial role as cultural intermediaries in the exchange of information, values, and cultural attitudes between languages and cultures. This theory highlights the importance of translators possessing cultural and linguistic awareness, as well as the ability to deeply understand and accurately convey the meaning and concepts of the original text. Furthermore, it emphasizes the need for translators to be sensitive to and proficient in expressing cultural and linguistic differences in their translations. By encouraging creative adaptation and integration of diverse cultural and linguistic elements, this theory promotes a dynamic and interactive approach to translation that facilitates effective communication between languages and cultures. In essence, the theory of ‘translation as cultural interaction’ underscores the translator's role in mediating cultural exchange and promoting mutual understanding through the translation process.

The theory of ‘translation as cultural interaction’ posits that translators function as cultural mediators, facilitating the transfer of information, values, and cultural attitudes between languages and cultures during the translation process. Within this framework, the translator’s role as a cultural intermediary in the exchange and transmission of cultural and linguistic elements is paramount. This theory underscores the importance of translators possessing cultural and linguistic awareness, enabling them to grasp the nuances of concepts and values inherent in all languages and cultures, including knowledge of language structures, terminologies, symbols, and cultural attitudes. The translator’s role involves understanding the original text's meaning and essence and faithfully conveying it accurately in the target language. The theory underscores the importance of acknowledging and managing cultural and linguistic differences between languages and cultures, advocating for translators to demonstrate sensitivity in articulating these variances effectively in their translations. This includes skillfully translating terms, idiomatic expressions, and cultural concepts specific to the target language, necessitating the translator to use inventive techniques to adjust and blend various cultural and linguistic elements. Essentially, the theory of ‘translation as cultural interaction’ highlights the translator’s function as a cultural mediator who can proficiently convey values, concepts, and cultural attitudes during the translation process, enabling a more profound insight into how translation functions as an interactive and mutually influential process between languages and cultures.

The theory of ‘translation as cultural interaction’ provides a multifaceted perspective that can be examined from different angles.

Linguistic Dimension: Within this dimension, the theory underscores linguistic disparities and variations as integral components of cultural interaction in translation. Translators are responsible for accurately communicating linguistic structures, terms, symbols, and cultural attitudes in the target language. This includes translating language-specific terms and combinations that are unique to the target language.

Cultural Dimension: This dimension underscores the importance of cultural differences and diversities as key elements in cultural interaction during translation.

Translators need to demonstrate an understanding and sensitivity to cultural variations between languages and cultures, effectively conveying these distinctions in their translations. This involves the translation of cultural values, concepts, and attitudes that are embedded in the target language.

Social Dimension: Focusing on social interactions between languages and cultures, this dimension emphasizes the significance of social factors in each language and culture. Translators are encouraged to consider and incorporate these social aspects effectively in their translations, including habits, customs, and social interactions specific to the target language.

Historical Dimension: Within this dimension, the theory underscores the historical impacts and exchanges among languages and cultures. Translators are encouraged to consider the historical evolutions and transformations that have influenced languages and cultures throughout history, integrating these historical dynamics thoughtfully into their translations. This includes the translation of historical terms and concepts found in the target language.

These aspects are just a small part of the various elements that can be explored within the theory of "translation as cultural interaction." Due to the intricate and multi-faceted aspects of cultures and languages, this theory can be further analyzed through additional dimensions to offer a thorough comprehension of the intricacies of cultural interaction in translation.

Previously, the focus in translation studies was primarily on comparing the original text with its translated version, often to identify what was 'lost' or 'betrayed' during the translation process. However, a new approach emerged that aimed to understand the shifts in emphasis occurring when texts were transferred between different literary systems (Bassnett, 2002, pp.8-9) Chat GPT4 mentioned: "The theory underscores the importance of acknowledging and managing cultural and linguistic differences between languages and cultures, advocating for translators to demonstrate sensitivity in articulating these variances effectively in their translations". So, matches with the centralization of the new research approach.

Historically, the study of history has offered a dynamic and practical framework for explaining shifts in literary history, with translations playing a pivotal role. Within Polysystem theory, the historical dimension has helped scholars describe and justify the roles and significance of translations across various cultures and time periods, while also identifying translation norms shaped by historical contexts (Dimitriu, 2015). Thus, the concept of history is integral to existing cultural turn theories, contributing to a deeper understanding of the cultural and temporal influences on translation practices.

Culture and language are situated within specific temporal and spatial contexts. Different periods should be seen as distinct cultures or languages when their structural variances become significant for a particular context (Reiss, Nord, Vermeer, 2014, p. 27). Cultural Interaction Theory (CIT) mentioned the inner relationship between culture and language correctly as explaining the translating a text process from The Cultural Interaction Theory's perspective "By encouraging creative adaptation and integration of diverse cultural and linguistic elements, this theory promotes a dynamic and interactive approach to translation that facilitates effective communication between languages and cultures" (Chat GPT4).

Bassnett emphasized the connection between culture and society, stating, “If culture is perceived as dynamic, then the terminology of social structuring must be dynamic also” (Bassnett, 2002, p. 41). This highlights an intrinsic relationship between cultural terminology and social structuring within a given context. Similarly, in Cultural Interaction Theory, both a social and a cultural dimension are present, reflecting the intertwined nature of cultural and societal dynamics.

Individuals acquire specific cultural beliefs through socialization, and personal views can either challenge or affirm societal norms. These beliefs may also reflect different perceptions of reality that deviate from the norm. Additionally, language can preserve outdated traditions, highlighting the contrast between evolving cultural practices and traditional expressions. Cultural and individual differences in value systems further underscore the diversity in how societies and people interpret and uphold beliefs (Reiss et al., 2014, p. 23). Cultural Interaction Theory mentions the role of the individual (Translator) in shaping the culture “highlights the translator's function as a cultural mediator who can proficiently convey values, concepts, and cultural attitudes during the translation process, enabling a more profound insight into how translation functions as an interactive and mutually influential process between languages and cultures” (Chat GPT4).

If culture is understood as dynamic, the language used to describe social structures must also be fluid and adaptable (Bassnett, 2002, p. 41). This dynamic quality of culture is highlighted in the concept of cultural dimensions:

This dimension underscores the importance of cultural differences and diversities as key elements in cultural interaction during translation. Translators need to demonstrate an understanding and sensitivity to cultural variations between languages and cultures, effectively conveying these distinctions in their translations. This involves the translation of cultural values, concepts, and attitudes that are embedded in the target language (Chat GPT4).

The process of translation involves a series of linguistic transfers from the source language (SL) to the target language (TL) about the meaning of discourse and other representational content elements of discourse role exchange (Bassnett, 2002, p. 128):

The translator is seen as a liberator, someone who frees the text from the fixed signs of its original shape making it no longer subordinate to the source text but visibly endeavoring to bridge the space between the source author and text and the eventual target language readership (Bassnett, 2002, p.6).

Cultural Interaction Theory mentioned the translation process as “translators possessing cultural and linguistic awareness, enabling them to grasp the nuances of concepts and values inherent in all languages and cultures, including knowledge of language structures, terminologies, symbols, and cultural attitudes. The translator's role involves understanding the original text's meaning and essence and faithfully conveying it accurately in the target language. The theory underscores the importance of acknowledging and managing cultural and linguistic differences between languages and cultures, advocating for translators to demonstrate sensitivity in articulating these variances effectively in their translations” (Chat GPT4).

Chat GPT4 describes the ‘translation types’ as:
 The translation types section demonstrates the different types of translation based on the Cultural Interaction theory. These include:

- 1. Direct Translation:** Where the translator aims to convey the source text’s linguistic and cultural elements as faithfully as possible to the target audience.
- 2. Indirect Translation:** In this type of translation, the translator adapts the source text’s cultural elements to make them more understandable or acceptable to the target audience while still retaining the essence of the source culture.
- 2.1. Invisible Translation:** Where the translator fully integrates the source text’s cultural elements into the target culture, translating appears as if it originated in the target culture

The different types of translation based on the cultural interaction theory mentioned, cultural interaction has two main branches: direct translation and indirect translation, and indirect translation further branches into invisible translation and adapted translation. Chat GPT4 proposed types of translation based on cultural interaction theory. CIT ignored the various translation types.

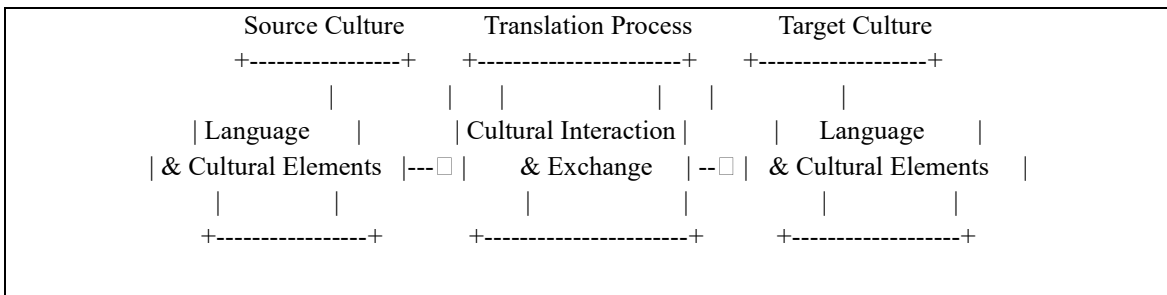


Figure 2. Chat GPT4’s cultural interaction theory processes

As illustrated in Figure 2, the source culture represents the original language and cultural elements of the source text. The translation process involves cultural interaction and exchange, where the translator mediates between the source and target cultures. This process includes not only linguistic transfer but also a deep understanding of cultural context and the exchange of cultural elements. The target culture represents the language and cultural elements of the translated text as it is received and understood (Chat GPT4). Central to the cultural interaction theory is the translator’s cultural perspective and the decisions made regarding the transfer of cultural elements. The translator’s culture can influence how cultural elements are modified in the translated text. To evaluate a text using this theory, it’s essential to consider the translator’s cultural background and the choices made in transferring cultural elements

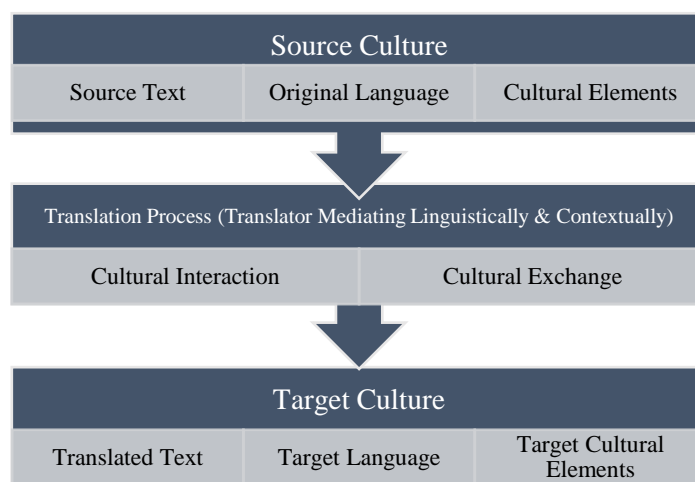


Figure 3. Proposed process for cultural interaction theory: a visual overview

The translation process consists of three phases based on Cultural Interaction Theory. In the first phase, the properties of the source culture are identified, including the characteristics of the source text, the language of the source text, and the cultural elements inherent in the source text. In the second phase, cultural interactions occur during translation, involving engagement with the three properties of the source culture: the source text properties, the source language properties, and the cultural elements of the source culture. The translator mediates these properties with the corresponding properties of the target culture, which include the target text properties, the target language properties, and the cultural elements of the target culture. The outcome of these interactions between the source text and the cultures involved is a translated text that either preserves and conveys the cultural elements of the source language and culture or adapts them to fit the target language and culture. The translation process is influenced by the translator's choices regarding substitutions of cultural and linguistic elements from the source text. Ultimately, the relationship between the source culture and the target culture is reflected in the translator's decisions regarding these substitutions.

This section explores the contextual understanding of Chat GPT4 within Translation Studies, focusing on the cultural turn and gender perspectives. Gender in Translation Studies investigates how gender roles, identities, and power dynamics influence translation practices and outcomes. By considering gender perspectives, this field aims to promote gender equality and representation in translation (Chat GPT4). Feminist translation theory highlights the connection between the marginalized status of translation and that of women in society and literature. This theory critiques societal norms that place women and translation at lower rungs of recognition. Instead of focusing solely on fidelity to the original author or reader, feminist translation theory emphasizes the writing process itself, involving both the writer and translator (Munday et al., 2016, pp. 205-207).

The Cultural Turn in Translation Studies has shifted attention toward the cultural aspects of translation, emphasizing the importance of culture in shaping translation practices and outcomes. Bassnett highlighted that cultural turn theories within Translation Studies go beyond language and linguistics to encompass broader cultural, historical, political, and social factors. Translation is viewed not only as a linguistic process but also as a cultural one, influenced by ideologies, power relations, and cultural norms (Bassnet, 2002, pp. 4-8). This example illustrates the dynamic nature of culture and its connection to social structure, the role of the translator, and various concepts of culture:

The Cultural Interaction Theory in translation studies involves evaluating how translators address the interconnectedness of languages and cultures, cultural context, sensitivity to cultural nuances, the dynamic nature of cultures, promotion of cultural diversity, and power dynamics within a translation text. This evaluation helps assess how well the translator engages with these aspects and embodies an understanding of the complex relationship between language and culture. Power dynamics in cultural interaction theory refer to the unequal distribution of influence among different cultural groups, impacting representation in translation and communication. The dynamic nature of culture in this theory highlights those cultures are constantly evolving, influenced by various factors like globalization and social change, emphasizing the importance of intercultural communication, cultural sensitivity, and awareness of power dynamics in cultural interactions for accurate and respectful representations of diverse cultures (Chat GPT4).

The translators' roles as mediators and power dynamics were also explored. Historical context plays a vital role in understanding the development of translations and their significance in different cultures. Poly-system theory and ideological viewpoints have added depth to the field by shedding light on translation norms, power dynamics, and the establishment of text canons (Dimitriu, 2015).

Translation Studies have been experiencing significant developments with a shift towards a more inclusive and diverse perspective that considers power dynamics, cultural inequalities, and the impact of colonial histories on translation practices. The field has evolved beyond Eurocentric views, emphasizing the agency of translators in cross-cultural exchanges. This evolution has been shaped by influential scholars and a growing intersection with disciplines such as post-colonial theory, corpus linguistics, and gender studies, emphasizing the transformative role of translation in shaping meaning across cultures and periods (Bassnett, 2002, pp. 6-11).

Bell's (1991) model of translation as a product of theory, as cited in As-Safi (2011), posits that a theory serves to explain a phenomenon by identifying systematic patterns within a given subject. Through careful observation and empirical evidence, a theory can be elaborated and ultimately lead to the development of a model (p. 48).

If the Cultural Interaction theory aligns with these characteristics of Bell's model, the 'phenomena' under investigation could be the linguistic components that reflect cultural elements and the transfer of information, values, and attitudes between languages and cultures during translation. 'The data' would consist of all cultural reference terms, idiomatic expressions, and specific cultural concepts collected by the human researcher.

The 'cohesive characteristics explained' by these theories would include those proposed by theorists who preceded the cultural turn. Given that AI chatbots like ChatGPT4 synthesize existing knowledge, they can assist human agents in synthesizing data. A human researcher could propose a model for translating based on the Cultural Interaction Theory by analyzing the extracted data from ChatGPT4 regarding translation strategies. To adapt Bell's model and propose steps for translating based on the Cultural Interaction Theory, the theory itself should offer a model or strategy for translating text. The concepts of cultural interaction theory mentioned by ChatGPT4 include:

Cultural Interaction Theory in translation studies examines how cultural factors influence the translation process and the resulting text. Here are some key aspects of this theory as it applies to translation:

1. **Cultural Context:** Translation is not just about converting words from one language to another; it involves understanding the cultural context of both the source and target languages. Cultural nuances, idioms, and references must be considered to convey the intended meaning accurately.
2. **Intercultural Communication:** Effective translation requires an understanding of how different cultures communicate. Translators must navigate cultural norms, values, and expectations to ensure that the translated text resonates with the target audience.
3. **Cultural Adaptation:** Sometimes, direct translations may not be effective due to cultural differences. Translators often adapt content to make it more relevant or acceptable to the target culture, which can involve changing references, examples, or even the tone of the text.
4. **Power Dynamics:** Cultural interaction in translation also involves power relations between cultures. Dominant cultures may overshadow minority ones, influencing how texts are translated and which voices are represented.
5. **Hybridization:** In a globalized world, translation can lead to cultural hybridization, where elements from different cultures blend. This can result in new forms of expression that reflect a mix of cultural influences.
6. **Ethical Considerations:** Translators face ethical dilemmas related to cultural representation. They must decide how to faithfully represent the source culture while being sensitive to the values and norms of the target culture.
7. **Audience Reception:** Understanding the target audience's cultural background is crucial for effective translation. The reception of a translated text can vary significantly based on cultural context, affecting its interpretation and impact.
8. **Cultural Identity:** Translation can play a role in shaping cultural identity. By translating texts from one culture to another, translators contribute to the exchange of ideas and values, influencing how cultures perceive themselves and each other.
9. **Translation Strategies:** Translators employ various strategies (e.g., domestication vs. foreignization) based on their understanding of cultural interaction. Domestication makes a text more familiar to the target culture, while foreignization retains elements of the source culture.
10. **Feedback Loop:** Cultural interaction is a dynamic process. Translations can influence the source culture as much as they reflect it, creating a feedback loop where cultures continuously shape and reshape each other through translated texts.

Overall, Cultural Interaction Theory in translation studies highlights the complex interplay between language and culture, emphasizing that effective translation goes beyond linguistic accuracy to encompass cultural understanding and sensitivity.

Chat GPT4 exemplifies the strategy for text translations based on the cultural interaction theory below:

Translating a text from the Holy Qur'ān into English using Cultural Interaction Theory involves considering both the linguistic and cultural contexts of the source and target languages. Here's an example to illustrate how this might work:

Example Verse

Let's take a commonly cited verse, such as Surah Al-Fatiha (1:1): بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ (Bismillah ir-Rahman ir-Rahim).

Literal Translation

A straightforward translation would be: In the name of Allah, the Most Gracious, the Most Merciful.

Cultural Interaction Considerations

1. Cultural Context: The phrase 'Bismillah' is often used by Muslims before beginning any significant task. This cultural practice may not be fully understood by non-Muslim audiences.

2. Audience Reception: For English-speaking readers, especially those unfamiliar with Islamic practices, the significance of invoking God's name before an action might need further explanation.

3. Adaptation Strategy:

- Domestication: To make it more relatable to a Western audience, one might add a brief explanatory note: 'In the name of Allah (God), the Most Gracious, the Most Merciful. This phrase is often recited by Muslims before beginning any important task.'

- Foreignization: Alternatively, one could retain the original Arabic phrase to emphasize its cultural significance: 'Bismillah (In the name of Allah), the Most Gracious, the Most Merciful.'

4. Ethical Considerations: Translators should be mindful not to dilute the spiritual significance of the text while making it accessible. They must balance fidelity to the original meaning with clarity for the target audience.

5. Cultural Sensitivity: Recognizing that 'Allah' is a term that holds deep reverence in Islam, it's important to maintain respect in translation. Using "God" can make it more accessible but may lose some cultural specificity.

Final Translation Example

Considering these factors, a culturally sensitive translation might read:

'In the name of Allah (God), the Most Gracious, the Most Merciful. Muslims often say this phrase before starting important tasks, reflecting their faith and seeking blessings.'

Conclusion:

This approach demonstrates how Cultural Interaction Theory can guide translators to create texts that are not only linguistically accurate but also culturally resonant and

meaningful for the target audience. By being aware of cultural nuances and audience expectations, translators can effectively bridge the gap between different cultures while respecting the integrity of the original text.

Al-Fatiha (1:2), All praise is due to God, the Lord of all worlds. (Note: ‘Allah’ refers specifically to God in Arabic, embodying His unique attributes in Islam.)

Al-Fatiha (1:3), ‘The Most Gracious, the Most Merciful’. (Note: These titles reflect God's profound compassion and forgiveness, central to Islamic belief.)

Al-Fatiha (1:4), Master of the Day of Judgment. (Note: This title underscores God's authority and the concept of accountability for one's actions in life.)

Al-Fatiha (1:5), You alone we worship, and You alone we ask for help. (Note: This verse highlights the essence of monotheism in Islam, emphasizing exclusive devotion to God and reliance on Him in all matters.)

Al-Fatiha (1: 6), Guide us to the straight path. (Note: This plea reflects a deep yearning for divine guidance in navigating life's moral and ethical challenges, emphasizing the importance of following a righteous way.)

Al-Fatiha (1: 7), The path of those upon whom You have bestowed favor, not of those who have evoked Your anger or of those who are astray. (This verse highlights the importance of following the example of the righteous while being aware of the consequences of straying from divine guidance.)

The Cultural Interaction Theory (CIT) generated by ChatGPT4 has led to a translation model based on Bell's (1991) framework, as cited in As-Safi (2011, p. 48). This demonstrates that CIT aligns with the general principles of theorization within Translation Studies. Regarding the translation of the specific verse, the following observations can be made:

Verses 1, 3, and 4: The ChatGPT4 translations were similar to those of Ali and Shakir.

Verse 2: The ChatGPT4 translation was similar to Shakir's, except for the word ‘Allah’, which was translated as ‘God’.

Verse 5: The ChatGPT4 translation was identical to Pickthall's, except for the pronoun ‘you’, which ChatGPT4 did not consider in a historical context.

Verses 6 and 7: The ChatGPT4 translations were similar to those of Saheeh and Arberry.

The translation process was guided by the concepts of Cultural Interaction Theory.

After incorporating the concepts of Cultural Interaction Theory into ChatGPT4's understanding, the translation of Verse No. 2 replaced the word ‘God’ with ‘Allah’ in the subsequent text. This indicates that CIT enhanced ChatGPT4's performance in text translation. Below is an evaluation of the QA response from the perspective of Rater Scholar No. 1, along with a process for connecting those outcomes to the task-oriented benchmark.

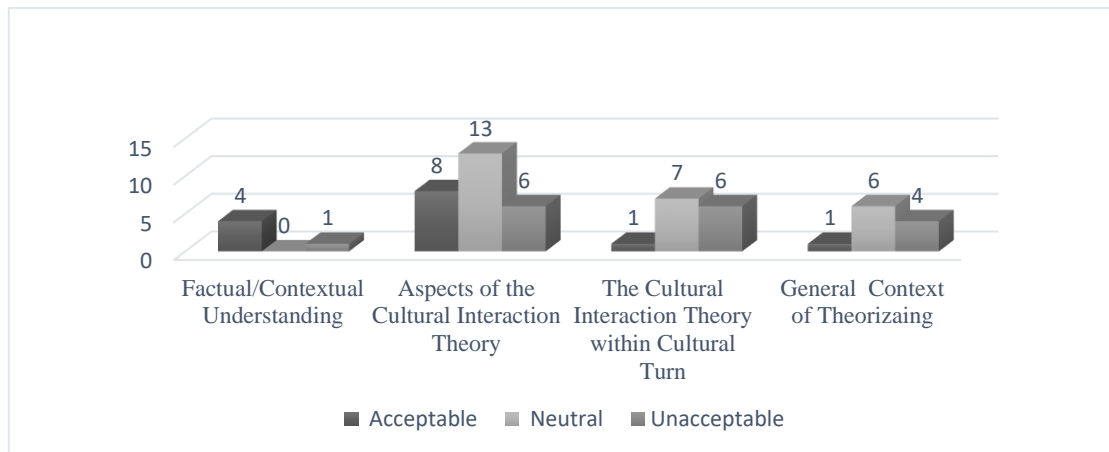


Figure 4. Categorization of scattered responses to validated questions at four levels

The questions were formulated based on the cultural turn perspective of the theory. After posing them to ChatGPT4, the questions and answers were collected. Subsequently, a Likert scale was added to the questions for a structured interview and sent to Rater No. 1. The total percentage of acceptable and neutral responses in the 'Aspects of the Cultural Interaction Theory' section is:

$$\frac{8 + 13}{27} \times 100 = 77.7\%$$

A total of 77.7% of responses indicated the potential of ChatGPT4 for theorization in Translation Studies within the scope of the cultural turn. To assess ChatGPT4's ability to summarize scientific content in the field of Translation Studies, we analyzed the percentage of neutral responses across all four evaluation sections. This percentage is:

$$\frac{26}{58} \times 100 = 44.8\%$$

The high percentage of neutral responses to ChatGPT4's answers to validated questions suggests that the model may struggle with ambiguous resolutions in summarization. However, the coherence of ChatGPT4's responses is more closely linked to the quality of the prompts provided.

$$\frac{\text{The Total of Acceptable+Neutral Answers}}{\text{The Total of the Questions}} \times 100 = \text{The accuracy percentage}$$

$\frac{40}{58} \times 100 = 68.9\%$, The accuracy percentage, representing the standard level of theorizing in the cultural turn based on the perspective of Rater Scholar No. 1.

The structured and semi-structured interviews based on the 3-point Likert scale revealed that both Rater Scholar No. 1 and No. 3 accepted the theory, indicating ChatGPT4's potential for theorizing in the field of Translation Studies. However, Rater Scholar No. 1, who

evaluated ChatGPT4's Q&A based on the Likert scale, noted a 29.3% unacceptable response rate across four sections, highlighting areas where ChatGPT4 could benefit from improvement.

Several theories were proposed by the AI chatbot (ChatGPT4) across different threads. Among these, the Cultural Interaction Theory emerged as the most prominent based on scientific resources. Other proposed theories included Transcultural Translation Theory, Cultural Hybridity Theory, Cultural Transaction Theory, and Cultural Equivalence Theory.

Synthesis seeks to integrate concepts across multiple theories or literature streams, allowing researchers to view a concept or phenomenon from a new perspective. By transforming previous findings and theory, synthesis creates a novel, higher-order perspective that links phenomena previously considered distinct (Jaakkola, 2020). In line with this, the Cultural Interaction Theory synthesizes different theories and offers a new perspective. "These tools generate medical narratives based on disease distribution among patient cohorts, synthesize data, and explore and train models without revealing patient data" (Ochoa et al., 2023, p.18). Due to its synthesizing ability, ChatGPT4, based on the perspectives of Rater No. 1 and No. 3 regarding the Cultural Interaction Theory, has synthesized existing theories with cultural concepts to propose a new theory. The interviews with Rater No. 3 were semi-structured.

To facilitate theorizing by ChatGPT4, the human agent played a crucial role in providing questions (engineering the prompts), dividing them based on the study's purpose, revising them, and sending them to scholars for rating. Humans also held a central position in conducting unstructured interviews about the entire research process with Scholar No. 2, emphasizing the need for human judgment based on the gathered data.

To address ChatGPT4's inability to directly reference scientific sources, the human agent should provide the necessary referencing resources. When evaluating the data received from ChatGPT4, human agents must adhere to the chronological sequence of the information to make informed judgments and extract appropriate conclusions. This approach aligns with the perspective of Rater Scholar No. 2.

Cultural Interaction Theory (CIT) primarily focuses on the process of translating a text. The translator is central to the theory, but the proposed strategy for translating text is somewhat general, overlooking the diversity of text types and translations. Additionally, CIT initially disregarded linguistic elements unless they conveyed cultural elements. The theory emphasizes the interconnectedness of social/cultural and linguistic factors. The concept of culture in CIT is aligned with cultural science.

5. Findings

Poola and Božid (2023) highlight the significance of human intuition in mathematical discovery, exemplified by figures like Ramanujan. This intuition can guide AI, such as Chat GPT, in mathematical exploration. Our research underscores the crucial role of the human agent in prompt engineering and data interpretation for Chat GPT4. Poola and Božid suggest that this framework could benefit various fields by fostering collaboration between machine learning and mathematics, leading to improved AI accuracy and reduced errors. Our study indicates that collaboration between Chat GPT4 and human researchers can contribute to the development or even proposal of new theories across different fields of study.

Johnson et al. (2023) found that Chat GPT provided mostly accurate responses to medical inquiries, as assessed by physician specialists. However, the study also identified significant limitations. Further research and model improvements are needed to address inaccuracies and ensure proper validation. The study revealed that Chat GPT 4 achieved a 68.9% accuracy rate in translation studies, indicating the model's current proficiency and the need for continued development in this area.

Ray (2023) introduced the concept of task-oriented benchmarking for evaluating text translation by Chat GPT. Task-specific benchmarks assess a conversational AI system's performance on specific tasks or areas. These benchmarks test the system's ability to understand and generate relevant responses. Examples of task-specific benchmarks include question-answering datasets like SQuAD and translation datasets like WMT. Task-oriented benchmarking can be categorized into the following areas:

Accuracy: Calculate the proportion of questions or tasks answered correctly.

F1 Score: Determine the balanced average of precision and recall, commonly used in question-answering assessments.

BLEU: Evaluate the quality of machine-generated translations by comparing them to reference translations.

ROUGE: Assess the quality of machine-generated summaries by comparing them to reference summaries.

METEOR: Measure the quality of machine-generated translations by considering precision, recall, and alignment.

Chat GPT demonstrated potential in translating the Holy Qur'ān, achieving high METEOR scores but lower BLEU scores (0.69), suggesting room for improvement in word correspondence. The primary goal was to assess the capabilities of machine learning tools like ChatGPT, rather than the metrics themselves. While these tools can aid translations, human oversight is crucial for accuracy and preserving the scripture's message (Dahia & Belbacha, 2024). Contrary to expectations, our research using CIT found that Chat GPT 4 accurately translated Surah Al-Fatiha. This improvement can be attributed to the CIT's influence on the translation process and Chat GPT 4's ability to synthesize information from existing translations (Ali, Shakir, Arberry, Pickthall, and Saheeh international). Verse No. 1 was translated similarly to Ali's translation. Verse No. 2 mirrored Shakir's translation, except that "Allah" was rendered as "God." Verse No. 3 also aligned closely with Ali's translation. For Verse No. 4, the translation was identical to those of Shakir, Pickthall, and Ali. In Verse No. 5, the ChatGPT4 translation matched Pickthall's translation except for the term 'you', as ChatGPT4 disregarded the historical dimension of Cultural Interaction Theory (CIT) and opted for "you" instead of "Thee." Verse No. 6 featured translations that were again identical to those of Saheeh and Arberry. The translation of Verse No. 7 was consistent with Saheeh's translation, as referenced in Hassan Zadeh et al. (2018). After discussing the concepts of Cultural Interaction Theory with ChatGPT4, the term 'God' in Verse No. 2 was replaced with 'Allah' in the subsequent translation, demonstrating that CIT enhanced ChatGPT4's performance in text translation.

To develop a theory about phenomena, it is essential to analyze data and make judgments based on that analysis. While ChatGPT-4 can analyze data, the final judgment should be

made by the researcher (Human Agent). Critical thinking involves the ability to assess information impartially and draw logical conclusions. This process often begins with an intriguing phenomenon that requires explanation or a question that needs answering. The explanations of the phenomenon or the responses to the question serve as hypotheses to be examined, derived from abductive (imaginative) reasoning that suggests possible truths (Tecuci, 2024). Since ChatGPT-4 lacks imaginative reasoning, human agents can compensate for this limitation in AI chatbots, guiding the process of theorizing based on the sequence of data.

As part of the cultural turn, CIT introduced a strategy for translating religious texts within the framework of ideological translation. CIT emphasized the importance of cultural perspective in the translation process, aligning with Bassnett's (2002) definition of CIT as a theory within Translation Studies.

General translation theory explores the fundamental principles and concepts that underlie translation across various modes, genres, and contexts. It applies to both written and oral forms, encompassing scientific, technical, political, and artistic domains, regardless of the specific languages involved (Dildorbekovna, 2022). The Cultural Interaction Theory, a general theory with a cultural focus, shares similarities with other theories that emerged during the cultural turn.

Skopos theory focuses on the translator's role in Cultural Interaction Theory (CIT), the perspective on cultural elements, and the emphasis on transferring cultural elements based on the translator's choice (the purpose or goal of translating a text). In CIT, cultural translation results in a hybrid text, influenced by both direct and indirect translation methods, as determined by the translator's decisions in conveying cultural elements and acknowledging the power dynamics inherent in translation

Munday (2016) discusses Bhabha's perspectives on cultural translation and the evolving role of translators in Translation Studies. Bhabha highlights a shift from viewing translators as neutral intermediaries to recognizing their subjectivity and agency as integral to the translation process. This perspective emphasizes that translations are influenced by the translator's ideological, geographical, and historical contexts. Key concepts such as 'in-betweenness', 'the third space', and 'hybridity' reflect themes of identity and cultural translation. Bhabha suggests that cultural hybridity can challenge colonial discourse, allowing colonized voices to interact with and reshape colonial narratives (pp. 212-236). The hybrid translated text and the shift in perspective toward the translator's role are commonalities between Cultural Interaction Theory (CIT) and cultural translation theory. CIT also emphasizes the postcolonial attitudes of the translator's culture and the elements of the source text.

Descriptive Translation Studies (DTS) examines the norms of translation and their impact on the selection of translation texts. However, due to the unsystematic nature of translator behavior, DTS has not fully explored this dimension (Munday et al., pp. 178-180). In contrast, Cultural Interaction Theory (CIT) views translators as cultural mediators who facilitate the transfer of information, values, and cultural attitudes between languages and cultures during the translation process. These values can influence the relationship between the source text and the target text. From this perspective, the translator's choices in the mediating process are systemic and based on the cultural elements being conveyed. CIT therefore places the translator and their mediating choices at its center, offering a fresh perspective

ChatGPT 4 has the potential to theorize based on research findings, as demonstrated by the interviews with scholars No. 1 and 3. The standard level of theorizing by ChatGPT 4 within cultural turn theories is 57% of section three. Overall, ChatGPT 4's theorizing processes are 68.9% standardized, which is equivalent to its accuracy. The ambiguous resolution, indicated by neutral answers, is 44.8%. The coherence of the answers is closely related to prompt engineering. The weaknesses and areas for improvement are illustrated by unacceptable answers, which account for 29.3% due to insufficient data for ChatGPT 4 to produce correct responses.

To develop validated questions that indicate the potential for theorization and establish a standard level of theorization by ChatGPT-4, prompts must be grounded in cultural turn theories and the methods proposed by theorists in this domain. The role of ChatGPT-4 should be clearly defined to ensure accurate responses. The analysis of ChatGPT-4's question-and-answer outputs should align with the research purpose. First, the questions must be approved by a scholar in Translation Studies. Then, the questions and corresponding answers generated by ChatGPT-4 should be evaluated using a three-point Likert scale and subsequently reviewed by the scholar. If the research focus changes during the process, additional questions may need to be posed to address any recall issues associated with ChatGPT-4.

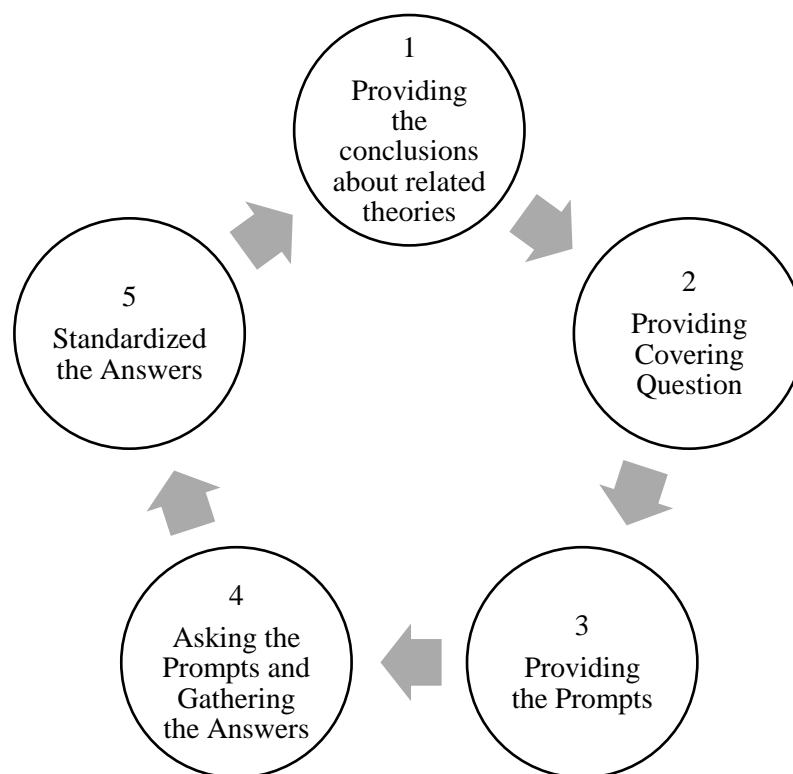


Figure 5. The steps toward theorizing based on the researcher's observed data

6. Conclusion

The findings of this study suggest that ChatGPT-4 has the potential to contribute to Translation Studies, particularly within the framework of the cultural turn. The Cultural Interaction Theory (CIT) provides a general framework for understanding the translation process, emphasizing the translator's crucial role and the hybrid nature of the translated text. CIT posits that the translated text incorporates elements from both the source and target

cultures, with the translator selecting these elements based on the specific function or purpose of the translation.

The evaluation of theories is a fundamental aspect of scholarly inquiry. Bacharach (1989) proposed 'falsifiability' as a key criterion for evaluating scientific theories. He argued that theories should be formulated in a manner that allows for empirical testing and potential refutation. Additionally, Bacharach emphasized the importance of "utility" as a bridge between theory and research, highlighting the practical value and applicability of a theory

The falsifiability of Cultural Interaction Theory (CIT) has been evaluated, revealing that the findings of this research indicate that ChatGPT-4 translated Surah Al-Fatiha accurately according to CIT. This accuracy appears to stem from an enhanced translation process facilitated by CIT. Additionally, ChatGPT-4's synthesizing capabilities may have contributed to the quality of the translated text, which closely aligns with five established translations of the Holy Qur'ān (Ali, Shakir, Arberry, Pickthall, and Saheeh International). For instance, Verse 1 was translated similarly to Ali's translation, while Verse 2 was translated.

The "falsifiability" of CIT is evaluated, so the findings of this research based on the CIT indicated that Chat GPT 4 translated the Surah Al-Fatiha correctly based on the Cultural Interaction Theory. It must be due to the enhancement of the translation process based on the CIT, and the synthesizing ability of Chat GPT4 could enhance the produced translation text because the translated text as mentioned here was closely related to five translations of the holy Qur'ān (Ali, Shakir, Arberry, Pickthall, and Saheeh international). Verse No.1 was translated similarly to Ali's Translation. Verse 2 was translated similarly to Shakir's, with the exception that 'Allah' was rendered as 'God'. Verse 3 closely resembled Ali's translation. The translation of Verse 4 was identical to those of Shakir, Pickthall, and Ali. For Verse 5, ChatGPT-4's translation was akin to Pickthall's, except for the choice of 'you', as ChatGPT-4 opted for 'you' instead of 'Thee', overlooking the historical context of CIT. In Verse 6, the translations matched those of Saheeh International and Arberry. Finally, the translation of Verse 7 was identical to Saheeh's, as noted in Hassan Zadeh et al (2018).

After discussing the concepts of Cultural Interaction Theory (CIT) with ChatGPT-4, the word 'God' in Verse 2 was replaced with 'Allah' in the subsequent translation. This change indicates that CIT improved ChatGPT-4's translation performance. CIT provides a strategic framework for translating texts and offers an evaluative approach for assessing translated material (see Appendix A).

The evaluation of CIT within the broader context of cultural turn theories revealed a strength of definition of 57.1%. Moreover, the evaluation ratio for CIT's aspects reached 77.7%, indicating a significant level of theorization by ChatGPT-4 in Translation Studies within the scope of the cultural turn. The proposed standardization framework for evaluating ChatGPT-4's theory is rooted in existing theories and emphasizes factual, contextual understanding (80%), coherence, and ambiguity resolution in the model's responses (44.8%). From a scholarly perspective, the overall accepted/neutral responses from ChatGPT-4 demonstrate a 68.9% accuracy rate. The "utility" of CIT was assessed through references to related concepts and theories within the cultural turn. Given ChatGPT-4's ability to propose a translation strategy based on CIT, its practical applicability in research is evident. In accordance with Bacharach's (1989) criteria, CIT exhibits both 'falsifiability' and 'utility'.

This study has paved the way for further research into AI chatbots, such as ChatGPT-4. While humans have traditionally been the primary theorists, this study highlights the positive potential of AI in this domain. The development of Translation Studies has been accelerated by analyzing theories from other scientific disciplines and applying them to this field. In contrast to the negative perceptions surrounding AI chatbots in scholarly research, this study demonstrates the positive benefits of utilizing these tools.

References

- As-Safi, A. B. (2011). *Translation theories: Strategies and basic theoretical issues*. Al Manhal.
- Avisyah, G. F., Putra, I. J., & Hidayat, S. S. (2023). Open artificial intelligence analysis using Chat GPT integrated with Telegram bot. *Journal ELTIKOM*, 7(1), 60–66.
- Bacharach, S. B. (1989). Organizational theories: Some criteria for evaluation. *Academy of Management Review*, 14(4), 496–515. <https://doi.org/10.5465/amr.1989.4308374>
- Bassnett, S. (2002). *Translation studies* (3rd ed.). Routledge.
- Chiesa-Estomba, C. M., Lechien, J. R., Vaira, L. A., Brunet, A., Cammaroto, G., Mayo-Yanez, M., & Saga-Gutierrez, C. (2023). Exploring the potential of Chat-GPT as a supportive tool for sial endoscopy clinical decision-making and patient information support. *European Archives of Oto-Rhino-Laryngology*, 280(7), 1–6. <https://doi.org/10.1007/s00405-023-07810-6>
- Dahia, I., & Belbacha, M. (2024). Machine-learning-based English Qur'ānic translation: An evaluation of ChatGPT. *International Journal of Linguistics, Literature and Translation*, 7(8), 128–136. <https://doi.org/10.32996/ijllt.2024.7.8.17>
- Dildorbekovna, T. F. (2022). General problems of translation theory. *International Journal of Social Science & Interdisciplinary Research*, 11(9), 164–166. <https://doi.org/10.24200/ijssir.vol11iss09pp164-166>
- Dimitriu, R. (2015). The many contexts of translation (studies). *Linguaculture*, 6(1), 5–23.
- Graham, J. F. (1981). Theory for translation. In J. F. Graham (Ed.), *Translation spectrum: Essays in theory and practice* (pp. 23–30). State University of New York Press.
- Hassan Zadeh, M. M., Lashkarian, A., & Sadegh Zadeh, M. (2020). Translating the Holy Quran: A comparative analysis of Al-Fatiha verse from Arabic to English. *Journal of Social Sciences and Humanities Research*, 6(1), 1–8. <https://doi.org/10.24200/jsshr.vol6iss01pp1-8>
- Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review*, 10(1), 18–26. <https://doi.org/10.1007/s13162-020-00161-0>
- Johnson, D., Goodman, R., Patrinely, J., Stone, C., Zimmerman, E., Donald, R., Chang, S., Berkowitz, S., Finn, A., Jahangir, E., Scoville, E., Reese, T., Friedman, D., Bastarache, J., van der Heijden, Y., Wright, J., Carter, N., Choe, J., Chastain, C., ... & Wheless, L. (2023). Assessing the accuracy and reliability of AI-generated medical

responses: An evaluation of the Chat-GPT model. *Research Square [Preprint]*.
<https://doi.org/10.21203/rs.3.rs-2566942/v1>

- Kalla, D., & Smith, N. (2023). Study and analysis of Chat GPT and its impact on different fields of study. *International Journal of Innovative Science and Research Technology*, 8(1), 3–8.
- Lee, T. K. (2023). Artificial intelligence and post-humanist translation: Chat GPT versus the translator. *Applied Linguistics Review*. <https://doi.org/10.1515/applirev-2023-0122>
- Liu, Y., Han, T., Ma, S., Zhang, J., Yang, Y., Tian, J., & Ge, B. (2023). Summary of ChatGPT-related research and perspective towards the future of large language models. *Meta-Radiology*, 2(1), Article 100017.
<https://doi.org/10.1016/j.metrad.2023.100017>
- Munday, J., Pinto, S. R., & Blakesley, J. (2016). *Introducing translation studies: Theories and applications*. Routledge.
- Ochoa, J. G. D., Mustafa, F. E., Weil, F., Wang, Y., Dima, C., Kama, K., & Knott, M. (2023). The aluminum standard: Using generative artificial intelligence tools to synthesize and annotate non-structured patient data. [*Journal name and details missing*].
- Poola, I., & Božid, V. (2023). Guiding AI with human intuition for solving mathematical problems in Chat GPT. *International Journal of Mathematical Research Applications*, 11(7), 1–10. <http://www.ijmra.us>
- Ray, P. P. (2023). Benchmarking, ethical alignment, and evaluation framework for conversational AI: Advancing responsible development of Chat GPT. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 3(3), Article 100136.
<https://doi.org/10.1016/j.bench.2023.100136>
- Reiss, K., Nord, C., & Vermeer, H. J. (2014). *Towards a general theory of translational action: Skopos theory explained*. Routledge.
- Sohail, S. S., Farhat, F., Himeur, Y., Nadeem, M., Madsen, D. Ø., Singh, Y., & Mansoor, W. (2023). Decoding ChatGPT: A taxonomy of existing research, current challenges, and possible future directions. *Journal of King Saud University-Computer and Information Sciences*, 35(1), Article 101675.
<https://doi.org/10.1016/j.jksuci.2023.101675>
- Tecuci, G. (2024, June). Why artificial intelligence is not a threat to humanity but a huge opportunity. *FMS.md*. Retrieved from <https://fms.md/sites/default/files/2024-06/>
- Tymoczko, M. (2013). Translation theory. In *The encyclopedia of applied linguistics* (Vol. 10, pp. 5928–5937). Wiley-Blackwell.
- West, D. M., & Allen, J. R. (2018, April). How artificial intelligence is transforming the world. *Brookings Institution*. Retrieved from <https://www.brookings.edu/articles/how-artificial-intelligence-is-transforming-the-world/>

Appendix A

The Strategy for the Rest of the Al-Fatiha Surah Based on Cultural Interaction Theory

| Literal Translation | | | | | |
|---|--|--|---|---|---|
| "All praise is due to Allah, Lord of the worlds." | "The Most Gracious, the Most Merciful." | "Master of the Day of Judgment." | "You alone we worship, and You alone we ask for help." | "Guide us to the straight path." | "The path of those upon whom You have bestowed favor, not of those who have evoked [Your] anger or of those who are astray." |
| Applying Cultural Interaction Theory by Translator | | | | | |
| 1. Cultural Context: | | | | | |
| The phrase "All praise is due to Allah" emphasizes gratitude and acknowledgment of God's sovereignty. This reflects a core principle in Islamic worship and life. | Attributes "Most Gracious" and "Most Merciful" highlight two of the most significant qualities of God in Islam. They reflect the compassionate and forgiving nature of God, which is central to Islamic theology. | This verse emphasizes God's sovereignty and authority over the Day of Judgment, a fundamental concept in Islamic eschatology. It signifies accountability and the ultimate justice that awaits all individuals. | This verse emphasizes monotheism (Tawhid) and the exclusive devotion to God. It reflects the core Islamic belief that worship and reliance should be directed solely towards Allah. | This verse expresses a plea for guidance, reflecting the human desire for clarity and direction in life. The "straight path" symbolizes a righteous way of living according to divine will, which is a common theme in many spiritual traditions. | This verse distinguishes between different groups of people based on their relationship with divine guidance. It reflects a common theme in many religious traditions where followers seek to emulate the virtues of the righteous while avoiding the pitfalls of those who have strayed. |
| 2. Intercultural Communication: | | | | | |
| The term "Lord of the worlds" signifies God's authority over all creation. The translator should ensure that this conveys the vastness of God's dominion, which includes not just humanity but all beings and realms. | These terms can be understood as encompassing both general mercy and specific acts of kindness. It's important to convey that these attributes are not just descriptors but foundational to a Muslim's understanding of their relationship with God. | The term "Master" conveys a sense of control and dominion. In many cultures, the idea of a final judgment is significant, but the emphasis on God's mastery invites reflection on divine justice rather than human interpretation of fairness. | The phrase "You alone" stresses the singularity of God in worship, which may resonate with various religious traditions that emphasize devotion to a higher power. However, it also highlights the unique Islamic perspective on reliance on God alone. | The concept of seeking guidance resonates across cultures, where individuals often look for wisdom or direction from a higher power or moral framework. It can be compared to similar requests for guidance found in various religious texts. | The reference to "those upon whom You have bestowed favor" can be compared to figures or communities revered in other faiths, such as saints or enlightened individuals. This creates a point of connection for audiences familiar with similar concepts. |

| 3. Negotiation of Meaning: | | | | | |
|---|---|---|--|--|--|
| To enhance understanding, the translator might provide context about what "worlds" means in an Islamic framework, encompassing both the physical universe and spiritual realms. | To bridge cultural gaps, a translator might explain that "Gracious" and "Merciful" denote an all-encompassing love and care that God extends toward all of creation, emphasizing that this mercy is available to everyone. | To convey the weight of this verse, it may be helpful to explain that the "Day of Judgment" is viewed as a time when all deeds will be assessed, underscoring the importance of living a righteous life. | To convey the depth of this verse, it can be helpful to explain that worship is not only about rituals but encompasses all aspects of life, while seeking help signifies turning to God in times of need, reflecting trust and faith. | To convey the significance of this verse, it's essential to explain that the "straight path" represents a moral and ethical way of living, encompassing both spiritual and practical aspects of life. | To convey the significance of this verse, it's important to clarify who these favored individuals are—prophets, righteous believers, etc.—and what constitutes "anger" or "astray" in this context. |
| 4. Power Dynamics: | | | | | |
| Care should be taken to present this verse with reverence, as it is a declaration of faith and gratitude central to Islamic belief. | The translation should reflect the reverence associated with these divine attributes. They are not merely adjectives but profound titles that shape a believer's understanding of God's nature. | The translation should reflect the authority and majesty of God. Using "Master" instead of "Owner" can help convey a deeper sense of respect and reverence. | The use of "You alone" establishes a direct relationship between the believer and God, emphasizing personal devotion and reliance rather than intermediaries, which can be a significant distinction for readers from different faith backgrounds. | The act of asking for guidance emphasizes humility and recognition of human limitations. It establishes a dynamic where the believer acknowledges their need for divine support in navigating life's complexities. | This verse underscores the believer's desire to align themselves with divinely favored individuals, illustrating a power dynamic where divine approval is sought and valued over worldly status. |
| 5. Adaptation vs. Fidelity: | | | | | |
| While staying true to the original meaning, the translation can use "God" instead of "Allah" for accessibility, but it should be clear that "Allah" is a specific reference in Islamic tradition. | While it is crucial to maintain the original meaning, using "God" instead of "Allah" could help non-Arabic speakers connect more easily, provided it is clear that these attributes pertain specifically to the Islamic understanding of God. | While it is important to remain faithful to the original meaning, adding a brief explanation about the significance of accountability in Islam can enhance understanding for those unfamiliar with the concept. | While maintaining fidelity to the original text, providing a brief commentary on the importance of worship and seeking divine assistance can enhance understanding for those unfamiliar with Islamic practices. | While staying true to the original meaning, it may be beneficial to elaborate on what the "straight path" entails in Islamic teachings, such as adherence to justice, compassion, and righteousness. | While maintaining the original meaning, it may be helpful to provide examples of behaviors or attitudes that represent both the favored and those who have gone astray, making the message more relatable. |

| 6. Cultural Sensitivity | | | | | |
|--|--|---|---|---|---|
| The translation should be mindful of readers who may not have a background in Islam. A brief explanation can help contextualize the significance of praising God in daily life for Muslims. | For readers unfamiliar with Islamic teachings, it may be beneficial to include a brief note explaining the significance of God's mercy in daily life and how it influences Muslim beliefs and practices. | For readers from different backgrounds, emphasizing that this verse serves as a reminder of moral responsibility and ethical living can resonate across cultures. | For audiences from various Backgrounds, emphasizes that this verse encourages a deep personal relationship with God, based on trust and devotion, which can foster a sense of connection. | For audiences from diverse backgrounds, framing this request as a universal quest for purpose and ethical living can foster empathy and understanding. | Recognizing that interpretations of "anger" and "astray" can vary among cultures, it's crucial to frame these concepts in a way that emphasizes moral and ethical choices rather than judgment. |
| Conclusion: | | | | | |
| This translation retains the essence and reverence of the original verse while making it accessible to an English-speaking audience. By applying Cultural Interaction Theory, we ensure that the translation honors the cultural and theological significance of the text, fostering greater understanding across different backgrounds. | This translation preserves the essential qualities described in the original Arabic while ensuring clarity and accessibility for an English-speaking audience. By applying Cultural Interaction Theory, we enhance understanding and appreciation of these divine attributes across different cultural contexts. | This translation maintains the original meaning while providing context that enhances comprehension for an English-speaking audience. By applying Cultural Interaction Theory, we create a bridge for understanding the significance of divine authority and accountability in Islam. | This translation preserves the original meaning while providing context that enhances comprehension for an English-speaking audience. By applying Cultural Interaction Theory, we create a bridge for understanding the significance of worship and dependence on God in the Islamic faith. | This translation maintains fidelity to the original text while providing context that enhances comprehension for an English-speaking audience. By applying Cultural Interaction Theory, we create a bridge for understanding the significance of seeking guidance in one's spiritual journey. | This translation preserves the original text while providing context that enhances understanding for an English-speaking audience. By applying Cultural Interaction Theory, we facilitate a deeper comprehension of the distinctions made in this verse and its relevance in the spiritual journey. |