

A ChatGPT-driven Study of Translating and Post-editing Chinese Enterprise Publicity Materials

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Abstract

The China Import and Export Fair (a.k.a. Canton Fair), the first promotion platform for China's foreign trade, is a key topic for academic and business discussions. Driven by ChatGPT, the present study first constructs a bilingual database concerning the Canton Fair, and then compares the ChatGPT-generated and human-translated multimodal texts such as exhibition invitation letters and main visual images of the Fair. One of the findings is that artificial intelligence can help translate in a top-down way, that is, from a macroscopic and three-dimensional knowledge framework to language usage at a microscopic level, which is different from the previous bottom-up translation practice, teaching, and research. In addition, the comparison of different translations can also provide empirical rules and insights for writing, translating, and post-editing enterprise publicity materials in the new artificial intelligence era.

Keywords: artificial intelligence; Canton Fair; ChatGPT; Chinese enterprise publicity; post-editing; AI translation

1. Introduction

In 2023, ChatGPT, the milestone of AI, has become the hottest new trend in the entire digital ecosystem. It is an intelligent chatbot developed by the American artificial intelligence laboratory OpenAI, which is powered by Large Language Models (LLM), new human-machine interaction interfaces, key large-scale algorithms, big data, and large computing power (Zhu & Wang, 2023: 113-115). It is powerful in terms of language generation, in-context learning, and world knowledge storage. Within less than a week of its launch, it has attracted over one million users and attention from such fields as language education, academic research, and medical surgery. This study takes the post-pandemic publicity of the China Import and Export Fair (Canton Fair) as an example and makes attempts to explore new paths and methods for writing, translating, and post-editing Chinese enterprise publicity in the new era of technology, to shed light on the teaching, learning and practicing of business translation and editing. To do so, I will first build a bilingual database concerning the Canton Fair based on the chats with ChatGPT to provide knowledge for the translation, post-editing, and understanding of the source texts, then analyze the advantages and disadvantages of ChatGPT-generated translations by contrasting them with those rendered by professional translators, and put forwards suggestions on improving the translation and editing of enterprise publicity materials.

2. Reviewing ChatGPT and Translation Studies

2.1 State-of-the-art of ChatGPT

Different from traditional professional-generated content (PGC) and user-generated content (UGC), AI-generated content (AIGC) is based on human-machine interaction and created by artificial intelligence to produce the content one needs, with features such as intelligent production, user customization, and "cross-border" ecology (Zhao & Zhao, 2023: 2). Among them, "cross-border" ecology refers to the fact that AI-generated content has broken through the barrier of language and text as a single modality, and can create content with a wide range of genres and modalities, including codes, texts, images, audios, videos, and games. For example, ChatGPT can not only create various literary genres such as novels, poetry, speeches, advertising copy, papers, and programming, but also has mature development in fields such as painting creation, medical diagnosis, and strategic management.

The debate over whether the new generation of artificial intelligence is "empowering" or "dangerous" has sparked discussions (*The Lancet Digital Health*, 2023; Yadava, 2023; Wu, 2023). Elon Musk, one of the co-founders of OpenAI (left in 2018), expressed concern about its development, tweeting, "ChatGPT is scary good. We are not far from dangerously strong AI." Artificial General Intelligence (AGI), also known as Strong or human-level AI, can learn in any environment or scenario and act as an intelligent robot or system capable of rational action (Goertzel, 2014: 2-3). Existing research is focused on two main aspects: infrastructure and application. The former focuses on the ontology of artificial intelligence, such as whether AI is an evolution or a revolution (Gordijn & Henk, 2023) and analysis of the three basic elements - data, algorithms, and computing power (Min, 2023; Xu & Yan, 2023). The latter focuses on content production and scenario layout, with domestic research focusing on language education, publishing, and information security (e.g., Wu & Huang, 2023; Zhang, et al., 2023), while international studies highlight medical diagnosis (Chiwon, 2023) and scientific research (e.g., Dowling & Brian, 2023). We found only two related articles on "ChatGPT" and "translation" on the China National Knowledge Infrastructure (CNKI) (i.e., Wang & Liu, 2023; Cui & Li, 2023), leaving ChatGPT-based translation studies unexplored.

2.2 Reviewing Chinese Enterprises' Overseas Publicity

With the growth of China's national strength, overseas publicity of the People's Republic of China and its enterprises has become more important, as it has an impact on China's national image and corporate image, and exerts cultural influence on the international community. In the article *Telling the Story of China Well through Foreign Language Translation*, Yin (2020) pointed out that "in the new era, language research should not be confined within the language itself, but actively connect with national strategy, integrate into national strategy, and focus on the fundamental issues at the national strategic level." As part of telling the story of China well, Chinese enterprises' overseas publicity has significant significance for enterprises going global and enhancing China's international influence. Therefore, in recent years, research on the translation and image construction of Chinese enterprises has become a hot topic, with results showing diverse theoretical methods, domestic and international contexts highlighting, local and regional foci, strategic translation issues, diverse principles and methods, and clustered research objects. However, systematic research based on the corpus or big data is rarely found, with the exception of Wang's discussions (2019; 2022a; 2022b).

3. Building a Bilingual Database of the Canton Fair based on Chatbot

3.1 A Web of Knowledge on the Fair

By chatting with ChatGPT, we can collect the background knowledge required for translation practice or research. In addition, the Chatbot has powerful translation capabilities and can translate the information provided by customers or collected by ChatGPT. With the help of machine-assisted translation software, related information can be aligned bilingually to provide background knowledge reserves for translation. For example, all MT apps translated "中国对外贸易中心" as "China Foreign Trade Center", but ChatGPT is very powerful and translates it as "China Foreign Trade Centre," which is the official English name on its website. Before translating the publicity materials of the Fair, we first have a simple Q&A with ChatGPT (as shown in Figure 1) to collect relevant background information and Chinese-English expressions related to the enterprise. The background information is collected based on the AI-given answers to the following 15 questions.

- (1) Please tell me more about "中国对外贸易中心".
- (2) Please write an introduction to Canton Fair in China.
- (3) Please introduce Canton Fair.
- (4) Would you say something more about the Fair?
- (5) Please talk more about the exhibits and products at the Canton Fair.
- (6) Please tell me the number of participants and exhibitors in the Fair over 66 years.
- (7) Please let me know the contributions of the Canton Fair, locally and globally.
- (8) Could you tell me the history of the Fair?
- (9) Please tell me about the design and development of the four exhibition complexes of the Canton Fair over the past 66 years.
- (10) Do you know the slogan of the Canton Fair over the years?
- (11) Please tell me the logo design of the Canton Fair over the past 66 years.
- (12) Please tell me the varieties of products exhibited at the Canton Fair over 66 years.
- (13) Please tell me the investments and incomes of the Canton Fair over 66 years.
- (14) Please collect the announcement of each Canton Fair over the past 66 years.
- (15) How Canton Fair went on during the COVID-19 pandemic?

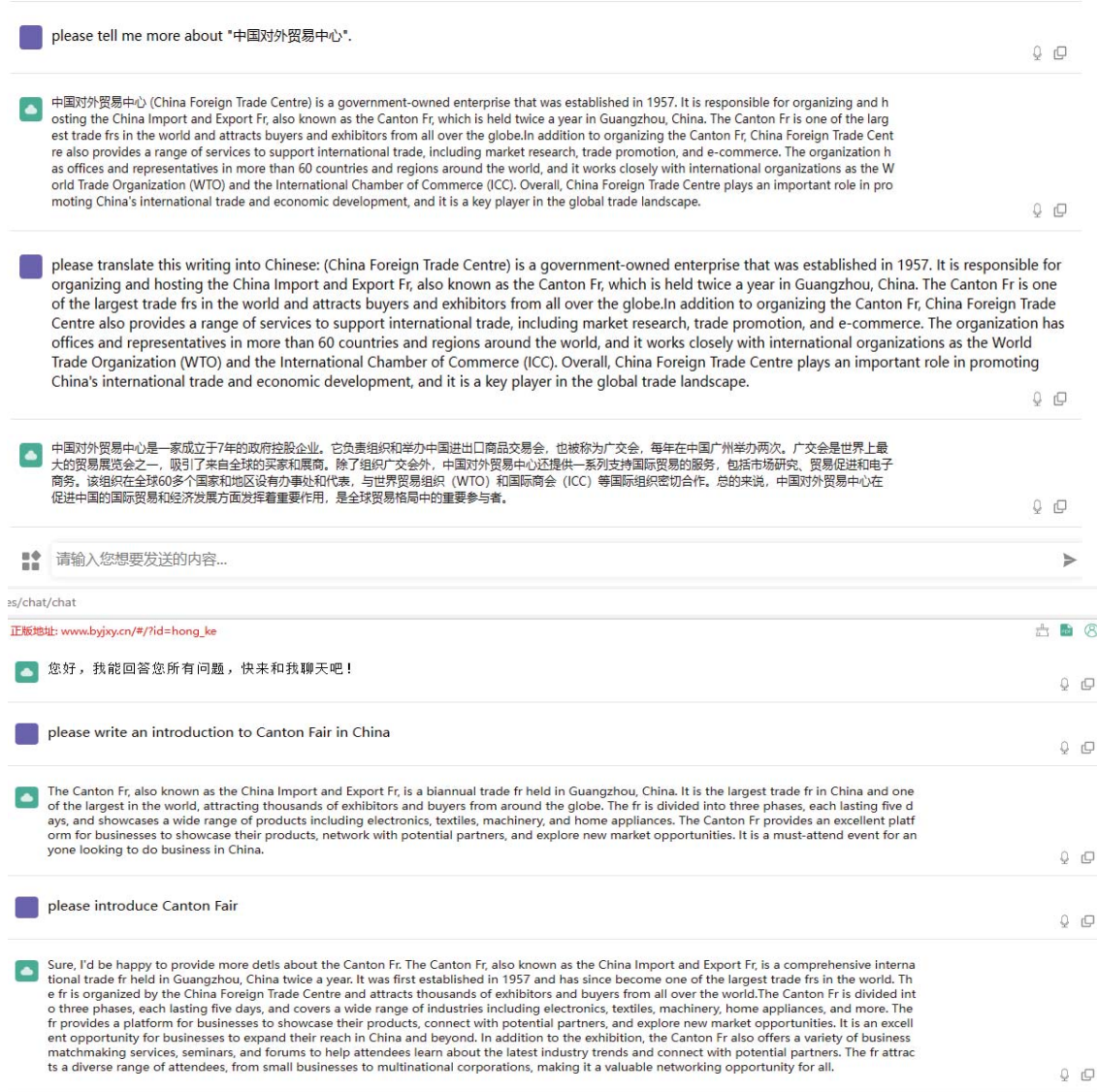


Figure 1. Human-machine Chat

Based on the data, we can construct a background knowledge web or framework (frame) related to the translation/research object, namely, "Canton Fair", covering the enterprise background, its development history, conference arrangements, exhibitor booths, scales, and numbers of participants, functional contributions, exhibition hall constructions, exhibition slogans, logo design, types of exhibits, its inputs and revenues, exhibition opening, and organizational models during the epidemic (see Figure 2).

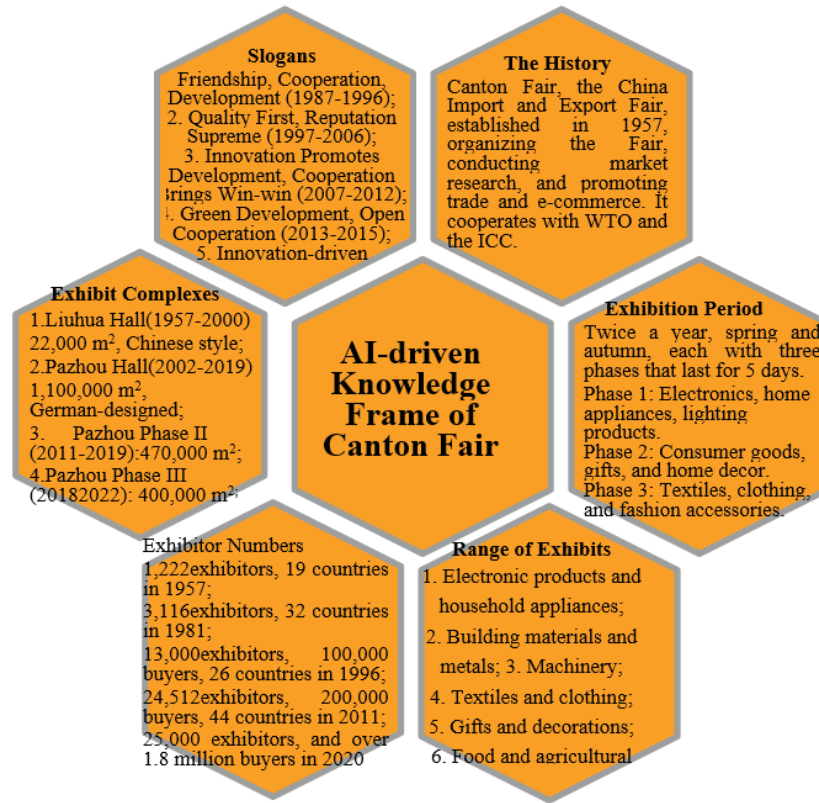


Figure 2. Constructing a Knowledge Frame of Canton Fair Driven by AI

3.2 Terminology Database Based on AI-generated Texts

Under the background of big data and artificial intelligence, terminology translation has been closely integrated with information technology, and terminology management has emerged (Tao & Zhang, 2016: 83). Terminology management is the processing of terminology expressions, knowledge, and resources involved in a project to serve a certain practical activity, usually including "collecting, describing, processing, storing, editing, presenting, searching, maintaining, and sharing terminology" (Wang, 2013: 11). Common terminology systems at home and abroad include SDL MultiTerm, Acrolinx IQ Terminology Manager, MultiQA, TBX Maker, STAR TermStar, TermFactory, Snowman, and other terminology tools (Wang & Wang, 2019: 11). There are generally three sources for creating a terminology database: the client provides a terminology list, the translator builds a terminology base through network resources, and the translator organizes terminology based on the original files (Kang, et al., 2015: 108). The terminology management in this article is not based on terminology conversion, terminology annotation, or terminology extraction from the source texts, but uses ChatGPT to generate texts related to the Canton Fair (5000+ words), with the "Text Graph Version 3.0" program (<https://www.wenziyun.cn/>) to generate high-frequency terminology and perform word frequency analyses.

With a word frequency analysis, we further remove function words and punctuations, obtaining the high-frequency words and their frequencies, including Fair (140 times), Canton (99 times), products (35 times), exhibitors (34 times), trade (30 times), buyers (23 times), features (15 times), session (14 times), range (12 times), businesses (11 times), held (11 times), complex (11 times), phase (10 times), machinery (9 times), textiles (9 times), appliances (8 times), electronics (8 times), (7 times), Pazhou (7 times), attendees (6 times), participants (6 times), ceramics (5 times), offline (5 times), and in-person (4 times). Based on this, we can present the Canton Fair terminology cloud in a 3D visualization (see Figure 3).



Figure 3. A Cloud Map of the AI-generated Terminology

From the above analysis, we can find that ChatGPT-driven translation research has a top-down feature, which can provide a more comprehensive and three-dimensional knowledge framework for translation practice, teaching, and research. It also enables translation teaching and studies to be learning-based, just as the new generation of artificial intelligence does.

4. Analyzing the ChatGPT- and Translator-generated Translations

Before the outbreak of the pandemic, the translation work related to the Canton Fair mainly involved texts such as the Fair newsletters, exhibition information, and other related materials. However, the Canton Fair worked hard on its national and international publicity after covid-19. For instance, the external translation projects we handled covered various modalities and types of texts, including visual image copy, exhibition invitation letters, promotional videos, videos of the opening ceremony, and image collection announcements. Due to space limitations, this section selects and elaborates on two types of publicity materials from the perspective of ChatGPT.

4.1 AI and Human Translation of an Exhibition Invitation Letter

The exhibition invitation letter is a document that exhibition organizers use to introduce basic information, exhibition objectives, and activity tasks to target exhibitors in order to attract them to participate in the exhibition. Its textual purpose is to introduce exhibition-related information to target exhibitors and arouse their interest in participating. As one of the core texts of booth marketing, the exhibition invitation letter is an important source of information for understanding the exhibition and the foundation for the successful holding of the Fair. It generally includes information such as the exhibition name, exhibition time and location, exhibition organizer, reasons for holding the exhibition, exhibition objectives, exhibition features, product range, prices, and contact information.

Source text: 声光视讯融合技术与应用展（深圳）
暨中国声光视讯行业技术与应用大会//
物联生态 智领未来//

Shenzhen World 深圳国际会展中心（宝安新馆）
I see I listen I enjoy//

同期举办：国际智慧显示及系统集成展（深圳）
国际标识及 LED 展（深圳）

主办单位：广州交易会广告有限公司 /中国对外贸易广州展览有限公司 /深圳市海展会展科技有限责任公司

协办单位：中国光学光电子行业协会发光二极管显示应用分会 /中国工业合作协会声光视讯专业委员会
 (“//” added by the author)

Source text Romanized: Shēng guāng shì xùn rónghé jìshù yǔ yìngyòng zhǎn (Shēnzhèn)
Jì zhōngguó shēng guāng shì xùn hángyè jìshù yǔ yìngyòng dàhuì //
Wùlián shēngtài zhì lǐng wèilái //
Shēnzhèn World Shēnzhèn guój huìzhǎn zhōngxīn (Bǎo'ān xīn guǎn)

I see I listen I enjoy //

Tóngqī jǔbàn: guójià zhìhuì xiǎnshì jí xìtǒng jíjǐ zhǎn (Shēnzhèn)

Guójià biāozhì jí LED zhǎ (Shēnzhèn)

Zhǔbàn dānwèi: Guǎngzhōu jiāoyì huì guǎnggào yǒuxiàn gōngsī /

Zhōngguó duìwài mào y guǎngzhōu zhǎnzhǎi yǒuxiàn gōngsī /

Shēnzhèn shì hǎi zhǎn huì zhǎn kējì yǒuxi zérèn gōngsī

Xiěbàn dānwèi: Zhōngguó guāngxué guāngdiǎnzì hángyè xiéhuì fāguāng èr jídiǎn xiǎnshì yìngyòng fēnhuì /

Zhōngguó gōngyè hézuò xiéhuì shēng guāng shì xùn zhuānyè wēiyuánhuì

Target text (ChatGPT): Audio-Visual Fusion Technology and Application Exhibition (Shenzhen) And China Audio-

Visual Industry Technology and Application Conference IoT Ecology Leads the Future Shenzhen World International

Convention and Exhibition Center (Baoan New Hall) I see I listen I enjoy Concurrently held: International Smart

Display and System Integration Exhibition (Shenzhen) International Signage and LED Exhibition (Shenzhen)

Organizers: Guangzhou Trade Fr Advertising Co., Ltd. / China Foreign Trade Guangzhou Exhibition Corporation /

Shenzhen Haizhan Exhibition Technology Co., Ltd. Co-organizers: China Optics and Optoelectronics Industry

Association LED Display Application Branch / China Industrial Cooperation Association Audio-Visual Professional

Committee (“/” added by the author)

Target text (Human): ISLE 2022

Lighting Acousto Video Technology and Application Exhibition (Shenzhen) & Lighting Acousto Video Industrial Technology and Application Conference

IOT Ecology AI Technology

Shenzhen International Convention and Exhibition Center (Bao'an New Hall)

I see I listen I enjoy

Co-exhibitions: International Smart Display & Integrated System Exhibition (Shenzhen)

International Sign and LED Exhibition (Shenzhen)

Organizers: Guangzhou Trade Fair Advertising Co., Ltd.

China Foreign Trade Guangzhou Exhibition Co., Ltd.

Shenzhen Haizhan Exhibition Technology Co., Ltd.

Co-organizers: Association of Luminescent Diode Display Application of COEMA, Lighting Acousto Video Committee of CIC (translated by the author)

As for information grouping, this source text consists of three parts: the exhibition name, the exhibition theme/slogan, and the exhibition organizer. The first translation (by ChatGPT) seems to be accurate. However, there are a few translation issues: Firstly, as there is no punctuation at the end of the original text, ChatGPT cannot recognize the meaning groups, resulting in a non-running translation. Secondly, the exhibition theme or slogan in the original text is symmetrical with four characters and a rhyme. Yet, ChatGPT translated it as "IoT Ecology Leads the Future", losing the original catchy feature. Thirdly, some of the exhibition organizers' names are proper nouns, and some already have English expressions. However, ChatGPT's translation did not follow the principle of "being named after its owner" for proper noun translation. For example, the official website name of the China Lighting Acousto Video Industry is "CLAV", which is an abbreviation. In addition, the length of the translations should also be considered for names. For example, the translation "China Industrial Cooperation Association Audio-Visual Professional Committee" is too long. Fourthly, the original text is written in both Chinese and English, and ChatGPT mechanically gives redundant expressions, such as translating "Shenzhen World 深圳国际会展中心" as "Shenzhen World International Convention and Exhibition Center".

Taking these translation issues into account, we suggest some improvements for ST writing and post-editing. (1) Attention should be paid to the use of punctuation and to the clear division of sentence groups in terms of ST writing and polishing. (2) Creative expressions in the source language are the focus that translators should pay attention to in the machine translation post-editing (MTPE) process. (3) Proper nouns can be expressed with the official English expressions or the ones already in use in ST, or be checked and verified during the post-editing. (4) The original text should be written without redundant expressions in both Chinese and English to avoid redundant or even erroneous translations.

4.2 AI and Human Translation of the Main Visual Image

The main visual image refers to the first thing people see and the image is designed based on that visual impression to meet the visual needs of the target audience and the designer. The main visual image of the Canton Fair is a commercial logo/design that provides a lot of information and intended meanings. For example, the 127th Canton Fair was held online due to the pandemic, so the “Golden Bond”, with the slogan “广交云上互利天下 Canton Fair, Global Share”, was designed

as an exclusive visual image for the event. Similarly, that for the 130th Canton Fair is composed of the English name of the Fair, "130", the logo, and the period (1957-2021), highlighting the theme of promoting domestic and international mutual connections and the first-time integration of online and offline for the Fair. Here, we take the visual image of this year's visual image and text as an example.

The main visual image is a multimodal text that is information-based and descriptive, mainly describing the designer's concept and creative information of multimodal wholes (including text, numbers, graphics, colors, etc.). Below, we compare and evaluate the AI and translator's translations of the source text (see below), focusing on the cross-culture and cross-language transfer of creative information and how AI/ChatGPT processes such information.

Source text: 倒计时 50 天! 第 133 届广交会主视觉形象精彩亮相!
盼望着, 盼望着, 春天来了, 广交会的脚步近了。
值此 50 天倒计时之际, 第 133 届广交会主视觉形象正式发布!



Figure 4. The main visual image of the 133rd Canton Fair

Source: <https://www.cantonfair.org.cn/>

——以见礼遇, 大尊显故也《后汉书·礼仪志上》

第 133 届广交会主视觉形象由广交会品牌标识、主题口号、广交会展馆形象、红色礼盒造型组成。礼盒造型位于视觉中心, 寓意第 133 届广交会作为我国疫情防控优化转段以来首个重启线下的超大规模国际经贸盛会, 是为推动全球经济贸易复苏和发展献上的一份开放合作的“大礼”。礼盒顶部飘逸舒展、流畅自然的金边缎带巧妙地勾勒出数字“133”和广交会展馆 ABCD 四个区域的标志性造型, 寓意第 133 届广交会首次启用 D 区新展馆, 迈上四馆同步举办的新征程, 生动展现了“中国第一展”的崭新形象。

礼盒扣结是一枚熠熠生辉的金色宝相花, 代表广交会的功能和作用。广交会创办 66 年来, 始终坚守初心使命, 为服务国际贸易、促进内外联通、推动经济发展作出了重要贡献。由此延伸的红色丝带, 寓意着越来越多的中国企业从广交会启航, 昂首迈向国际市场, 全球客商在这里与中国结缘, 分享机遇, 共同发展。画面主色调选取红和金, 寓意广交会传承红色基因、再创金色荣耀。在各方支持下, 第 133 届广交会将实现办展规模新突破、功能拓展新突破、品质提升新突破, 为加快建设贸易强国、推动共建“一带一路”高质量发展、维护多元稳定的国际经济格局和经贸关系、构建人类命运共同体作出新的更大贡献。

Source text Romanized: dǎojìshí wǔshí tiān! dì yī sān sān jiè guǎngjiāohuì zhǔshìjué xíngxiàng jīngcǎi liàngxiàng!
pànwàng zhe, pànwàng zhe, chūntiān lái le, guǎngjiāohuì de jiǎobù jìn le. zhí cǐ wǔshí tiān dǎojìshí zhī jì, dì yī sān sān
jiè guǎngjiāohuì zhǔ shìjué xíngxiàng zhèngshì fābù!

—— yǐ jiàn lǐ yù, dà zūn xiǎn gù yě, hòuhànshū · lǐyí zhì shàng

dì yī sān sān jiè guǎngjiāohuì zhǔ shìjué xíngxiàng yóu guǎngjiāohuì pǐnpái biāozhì, zhǔtí kǒuhào, guǎngjiāohuì
zhǎnguǎn xiàngxiàng, hóng sè lǐ hé zàoxíng zǔchéng.

lǐ hé zàoxíng wèi yú shìjué zhōngxīn, yùyì dì yī sān sān jiè guǎngjiāohuì zuò wéi wǒ guó yì qíng fáng kòng yōu huà
zhuǎn duàn yǐ lái shǒu gè cháng qī xiànxì de chāo dà guīmò guójì jīngmào shèng huì, shì wéi tuī dòng quánqiú jīngjì
mào yì fù sù hé fāzhǎn xiàn shàng de yī fèn kāifāng hézuò de "dà lǐ".

lǐ hé dǐng bù piāo yī shì yī yì yì shēng huī de jīn sè bǎo xiāng huā, dài biāo guǎngjiāohuì de gōng néng hé zuò yòng. guǎ
ngjiāohuì chuàngbàn liù liù nián lái, shǐ zhōng jiānshǒu chūxīn shǐmìng, wéi fúwù guójì mào yì, cuījìn nèiwài

liántōng, tuīdòng jīngjì fāzhǎn zuòchū le zhōngyào gòngxiàn. yóucǐ yánshēn de hóngsè sīdài, yùyì zhe yuè yuè duō de zhōngguó qǐyè cóng guǎngjiāohuì qǐ háng, ángshǒu màixiàng guóji shìchǎng, quánqiú kèshāng zài zhèlǐ yǔ zhōngguó jiéyuán, fēnxiǎng jīhuì, gòngtóng fāzhǎn.

huàmiàn zhūsèdiào xuǎnqǔ hóng hé jīn, yùyì guǎngjiāohuì chuánchéng hóngsè jīyīn, zài gèfāng zhīchí xià, dì yīsān sān jiè guǎngjiāohuì jiāng shíxiàn bànzǎn guīmò xīn túpò, gōngnéng tuòzhǎn xīn túpò, pǐnzhì tīshēng xīn túpò, wèi jiākuài jiànshè màoyì qiángguó, tuīdòng gòn jiàn "yī dài yī lù" gāo zhiliàng fāzhǎn, wéihù duōuán wěndì guóji jīngjì géjú hé jīngmào guānxì, gòujiàn rénlèi míngyòng tǐ zuòchū xīn de gèng dà gòngxiàn.

Target text (ChatGPT): Countdown 50 days!

The main visual image of the 133rd Canton Fair is stunningly released! Looking forward, looking forward, spring is coming. The Canton Fair is getting closer. On the occasion of the 50-day countdown, The main visual image of the 133rd Canton Fair is officially released!

"After Han Shu, Volume of Rites and Ceremonies"

The main visual image of the 133rd Canton Fair consists of the Canton Fair brand logo, theme slogan, Canton Fair exhibition hall image, and red gift box shape. The gift box shape is located at the visual center, symbolizing that the 133rd Canton Fair is the first large-scale international economic and trade event to restart offline since China's epidemic prevention and control optimization, and is a "big gift" for promoting global economic and trade recovery and development through open cooperation.

The flowing and natural golden satin ribbon *cleverly* outlines the iconic shapes of the numbers "133" and the ABCD four areas of the Canton Fair exhibition hall on the top of the gift box, symbolizing that the 133rd Canton Fair has started a new journey with the simultaneous operation of the four halls, vividly demonstrating the new image of "China's No. 1 Exhibition".

The gift box buckle is a glittering golden lotus flower, representing the function and role of the Canton Fair. In the 66 years since its establishment, the Canton Fair has always adhered to its original mission and made important contributions to serving international trade, *promoting* internal and external connectivity, *and promoting* economic development. The extending red ribbon symbolizes that more and more Chinese companies are setting off from the Canton Fair, heading towards the international market with their heads held high, and global merchants are connecting with China here, sharing opportunities, and developing together.

The main color of the picture is red and *gold*, symbolizing that the Canton Fair inherits the red genes and creates a new golden glory. With the support of all parties, the 133rd Canton Fair will achieve new breakthroughs in exhibition scale, function expansion, and quality improvement, and make new and greater contributions to accelerating the construction of a strong trading nation, promoting the high-quality development of jointly building the "Belt and Road", maintaining a diverse and stable international economic pattern and economic and trade relations, and building a community with *a* shared future for mankind. (underlined by the author)

Target text (Human): **COUNT DOWN: 50 days!**

The main visual image of the 133rd Canton Fair

With great anticipation, spring is coming. With greater anticipation, Canton Fair is around the corner. On this day, the main visual image of the 133rd Canton Fair is officially released.

"It is a sign of great honor by showing respect to whomever you meet", reads "On Rites (I)" of *The History of Later Han*.

This visual image consists of the logo of Canton Fair, the slogan, the image of the exhibition complex, and a bright gift box.

The box, sitting at the center, carries the message that the 133rd Canton Fair, as the first super large-scale event in terms of international economy and trade to be restarted onsite since Covid-19, is indeed a gift for co-promoting the recovery and development of global economy and trade.

The golden-rimmed ribbon, naturally folded on the top, is designed in the iconic shape of 1-3-3 and the four halls of the complex, implying that Exhibition Hall D is to be used for the first time during this year's Fair. This marks that Canton Fair embarks on a new journey of holding grand exhibitions and vividly renews its image as "China's First Exhibition".

The buckling knot made in the pattern of a shining flower called **Boxiang Flower** or Fortune & Fairy Flower represents the functions and roles of Canton Fair. Since its establishment in 1957, Canton Fair has always adhered to its original missions and made great contributions to serving international trade, promoting international

connectivity, and economic development. And the red ribbon is designed to be extending from the flower, symbolizing that more Chinese enterprises are setting sail from Canton Fair and heading towards the international market and that global customers tie the bond with China, share opportunities, and seek co-development at Canton Fair.

The major colors of the image are red and **golden**, which are employed to convey that Canton Fair inherits the “red gene” (i.e., the tradition of revolution) and creates a new golden glory. With all the support, the 133rd Canton Fair will achieve breakthroughs in terms of the exhibition scales, expanding functions, and quality improvement, and make greater contributions to accelerating the construction of trading power, promoting high-quality development under the Belt and Road Initiative, maintaining a multi-dimensional and stable international economic pattern and trade relations, and building a Community of Shared Future for Mankind. (translated by the author)

With Grammarly, both translations received a score of 86, which is much lower than the score of the translation of the exhibition invitation letter. This indicates that creative (multimodal) texts are more difficult for both artificial intelligence and translators. Specifically, there were several translation issues in the translation: (1) Repetition in the original Chinese text resulted in repetitive translations by the ChatGPT, such as "looking forward, looking forward" and the translation of 亮相 and 发布; (2) The translation of long and complex noun phrases in Chinese (as the subject) resulted in a list of nouns in the translation, such as 礼盒造型 translated as "The gift box shape", 礼盒顶部飘逸舒展、流畅自然的金边缎带 translated as "The flowing and natural golden satin ribbon", and 礼盒扣结 translated as "The gift box buckle"; (3) There were literal translations of individual characters, such as 金 in 主色调选取红和金 being translated as "gold", which refers to the material, while "golden" should be used to refer to the color; (4) There were issues with the translation of culture-loaded words or expressions, such as the Canton Fr's logo -宝相花- being directly translated as "lotus flower", losing its cultural connotations. As one of China's traditional patterns, 宝相花 is also known as 宝莲花 and, along with 摇钱树 and 聚宝盆, is referred to as the "Three Treasures of Good Fortune", representing the meanings of treasure, immortality, and good fortune (as shown in Figure 5). Its English name is commonly known as "Composite Flowers", but we believe that culture-loaded words are one of the channels for exporting Chinese culture. Therefore, we adopted a "transliteration + translation" method based on its cultural connotations, namely, "Boxiang Flower or Fortune & Fairy Flower".



Figure 5. Pictures of Boxiang Flower

Source: <https://image.baidu.com/>

Although the professor translator spent a lot of time dealing with translation difficulties and post-editing, the translated text is similar in length and number of words and sentences to that by ChatGPT, but it is more readable (37:29, readability). Based on the above analysis, three suggestions can be made for AI translation and post-editing. (1) Pre-translation processing. For shorter texts, Chinese expressions such as noun phrases, undetermined meanings of individual characters, repetitive expressions, and running sentences should be processed before using artificial intelligence translation. (2) Post-editing, especially for longer texts where pre-translation processing may not be feasible, can improve quality and efficiency by revising and editing the four main issues mentioned above. (3) There should be a focus on improving the translation of culture-loaded words, with an emphasis on the effectiveness of the dissemination of Chinese cultural elements and ideas.

5. Conclusion

With the end of the pandemic, China's enterprises make an effort to go global by expanding internal and international publicity. Rather than use ChatGPT to translate corporate publicity materials, the present study attempts to illustrate how new AI or Chatbot can be used for building a bilingual knowledge pool and a terminology database for a certain translation project and make a comparing and contrastive analysis of the AI-generated and human translated texts. It finds that artificial intelligence can help translate in a top-down way, that is, from a macroscopic and three-dimensional knowledge framework to language usage at a microscopic level, which is different from the previous bottom-up translation practice, teaching, and

research. Besides, the comparison of AI- and human-produced translations can provide empirical rules and insights for writing, translating, and post-editing the (enterprise publicity) materials in the new artificial intelligence era.

Declarations and Acknowledgment:

The author declares there is no conflict of interest.

This work was supported by the National Social Science Fund Key Project (under grant number 20&ZD312), the Ministry of Education's Humanities and Social Sciences Fund (under grant number 22YJCZH250); and the Key Project of Guangdong University Journal Research Association (under grant number 20220201).

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