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ChatGPT: Cross-cultural tourism research imperative

Abstract

Aim/purpose – Cultural differences play an influential role in driving tourism development and varying outcomes of technology acceptance. The impact of ChatGPT on tourism is yet to be explored. Therefore, this study discussed how ChatGPT may influence tourism development and management in different cultural contexts.
Design/methodology/approach – Drawing specifically on individualism and collectivism from Hofstede's cultural dimensions theory, this study compared the differences in the perception of ChatGPT between Oriental and Western cultures.
Findings – Individualism and collectivism explain the diversity of perception on ChatGPT between Oriental and Western cultures.
Research implications/limitations – Implications and suggestions are provided to academia and industry accordingly. Particularly, the difference between technological concepts and tools is highlighted to avoid having excessive expectations toward tools.
Originality/value/contribution – This study extends the research on tourism and Artificial Intelligence and advocates additional attention to the imperative of cross-cultural differences regarding ChatGPT and tourism.

1. Introduction

With the launch of ChatGPT in November 2022 and the rapid evolution and release of GPT-4 in mid-March 2023, the attention and discussion on large language models (LLMs) have swept the world (Future of Life Institute, 2023). LLMs are Artificial Intelligence (AI) tools based on multilayer recurrent neural networks trained with large amounts of data to generate human-like text (Alberts et al., 2023). ChatGPT stands out among the existing LLMs and has gained global prevalence for two major reasons. Unlike conventional language models programmed to predict the next word in a sentence, ChatGPT uses a transformer-based model for massive data parallel processing, thus achieving excellent performance on natural language understanding and generation (Alberts et al., 2023). Additionally, by offering free access and a user-friendly interface to individual users, ChatGPT shifts the primary audience of LLMs from business to public (Teubner et al., 2023).

The rapid diffusion of ChatGPT demonstrates the tremendous potential of LLMs. However, whether LLMs bring additional benefits or drawbacks is widely controversial. On the one hand, LLMs like ChatGPT have been well--acknowledged for their powerful functions and practical utility. For example, ChatGPT has a wide range of attributes, such as multilingual input, access to

up-to-date information, self-learning, and improvement. Therefore, ChatGPT can assist users with multiple tasks and increase productivity, such as solving daily queries and writing creatively (Haleem et al., 2022; Korzynski et al., 2023). On the other hand, many AI scholars and engineers have urged various stakeholders to reflect on and attempt to address the ethical issues related to LLMs and their applications, such as the creation and distribution of misinformation, bias exacerbation, and data privacy leakage (Teubner et al., 2023).

Researchers have been studying ChatGPT and providing valuable insights around the above perspectives. ChatGPT has been used in the tourism, travel, transportation, and hospitality ecosystem to facilitate numerous tourism tasks such as searching for information, determining routes and dynamic itineraries, finding professional services, and sharing content (Dwivedi et al., 2023). In addition, ChatGPT has been considered an up-and-coming academic writing tool in tourism and has generated controversial discussions (Nautiyal et al., 2023). Although tourism stakeholders have applied ChatGPT for various functions, including tourism marketing, tourism operations, tourism finance, and tourism human resource management (Carvalho & Ivanov, 2023), limited studies have examined the applications, roles, and challenges of ChatGPT in tourism and its management.

Despite the global reach of ChatGPT, a thorough investigation is still needed on how it influences tourism development and management in different cultural contexts. Culture is one of the core concepts of anthropology and encompasses phenomena transmitted through social learning and reflected in social behavior and norms in a given society (Huang et al., 2019). Earlier pieces of evidence show that cultural difference plays a significant role in driving divergent results in tourism development and technology acceptance. Thus, research on LLMs like ChatGPT with a cross-cultural perspective is essential to fully understand the impact of these emerging technologies on tourism (Jung et al., 2018).

This research note aims to fill the above research gap by attempting to analyze how ChatGPT may influence tourism development in different cultural contexts and reveals the possible impact of LLMs, represented by ChatGPT, on tourism. The comparison between Oriental and Western cultures is presented as an example of cross-cultural difference analysis. This study endeavors to contribute new insights into tourism and AI for academics and practitioners. Implications and suggestions are provided accordingly.

2. ChatGPT in tourism with East-West cultural differences

Hofstede's cultural dimensions theory (encompassing six dimensions of individualism versus collectivism, power distance, masculinity versus femininity, uncertainty avoidance, long-term versus short-term orientation, and indulgence versus restraint) serves as the theoretical underpinning of this research (Hofstede, 1980). These six dimensions have been demonstrated to influence the acceptance of technological solutions in a given society to varying degrees and in different ways (Hernandez-Ortega et al., 2017; Huang et al., 2019). In particular, individualism versus collectivism is considered the most vital dimension in explaining broad social behavior and specific levels of technological penetration (Hofstede, 2001; Triandis, 1988). This statement is also validated in this study. In individualistic cultures, individuals tend to prioritize, be driven by their needs, and act according to their attitudes. By contrast, in collectivistic cultures, individuals are more inclined to prioritize collective goals and aim to align with others in the group (Triandis, 2001). Individuals in Western cultures are perceived to have higher levels of individualism. Conversely, those in Oriental culture are perceived to be more collectivistic (Hofstede, 1995). The difference between Oriental and Western cultures in this dimension influences ChatGPT in tourism for the following three main points.

2.1. Skepticism about information

In Oriental cultures, influenced by collectivism, people's deep-seated motivation to adopt technology lies in their desire to avoid disapproval, to fit in, and to be accepted by essential reference groups (Alsaleh et al., 2019). Therefore, although much room for improvement remains in the credibility of emerging technologies (Kitamura & Marques, 2021), people in Oriental cultures are less skeptical of the information provided by technology than those in Western cultures. For example, mobile payment technology is commonly used in China, whereas users from a Western culture continue to question its associated security and privacy issues (Bala, 2021).

People in Oriental cultures are speculated to be more receptive to the suggestions offered by ChatGPT. This phenomenon may exacerbate or ameliorate the digital divide effect within and between societies (Rillig et al., 2023), thus creating a ripple effect. For instance, ChatGPT analyses mass market data to identify popular destinations and recommends these destinations to potential

tourists in Oriental cultures, who tend to adopt the recommendations and travel to the destinations. This scenario will exacerbate the uneven tourism development between regions, causing over-tourism in popular destinations, whereas niche destinations still need to be discovered and are striving to develop.

2.2. Privacy concerns

People's definitions of privacy differ across Oriental and Western contexts. While people in different cultures can generally regulate their social boundaries, users of individualistic cultures are perceived to exhibit relatively deeper privacy concerns than users of collectivistic cultures (Li et al., 2022). This situation can influence the attitudes and behaviors of people in Oriental and Western cultures in response to the privacy-related part of technology. TikTok, a short video mobile application commonly used in China, has been restricted in some Western countries (e.g., USA, UK, Canada, New Zealand, and Australia) due to security concerns (Lau, 2023).

Combining tourism and ChatGPT, when tourists ask for recommendations for customized journeys, ChatGPT may collect individual data from public platforms (e.g., social media and search engine databases) without users' authorization and then use them as training data. This scenario may violate users' rights, and people from different cultures will perceive this situation differently.

2.3. Policy-driven versus market-driven

In collectivist societies, people are trained from birth to integrate into solid, cohesive groups. At the same time, the group protects the individual in exchange for the individual's unquestioned loyalty to the group (Choi et al., 2014). In a highly individualistic culture, individuals may feel no obligation to participate in the priorities and goals of the organization but rather advocate for those they deem critical (Arizon-Peretz et al., 2022). One manifestation of this difference is that in Oriental cultures, policies are made in the collective interest and are thus policy-driven. However, in Western cultures, the focus leans toward the interests of individuals and businesses and is thus market-driven. For example, deploying fifth-generation mobile technology networks tends to take longer in Western countries than in Asian countries, where it is directly driven by policy (Yusuf, 2022).

With the support of the policy, new technologies like ChatGPT for tourism in Oriental culture will be swiftly followed by the emergence of numerous new tourism and technology suppliers, products, and services, thereby improving the digital infrastructure of the destinations. By taking a market-driven approach, western culture countries stand a better chance of avoiding a large number of resources in a few companies with core technologies, leading to near--monopolistic markets and contrary to the development of transparency/open science (Bockting et al., 2023). Consequently, this prevents the creation of related ethical problems and challenges to fair competition.

3. Conclusions and implications

By analyzing the influence of ChatGPT on tourism in a cross-cultural context (i.e., East and West) and providing a reference for tourism development and management, this study extends the research on tourism and AI with new insights. This study suggests that ChatGPT may have varying influences on the tourism landscape in different cultural contexts, mainly influenced by their individualist and collectivist culture. Thus, tourism and technology suppliers (e.g., tourism enterprises and technology enterprises) should incorporate different cultural contexts into designing and marketing their products. For instance, the impact of the perceived usefulness of ChatGPT and tourists' attitudes should be taken seriously in countries with individualistic cultures. However, platforms can be devised with more diverse and broader social elements in collectivistic cultures (Zhao et al., 2021). From the perspective of destination management organizations (DMOs, e.g., different administrative levels of policymakers and tourism management organizations), a balance between policy orientation and market orientation should be explored in a local context. This enables LLMs represented by ChatGPT to develop benignly based on market regulation's role while avoiding potential risks, such as concerns of ethics and morality.

Moreover, ChatGPT may provide inaccurate information due to the bias of data and limitations of the data training process (Haleem et al., 2022). For instance, different cultures may influence culture-related information, and policy--related information may be affected by the information capability of the Internet of Things. Nevertheless, entering the new era of change that AI is bringing to people with an open mind is recommended. This means that regardless of the stakeholder's (i.e., both the supply and demand sides of tourism and technology) view, AI and LLMs must be regarded with a developmental perspective, allow-

ing for their existence, use, influence, and bias. Meanwhile, it is necessary to understand the difference between concepts and tools, avoiding having too high expectations for tools. That is, concepts of AI and LLMs will continue to evolve and endure. However, tools such as LLM products (e.g., ChatGPT) may only serve for a period and will be easily replaced by other emerging advanced products in the future.

Furthermore, ChatGPT can play a different role in distinct cultural contexts, revealing how powerful technology can be depending on how powerful its users are. This means that tourism stakeholders should use emerging technologies appropriately according to their objectives to maximize the usefulness of this technology. For example, DMOs can leverage ChatGPT to guide consumers' travel decisions to help address the uneven development of tourism destinations. Suppliers can utilize ChatGPT purposefully by combining their business goals (e.g., profitability needs and management needs) and the cultural context of their target market. Therefore, the authors advocate more empirical cross-cultural studies on LLMs and their applications, such as considering a broader range of cultural dimensions (e.g., uncertainty avoidance, long-term versus short-term orientation), to validate and extend this study, illuminating the facets of these emerging technologies.

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