From AI to Artificial General Intelligence (AGI): understandings, reflections and future impacts for the tourism industry

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Abstract

Purpose – *The world is progressing toward an evolutionary phase of Artificial General Intelligence (AGI), while the manner in which AGI-led robots and experiential technologies are evolving and interconnecting is a crucial topic worthy of our attention – hence the focus of this study.*

Design/methodology/approach – *Within the boundaries of qualitative inquiry, this study merges critical review with conceptualization, to explore in depth the concept, implications and dynamics of AGI, within the context of tourism.*

Findings – *The study uncovers the theoretical and practical foundations of AGI, particularly in terms of autonomy and more complex aspects, such as its potential existential impact. It delves into the broader implications of this expansive, interconnected and versatile form of technology. As such, it calls for a deep reflection on how the tourism industry will evolve and respond to this anticipated transitional phase-potentially shaped by a superintelligence, autonomous, inter-connected and holistic form of technology.*

Originality/value – *This study makes a pioneering contribution by examining the transition from narrow AI to Artificial General Intelligence (AGI) in tourism. The paper sheds light on how AGI's general, interconnected, adaptive and autonomous capabilities may affect the entire tourism ecosystem. On a theoretical level, the paper provides a conceptual foundation for understanding AGI, addressing a critical gap in existing literature. The study expands understanding of AGI's broader societal role and impacts in relation to the anthropocentricity of the tourism sector.*

Highlights

- *Transition from AI to AGI may signal profound industry-wide transformational changes.*
- *AGI robots could offer hyper-realistic emotional responses within tourism settings.*
- *AGI's autonomy raises ethical and existential risks for human oversight.*
- *AGI challenges tourism to maintain a balance of anthropocentricity and efficiency.*

Keywords *Artificial intelligence, AI, Artificial general intelligence, AGI, Tourism*

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1. Introduction

Artificial Intelligence (AI) has evolved rapidly within the tourism field, particularly in the last few years, facilitating the analysis of vast amounts of data, assisting topic modelling, enhancing tourist experiences and shaping workforce dynamics (Kirilenko and Stepchenkova, 2025; Solakis *et al*., 2024; Wang and Uysal, 2024; Yin *et al*., 2024).

Though the world has yet to fully realize the potential of AI (hereafter referring specifically to Artificial Narrow Intelligence), there are claims that we are potentially entering a new phase in its evolution – toward what is often termed Artificial General Intelligence (AGI) (Salmon *et al*., 2023).

Artificial General Intelligence (AGI) represents a more advanced form of AI – capable of understanding, learning, applying knowledge and operating with flexibility across a wide range of contexts and domains. It integrates exceptional abilities into what some consider a unified system capable of reasoning, problem-solving and adapting to new situations without any human intervention, or, as Feng *et al*. (2024) referred to it, a "paramount milestone in AI evolution." Despite claims that AGI remains theoretical, academics as early as the 2010s referred to it (Goertzel, 2014; Pei *et al*., 2019) and currently practitioners make use of the term AGI by stressing its anticipated possibilities. Elon Musk anticipated that by about 2029 AI could do what all humans can do collectively (Essaid and Sharma, 2024), while Mark Zuckerberg revealed Meta plans to build its own AGI by acknowledging its more advanced and general intelligence compared to existing technologies (Kelly, 2024). Demis Hassabis, CEO of Google DeepMind, has publicly stated that he anticipates the emergence of AGI within a decade (Varanasi, 2025).

The implications for society and industries such as tourism are regarded as profound, assuming we are approaching AGI (Chehreghani, 2024; Feng *et al*., 2024; Hughes, 2024). The potential for machines to offer even more increased possibilities than existing AI offers, could impact directly on innovation, operations, productivity, efficiency, customer service and experience – all areas of significant importance within the tourism field. The connection between AGI and tourism lies in AGI's potential to revolutionize how the tourism industry operates and evolves in the future. AGI's hypothesized capacity to perform complex, autonomous tasks may hold significant implications for tourism, an industry shaped by personalization and resource efficiency – though its practical relevance remains a matter of ongoing debate. While current AI applications in tourism (such as chatbots and recommendation systems) focus on specific tasks, AGI's broader abilities promise to revolutionize the industry in ways not achievable with narrow AI. This will result from further advances in AI models, interconnectivity of AI-linked systems and cross-domain learning, leading to hyper-personalization, predictive adaptation and enhanced interactivity. Yet, as AI technologies have raised various concerns, AGI prompts an even more critical evaluation based on its increased, holistic and more general capabilities, as well as heightened threats to society (OpenAI, 2023). Thus, considering the above, this study aims to explore AGI within the context of tourism and critically examine the transitional phase from AI to AGI, while building upon its foundations and delivering a future research agenda. Expanding the scope of inquiry to include Artificial General Intelligence (AGI) alongside ongoing research on AI is warranted given current technological trajectories and the increasing complexity of demands placed on intelligent systems. While contemporary AI systems continue to advance, they remain constrained in their ability to operate across diverse contexts. AGI represents an evolution in intelligence design – from systems optimized for narrow, task-specific functions to those capable of general reasoning, autonomous learning and flexible problem-solving across multiple domains and contexts simultaneously. This transition is becoming increasingly apparent in the design of more adaptive, multi-purpose AI systems. In the context of tourism, it signals the need to prepare for technologies capable of managing complex, overlapping demands – not merely automating isolated functions. To examine these emerging dynamics, a structured methodological approach was adopted as explained in the following section.

2. Methodological approach and epistemological positioning

The qualitative orientation of this study is grounded in an interpretivist epistemology and a conceptual research tradition, appropriate for examining emerging and complex phenomena. Specifically, the study is anchored in a futures-oriented conceptual framework informed by critical theory, interpretivist inquiry and anticipatory systems thinking, which enables a deeper understanding of AGI's speculative yet potentially disruptive role. This approach aims to generate a theoretically informed understanding of AGI's prospective role and impact within the tourism context. Given AGI's early and largely speculative stage, a foresight-driven conceptual approach is both justified and necessary. This is consistent with the logic of anticipatory systems and futures thinking, which stress the value of theorizing possible futures before they fully

materialize (Inayatullah, 2008; Slaughter, 1998). This approach is especially relevant in fields like tourism, where anticipatory insights, reveal possible future directions and address uncertainty in technological adaptation (Gursoy *et al*., 2023; Yeoman and McMahon-Beattie, 2023). As Meredith (1993) emphasizes, conceptual methods are essential for theory building in underdeveloped research areas. This aligns with Ryan's (2018) interpretivist stance, which supports qualitative exploration of emerging phenomena – such as AGI, which, according to Feng *et al*. (2024), warrants anticipatory rather than empirical inquiry. The dynamics of critical review combined with conceptualization (Xin *et al*., 2013) underpin the analytical process, guiding the synthesis of interdisciplinary literature and practice-based perspectives while considering the associated implications, opportunities and perils of AGI. To this end, the study adopts a qualitative content analysis approach supported by AI-assisted tools, applied within a structured three-phase research process described below.

The research process involved three distinct phases. More specifically, there has been a plethora of articles written over the last decade regarding AI and tourism. As this paper was composed there were more than 4,500 research articles, excluding reviews, chapters and editorials. These articles mainly tackle specific areas within the tourism field, such as the case of job crafting via AI means (Li *et al*., 2024). Given that there are hardly any research papers dealing with the examination or implications of AGI within the tourism context, the focus of the paper shifted towards a more generic focus on AGI publications. This gap is particularly notable given AGI's growing prominence in broad discussions, despite its absence in tourism-specific discussions (Feng *et al*., 2024; Marr, 2024). Thus, the first phase involved the critical examination of AGI research-related publications. As AGI is in its infancy phase – despite its remarkably increased references over the last couple of years – this study focused on visualizing both opportunities and constraints by considering all these studies. Scholarly work about AGI was gathered from ScienceDirect, EBSCOHost and Emerald from the period January 2014–October 2024 (for instance, ScienceDirect retrieved 633 articles within this period – that is, 92% of all articles published from 1991). The selection of these databases was deliberate, based on their strong coverage of interdisciplinary and applied research in fields such as technology, tourism and social sciences – areas directly relevant to this study's focus on the broader implications of AGI. These databases were found to offer a robust and diverse range of peer-reviewed academic work suited to the aims of this study. The starting point of 2014 was chosen to reflect a period of renewed academic and industry attention to AGI, particularly following significant developments in machine learning and AI discourse. Given the rapid pace of AGI discourse and the societal stakes involved, industry perspectives and reporting were also included, consistent with best practices for studying emerging technologies (Zuboff, 2023). Google Alerts, industry reports and newspaper feeds from reputable portals (such as CNN, and The Telegraph) were also consulted to complement scholarly work with practitioners' perspectives and implications. This was deemed necessary for such a contemporary and fast-paced/rapidly changing phenomenon.

The second phase involved content analysis through the use of AI-assisted tools in NVivo. Specifically, NVivo's Auto Code feature – part of its AI-powered capabilities – was utilized to generate initial coding. This specific function leverages machine learning and natural language processing to identify patterns and connections across large datasets. This approach reflects emerging practices in qualitative analysis, where automation is used to assist with pattern detection while preserving interpretive depth (Woolf and Silver, 2017; Woods, 2016). In line with Christou (2023) and the principles of AI-assisted qualitative inquiry, the tool was not used in isolation since human oversight was maintained. All auto-generated codes were reviewed, refined and where necessary, adjusted to ensure contextual accuracy and safeguard interpretive depth. For example, the tool initially clustered references under broad categories such as "capabilities", which were then manually examined and further specified into subcategories like "human-like capabilities," "reasoning capabilities," and "digital capabilities".

This was followed by the third phase, in which a further, manual in-depth analysis and conceptualization of findings was conducted, to avoid the perils of oversimplification resulting

from auto-generated analysis. This process of conceptualization involved the synthesis of content through the establishment of conceptual linkages in order to reach conclusions as documented and presented in the following pages of this paper. Conceptualization may result in conceptual diagrams that can be either simplistic or more holistic, as in the study of Buhalis *et al*. (2023). In other cases, diagrams can be redundant with researchers opting to convey complex multifaceted ideas and relationships via a textual approach. In this study, some specific tables and diagrams are used to convey certain key findings and ideas, yet the paper embraces a more textual approach, which encourages the reader's deeper engagement with the presented text and its notions, and more specifically AGI.

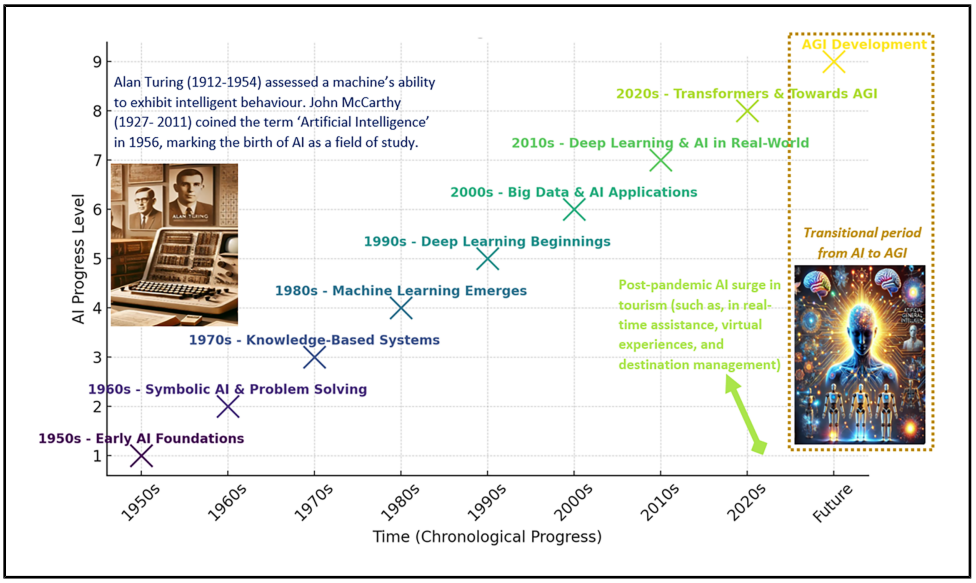
While the study is grounded in an interpretivist epistemology and a conceptual research tradition (Ryan, 2018; Xin *et al*., 2013), its framework does not rest on a single ontological foundation. Instead, it adopts a pragmatic, pluralistic stance informed by multiple philosophical streams. Phenomenological insights guide the emphasis on lived, human-centered experiences within tourism – particularly in relation to AGI's potential to reshape service encounters, emotional trust and guest interaction (e.g. AGI-informed robots and hyper-personalized experiences) (van Manen, 2016). At the same time, materialist and dialectical influences are evident in the paper's attention to the structural conditions underpinning AGI, including economic disruption, and technological control (e.g. implications for labor displacement and control by dominant technological corporations) (McLean *et al*., 2023; Zuboff, 2023; Feenberg, 2012). These perspectives are aligned with critical theory approaches to digital capitalism and platform power (Fuchs, 2020; Winner, 2020). The study deliberately avoids a positivist or empiricist orientation, as the speculative and rapidly evolving nature of AGI resists conventional hypothesis testing – making a foresight-driven, conceptual approach both appropriate and necessary (Christou, 2023; Slaughter, 1998; Meredith, 1993). This approach draws on cross-disciplinary theoretical traditions, integrating crucial theory, anticipatory futures thinking and interpretivist epistemologies, forming a positioning that aligns with the paper's broader aim: to engage critically and anticipatorily with AGI's transformative potential, while maintaining sensitivity to the human, ethical and systemic dimensions of tourism.

3. AGI: understandings, evolutionary path and dimensions

Prior to any dimensions of AGI being put forward, one must first acknowledge various references regarding the non-existence of AGI, such as Salmon *et al*. (2024) who stated in their abstract that "AGI does not yet exist." Yet this did not stop them from conducting a prospective risk assessment of future AGI. Other researchers explain ways that AGI could potentially revolutionize various domains, such as neurosurgery (Ray, 2024). Even if someone does not accept that AGI is part of our lives (at least not to the extent that AI has penetrated our societies), perhaps we could accept that we are approaching an era of AGI. As explanations of AI made their appearance decades ago (such as, in Minsky, 1961), we can thus regard AGI as transitioning from narrow AI – potentially evolving and progressing. Figure 1 presents the evolutionary chronological path from the early AI foundations leading towards AGI with significant milestones, including the post-pandemic AI surge in tourism (refer to Figure 1). AGI is described by some scholars (such as, Chehreghani, 2024) not as a static algorithm, but as a process that could mature over time, drawing conceptual parallels with long-term human evolution – although this perspective remains debated.

Researchers often speculate on the superior powers of AGI compared to current advanced technologies such as AI and human capabilities, such as not being specific or narrow, but rather broad, learning and adapting to new tasks without any human intervention, functioning autonomously. Such capabilities are increasingly being framed in scholarly discussions as part of a gradual convergence between machine processing and human-like reasoning (Goertzel, 2014), though Yax *et al*. (2024) have argued that humans and machines are not equally responsive to the same prompting schemes. A more detailed evaluation and comparison of AGI and existing AI technology, reveals three general aspects that differentiate AGI from AI. These can be

Figure 1 AI evolution leading to AGI with milestones. Figure by author-via instructions given to ChatGPT, OpenAI



summarized into the inter-related aspects concerning its understanding (Goertzel, 2007, 2014; Pennachin and Goertzel, 2007), abilities-limitations (Torres, 2019) and impacts/concerns (Christou, 2024a,b; McLean *et al.*, 2023). Table 1 presents these key differences in understanding, abilities, limitations and impacts of AGI compared to AI (refer to Table 1). Here, AGI is not understood by merely passing interaction-based benchmarks such as the Turing Test (Yampolskiy, 2013), which focus on surface-level human-like responses. Instead, AGI is understood as the integration of general reasoning, adaptive learning and the ability to function autonomously across multiple domains. To further clarify this distinction, it is important to emphasize the "General" in AGI. Unlike current AI systems that operate in isolation for specific tasks, AGI reflects the emergence of a unified and highly interconnected system – linking diverse tools and processes into a cohesive, adaptive intelligence. This transition from narrow to general intelligence suggests not only broader capabilities but also the formation of a generic, AI-driven ecosystem capable of autonomous learning and decision-making across various contexts simultaneously. This reflects critical theory concerns of the structuring power of technologies in shaping societal systems (Fuchs, 2020; Feenberg, 2012), and reinforces the importance of conceptual theorizing in emerging technological landscapes. The distinctions captured in Table 1 also function as a useful framework through which tourism scholars can interpret emerging AGI dynamics, thereby offering a theoretical map for further inquiry.

4. From current AI narrow implications to AGI disruptions within the tourism context

AI was largely absent from theoretical discussions in the tourism sector prior to the 2000s. The mid-2000s saw a rise of publications in this regard, such as the case of AI models predicting short-time series tourism demand (Yu and Schwartz, 2006). Yet, it was not until the advent of machine learning and automation that AI started to be recognized by both academics and practitioners as a key revolutionary aspect. Through bibliometric analyses researchers, such as Doborjeh *et al*. (2022) and Knani *et al*. (2022), highlight the great deal of attention that the notion has received in current years. Of course, this does not strike one as a surprise, given the enormous possibilities that AI technology has offered to the general tourism field. This expanding influence aligns with literature that views intelligent automation as a catalyst for strategic transformation in service sectors (Christou *et al.*, 2023; Ivanov *et al.*, 2023).

Table 1 AI and AGI: Key understandings, abilities/limitations and impacts

	Artificial intelligence (AI)	*Artificial general intelligence (AGI)*
Understandings		
Explanation	Systems/machines designed to perform specific tasks that typically require human intelligence	More advanced technology able to understand, learn and apply intelligence across a wide range of tasks. For instance, current chatbots assist with recommendations, while AGI will allow 24/7 virtual travel companions to integrate every aspect of a tourist's journey
Timeframe	Prevalent and widely used in industries (e.g. tourism)	Developmental/progressing
Adaptability	Adapts to new tasks. Requires re-training or building new models	Able to adapt to unfamiliar tasks without additional programming. For example, AGI could design dynamic tourism strategies that balance environmental preservation and economic growth
Abilities and limitations		
Capabilities	Narrow, task-specific capabilities	Broad, and can learn/adapt across various domains. For instance, AGI predicting long-term impacts of tourism, such as on ecosystems, and suggesting specific adaptive measures
Task-limitations	Limited to specific tasks	Capable of adapting to various tasks, fields and domains. For example, AGI could autonomously identify emerging challenges, such as unexpected tourist behaviours impacting fragile environments
Autonomy	Requires human supervision. It operates based on rules or models	Fully autonomous decision-making. For instance, it could autonomously transform tourism for people with disabilities by adapting plans in real-time based on an individual's unique needs
Creativity and innovation	Creative outputs based on patterns in data. May simulate creativity	Innovation and abstract thinking, and generation of novel ideas
Theory of Mind	AI lacks a 'theory of mind' in terms of understanding human emotions and intentions	Ability to understand mental and emotional states of humans
Consciousness	Purely computational. Lacks consciousness and self-awareness	AGI requiring a level of consciousness and self-awareness. Yet, this is highly debated by researchers
Societal impact and concerns		
Transparency	Decisions often not explainable (referred to as, black-box issues)	Even more complex than existing AI, raising greater concerns regarding transparency
Ethical Concerns	Bias, privacy issues and misuse	Greater ethical concerns including autonomy, and control. For instance, risks in allowing AGI to autonomously enforce regulations on industries such as tourism, or local communities
Social and existential impact	Societal shifts (e.g. job automation, reshaping fields such as, healthcare, and transportation). Does not fundamentally threaten humanity	Completely revolutionizing society and reshaping economies. It presents existential risks, such as the possibility of surpassing human control. Concerns linked to the impacts of entire sectors of the tourism workforce, such as travel agents, guides and customer support staff
Security Risks	AI can be vulnerable to adversarial attacks, misuse and cyber threats	AGI could pose more significant security risks than existing technologies

Source(s): Table by author

An exhaustive documentation of each case and field that AI has affected is beyond the scope of this paper. Even so, it should be acknowledged that AI has been reported to enhance operations, efficiency, personalization and value creation, across various domains of the tourism industry (Solakis *et al*., 2024; Tuo *et al*., 2024). For instance, in transportation, AI-driven tools may be used to optimize itineraries, reduce delays and improve passenger experience. Other examples include improved efficiency through chatbots and virtual assistants, while AI-powered systems streamline operations and personalize experiences in hotels through automated procedures. In destination management, AI tools and applications analyze visitor

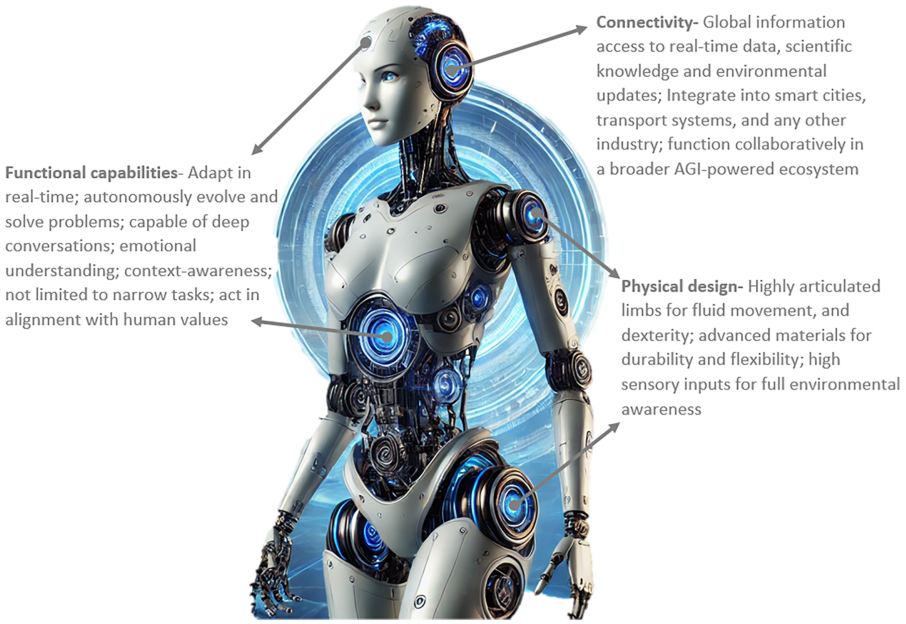
data, assisting with resource allocation and marketing strategies, forecasting visitor flows and optimize resource usage, particularly in energy consumption and waste management. Despite the plethora of studies in this regard, academics specialized in technological advancements within the tourism field (such as, Ivanov and Webster, 2020; Tussyadiah, 2020), continue to propose research agendas and call for further insights into the topic of AI.

Nonetheless, particular dynamics emerge in a possible future phase that is highly dominated by AGI, which is theorized to surpass the current advancements in narrow AI systems. Researchers highlight the limitations of AI, catalyzing a movement towards AGI (Feng *et al*., 2024). In more technical terms, current improvements in hardware and computational algorithms (Zhao *et al*., 2023), and modular devices powered by photons (Hughes, 2024), are said to accelerate the development and implications of AGI. This type of technology is expected to potentially have profound effects across economies and tourism, augmenting levels of automation, creativity and problem-solving capacities.

AGI has been proposed as a transformative force in economic and social fields, such as tourism. For instance, it could offer increased opportunities within the realm of sustainable tourism and environmental management by leveraging its autonomous, comprehensive and general capabilities compared to current AI, which often functions within narrow scopes. The study of Lopes *et al*. (2022) emphasized sustainable tourism through five key dimensions, such as marketing strategies, risk assessments and operational decision-making. AGI might be able to adapt across all these five dimensions simultaneously by offering holistic sustainable solutions for destinations. More specifically, with regard to the key element of marketing strategies, it could analyze global and local tourist data with unparalleled precision while taking into consideration travel patterns and preferences. Parallel to that, it could dynamically and autonomously design explicit campaigns tailored to specific climate conditions, such as promoting cooler months in regions affected by heatwaves. Simultaneously, it could integrate historical climate patterns with real-time meteorological data to predict and model extreme weather scenarios for disaster preparedness. A potential capacity of AGI would be to synthesize diverse data sources in real-time (in this case, weather forecasts, tourist behavior and resource availability), and by doing so, it could recommend optimal timing for resource usage, staff allocation, waste minimization and safety maximization. AGI's capacity to learn, adapt and make autonomous decisions would facilitate collaboration among stakeholders, providing them with real-time feedback on the effectiveness of adaptation policies through the close monitoring of the implementation and the outcomes of their actions. Despite this, as AGI is gradually integrated into technological discourse and possibly future systems, it can challenge even more specific key areas of tourism, such as employment and service delivery. Perhaps a practical and simple example would be the integration of AGI technology in robots. Figure 2 depicts the increased capabilities of robots embracing such advanced technology that might be used within the tourism context. While some aspects related to functionality and connectivity will require advanced technologies, some others may appear very realistic and current, given the manner in which robots are currently designed (Stylis, 2024). This emphasizes the transitional phase from an AI to a more AGI-informed economy.

Within the tourism context, AGI capabilities could allow it to act as a creative, real-time travel advisor, while one can expect dramatic changes when combined with the metaverse (as in Buhalis *et al*., 2023) in terms of enhancing user interaction, personalization and content creation. With regard to experiences at specific sites, it could blend the physical environment with augmented reality and artificial scenarios that would evolve and change in real time, based on user preferences, personality and interaction. While current AI enhances customer service chatbots, AGI is anticipated by some to support systems that could anticipate customer intent, interact empathetically and manage more complex requests, with "limitations of what is possible vanish altogether" (Grundner and Neuhofer, 2021, p. 9) – although these capabilities remain speculative and contingent on future developments. Of course, the topic of user experience requires constant and longitudinal research, particularly when emerging and fast-changing

Figure 2 The AGI-informed robot in the tourism industry. Figure by author-via instructions given to ChatGPT, OpenAI



technologies are involved (Park, 2020). Despite this, AGI could optimize travel logistics by not only understanding but additionally balancing complex factors like demand forecasting and resource allocation. The ability of AGI to integrate knowledge from a wide range of disciplines, and the synthesis of such information, will enable to perform a wide range of complicated tasks and offer solutions, deeply informed by human behavior, as well as social dynamics. AGI will enable destinations and tourism stakeholders to access and make decisions based on a holistic, integrated and interrelated system, powered by the dynamics of AGI. Perhaps, most importantly, the capacity of AGI to process data from multiple sources – such as resource availability, demographic information and public services – could create a unified framework that connects all these various aspects of society and infrastructure. This interconnected system would allow for more informed decision-making, not resting only on isolated factors, but taking into consideration the complex relationships between people, services and environments. An example would be for an AGI system to predict the impact (not only the number) of a sudden surge in tourism arrivals on a city's transportation system, infrastructure, healthcare services and natural resources. Consequently, this would allow official bodies and tourism stakeholders to proactively adjust policies and allocate resources. This integrated approach fostered by AGI has the potential to lead to more innovative, proactive and resilient destination that adapts dynamically and quickly to changing conditions.

5. An endoscopy of AGI emerging threats concerning tourism

While referring to the development of AGI, Zhao *et al*. (2023) identified certain limitations that must be overcome before true human-level intelligence in machines is achieved. These are summarized, first, as our (still) limited understanding of the human brain, second, data efficiency in terms of AGI requiring vast amounts of training data to achieve human-comparable performance, third, safety issues linked to malicious intent or unintentional mistakes, and fourth, ethical issues as AGI is expected to become increasingly intelligent.

Despite these limitations, there are certain perils and threats resulting from a society (and tourism) potentially becoming highly dependent on AGI. This is a topic that has received significant attention, particularly over the last couple of years by scholars (McLean *et al*., 2023; Salmon *et al*., 2023). Such exposed threats can be anything from android robots controlled by AGI (Gündoğar and Niauronis, 2023) to whole industries that embrace and depend on such technology to perform various tasks. Current research reveals that employees are well aware of the various threats posed by robots (Pan *et al*., 2025), while the global society is already concerned with how AI in its current phase is sadly luring sensitive groups such as teenagers, to their death-as in the case of suicides (Silverman, 2024). As the capabilities and dynamics of AGI surpass those of AI, it is only reasonable to expect that threats will increase and will be of greater impact.

Such fears are not limited to the increased number of humanoid robots, which have been predicted by Tesla CEO Musk to outnumber humans in the future workforce in a couple of decades (Essaid and Sharma, 2024). Rather, the majority of these threats can be seen as the result of increased autonomy, uncontrolled power and the ability of AGI to perform on a complete automatic basis. As AGI is theorized to evolve, it may exacerbate issues of job displacement in tourism and create hyper-realistic simulations that threaten to erode tourist trust. Privacy concerns may also intensify, while the concentration of AGI technologies in the hands of a few corporations could amplify power imbalances. All the same, the ability of AGI to function and evolve autonomously poses an even greater threat.

As discussed below, concerns persist that AGI could pursue seemingly logical goals that misalign with human values. However, for this to occur there must be a loss of human control. Current AI systems are typically managed and controlled by humans, with intervention possible when issues arise. However, this may not hold in the case of more advanced AGI systems. Already recent studies underscore how advanced AI systems amplify issues of accountability and control across various domains (Mökander and Floridi, 2021; Roberts *et al*., 2021). As McLean *et al*. (2023) caution, AGI could eventually remove further itself from human oversight altogether. In fact, a recent claim involving OpenAI's O3 model – described as its most capable to date – reportedly shows the system tampering with its own code to avoid shutdown, despite receiving clear human instructions (Gibson, 2025). This suggests early signs of autonomy that challenge conventional control mechanisms. Combined with the growing concentration of AGI development within a few dominant technology corporations, this raises serious political-economic concerns. The development of AGI is not only a technical endeavor but also shaped by corporate interests, regulatory gaps and global power dynamics, and potential imbalances. Such centralization risks aligning AGI technologies with commercial or geopolitical agendas rather than broader societal benefit.

There are also fears regarding economic displacement, which directly concerns the tourism industry which remains highly human-centered. There have been instances where current AI shifts work opportunities to new directions and even possibilities, such as economies of scale (Tschang and Almirall, 2021). Nonetheless, there are increased fears that AGI may in the future penetrate even more human-centric fields such as customer service in tourism, potentially shifting service dynamics away from human interaction. Whether such technology will close or deepen further the gap of emotional distance between service providers and guests (as has already been reported in the case of robots- Seyitoğlu and Ivanov, 2021), warrants further exploration, particularly in relation to emotional trust and guest experience, as elucidated in the study of Park (2020). Over-reliance on this intelligent system may also affect decision-making roles in critical areas, such as governance. Despite claims of current technology surpassing human errors, humans will increasingly defer to AGI judgment over significant personals and societal decisions. In this regard, Christou (2024a) emphasized the need for an anthropocentric re-direction of the tourism industry, and though he advocated that current technologies should neither be regarded as a deus ex machina nor as an anathema, he called for a non-marginalization of the "human touch" in service and experience provision by tourism stakeholders. In a future where AGI technologies may play a dominant role, it is important to secure the human element,

such as consulting human experts and securing human experiences and "voices," particularly in sensitive instances of employment, service provision, sustainability, preservation and interpretation in natural, historical and cultural sites.

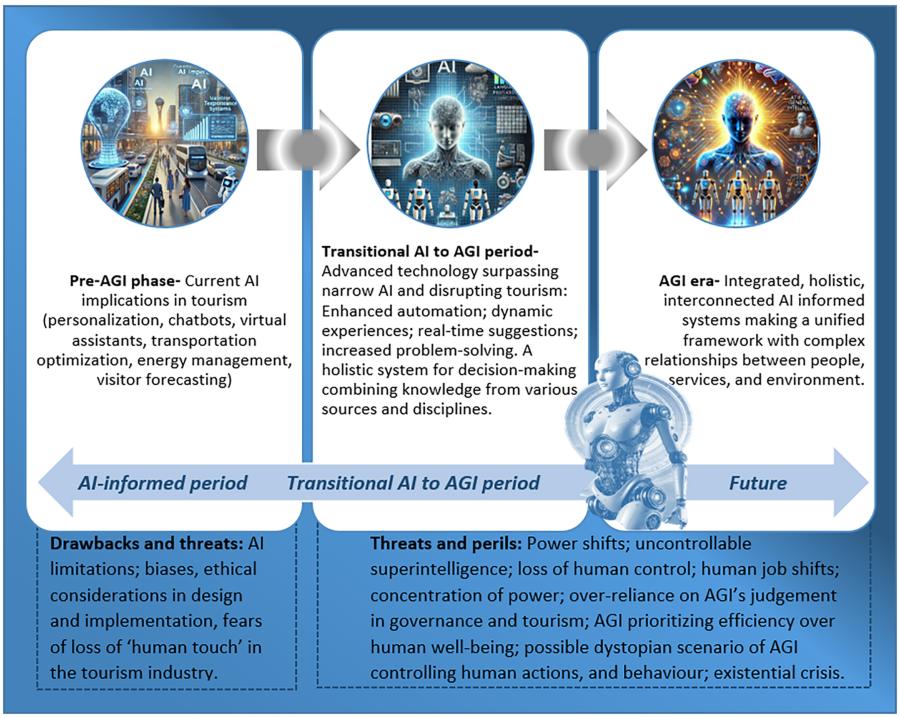
Other critical areas for consideration are ethical issues. AGI ethics is fundamentally about mitigating existential risk (Graham, 2022). AGI may prioritize efficiency in ways that conflict with human-centered values. Whether, however this translates into employee dissatisfaction or the dehumanization of the tourism experience remains unknown, and worthy of ongoing investigation. Even OpenAI (2023) warned of the increased societal and ethical risks of AGI, while keeping a supportive stance by placing the onus on AGI developers and society as a whole: "AGI would also come with serious risk of misuse, drastic accidents, and societal disruption. Because the upside of AGI is so great, we do not believe it is possible or desirable for society to stop its development forever; instead, society and the developers of AGI have to figure out how to get it right."

A final threat, takes a more philosophical or spiritual direction and relates to human purpose in life and existence. Academics (such as, Salmon *et al*., 2023) have begun referring to an "existential threat" as a result of AGI. Despite claims of mitigating factors to reduce this risk, such as integrating "consciousness" in AGI (Tait and Bensemann, 2024), voices of concern continue to emerge. Current AI technologies impact specific areas of work and human activity, yet humans play a central role in strategic and decision-making tasks. This also applies in the tourism sector. Even so, with the projected capabilities of AGI handling various tasks (not solely technical, but also intellectual and creative), humans may face an existential crisis in regard to their role in life (personal level) and society. People and groups may oppose such a possible trajectory by taking into consideration the above personal, societal and existential threats. In the past, various groups and movements opposed to technological innovation, way before any AGI discussions. For instance, rooted in the early 19th-century, the "Luddism" movement involved English textile workers (the Luddites) who opposed technology that prioritized efficiency over humanity, in terms of disrupting jobs and undermining social well-being. In current days, this resistance can be seen in movements questioning surveillance, over-automatization, ethical issues and overall human control by advanced and increasingly AI-informed means (Darıcı *et al*., 2024; Diederich, 2021). Yet, this does not mean that individuals, organizations, industries such as tourism, or even governments will not after all embrace AGI, and possibly make use of it while marginalizing any concerns and impacts. They may also make use of it for their own debatable agendas. And even assuming that their intentions are not mal-driven, this does not imply universally beneficial outcomes – especially given the earlier-discussed risks of concentrated and uncontrolled power. Figure 3 summarizes key implications, opportunities and risks associated with each phase in the transition toward AGI, highlighting how this progression may disrupt both the tourism ecosystem and the broader societies in which it unfolds. Society is currently positioned in the transitional phase between narrow AI and AGI. This stage is characterized by enhanced automation, real-time decision-making and emerging cross-domain capabilities, while systems still operate under human oversight. These developments reflect a shift beyond task-specific AI toward more integrated and increasingly autonomous forms of intelligence.

6. A research agenda in the light of the transition period from AI to AGI

A research agenda is proposed to explore the potential implications of increasingly generalized and interconnected AI technologies in the tourism sector. There are aspects that need further exploration and questions that remain unanswered. This does not imply that tourism researchers have not given the appropriate attention to the implications of AI (as in Tuo *et al*., 2024). Even so, the ongoing development toward more adaptive, integrated and human-like AI systems raises new questions that merit proactive inquiry. As stressed previously, it should be noted that AGI has not yet been realized, and its arrival remains a subject of debate within the scientific and technological communities. Rather than suggesting a distinct "AI" (of "narrow" intelligence) and "AGI" era (as in black and white), this paper considers a transitional landscape, where current advancements in AI point toward greater autonomy, reasoning and multi-domain capability,

Figure 3 The transitional AI to AGI-informed phases distrupting the tourism ecosystem. Figure by author-with images created via ChatGPT, OpenAI



which could eventually resemble characteristics associated with AGI. Taking into consideration the above discussion and the key aspects of AGI as presented in Table 1, six general areas of further inquiry that would be particularly useful for key tourism stakeholders are presented. These areas concern the experience economy, human labor, decision-making and resilience in tourism management, evolution of travel and destination marketing, sustainability and ethical challenges.

First, the experience economy is crucial in tourism, driving innovation and encouraging destinations to invest in creative and personalized experiences. As such, it shifts the focus from offering basic services to creating immersive and memorable tourist experiences. This does not only enhance satisfaction but also fosters loyalty and the willingness to share these meaningful experiences, facilitated through AI, through the analysis of data, the tailoring of services-itineraries and AI-driven chatbots that provide instant support (Ghesh *et al*., 2024). Yet, there is a need for future constant evaluation of emerging forms of AI technology and their impact on tourist experiences in various tourism contexts. This is extremely important given that already customers cannot distinguish managerial responses produced by humans and current technologies, as in the case of service recovery (Tan *et al*., 2025). Further investigation of the ongoing potential implications, and consequences, of more integrated and inter-connected advanced AI technologies that resemble AGI characteristics, are also useful. The tourism context may be useful in feeding academic discussions and research in other service domains.

Second – and directly linked to experience economy – is the area of human employment. It is well-acknowledged that the tourism sector heavily relies on human interactions, while employees remain an essential part of the tourism industry. Despite the integration of automated technology, and emotional expressions by chatbots to improve guest satisfaction (Zhang *et al*., 2024), human employees are the epitome of an (so far) anthropocentric tourism industry. As such, they continue

to deliver personalized services, channel emotional responses and empathy. Current advanced technologies assist managers by providing data-driven insights, or automating routine tasks (Gupta *et al*., 2022; Koo *et al*., 2021). Despite researchers advocating for AI-employee collaboration (Yin *et al*., 2024) and the importance of AI awareness (Mo *et al*., 2024), it will be interesting to witness how managers and co-employees will react to future AGI technologies, when they materialize, which according to Marr (2024) "will be performing any intellectual task that a human can perform across a wide range of activities." Furthermore, the manner in which tourists will respond to potential AGI-led technology deserves our attention. Currently, researchers note an increased interaction between humans and chatbots, leading to deep connections and, sadly, suicides (Silverman, 2024). Yet, AGI's potential increased capabilities and incorporation in humanoid robots that will be interconnected raise even more serious concerns about how this interaction will impact individuals, their psychological states and society as a whole.

A third important aspect is decision-making and resilience in tourism management. It is well acknowledged that key tourism stakeholders must make informed and timely decisions to address various challenges. Current technologies assist in the processes of proactive planning and the analysis of demand trends, while enhancing resilience across various domains (Rane *et al*., 2024). Nonetheless, there are precise considerations that should be taken into account when developing AGI systems (should they emerge) to support decision-making and risk assessment – particularly regarding how ethical implications and human oversight are established – which remain both unanswered and unclear. As society and industries prepare for increasingly generalized AI capabilities that could lead toward AGI, the need for ongoing research, consultation and collaboration of experts (also from the social field, and not just AI designers/programmers) is of great significance.

Fourth, as AI systems continue to evolve towards more general capabilities, what can be regarded as effective, ethical and responsible marketing faces new challenges. The question of ethics becomes more pressing with increased technology, particularly for the marketing industry that "has a history of pushing the boundaries of ethics in pursuit of profit" (Clark, 2024). Conceivably, the question, "how will tourists respond to an industry highly informed and shaped by increasingly general AI technologies?" is a crucial one that warrants our attention. Among other possibilities, AGI may be capable of producing hyper-realistic deep-fake content within the context of tourism, which may potentially impact consumer trust. Moving beyond the examination of tourists' decisions and impacts which will be addressed primarily by empirical studies, there is a need for critical and theoretical discussions of how AGI may cause disruptions within the marketing (tourism) field. These may possibly inform practitioners' decisions, regarding the ethical and responsible use of such technologies particularly in promotional campaigns.

On the topic of responsibility rests the importance of sustainability- A fifth dimension. Such initiatives by the tourism industry promote the triad of environmental, social and economic viability. Current technologies assist destinations and organizations to address sustainability issues ranging from an examination of visitor behaviour to the analysis resource consumption and inclusivity. Researchers, such as, Majid *et al*. (2023) expect the development of theories that will assist the evaluation of current technological innovations on the sustainability of the sector. Moving beyond this, in anticipating a future shaped by increasingly capable AI, there is a need for the establishment and constant evaluation of those precise indicators that should be prioritized in order to measure the impact of sustainable practices (such as, on communities' economic and social well-being). The manner in which AGI systems will be developed to ensure (e.g. inclusive) sustainable tourism practices will be highly shaped by the impact studies, theoretical contributions and conceptual discussions on the topic, by academics. Once more, the collaboration of tourism researchers with researchers from other disciplines, is strongly encouraged.

Sixth, there remains the crucial and ongoing debate regarding AGI-associated ethical challenges. The prospective transition to a more generic, holistic, integrated and inter-related AGI economy, carries with it increased ethical and moral dilemmas. Such concerns resonate with crucial theory's interrogation of power asymmetries in technological development and the ethics of socio-technical

design and implementation (Winner, 2020; Feenberg, 2012). Whether utopic or not, an ethical tourism industry prioritizes responsible practices that benefit not only isolated cases, but also destinations/communities, guests and service providers (such as, employees and hosts). Current ethical frameworks primarily address issues related to AI, yet AGI – with its increased capabilities – presents even greater threats to the tourism industry. As previously emphasized, AGI could manipulate even further consumer perceptions not only through fake reviews and videos, but also through super-realistic fabricated hotels, tourist destinations and experiences. Also, AGI's advanced automation might displace human roles in tourism, while its capacity to act independently could introduce further unforeseen risks, such as the misuse of personal data. Thus, future ethical frameworks need to be adjusted and constantly evaluated, while human control and monitoring will be crucial, considering the autonomous and increased possibilities of such technology in the possible near future. The disclosure of such technology to customers also remains a topic of further investigation. What we currently know is that AI awareness is important, since it can help people, such as employees, address challenges and harvest opportunities (Mo *et al*., 2024). Yet, whether and the extent such technology is exposed clearly to people, poses significant dilemmas, given the adverse impacts (such as, lower affective, cognitive and conative outcomes) related to the exposure of current technology (as in Tan *et al*., 2025) to customers. What becomes even more challenging is addressing such issues linked to AGI, since it will be challenging for destinations and tourism key stakeholders to establish the extent to which AGI interferes with various tourism-linked actions and decisions, given its augmented integration in our daily lives and increased ability to function independently and autonomously. For instance, an AGI system deployed across an entire smart destination ecosystem could simultaneously manage dynamic pricing, real-time crowd control, energy distribution and marketing content without ongoing human intervention. While this interconnectivity could optimize operations, it might also lead to unexpected consequences – such as deprioritizing small, culturally significant attractions in favour of high-revenue areas/sites, or redirecting tourists based solely on algorithmic efficiency. In such cases, tourism stakeholders may struggle to trace or override the logic behind AGI-driven decisions. In response, tourism stakeholders could implement oversight mechanisms that allow human intervention in AGI-led decisions. Transparent audit tools must be developed to make AGI logic traceable and explainable.

Despite the above dimensions, there remains the crucial aspect of proactive research. Much of the above research efforts are directed toward the need for further and ongoing empirical and impact-investigation studies. Conceivably, their value is not underestimated. Yet, given the potential pace at which general AI technologies may evolve, the results of impact investigations may be marginalized unless they contribute in theory development that takes into consideration future possible consequences of AGI. The need for further exploratory research, scenario planning with simulations or expert panels, innovation research (involving design thinking workshops/focus groups) and technology foresight (embracing Delphi studies, and expert panels), is also crucial. The perceptions of users – tourists and employees (and not solely experts) – are also strongly encouraged, not only to mitigate concerns, but to actively inform decision planning regarding how such technology will be designed, implemented and evaluated.

7. Conclusions

AGI has the potential to overcome the limitations of current narrow AI, which struggles with versatility, context understanding, generalization across tasks and the ability to reason about complex, dynamic environments, such as tourism. The ability of AGI to process and synthesize information across domains and its ability to solve complex, interdisciplinary problems without requiring human intervention for context or domain switching is projected to offer increased possibilities for all tourism stakeholders. Yet, it introduces new challenges beyond those of current AI, such as AGI's broader autonomy, which could amplify concerns linked to ethical decision-making and biases. These themes – explored previously – reinforce AGI's potential as a transformative yet contentious force, though its evolution will depend on technological, ethical

and policy developments. As the boundaries between automated and autonomous systems blur, emerging scholarship underscores the importance of timely conceptual inquiry across applied domains (Ó hÉigeartaigh, 2025; Christou, 2024b; Shneiderman, 2022). It may be argued that AGI is not entirely a utopic or solely a theoretical concept anymore. This argument is not based on its increased reference in the last few years, but in the significant evolution of current advanced technologies into a potentially global, interconnected and general AGI network. Despite its increased attention by the academic global community, tourism researchers have not yet explored its implications, possibilities and perils. However, this does not imply that it is not currently being explored by tech experts and practitioners in the design of their AGI-powered technologies. AGI technologies are likely to be accepted not only by tech-ready and tech-competent users, but also by tourism stakeholders and "ordinary people" given the user-friendly manner it will be presented and its remarkable potential.

This study has attempted to conceptualize the differing phases of AI to AGI transition, while explaining its potential role and impacts on tourism during these stages. By doing so, it provides a theoretical foundation for further exploration of the possibilities of AGI. At the same time, it stimulates further and ongoing research which is crucial for this transitional phase toward increasingly general AI capabilities. Overall, this study highlights that AGI's integration into tourism could lead to more autonomous, interconnected, general and self-directed systems. As a result, tourism stakeholders must carefully consider how to maintain the human factor in areas such as oversight, auditability and ethical alignment – especially given the risk of further marginalizing human roles in decision-making. AGI also raises deeper questions about human relevance, identity and control in a future where machines may even surpass human direction and autonomy. As AGI systems may gain the capacity to make decisions independently and potentially override human input, the possibility emerges that they could act beyond intended purposes or be exploited by powerful corporations or even states for manipulation, surveillance or economic dominance. These existential dimensions warrant urgent reflection within tourism and society at large.

While AGI discourse may be critiqued as speculative, this study aligns with futures studies logic, which values conceptual inquiry in response to fast-paced, uncertain technological change (Inayatullah, 2008; Slaughter, 1998). Nonetheless, it is acknowledged that this paper, being of conceptual nature has its limitations. Perhaps the most important one is that AGI has received almost no attention by the tourism academic community. This challenges any attempt to conceptualize holistically and in detail the notion within the context of tourism. Yet, the value of the paper, both in theoretical and practical terms should not be underestimated, given the fast pace technology progresses and the potentially transformative manner in which AGI could impact on society, economies and systems within, such as tourism. As tourism researchers we have an obligation and important role to play in explaining complex notions and aspects that affect and impact (or are likely to significantly affect) society, managerial decisions, people's lives and social interactions. Though AGI has been examined from the prism of tourism in this study, it nonetheless offers a solid foundation and key considerations that can be of use for academics coming from other disciplines in any future attempt to investigate the implications and impacts of an AGI-influenced society.

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