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TechTalk Interview about ChatGPT in Smart Tourism with Dr. Buhalis, Dr. Cobanoglu, Dr. Ivanov, Dr. Khoo, Dr. Law, Dr. Pan, and Dr. Rao

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Travelers have used travel websites, search engines, maps, online travel agencies, blogs, and social media for travel planning, recommendation, booking, and sharing, but since ChatGPT can provide a list of potential destinations and recommend a travel plan, travelers may opt to choose ChatGPT suggestions or at least refer to Chat GPT when planning their trip. There are pros and cons: we discuss potential implications and insights that can be gained from scholars about ChatGPT's early stages, which have had practical, theoretical, and phenomenological impacts, as well as informing traveler experiences. In addition, human-like conversations with keyboards indicate that we could communicate with travel agent by turning around dialogue questions and revised questions via either face-to-face or non-face-to-face counselling services in the near future. Some experiments have been conducted, such as that described in the article *"Expedia is attempting to integrate ChatGPT from OpenAI into its mobile app so that consumers can receive personalized travel advice."* Expedia developed a plug-in for customized travel planning. In comparison, Bing Chat provided specific airport information when users provided their correct departure date. However, since multiple alternatives or activities are very important issues in the travel industry, valid information in the hospitality industry is critical for travelers. ChatGPT needs to provide trustworthy and reliable data that fully convinces travelers.

With the rapid diffusion of ChatGPT in society, business, and academia, hospitality and tourism professionals, including researchers and educators, have to discuss travelers' behaviors when connecting to ChatGPT via the Internet, social media, apps, and smartphones. To address the use of ChatGPT in the hospitality and tourism field, we provide meaningful discussions and contribute to the literature via invited talks with eminent scholars. We conclude with a general discussion covering the ChatGPT phenomenon, along with theoretical, practical, and future research issues.

1. Introduction

ChatGPT stands for Chat Generated Pre-trained Transformer, and has attracted attention worldwide. Dialogue-based artificial intelligence (AI) can interact with humans using natural human languages and very human-like conversation as well as written text, showing the ability to talk and provide general and sophisticated answers to users' questions in forms including writing, coding and drawing. Given the rapid adoption of ChatGPT, we need to understand its AI technology, which has become increasingly capable, and the potential of applications to the tourism industry and academia. Will it be a game changer? The potential of AI technology, good or bad, remains unknown. The Journal of Smart Tourism invited scholars to discuss ChatGPT's impact on the tourism industry and academia.

2. Participants

• Dimitrios Buhalis, Professor at the Business School at Bournemouth University

• Stanislav Ivanov, Vice-Rector at Varna University of Management

• Hejamadi Rao, Chair in Infrastructure Assurance and Security in the Carlos Alvarez College of Business at University of Texas at San Antonio

• Catheryn Khoo, Professor of Hospitality and Tourism at Torrens University Australia

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• Cihan Cobanoglu, Dean of the School of Hospitality and Tourism Management at University of South Florida

• Rob Law, Chair Professor of Smart Tourism at the University of Macau

• Bing Pan, Professor of Commercial Recreation and Tourism at Pennsylvania State University

3. Pros of ChatGPT for the Travel Industry

3.1 Stanislav Ivanov

ChatGPT is part of a bigger group of technologies, which is generative AI. This is an artificial intelligence that generates content. From this definition, you can figure out the actual implications. It creates content. This means that it can create content for the marketing activities of a company. It can create, for example, ideas for a job description. It can create a description of a hotel, but in text format. However, it can also create photos that are quite realistic, although they will not be real photos. It has analyzed the content of a review, quite well, which was published in an article in Buhalis's journal, the Tourism Review. With my co-workers, we obtained a review by a customer for a hotel. We presented it to ChatGPT and asked ChatGPT to evaluate, to identify the strengths and weaknesses of the hotel based on this review. And it was quite good. Also, this technology can be integrated into chatbots, and it can provide smoother communication. When we integrate these large language models within retail-based chatbots, they are able to communicate in a more natural language, so they want you to write what you want. They will be able to deliver without many questions needing to be asked. So it would be more human-like behavior.

3.2 Chian Cobanoglu

We are amazed with what ChatGPT can do for the hospitality and tourism industry. One of the best ways of using ChatGPT in travel and the hospitality-tourism industry is content creation for social media. Social media requires a lot of content on an ongoing basis. If you are a restaurant, you can ask it to suggest some recipes. Similarly, a hotel that is focused on wellness can create social media featuring wellness. In addition, tourism bureaus or destination manager organizations are using ChatGPT to write marketing campaigns to inform potential travelers about what is happening at the destination. I have personally seen ChatGPT being experimented with as a virtual travel assistant for people, as part of tourism destination bureaus or destination management organizations that help people to customize their travel. One of the things about ChatGPT is that it learns from the person, and creates these personalized recommendations. I'm very excited to see how it's going to alter the way that we talk and communicate with people because it's very effective in language translation.

This phenomenon is really quite interesting. As I am traveling in India right now, I had one day free. I wanted to get the highlights of New Delhi. When I asked ChatGPT, it gave me several sights and attractions that a tourist must see. What we did before ChatGPT is that we went to Google, Bing, Baidoo. Then we wrote "things to do in New Delhi." But today we depend on ChatGPT. With Google, you can manipulate what it presents by giving ad sense and paying for some keywords so that your attraction or your service appears first. In other words, we are using SEO search engine optimization tools to be able to appear in those searches on the top. Now the question is "What are were going to do to appear in ChatGPT findings or answers? Is it possible to manipulate ChatGPT or is ChatGPT going to actually give people information based on how much money they are getting paid?" These are all wonderful research questions. For example, the itineraries provided by TripAdvisor versus ChatGPT through experimental research, and the impact on consumers, on guests, and on employees from the supply side, are great research questions.

3.3 Bing Pan

I have limited knowledge about ChatGPT even though I have a paid subscription. I play with it, but I can see the capacity is still limited. However, the scary thing about AI is that it's developing along an exponential curve, which is hard for human beings to imagine or catch up with. Once ChatGPT becomes an infrastructure, that's where its potential can be realized. Imagine you can connect ChatGPT with audio production and simply use your own voice and your own image. I see a lot of potential in the future. I'm using ChatGPT 4, and version five will come out next year. Hopefully they will be more powerful, but again, the exponential curve is what is scary because we are thinking in linear terms.

3.4 Catheryn Khoo

It is scary but it's not there yet. From November 2022 to now, it's been six months, and it's evolved quite quickly. So what's going to be the next three months and the next six months? All of these will evolve very quickly, and we need to be in touch with this as an extension of ourselves. It's human-like, and they can accomplish human-level performance, but still do not have human-level creativity. So for us, as teachers, we still need to train our students to have these analytical and creative skills in order to stay relevant in a world that is relying more and more on AI. I think those two skills are important to get on top of this ChatGPT. Our students will have jobs because these are the two skills that ChatGPT will not have. Allow me to elaborate.

My son sometimes helps customize itineraries. For example, you can say I want to go to Hong Kong, and I'm going to spend three days. Then he goes to ChatGPT to create the itinerary, which he then sends on to these people, who pays him for the research. So my son, and people of his generation, they are making money out of this, and they will be very quick. But when I asked ChatGPT that I'm going to Cambodia this Sunday and to create itinerary for me, this itinerary is not for me. It is not well-suited for a tourism professor, who has seen a lot, who wants to explore something unique, who is interested in social enterprises, and who wants to see women-led businesses. So it's not human-like, and it's not yet analytical to that stage….yet.

3.5 Ivanov

What I can say is that ChatGPT and generative AI in general and artificial intelligence and robotics and automation technologies, they have three types of effects on jobs. Substitution, enhancement and transformation. Substitution means that ChatGPT or other types of technology replace humans. So previously the work was done by humans; now it will be done by automation. Second is enhancement or augmentation. It means that humans are still here but they are more productive thanks to the technology, so they can do more things. And the third is transformation. It means that people are here but they do things in a different way. So practically ChatGPT and generative AI will have three simultaneous effects.

3.6 Buhalis

We are at a crossroads. Everything we knew up to now is changing. And why is it changing? Because for the first time "machine thinks, and machine decides." So far machines have been helping humans to think and decide. And now the machine thinks, and the machine decides. So we are going to a very different era. Honestly, I am a little bit scared of it. Because it is equally promising and threatening. In the sense that, when the machines

decide, and if the machines have got all the knowledge of the world, then, we're going to the "stupidization" of humans. In fact, it's happening already. If you'd like me to drive from my home to my office, I used to be able to do it with maps and things like that. Now I totally rely on GPS. And the GPS is so much better than humans because it knows all the alternatives, has real-time information and has got even information about how much petrol I spend and what is more environmentally friendly. So you know, I've seen it all. I think this is a bigger thing than internet development, which I remember in the 90s. I was finishing my PhD, as you said, and I was writing about technology.

4. Cons: Security Issues for the Travel Industry

4.1 Raghavendra Rao

As a cyber security researcher, I take a slightly different perspective. The dark side is that we will probably find a lot of phishing attacks and other types of social engineering, which essentially can dupe users into revealing passwords, financial information, or other sensitive data. Nowadays it's becoming even more dangerous because you have authentic-sounding text that can be bumped out quite easily with no human effort required. It is important to know that OpenAI has built some safety into ChatGPT. For example, if you ask it to write malware or a fishing email, ChatGPT will tell you that it is not allowed to do it and that it has to follow strict ethical guidelines. Depending on the ingenuity of the hackers and the people on the dark side, that may not be difficult to get around. Because it knows too much, cyber criminals can use that to work around safety matters that have been put in place. So we find these things going on all the time, and in the context of smart tourism, it is quite possible that you might have fake reviews galore. Also, if you have fake reviews, then that is going to have a very detrimental impact on the tourism industry. That is something that really needs to be looked at in substantial detail to minimize the chances of getting scammed. I'm quite sure that with the immense advances that we are seeing with these large language models, it may well be pretty soon that we see the end of smart tourism. So that's something that we really have to think about. We have to understand that we probably have to educate the customers that these things are possible. There are things that are going on in the dark space, which we as academics don't know anything about. But it is critical that we think about these things.

The perceived level of trust and perceived accuracy and preciseness is quite a critical issue in ChatGPT. We don't completely believe yet, but people pretend to trust the information ChatGPT provides because it provides a human-like conversation.

4.2 Rob Law

The whole world is now very excited, but personally I am not too excited about this one. I am still unsure whether ChatGPT is a concept or a tool. If it is a tool you go for a life cycle and will die out. People won't mention it anymore. But if it is a concept it may last for a long time so I'm still waiting to see whether this is a tool or a concept. To answer your question, it is a bit too early to discuss the eventual outcome. Personally, I would say, just like what Catheryn said earlier… if we wait for a few more months, probably towards the end of this year or early next year we can have a better answer to my question about whether this is a tool or a concept.

I commented that in 2012 when the smartphone spread worldwide, at that time apps also become the mainstream application for everybody and then surprisingly the volume and number of reviews on TripAdvisor went straight up with the emergence of mobile applications. But at this moment, ChatGPT is mostly installed on desktops instead of smartphones. It is not mobile yet but sooner or later, ChatGPT will be operating on your smartphones just like apps. At that time, what do you think will happen when the world is heavily impacted by ChatGPT?

4.3 Buhalis

It's now getting to a situation where it may be a network of companies who are doing things. We are going to a very different environment. I'm trying to train my brain not to think how we used to a few years back. But if you're old enough to remember, a lot of companies that you used to work with, to support, that disappeared. As you know I used to be a photographer: Kodak, Aqua, Fuji films, all these guys have disappeared right? So, technology is not different in the sense that whoever you value they're going to go forward. The question is who are the people that are going to give you value? And the question is what we need. I think the most important things are what we need to write, what we need to think, what we need to educate. Our students need to look at it in order to be able to be successful in the future and actually create benefits for society: not necessarily for someone's pocket, but benefits for society. And how do we create regulation and how do we create a legal framework that allows good things to happen but also enables the protection of different citizens?

5. Recommendation: Comparing ChatGPT vs. TripAdvisor

In general, TripAdvisor recommendations are more mainstream and commercial-oriented. Tourism customers really enjoy their suggestions and reviews. Will recommendations by ChatGPT be equal to that kind of commercial-oriented online reviews? We trust and depend on TripAdvisor reviews for previous experience from other customers. And they are mostly considered trustworthy in terms of price and accuracy. Then, as you know, ChatGPT emerged. But the issue of hallucination remains. What are your opinions about the comparison between ChatGPT and other commercial platforms?

5.1 Law

For verification, some information can be inaccurate, and some information could even be wrong. In that case we need to verify with the search engine to find things.

5.2 Khoo

You talked about trustworthiness of the reviews on TripAdvisor. But again, the reviews on TripAdvisor are also very subjective. It could also be biased according to that particular traveler and the mood, perception, and the lenses through which he or she experiences a service delivery.. I don't see it being very different from ChatGPT, and in fact, I think ChatGPT would be a little bit more objective in its evaluation of reviews of these places except for the fact that Rob Law mentioned that they could be fake reviews. But again, we've had face reviews even before ChatGPT. In addition, the algorithms of the ChatGPT are only as unbiased as the data that they are trained on. So if the data is biased, then it will be biased.

6. Trustworthiness vs. Hallucination

One of the big issues in ChatGPT is hallucination, which is something untrue that ChatGPT just creates. It simply makes up a story as if it is true, and people perceive it as true.

6.1 Raghavendra

So Catheryn just pointed out about the availability of data and if data itself is not good and not clean, then that is going to have an impact on the biases that are going to come out. That is a fundamental issue that is ongoing, and people are thinking about it very actively. One of the classic examples in marketing is that houses for sale that are shown to black people are quite different from houses for sale that are shown to white people. So there is a clearly a bias, and the bias is probably because of the data that is available and the data on which ChatGPT is being trained on. But beyond the subtle biases, which are not specifically input by humans, you have this issue of disinformation being utilized actively, which is a completely different game and also more dangerous. So there could be dangerous hallucination as opposed to non-dangerous hallucination. There are various risks, and once you have some kind of transparency and accountability, that is obviously going to be beneficial to everyone. But it is critical, as these large language models evolve, to become more integrated and to prioritize its accountability as you mentioned.

6.2 Pan

When I asked for a summary of ethics in AI research with reference, it gave me a ton of references that were all made up. There's no such paper. My understanding is that this is a language model, and it's predicting the next word from the previous trillion data sets. I think that's how hallucination happens. It is a probability model. In terms of the role of fact-checking, the conversation we have with ChatGPT is a fact-checking process. If you ask ChatGPT and it gives you wrong information, I would say "This is wrong. Dr Bing Pan is in Penn State. Give me more accurate information." Then it will evolve. Another philosophical question is the term 'fact'. What exactly is fact? Fact can be debatable. You say today's temperature is 70 degrees Fahrenheit. But could it be 70.1 or 70.2? Perhaps there is no fact but just opinions. Many common opinions become a fact if many people repeat the same thing.

6.3 Ivanov

It is normal to have hallucinations because hallucination practically means generating content that is not correct although it could convincingly be good. Humans are also quite good at generating incorrect content about what to say about AI. Also, AI is trained for creating content and not to fact-check whether this is true or not. So probably at one point, it will be the new digital policy whether this is creating problems for the tourism industry. Hallucination is a temporary thing. We will pass this probably quite quickly. Not sure how quickly but definitely this is going to decrease. By the way, every time you ask ChatGPT about something, you can vote whether this was acceptable with a thumb up or thumb down. So, this means you provide feedback to the algorithm and if it is wrong, you can provide information and explain. So next time it will probably be able to provide a little bit more correct information; not exactly a factual answer but it least it will be much better than the previous one.

7. Travelers in Foreign Destinations

ChatGPT has improved my spoken and written conversation. From a tourist perspective, tourists in South Korea are always concerned and afraid when traveling abroad because of the language barrier. With ChatGPT, it will help South Korean people travel more easily.

7.1 Khoo

There are advantages to ChatGPT but there are also a lot of disadvantages. One of it is the breaking down of language barriers. On a surface level, it is a good thing, but I'm not sure if it really is because tourism has always been an activity where we travel, and the whole fantasy and ideal about tourism is that it's exotic. We see something new, we learn a different culture, and we struggle with the language. At the end of the day, when we talk about smart tourism, it's not the AI that makes tourism smart - it's the people that know how to use the AI. In other words, we have to talk about smart people who know how to use AI and to maximize its efficiency in improving our quality of life, not to dumb us down and not to take the easy way out. I think that's an important message in using ChatGPT.

8. ChatGPT and Robotics/Humanoids

8.1 Raghavendra

I think that's still far into the future because there's so many things that need to be taken care of. While it is possible to get good voice and image, to get to incorporation into a robot; that to me is not something that will happen in the next couple of years. It'll probably take at least now another five six years before that can happen. In fact, the first robot that I saw in the public domain was in Incheon, and the robot came and greeted me in English. So I assume that it realized that I was not Korean and therefore greeted me in English. But those are very minor things because that is just greeting in English.

8.2 Cobanoglu

Microsoft is using the natural language of ChatGPT to control a range of robots with simple text comments. In other words, normally to be able to control a drone or robot requires sophisticated programming language; however, ChatGPT is serving as an API between humans and the robot. I don't think it's going to take eight to nine years, but it's going to take probably months, if not days. ChatGPT's integration of our lives is as impactful as when the internet came into our life.

8.3 Law

As a consumer, not a researcher or a professor or a scientist, if I am just a hotel guest, I will welcome all kinds of technologies or tools that can make my life easier. But, in terms of traveling, you mentioned that Korean people seldom go out of the country because of the language barrier. But why don't we think from another perspective? How about the travelers from Western countries when they travel to Asia? How does it happen? How can ChatGPT do it the other way around?

8.4 Koo

One of the issues that needs to be addressed in Seoul, South Korea is that people complain that Korean language is difficult to communicate on the street. Tourists always mention the language barrier. Thanks to ChatGPT, language will no longer be an issue. Korea's tourism market will be enlarged.

8.5 Ivanov

We should not talk about the future with the terms of the past because ChatGPT is the present. Robots are the present, but integration of technology is something that has already been happening for many years. And definitely, this merger is inevitable

and not something that is not going to happen. It's inevitable. And robots will be able to communicate, and this will probably improve human-robot interaction because with this robot here, the interaction is quite limited whatever you programming to do.

8.6 Khoo

I would like to see this scenario turned the other way around. That is, if Cihan goes to Korea, then ChatGPT will help him to speak Korean. This way, we do not have just a mono language across the globe; and English isn't the lingua franca, and we still have our own cultures and languages. I think this would be exciting, and would using AI for good, to counter postcolonialism in tourism spaces.

But if I can add to this discussion on robot and ChatGPT, it's not that far actually. I research women in tourism and gender in tourism. We talk a lot about sex tourism. In sex tourism, the idea of sex bots is not new. In fact, it has been in discussion since 2014, and in the last two years this has taken on and has evolved very quickly. The first blue print of sexbot is already in place. You can unpackage a sexbot, and it's already been forecasted how much of a billion-dollar industry it is. So it is moving incredibly fast.

9. Integration with Traditional Systems

9.1 Khoo

Our industry is less predictable than how a restaurant runs. We are a global industry, and we have distribution challenges that is a lot bigger and on a larger scale. People are booking rooms, booking cars, and ChatGPT at the moment depends on these stable data in order to manipulate our decision making. So our industries' data is too fragmented for ChatGPT to use. But they might be fixing these as we talk.

9.2 Pan

My understanding is that it is one huge and humongous model which relies on trillions of data to train the model. If we're talking about a customizable ChatGPT, that might be doable. You can connect your inventory with language-friendly ChatGPT, which can translate the hard numbers into user-friendly language. I think there's a potential there.

9.3 Ivanov

ChatGPT can boost productivity and improve the customer experience. For example, you could integrate large language models into chatbots, or you could connect them to the internet so that they can have more up-to-date information. So practically … we will have more or less integration of these large language models into different applications, probably also including TripAdvisor but not only TripAdvisor: Bookings.com and many other apps in order to provide smoother communication, better value for customers. Practically, companies will integrate these large language models. They will provide better service, better value to their customers and they will be more competitive compared to companies that do not use them.

9.4 Buhalis

I've been looking into CRS (Central Reservation System) as well as GPS (Global Positioning System) and all the rest of it for many years. And I think what's happening in the industries is we have got legal systems and a lot of the industry people have failed to update to the new realities and understand what the new

realities are. And I think that is a very dangerous situation. If you don't understand what's going on you'll become like others, you'll be extinct. And other people who'll come in and they'll be much more up to date, and they'll get you into different places and all the rest of it. Ten to 15 years ago, this did not exist. Ten to 15 years ago a lot of other agencies were taking all this business. So, we really need to look into how we can use this technology in the future and how we can make all these technologies attractive. No question, a lot of the industry is going to disappear, and a lot of new industry is going to appear. The trick is to be on the right side of history because if you are on the wrong side of history you will disappear.

9.5 Cobanoglu

I have personally used ChatGPT to purchase a ticket from Miami to Istanbul. I asked what's the best time to buy. It gave me some tips. It tells you the best time to buy a plane ticket. It gave me three weeks in advance before traveling for my particular dates, which helped me to secure a ticket that was half the price of what I normally would have bought. So I assume that, without knowing too much about this technically, it's going to allow us to be able to get inventories and optimize price adjustments or revenue management.

At this moment, ChatGPT just provides information, but that information will be actualized seamlessly connecting to the back systems (Computerized Lodging System and Property Management System). They will reveal the inventory in time, offer available seats, and optimized routes. The travel industry will change abruptly. Meanwhile, tourism operators and agencies are likely to disappear.

10. ChatGPT for Academia

10.1 Cobanoglu

I have provided a sentence about ChatGPT in my course syllabus. I allow students to use ChatGPT. However, I do not allow them to copy and paste. It is perfectly fine for them to be able to find ideas, to be able to articulate their own ideas, and to help them think critically. That's number one. Number two, I believe that this is definitely going to change the way we educate people, not because of ChatGPT but because it has already started to happen. We are moving slowly from degree-based programs to skill-based programs. So ChatGPT is definitely going to play a huge role in education, and we should use ChatGPT to help us with the content. In my opinion, as educators, ignoring ChatGPT or banning ChatGPT is not the right solution. We need to embrace it and use it as a tool.

10.2 Khoo

In terms of teaching and our use in the classroom, we cannot avoid it because the more you ban students from doing anything, the more likely that they will do it. Also, it is a phenomenon, and it is a reality. It is a sign of the change of times and technology, and we have to embrace it. If we don't know how to embrace it, we ask our younger research or teaching assistants or the younger generation to come and we learned from them. Younger generations have different ideas of work, compared to our idea of work. Work has changed, and people have more nomadic lifestyles now. ChatGPT is just going to help it, and if we stop it, we will not win this conversation. But I have faith in people and the humans who are programming ChatGPT and AI. Even now Google is already looking into cryptographic software to detect plagiarism, and they will penalize content that is plagiarized. Hence I have faith in the system that humans are smarter than AIs and robots. There is no choice but to have faith in the intelligence of human beings in our

judgement. This philosophical conversation around how we use it better and how we maximize efficiency but not take away our human-ness is the most important question. We still need to be human even though everything is AI in hospitality, and everything is robotic, and customer service is now offered by service bots. But we still need to know when to use them and when NOT to use them. Where are the human touch points? I think those are still important and we need to teach our students these issues.

10.3 Raghavendra

One place where I can see it contributing to education is by being a digital tutor. If it allows students instant feedback and guidance, that will be particularly beneficial to students who are having trouble with their work. It can help bridge the gap between students with varying degrees of literacy and because ChatGPT can use adaptive learning platforms, that can be utilized for individual needs based on individual progress. I can see that it could have potential, have a positive effect, and play quite a big role in enhancing educational equity, particularly in under-served areas.

10.4 Ivanov

As an editor, I don't have a problem with using ChatGPT as long as it is not a co-author and it is only humans who are authors. If ChatGPT provided wrong answers, wrong analysis, wrong calculations, or something else wrong, it is not ChatGPT's fault. It is the author's fault because they need to check.

11. Censorship Issue in ChatGPT

11.1 Pan

They train humongous amounts of data online. I am sure some people are going to check what happened in 1989 in Tiananmen Square, which is against some laws in China. This can slow down the development of large language models in China because you cut out a part of history.

11.2 Koo

I also think that mainland China wants to create an AI just like ChatGPT and compete against the US. ChatGPT collects data from the internet and other information sources. But mainland China is a huge country with a huge population. If information is only from China, in that case, there would not be much diversity in the information or different information compared to the US or other parts of the world. Could that be a competitive strategy in the long run?

11.3 Pan

I think they allow the model to crawl information from the Western world but maybe block off certain facts. If that's the case, they have diversity. So I don't think that's an issue, maybe only with a small proportion of information.

11.4 Law

This is a multicultural world. Not every piece of information is suitable for every single country. I want to go back to your education question. I was thinking something very fundamental. What is the purpose of education? The purpose of education is the process of imparting or acquiring general knowledge, developing

the powers of judgement, and generally of preparing oneself or others intellectually. If that's the purpose of education then should we be using some way that can improve the process of learning and teaching and how do we achieve that goal? We should welcome any tools or methods that can help us enhance this process.

11.5 Ivanov

First about the students and then we'll go back to the research. Regarding students, I know that many universities are banning the use of ChatGPT. In our university, we allow ChatGPT to be used for two modules. One is research methods and statistics, and the other one is technologists in tourism and hospitality. Students are allowed to use this for their assignments but the only thing they need to do is to acknowledge they have used ChatGPT in the acknowledgements for the methodology section. If they do not acknowledge that they used it they fail. My logic is that first, we cannot do something without having data. We need to have informed decisions, data-driven decisions rather than emotions or based on prejudices or assumptions, because we are part of a real world, part of education management, not part of a religious institution. However, from my perspective, this is not using ChatGPT education for students to write the assignments. This is not a problem and so they're not a problem because ChatGPT is more than a calculator. We already use different tools. We use tools for translations, we use tools for proofreading, and we use tools for generating content. I see an added cost here. So it is another application and there are many applications you can use to generate ideas to polish the content.

12. Conclusion

The tourism and hospitality industry has been a vital sector of the global economy that continues to face numerous challenges and opportunities. Using technology and innovation, the industry is finding ways to overcome traditional barriers and create new possibilities for growth and development. Tourism academics play a critical role in advancing the industry's knowledge and understanding, with research topics ranging from sustainability and tourism impacts to service quality and customer satisfaction. Furthermore, ChatGPT, as a language model based on the latest advances in artificial intelligence, can provide valuable insights and support to academics and industry professionals (Carvalho & Ivanov, 2023). With its ability to process vast amounts of data, generate accurate predictions, and deliver personalized recommendations, ChatGPT is a powerful tool for addressing the complex issues facing the tourism and hospitality industry today and in the future. By leveraging the latest technology and academic research, the tourism industry can continue to evolve and thrive in an increasingly competitive and uncertain global marketplace. The emergence of artificial intelligence has already revolutionized the tourism industry in recent years. Therefore, by inviting well-known researchers in the field of tourism and hospitality, the experts' discussions have been organized to reveal the potential of ChatGPT to transform various aspects of tourism, from customer service to business operations and to propose the benefits and challenges of implementing ChatGPT in tourism, the role of humans in utilizing ChatGPT, and the future of AI in the tourism industry.

"Who controls this tool, generative AI and for what purpose?" – Dr Buhalis

As for the impact of disruptive technologies such as ChatGPT, Dr Ivanov and Dr Buhalis both recognize that we are at a crossroads, where machines are now able to think and decide for themselves. As Dr Buhalis and Dr Khoo point out, AI can be used to create personalized experiences for tourists by analyzing their

preferences and behaviors. This can lead to increased customer satisfaction and loyalty. Furthermore, AI can be used to streamline operations and reduce costs, as highlighted by Dr Ivanov. Dr Cobanoglu also believes that it is going to allow us to be able to optimize price or revenue management. Dr. Koo thinks that ChatGPT is more user-friendly and human-like in conversation than Google Translate and predicts that Trip Advisor might adopt ChatGPT in the future. Dr Pan notes that there is potential for ChatGPT to be used in creating virtual travel guides and personalized recommendations. By automating tasks such as booking management and customer service, businesses can improve efficiency and profitability. While this offers many promising possibilities, it also presents some challenges and threats. The predictive and reactive technologies of the future may create solutions for users before they even realize they need them, which can be beneficial or potentially dangerous depending on who controls the tools and for what purpose.

"What exactly is fact? Facts can be debatable. There's no fact, just all opinions. Many common opinions become facts if many people repeat the same thing." - Dr Pan

The discussion revolved around the negative aspects of ChatGPT, which can generate inaccurate content, and the importance of human expertise in fact-checking and adding original details. The issue of hallucination in ChatGPT arises, and the panelists discussed the fundamental issue of biases and fairness in the data used to train ChatGPT. They also discussed the danger of disinformation being actively utilized, which is a completely different game and more dangerous. Overall, they noted that ChatGPT is still in its early stages, and it will continue to improve over time, but human expertise is still critical in ensuring the accuracy of the generated content. Regarding the regulation of ChatGPT, Italy has already blocked it and other European counties may follow suit due to concerns over regulation and potential harm. Likewise, Dr Law is not particularly excited about ChatGPT and sees it as a potentially short-lived tool rather than a lasting concept. He believes that it is too early to discuss the eventual outcome and suggests waiting a few more months to see whether it is a tool or a concept. Furthermore, Dr Rao, a cyber security researcher, believes that large language models like ChatGPT can be used to create convincing phishing attacks and social engineering scams that can dupe users into revealing sensitive information. He suggests that educating customers about these risks and thinking about potential threats is critical. He also warns that the immense advances in large language models may soon bring an end to smart tourism.

"Is ChatGPT a lasting concept or a potentially short-lived tool ?" – Dr Law

"With the immense advances that we are seeing with these large language models, it may be pretty soon that we see the end of smart tourism"- Dr Rao

The impact of Chat GPT on the academic and educational world is significant (Skavronskaya et al., 2023). The use of ChatGPT by students is allowed in some universities with the requirement to acknowledge its use, while others have banned it. It has the potential to revolutionize academic writing and research by assisting in the generation of ideas and improving the efficiency of the writing process. However, it also raises concerns about plagiarism and the authenticity of research output. The panelists agree that it is important for editors and researchers to establish guidelines and regulations to prevent misuse and plagiarism. ChatGPT can also facilitate multilingual communication and collaboration, making research more accessible and inclusive. Therefore, ChatGPT has both positive and negative impacts on the academic world, and it is up to researchers and editors to balance the benefits and risks of using AI tools in academic work. However, after all, as Dr Law emphasizes, as the purpose of education is to

develop intellectual powers and judgment, any tools or methods that can help enhance this process should be welcomed.

"We need to embrace it and use it as a tool, as opposed to just maybe one ultimate one." – Dr Cobanoglu

All participating scholars confirmed that the integration of ChatGPT with existing technologies in the travel and tourism industry is inevitable, and it can bring about significant changes and improvements in the industry. However, it is important for individuals and organizations to adapt to these changes and stay updated with the latest technological developments to remain relevant and competitive in the industry. Dr Buhalis emphasized the importance of keeping up with technological developments to stay relevant and not become extinct. Dr Ivanov further discussed the possibility of combining ChatGPT with robots and how it can enhance human-robot interaction. In this context, the role of humans in utilizing AI in tourism was also discussed. While AI has the potential to replace certain jobs, it was emphasized that humans will still play a critical role in utilizing AI. As Dr Ivanov highlighted, humans who do not use AI could be replaced by those who do. Thus, it is essential for individuals to upskill and adapt to the changing technological landscape.

"You would be humans using AI. We will replace humans that do not use AI " – Dr Ivanov
"It's not the AI that makes tourism smart. It's the people that know how to discerningly use AI"- Dr Khoo

Looking to the future, the conversation highlighted the need to focus on the bigger picture rather than individual technological advancements such as ChatGPT. ChatGPT is just a small peak in the generative AI wave, which is a small peak in the AI and robotics wave, which is just one wave in the larger context of technology. Therefore, it is important to frame research in the context of generative AI and focus on the larger technological advancements in the industry, as Dr Ivanov proposed. The dialogues shed light on the possible advantages and hurdles associated with the integration of AI in the tourism sector. The significance of taking into account ethical concerns, improving skills, and adopting a wider perspective was underscored. The discourse exemplifies the need for cooperation between academic and industrial sectors in devising and executing AI remedies for tourism. It is probable that the progress of AI will determine the future of the tourism industry, hence it is imperative for both businesses and individuals to accommodate and brace themselves for this technological transformation.

Declaration of competing interests

The author(s) declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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