Journal of Smart Tourism

TechTalk: Technological Paradigm Shift over the Four Decades in Tourism by Prof. Rob Law

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Interview at a Glance

Over four decades, technology has evolved from PCs to AI, transforming tourism by enabling self-guided research, online bookings, and personalized experiences. This has allowed suppliers to innovate in marketing and services through digital platforms and AI tools. In our interview, Professor Rob Law from the Asia-Pacific Academy of Economics and Management at the University of Macau shared valuable insights drawn from his 25+ years of academic and industry experience. He emphasized the need for continuous adaptation to technological advances and underscored the importance of interdisciplinary research in driving future tourism innovations.

1. From PCs to AI: Four Decades of Technological Evolution and its Transformative Impact on the Tourism Industry

Over the past 40 years, technology has significantly reshaped tourism: from PCs in the 1980s to the Internet in the 1990s, social media in the 2000s, smartphones in the 2010s, and now AI in the

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2020s. What are your thoughts, theoretical insights, and practical viewpoints on this technological evolution and its impact on tourism?

1.1. Thoughts

From the perspective of tourists: 1) Popularization and personalization have made it possible for more people to participate in tourism activities, empowering travelers to research destinations, accommodations, and activities independently. 2) AI can empower us to pursue higher order needs such as esteem and self-actualization through augmenting our skills and knowledge. 3) Information acquisition has shifted from physical to electronic, booking and consumption habits have moved from offline to online, tourism community interactions have transitioned from offline to online, tourism products and services have evolved from homogenization to personalization, and the connection of tourism supply has changed from fragmented to seamless. From the perspective of suppliers: 1) Online interaction could mitigate the power of (online) travel agents, allowing the tourism industry to be more transparent and direct. 2) The decentralization of social media information disrupts traditional distribution channels, empowers smaller businesses and promoting niche tourism offerings, and changes marketing strategy, leveraging social platforms using engagement and storytelling to build brand loyalty and authenticity. 3) Each leap in technology has driven continuous innovation and optimization in tourism, including reservation systems, efficiency improvements, brand marketing, customized services, public opinion monitoring, and future virtual tourism.

1.2. Theoretical insights

The democratization and decentralization echo the Service Dominant Logic (S-D logic), which underscoring the process of value co-creation. Innovation diffusion theory can understand the use process, and is crucial for anticipating and managing the impacts of technological change on the tourism ecosystem.

1.3. Practical Viewpoints

Ethical standards or rules should be established regarding what information can and cannot be disseminated to ensure the privacy of customers and suppliers. Tourism stakeholders should adopt a customer-centric approach, leveraging data-driven insights to personalize experiences and facilitate cross-sector collaboration.

1.4. Considering this four-decade paradigm shift, how do you envision the evolution of the tourism industry in the era of AI?

1.4.1. Enhance Customer Experience

AI-driven recommendation systems can customize the need of consumers. The combination of Artificial Reality (AR) and Virtual Reality (VR) technologies allows tourists to experience a virtual tourism and provide a new tourism approach. AI-driven chatbots and virtual assistants will become standard in customer service. A network of these interconnected technologies allows customers to enjoy seamless interoperability and real-time co-creation.

1.4.2. Improve Service Efficiency

Autonomous vehicles and drones could revolutionize transportation and delivery services within tourism destinations. AI will streamline back-office processes such as inventory management, risk assessment, and energy efficiency, leading to cost savings and improved sustainability. AI and robots are changing the job processes, tasks, and positions for human employees after service automation.

1.4.3. Optimize Marketing and Management Strategies

The tourism industry will reduce its vulnerability with AI providing more accurate and fine-grained consumer profiling and demand forecasting. Generative AI helps rebuild the marketing strategies and reduce the labor, time and capital costs required for customer communication, content creation and more.

1.4.4. Innovate the Business Pattern

AI can emerge as a large-scale language model with over 100 billion parameters, with the miraculous ability to emerge from pre-trained information and form new content, customer and business input and information learned from interactions. Traditionally, tourists would first have a need and then search for relevant information. AI, by analyzing tourists' historical behaviors and preferences, can personalize the customization of travel information and automatically send it to tourists to stimulate their demand. Data-driven business models will emerge, such as dynamic pricing and personalized bundled services based on usage and demand.

2. Navigating Academic Trends and Career Paths: Insights for Graduate Students in Tourism

2.1. With a long history of influential publications in hospitality and tourism, how do you keep up with evolving academic trends, and what future trends do you foresee?

2.1.1. Engage More with Multi-Stakeholders

The industry is ahead of academia, and there is a gap between the two. Research that addresses current management and development challenges in the industry is both meaningful and cutting-edge. By studying policy documents, industry reports, and market analyses, understand the new directions and challenges in industry development.

2.1.2. Continuous Learning

Stay current with evolving academic trends requires a multifaceted approach. Read more literature. Subscribe to and regularly read top academic journals to stay updated on the latest research findings and academic trends.

2.1.3. Academic Networking and Collaboration

AI and computer applications in tourism are cross-disciplinary works. Therefore, tourism researchers need to communicate more with scholars from other fields to advance research from different perspectives and methodologies. Build the academic network. For example, by attending academic conferences, participating in online forums, or contacting research peers directly.

2.1.4. Reflective and Critical

Be critical of your research. Reflect on my assumptions, methods, and conclusions to see if there is space for improvement.
Some of the anticipated trends in the tourism and hospitality

sector include the following aspects: Explore tourism problems using AI models or deep learning to mine unstructured data (real-time data, streaming data), etc. Explore development dilemmas and drawbacks in the use of AI in tourism or hospitality, such as ethical standards development in the AI era. Integrate AI and big data to analyze personalized guest experiences and adopt blockchain technology to achieve transparency and security of transactions. Achieve the customer co-creation and sustainable HT with the assistance of AI.

2.2. What valuable suggestions or recommendations can you offer to current graduate students to help them shape their career paths effectively in both academia and industry?

2.2.1. Change Your Thinking Pattern

Publication is not everything. Impact is more important. Academic dialog is needed.

2.2.2. Build a Strong Foundation

Focus on gaining a deep understanding of your field and developing robust research skills. This foundation will be invaluable in any career path.

2.2.3. Clarify Career Goals

Define your career goals and communicate them to leaders. This will help you succeed in your career.

2.2.4. Build a Strong Network

Attend conferences, join professional organizations, and connect with industry professionals and academics. Networking can open doors to job opportunities, collaborations, and mentorship.

2.2.5. Continuous Learning

Take an active role in project management and develop the various skills, such as critical thinking, problem-solving, project management, data analysis, and teamwork.

2.2.6. Stay Flexible and Adaptive

Be open to exploring different pathways, taking on new challenges, and seizing unexpected opportunities that align with your long-term goals and aspirations.

3. Transition and Vision: From The Hong Kong Polytechnic University to the University of Macau and Future Plans for APAEM

3.1. After over 25 years at The Hong Kong Polytechnic University, you recently moved to the University of Macau. What was the most significant change and main motivation behind this transition?

Overall, my tasks and duties are more or less the same at the Hong Kong Polytechnic University (PolyU) and the University of Macau (UM). These mainly include conducting academic research projects, supervising doctoral students, teaching, providing service to the university, society, and the international academic community.

Macau is an excellent place for conducting tourism research, in general and particularly in smart tourism. With a population of about 700,000 local people, the city had around 28 million visitor arrivals in 2023, indicating the popularity of Macau as a tourist destination. This, in turn, shows the major contributions of tourism to Macau's economic development. This is also the major motivation for me to carry out my projects.

3.2. As Asia-Pacific Academy of Economics and Management (APAEM) at the University of Macau, can you share a few plans to better envision the University of Macau?

Asia-Pacific Academy of Economics and Management (APAEM) at the University of Macau (UM) provides a platform for faculty members at UM to meet with industry leaders, apply technology to solve real-life management and economic problems, and interact with academic researchers from different faculties and disciplines. I am excited to be a member of the team, and look forward to seeing more fruitful results. I would believe I can provide leadership to even more success but a person cannot do much. As such, utmost commitment and cooperation are needed to produce great outcomes and achievements. I very much look forward to the rich and rewarding years ahead. With the strong support from UM, I am confident that APAEM can, and will continuously, promote interdisciplinary research that has signification implications for the socio-economic development of Macau, the Greater Bay Area, and beyond.

4. Enhancing the Success and Visibility of the Journal of Smart Tourism: Recommendations for Mainstream Impact

4.1. What suggestions or comments do you have to help the Journal of Smart Tourism become more successful and further developed in mainstream publications?

4.1.2. Interdisciplinary Approach

Encourage interdisciplinary academic papers from the realms of computer science, geography, psychology, management, education, economics, and Hospitality and Tourism.

4.1.3. Build a Strong Review Team

A professional, fair and rigorous review team is the key to ensure the quality of the journal. The review team should include the research from various fields.

4.1.4. Visibility and Accessibility

Utilize social media and digital platforms to promote published articles and make them easily accessible to both academics and practitioners. Considering open access publishing models or hybrid options can enhance the accessibility and impact of the journal's content.

4.1.5. Engagement with Industry Partners

By fostering closer ties with the industry, the journal can address practical challenges and promote innovation in smart tourism practices.

4.1.6 Continuous Innovation

Embracing continuous innovation in editorial practices, publication formats, and digital technologies can keep the journal at the forefront of scholarly publishing. Experimenting with

multimedia content, interactive features, and alternative metrics can enhance reader engagement and enrich the scholarly experience.

4.1.7. Organize Conferences to Promote the Journal

Organize more conferences to strengthen academic cooperation and increase the visibility of journals.

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