

Chapter 6:

The automated tourism and hospitality company of the future

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1. Introduction

In the robonomic economic system many tourism and hospitality companies will be completely automated, and some of them may not even have any human employees. It means that we must rethink the way tourism attractions are created, the way tourism experiences are designed, and the practices of tourism and hospitality companies. We need to consider how to cater for tourists in ways that prove viable both with and by (ro)bots, as well as the with human employees who might have a changed role in future tourism and hospitality. The automated experiencescape of the future can be envisaged as that of changed roles and practices, which if designed with care, also could contribute to more sustainable solutions within the tourism and hospitality industry.

In the future, tourism and hospitality companies may be owned and run by AIs and may have no human employees. The AI is not owned by someone, unlike today when technology is an asset owned by someone, whereas in the future AI could be legally treated as animals, i.e., some have owners, others do not. In future tourism and hospitality, experiences may be (co-)created by humans and/or AI. This will likely lead to a “rational - emotional clash” when the rational decision-making of AI meets the emotional reactions of human tourists. To counteract such conflicts, front-stage AI must have emotional intelligence. Automation of future tourism indeed will influence the co-creation of experiential value for all stakeholders.

In the event of human-out-of-the-loop decision-making approaches, where no human is involved, decisions are taken and implemented by AI. Tourism and hospitality management decisions relating to operational practices, marketing, and financial aspects of the automated tourism and hospitality companies will be different from current norms. For example, AI can communicate with other AIs in the supply chain. At the same time, the need for human involvement will be evident particularly in tourism companies' operation in unpredictable context (e.g., outdoors experience-based companies) or highly interactive emotional settings such as problem-solving of a complex character, relying on highly specialized human competence (e.g., gourmet chefs).

This chapter focuses on the characteristics of the automated tourism and hospitality company of the future. It elaborates the automation of tasks and processes in tourism and hospitality, the

partial and full automation in the industry, and sheds light on the ways business processes are organized in automated tourism and hospitality companies in the future.

2. Automating tasks and processes in tourism and hospitality

From an operations management perspective, every tourism and hospitality organisation is a bundle of processes (Slack, Brandon-Jones & Burgess, 2022), e.g. information provision, booking a room/cabin/seat/table, cooking, serving, cleaning, housekeeping, pricing, documents handling, processing payments from guests, paying to suppliers, inventory management, etc. The processes are usually divided into back-of-house (or back-stage) and front-of-house (or front-stage) processes based on customer participation in them. This division into back-of-house (without customer participation and co-creation) and front-of-house processes (with customer participation and co-creation) determines the degree of control managers have over the respective processes and their potential automatability. Managers and employees have full control over the back-of-house processes, they are usually repetitive, have predictable duration and outcomes, often can be planned in detail, and therefore are automatable provided the availability of appropriate technology. The inclusion of the customer in the front-of-house processes increases the uncertainty of the process procedures, duration and outcome, and, therefore, makes the process generally more difficult to automate because the customers may resist the use of automation (Webster & Ivanov, 2021) and may not follow the service delivery procedures (e.g. they may show aggression towards a waiter robot). It becomes even more challenging to streamline co-creation processes of memorable experiences.

The road to full automation in tourism goes through the automation of processes in tourism and hospitality companies. Each process is a bundle of tasks. Hence, the automation of processes happens in practice through the automation of tasks that constitute these processes (Ivanov, 2020). The automation of tasks in tourism and hospitality depends on factors such as the characteristics of technological solutions available to companies, cost considerations, target customer preferences and the automatability of tasks. The advances in robotics, artificial intelligence and other automation technologies increase the capabilities of these technologies and make the automation of more and more tasks technologically feasible while the decreasing technological costs make task automation affordable. Customers' preferences towards human-delivered authentic services may be a hindrance to full automation (Seyitoğlu, 2021). However, even if tourism and hospitality companies can afford and implement the latest technologies and customers are eager to have automated experiences, the automatability of tasks in tourism and hospitality rises as a barrier to full automation. Task automatability refers to 'how easy it is for a task to be performed by technology rather than by a human employee' (Ivanov, 2023). A task's automatability depends on the task's characteristics: nature, complexity, frequency, and standardisation.

Based on their *nature*, tasks can be grouped into physical (e.g. moving items, cleaning, cooking) and cognitive tasks (e.g. provision of information, recording a booking into the property management system of a hotel, issuing documents, generating draft contract). Both groups of tasks are automated with the help of different technologies. Performing physical tasks requires mobility and the physical handling of objects (humans, luggage, food, etc.). In tourism and hospitality context, they are automated through industrial, service or social robots, e.g. for cooking food, for serving food, for room service delivery, for cleaning floors, for disinfection of premises, etc. (Tuomi, Tussyadiah & Stienmetz, 2021). Cognitive tasks can be automated through software/intelligent automation (Bornet, Barkin & Wirtz, 2021) which is not necessarily embedded in a robotic device. Physical tasks are more complex than cognitive tasks because the robot that performs them needs to gather, analyse, and respond quickly to real-time data from its physical surroundings. Therefore, by their nature, the physical tasks in tourism and hospitality incorporate cognitive elements too. At the same time, cognitive tasks may not need the physical handling of objects and mobility (e.g. extracting information from an email message and inputting in the property management system of a hotel). However, some cognitive tasks such as communicating with customers require the physical movement of the head, hands, and torso of the social robot and maintaining eye contact with the guest to improve the communication between the robot and the guest, since not all communication is verbal. Finally, many tasks in tourism and hospitality companies (e.g. handling customer complaints, dealing with emergency situations) require high emotional intelligence by the service provider. The limited current emotional intelligence capabilities of automation technologies make such tasks very difficult to automate but in the robonomic economy of the future the emotional skills of chatbots and robots will be sufficient to automate them as well.

Task *complexity* is ‘the aggregation of any intrinsic task characteristic that influences the performance of a task’ (Liu & Li, 2012: 559). These include:

- ✓ Goal – what the task-doer wants to achieve with the task (e.g. moving the ordered dishes from the kitchen to the guests’ table).
- ✓ Input – quantity, diversity, predictability, variability, duration, regularity and other characteristics of a task’s inputs (e.g. fluctuation in demand, serving hotel guests with conflicting service requirements).
- ✓ Procedure – the way a task is performed, number of required steps (e.g. scanning a guest’s ID card, extracting data from it and inputting it in the property management system or typing the data on the computer’s keyboard).
- ✓ Output – the result of the task in terms of quantity and quality (e.g. customer’s data input correctly).
- ✓ Time – duration of the task and time pressure/urgency for its completion.
- ✓ Presentation – the way the output is to be presented (e.g. formal or casual table setting).

Based on their complexity, tasks can be divided into groups between two extremes – simple and complex tasks. Simple tasks have clear goals, predictable input, take a few steps only, have clear output definition that does not require much efforts, and may be short in duration. Complex tasks require high levels of critical thinking and creativity by the task-doer because they involve many steps, have variable and diverse inputs, not well-defined procedures and outputs, and may have unpredictable duration. Moreover, complex task may require interaction between several task-doers (e.g. employees) or with the customers (i.e. co-creation of experiences). Simple tasks (e.g., inputting customer data in a database) are generally easier to automate compared to complex tasks (e.g. restaurant kitchen layout design) but advances in generative AI allow for the automation of many complex tasks in tourism and hospitality as well (Carvalho & Ivanov, 2023; Iskender, 2023).

Task *frequency* is a characteristic that divides tasks based on how often they need to be implemented in a tourism/hospitality company. Repetitive tasks are worth automating because they create economies of scale due to the automation of numerous tasks, often across job positions. For example, for a hotel it is worth investing in chatbot technology to automate bookings and answer customer requests. Tasks that are rarely performed in a company are not economically feasible to automate.

Task *standardisation/algorithmisation* refers to the variability of a task and the possibility to develop a strict procedure for its implementation. Tasks with a well-defined and consistent procedure are automatable because there is little variation in the tasks' inputs and output (e.g. preparing fries in a fast food restaurant). Tasks with high variability (e.g. preparing dishes in a fine dining à la carte restaurant) are more difficult to automate. Nevertheless, automation technologies already allow for high degree of customisation and personalisation (e.g. dynamic packaging) which in the robonomic economy of the future will be the norm although customers may not always wish to pay more for customised and personalised tourism and hospitality products (Ivanova, Jeliaskova & Ivanov, 2021).

Simple, standardised and repetitive tasks are highly automatable while complex, rare and diverse tasks are more difficult to automate but the advances in automation technologies widen the scope of automatable tasks paving the road to full automation in tourism and hospitality. The latter will require reorganisation of processes within tourism and hospitality companies – some will disappear because they are unnecessary, others will incorporate new or fewer tasks, yet third will be newly created processes (Ivanov, 2020). The human service providers will gradually step aside while automation technologies will take their place on the scene, although human service providers will still be employed by some tourism and hospitality companies.

3. Partial vs full automation in tourism and hospitality

For tourism and hospitality companies, the full and partial automation have their own advantages and disadvantages. Most importantly, partial automation compensates the weakness of automation technologies (e.g. lack of flexibility) by the strengths of human employees (e.g. creativity, critical thinking, emotional intelligence, resourcefulness) and vice versa. This means that customers have the support of human employees when needed (e.g. if a machine malfunctions or they do not know how to use it) or if they want to be served by humans rather than robots (Seyitoğlu & Ivanov, 2020). However, the ironies of automation work against the partial automation (see Chapter 2). According to Bainbridge (1983) automation may create more problems rather than eliminate due to errors in the system design and arbitrary collection of tasks human operators are left with which system designers could not automate. For example, engineers might automate the cooking of the food in a restaurant through an industrial robot and serving the food through a service robot but someone still needs to put the food from the cooking robot on the plates and move the ready plates on the tray of the waiter robot. These tasks might be too few and too simple for human employees and, hence, demotivating to them. The company would be forced to combine these tasks with other unrelated tasks to create an economically feasible job position. However, the overall efficiency of this partially automated process and the attractiveness of the job positions might suffer due to employees' inefficiency and demotivation to perform the unautomated tasks. The full automation eliminates the human operator and reorganises the processes to be performed by robots, AI and other automation technologies rather than human employees. On the one hand, this makes the service process less flexible but, on the other hand, it improves its the overall efficiency because all tasks will be automated. Customers' resistance to full automation due to the lack of trust in or knowledge how to use the technology would be gradually overcome when they become more exposed to fully automated tourism and hospitality companies with fewer service failures. Therefore, in the long run, the economic stimuli (decreasing technology costs, increased technology productivity and labour costs) work in favour of full automation in tourism and hospitality provided the availability of appropriate technological solutions.

One of the major issues in the road to full automation in tourism and hospitality is the automated decision-making elaborated in Chapter 1. Often automation is associated mainly with the implementation of the tasks in front-of-house and back-of-house processes that are directly linked to the service delivery (i.e. the primary activities in the terminology of Porter's (1985) Value Chain Model) such as cleaning, cooking, housekeeping, provision of information, room service delivery, processing payments and documents, etc., but not the managerial decisions related to these tasks. However, the automated tourism and hospitality company of the future will rely on automated decision-making as well. This means that artificial autonomous agents will make decisions related to prices, confirmation of bookings, choice of suppliers, market positioning, communication strategies, social media and metaverse posts, investment and financial decisions, etc., without human intervention (i.e. 'Human-on-of-the-loop' and 'Human-

out-of-the-loop' approaches). The delegation of complete decision-making authority to artificial autonomous agents will make fully automated tourism and hospitality companies largely independent of human control. Human intervention, where necessary would be related to the physical repair whenever it cannot be automated. Additionally, humans will interfere in decisions that require significant emotional intelligence (e.g. dealing with complaints). Naturally, in a robonomic economy not all tourism and hospitality companies will be fully automated, and companies with various degrees of partial automation offering diverse experiences will successfully operate in the market.

4. Business processes in the automated tourism and hospitality company of the future

4.1. Operations management

Tourism and hospitality can be seen as the marketplace for experiences (Björk et al, 2021). With the introduction of the experience economy (Pine & Gilmore, 1998, 1999, 2011), staging of experiences came to the fore as a way of mass-customization as a way for operations management to meet individuals search for experiences (Loef, Pine, & Robben, 2017). Chapter 7 sheds more light on the implementation of automation technologies for creating tourism experiences. Co-creation of experiences (Campos et al., 2018; Prahalad & Ramaswamy, 2004) is an evident part of tourism and hospitality (Moyle et al., 2017). Hence, in the automated tourism company of the future, the design of experiences involving AI is key to operations management. New technologies pave way for new types of experiences and novel ways of experiencing. These changes represent the automated experiencescape of the future.

Experiencescapes can be understood as “nested products of inputs from organizations and tourists [...] produced through substantive and communicative staging” (Mossberg, 2007, p. 63), and extends beyond the servicescape (Bitner, 1992; Fossgard & Fredman, 2019; Vespestad & Hansen, 2019). It is important for automated tourism and hospitality companies to acknowledge that they are not limited to producing or delivering services to tourists. Operations management also involves a broader co-creation amongst several actors in an experience environment (Mossberg, 2007). In the future some or all these actors will be AI. This means that companies must take measures as to how to maintain central aspects of co-creation (Aluri, Price, & McIntyre, 2019), where the joint resources of the different actors are integrated into the experience (Prebensen, Chen, & Uysall, 2014; Prebensen & Rosengren, 2016) with AI alleviating this process. This means that for example storytelling (Pera & Viglia, 2016), immersion (Carù & Cova, 2006; Hansen & Mossberg, 2013) or even transformation (Lindberg & Østergaard, 2015) could be operated by AI. Moreover, AI can be integrated as a part of the experience in a way that facilitates a deeper immersion into the experience. For example, AI can be used pre-experience, to lead tourists into the experience telling facts for tourist to gain more

knowledge about the Northern Lights (Aurora Borealis), or a robot could be used to tell myths about northern Lights to create a sense of magic.

Many small restaurants and capsule hotels will rely on (nearly) complete automation of tasks thus effectively replacing labor as a production factor. From a marketing perspective, the automated tourism experiences would be sold at low prices because automation technologies are largely perceived by tourists as cost-saving technologies and tourists would wish some of tourism and hospitality companies' cost savings due to automation to be transferred to them through low prices (Ivanov & Webster, 2022). Additionally, the massive spread of automation in all sectors of the economy and all facets of social life and the associated economies of scale, will mean that automation will lead to the commodification and standardization of services thus providing additional justification for a low price for automated experiences. At the same time, 'high touch' tourism and hospitality companies may prefer to use human employees in their front-of-house operations, although some or all back-of-house operations might be automated. Their market positioning will be based on the human warmth in the service delivery process that technology cannot provide. Consequently, these 'high touch' tourism and hospitality companies will charge higher prices than the ones that offer the automated experience. In between these two large groups of companies, there would be various shades of grey. Most tourism and hospitality companies will use a combination of human employees and automation to create tourism experiences. Thus, tourists will enjoy a constellation of options and will select the one that best fits them in terms of affordability and preferences towards the service provider (a human or a (ro)bot).

Previous studies have shown that tourists are not uniform towards their attitudes towards robots and other automation technologies (Webster & Ivanov, 2021). They have different perceptions towards which tasks are appropriate for automation/robotization and have different preferences towards the degree of automation of tourism and hospitality services. Hence, tourism and hospitality companies would need to identify the appropriate market segments for their products and to design the experiences based on tourists' preferences (Seyitoğlu & Ivanov, 2020). In the robonomic economy of the future, where automation is the norm, the provision of human-delivered and digital detox experiences will be the competitive advantage for some tourism and hospitality companies.

Going beyond the current economic paradigm, taking into consideration sustainability as a prevailing tourism management goal, operations management decisions will be made with the UN sustainable development goals as the gold standard. For example, pre-programmed questions relating to operations contribution to the fulfilment of the separate SDGs will be part of the daily procedures of both human employees and artificial autonomous agents. This would make the more sustainable options the default for operations management. This will apply to both internal

and external activities, allowing for sustainably more favorable decisions to be made the benchmark. Chapter 10 sheds more light on the sustainability of tourism and hospitality in robonomics.

A major operational aspect of the automated tourism and hospitality company is the robot-friendliness of its facilities (Ivanov & Webster, 2017a). It relates to how the design and condition of the facilities support a mobile robot to fulfil its tasks (e.g., to deliver a room service order). The robot-friendliness of hospitality facilities depends on the presence of doors, doorsteps, floor inclination, tidiness, the presence or lack of artificial landmarks and sensors to help with robot's navigation, etc. The more robot-friendly the facilities of a hospitality company, the easier the implementation of service robots in it. Considering that many of the requirements for robot-friendliness of the facilities are the same as for wheelchair access (e.g., lack of steps, floor surface inclination), more and more hospitality companies in the future will have robot-friendly facilities which contributes towards successful implementation of service robots in their operations. While this applies to built facilities such as theme parks, hotels or museums, for outdoors nature-based tourism, particularly those with an experiential focus, the robot friendliness is not evident to the same extent. Chapter 8 delves deeper into the development of robot-friendly hospitality facilities.

4.2. Marketing management

The automated tourism company of the future will use artificial autonomous agents to make marketing-related decisions about its target customers, market positioning, determining the elements of the marketing mix, marketing communication campaigns, budgeting, to communicate with customers, etc. At the same time tourists will use their own agents to find and compare tourist offers and book tourist services for them. This means that on the market the artificial autonomous agents of tourism and hospitality companies will face the artificial autonomous agents of the customers. Therefore, companies' autonomous agents will need to target the autonomous agents of customers, i.e. to apply AI2AI marketing (Ivanov, 2022). The concept of AI2AI marketing acknowledges that both tourism supply and demand may utilise artificial intelligence. Therefore, tourism companies need to redesign their marketing activities to reflect the fact that the purchase decisions might not be taken by humans but by artificial intelligence. Autonomous agents will be able to evaluate tourist offers very quickly, book, cancel and rebook services as prices change on the market. Besides the functional characteristics of the offers (e.g. prices, trip duration, flight schedule, etc.), the autonomous agents might consider other characteristics as well, such as the sustainability of operations, the carbon footprint, fair trade practices of the suppliers etc., that are currently nearly impossible to assess but the data abundance in robonomics might make it feasible to assess. Therefore, the marketing management of tourism companies in the future needs to adopt a broader perspective of the criteria customers

would use in their purchase decisions. From an automated marketing perspective, focusing on the interaction between businesses and consumers, using AI will be essential in building tourism brands, with a tell apart image (Andrades & Dimanche, 2014). The ability of AI to build expectations and to follow-up customers, after e.g., a visit to a tourist attraction, a themed hotel etc., represents mass-customization in a way that can prove both economically viable and initiate revisit intention.

Moreover, the definition of a customer will change, because from an accounting perspective, the outcomes of a purchase decided and implemented by AI are indistinguishable from those of a purchase decided and implemented by a human. Therefore, the artificial autonomous agents that make purchase decisions need to be considered as customers as well (Ivanov & Webster, 2017b). Moreover, robots may become users of some tourist services (e.g. visits to museums and galleries, city tours) (Ivanov, 2019b). Future robots will be quite sophisticated in terms of emotional intelligence; they will be able to perceive, use, understand and manage emotions in others but it is not clear yet whether they will continue to have the inability to experience emotions. Considering that emotions largely shape tourism experiences (Kim & Fesenmaier, 2015; Volo, 2017), it is difficult to predict robots'/artificial autonomous agents' level of emotional engagement with and the ability to appreciate the tourism services they use. Additionally, human employees of tourism and hospitality companies may resist to serve robot customers and consider them as inferior entities, an issue that will not exist in a fully automated company.

The delegation of decision-making authority to artificial autonomous agents in the area of tourism and hospitality marketing will lead to other implications as well (Ivanov, 2022). First, the information asymmetry between buyers and sellers on the tourism market will decrease because both sides will use artificial intelligence and process large amounts of data. Second, there will however, be information asymmetry between the artificial autonomous agents and their human/organisational owners – agents will have more information about their decisions and actions compared to humans. Human customers may doubt the decisions of their own agents. Therefore, tourism and hospitality companies need to develop marketing campaigns targeted at the human customers with the message that their agents made the right decisions to avoid any cognitive dissonance. Third, the prices will be more stable because the agents will not have stimuli to change them. For instance, if a seller artificial autonomous agent increases the price, due to the decreased information asymmetry between buyers and sellers the buyer agents will detect this quickly and direct purchases to other seller agents that did not increase their prices. Similarly, if a seller agent lowers the price, the other seller agents will detect the move quickly and lower their prices thus eliminating any temporary price advantage and the stimuli to lower prices. Forth, some autonomous agents may conceal or share incorrect information about the

identity and characteristics of their owners in order to obtain better prices and condition. Therefore, researching the characteristics of potential human customers might be challenging. Fifth, tourism companies might be in a 'war of the defaults settings' (Webster, 2022). They will compete on whose apps to be preinstalled on smart speakers, smart phones, tablets and other devices to gain competitive advantage over other companies. Sixth, due to the automation of marketing activities and big data analytics, the marketing communications of tourism and hospitality companies will be omni-device, omni-channel and hyper-personalised to the individual human customers. It will also be less aggressive and more subtle and personalised: e.g., a hotel in a movie may appear with a different logo and brand name to different viewers and even to the same viewers who watch it at different times. This will be further facilitated by the human microchip implants for human augmentation that might be widespread among tourists (Ivanov, Webster & Mladenovic, 2014).

4.3. Financial management

The artificial autonomous agents running the automated tourism and hospitality companies will have real-time information about their companies' assets, liabilities, revenues, costs, cash inflows and outflows and cash needs. They will forecast with high degree of accuracy their cash inflows (e.g., sales) and outflows (e.g. payments to suppliers), assess their cash needs or excessive cash, evaluate quickly the available investment opportunities and current bank loan offers, direct their excessive cash to short-term investments or take loans at best available terms whenever they need them, often for a few hours only.

The fully automated tourism and hospitality company will not have human employees, thus there will be no payments for salaries, social security and health insurance. The lack of labour-related payments significantly simplifies the financial management because it eliminates a large, fixed cost whose payment is strictly regulated by legislation. There will be, however, payments to suppliers (often other automated companies in or outside tourism), insurances, taxes, and payments to shareholders. The technologisation of service delivery in tourism and hospitality means that the automated companies will have a lot of assets in the form of physical equipment that is subject to depreciation, maintenance and insurance which are fixed costs. The share of fixed costs in the total costs of tourism and hospitality companies in robonomics will likely decrease because in this currently labour-intensive industry, labour-related costs may sometimes account for nearly a half of total costs (Geffroy, 2019). The increase in the technology-related costs due to the use of more technological solutions will be lower than the decrease in the labour costs because otherwise the implementation of automation would not make economic sense if it increased the total costs [see Ivanov and Webster (2019) for a more detailed elaboration of the economic fundamentals of the use of automation technologies in tourism and hospitality]. The

decreased share of fixed costs in the total costs means that automated tourism and hospitality companies will have a lower break-even point compared to companies without automation.

4.4. Legal issues

A major consideration related to the automated tourism and hospitality companies in the future is their rights and obligations. Currently, companies may be owned by physical persons or other legal entities (companies, organisations, foundations, public authorities, etc.) but in robonomics artificial autonomous agents will own assets like any other legal entity, including shares in tourism and hospitality companies. The fully automated tourism and hospitality companies owned and run by AI will have the same rights and obligations as the tourism and hospitality companies owned by humans and legal entities created or owned by humans – e.g. to pay taxes, to enter into contractual relationships with tourists, suppliers and distributors and fulfil their contractual obligations to them, adhere to legal requirements about the issue and renewal of licences (e.g. for selling alcohol) and categorisation of premises, maintenance and repair of facilities, etc. To fulfil the legal obligations of the companies they own and run, in the future, legislation will need to grant some limited economic rights to artificial autonomous agents to allow them to own tourism and hospitality companies, to have bank accounts, make and receive payments, sign contracts, make investment decisions, pay taxes, etc. (see Chapter 3). In doing so, the artificial autonomous agents will become fully-fledged participants in the robonomic economy and will be able to run fully automated tourism and hospitality companies without human intervention because they will be able to make decisions that are currently reserved for humans. At the same time, giving economic rights to artificial autonomous agents needs to be accompanied by legal obligations – e.g. pay taxes, comply with the laws, respond to tourist complaints, etc. An important component of legislation will be related to liabilities for damages caused by autonomous agents (Hacker, 2023) and associated compulsory insurances for such damages for all tourism and hospitality companies that use robots and artificial intelligence that could somehow cause damages to the property, health and life of tourists, employees, the company or to third parties. The drive for such compulsory insurances may come from national legislation, supranational organisations (e.g. European union), or be mandated by insurance companies in the insurance packages they provide to tourism and hospitality companies.

5. Conclusion

Automation is an integral part of the future of tourism and hospitality. Companies will use robots, artificial intelligence, and various other automation technologies to co-create experiences for/with tourists and automate back-of-house and front-of-house processes. Many companies will completely automate all processes, including decision-making. They will offer affordable ‘high-tech’ experiences to their customers. Some of these companies will be even owned by artificial

autonomous agents rather than humans. Other companies will not automate front-of-house processes and will deliver expensive ‘high-tech’ experiences to guests, although they will likely automate many of the back-of-house processes. Between these two extremes tourism and hospitality companies will employ various degrees of partial automation (Ivanov, 2019a). Human-delivered tourism services would be the exception rather than the norm and together with digital detox vacations they will offer an escape from the technology-overloaded daily routine.

The future customer will not be necessarily a human but purchase decisions will be taken mostly by artificial autonomous agents. Therefore, the scope of the marketing activities of companies will broaden to focus on AI customers as well. Moreover, robots may be tourists themselves (Ivanov, 2019b), although it is not clear yet whether they will have the emotional engagement with the tourism activities they participate in or they will only mimic what humans do. Ultimately, during robonomics tourism will cease to be a ‘people’s business’ because machines will be serving machines, but it won’t be considered perverse.

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