

Boston Hospitality Review

www.bu.edu/bhr

Published by the Boston University School of Hospitality Administration

Incorporating Artificial Intelligence into Marketing Efforts

By Kairbay Tumanov, MMH '21 and
Anh Pham, ESSEC, IMHI '22

Digital Marketing - September 2021

About the Authors



Anh Pham is a first-year Master of International Hospitality Management Student, ESSEC Business School in Paris. Originally from Vietnam, she worked in different departments in hospitality companies. As part of her apprenticeship program at ESSEC Business School, she works as a business developer for an IT consulting firm in Paris.

[LinkedIn](#)



Kairbay Tumanov received his Master of Management in Hospitality secondary degree from Boston University School of Hospitality Administration. A native of Kazakhstan, he has worked in New York, Dubai, Turkey, and Kazakhstan in the areas of food and beverage, promotional venue executives department, and human resources.

[LinkedIn](#)

Incorporating Artificial Intelligence into Marketing Efforts



By [metamorworks](#) on Shutterstock

Artificial Intelligence (AI) has, over the last decade, rapidly evolved in relevance and utilization in hospitality digital marketing. How has it been used, and is our industry optimally capitalizing on the functionality?

Defined as "the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages" (Oxford Dictionary), Artificial Intelligence is widely used in most industries; its use ranges from agriculture and farming to healthcare and medical imaging analysis (LABS, 2020).

Hospitality companies have incorporated various forms of AI among amenities and services (Revfine, 2020). Examples include chatbots, voice recognition technologies such as Alexa for Hospitality used by Marriott (Reid, 2018) for its ten brands (2019), or Tori that helps drive-thru customers to order (Belsito, 2020); robot concierges - Connie by Hilton (Johnson, 2019) and Mario by Marriott (Neild, 2016); direct messengers such as Ivy utilized by Caesars Entertainment Las Vegas Resorts, Holiday Inn, Hilton Garden Inn, and W Hotels properties (Go Moment Ivy 2020). Ivy performs guest check-in/out

and monitors their satisfaction by chatting with customers over the phone (Rao, 2018). Other potential uses for AI in marketing can also incorporate:

Data Analysis: It is essential that no implementation would be realized before this analysis process, which engages three main steps: learning from the past, analyzing the current market, and predicting the future (Udacity, 2020). Machine Learning, a subset of AI, has facilitated this process by using given data as input and predicts possible outcomes.

Also, analyzing data from historic and new-issued surveys and customer behavior is crucial to promote an existing product. This process of market research requires considerable work with high accuracy (Udacity, 2020). AI can optimize this work using existing archived data combined with new own experience data to generate further analysis. AI can also help the user in writing reports in making assumptions and judgments on the given input (Udacity, 2020).

Content Creation: Producing the right content at the right time for the right customer and learning their behavior patterns are incredibly vital in hospitality. How can AI help in website development, advertisement, social media content creation and, therefore, connect and engage with audiences? Although algorithms still cannot fully replace the human element, content creation through the use of AI does exist, enabling copy that is more detailed, better reviewed, and with a higher level of accuracy for researching (Smarty, 2019).

Once data is collected, AI features analyze customer insight from their historical movements and predict their next moves. At this point, personalized messaging is generated to adapt to customer's needs or for customer's orders in the case of a voice recognition feature.

Mass messaging is the rudiment of the past because most of it would be irrelevant to different audience segments. As a result, consumers might switch to another brand if they do not get personalized communication from a company or brand. Moreover, AI constantly improves algorithms through learning, understanding what consumers care about and what they want to read, giving marketers or writers ideas for future content. Creating the right content for an audience allows companies to communicate consistently with people, reach new potential customers, and build customer loyalty. Therefore, this tool is prioritized, especially in the time of crisis.

According to Salesforce, an American cloud-based software company, in 2020, the global pandemic revealed and boosted personalized messaging to a new level (Blitzer,

2020). Every customer is unique, and marketers should project personalization. Although personalized proposals need correcting, we can't deny their efficiency in marketing by targeting the right audience with the right message. It helps reduce human engagement, lower human resources, and advertising costs by optimizing the process. As a result, this incredible tool would help marketers achieve an even higher ROI (Knippel, 2020).

Product Recommendations: AI tools allow product recommendations based on previously generated user purchases similar to advertising but with a more "surgical" approach. For instance, if the user browsed a hotel website for destinations and services the company offers, AI algorithms based on the user's social media profiles, location, purchase history, and even weather conditions can make relevant recommendations.

Chatbots: Chatbots are the illustration of the most extensive use of AI in hospitality. According to the Humley 2018 study, more than two-thirds of Americans would most likely use chatbots to improve their online travel experience (Hertzfeld, 2018). The benefits of chatbots are almost endless: they provide front-customer service in the forms of direct messaging, online chats, and language processing, which are extremely useful while responding to expected customers' questions. One of the best examples of using AI is the chatbot used by Expedia Group. Suppose the customer needs to cancel the booking, check the status of the rewards, or even get the airline credit. In that case, the chatbot can proceed independently without real agent intrusion, eliminating the waiting time and solving common user problems (WiT, 2019).

Customer Relationship Management: Many businesses try to integrate AI into their CRM (customer relationship management) tools for several reasons. Machine algorithms help convert a significant volume of unstructured data as photo, video/audio files, or anything else that cannot be arranged to a particular structure (spreadsheet or column row database) to structured data with common characteristics (Marr, 2019). Moreover, after conversion, it helps to give thoughtful and deep insights into the business. Secondly, AI provides the opportunity to work with business processes and relationships that are becoming more complicated with increasing transactions (Dilmegani, 2021). According to Xant, a sales engagement platform, sales representatives spend over half of the time managing CRM effectively. AI can automate these processes and give more valuable insights (IS CRM DEAD? 2020).

Social Listening, Sentiment Analysis, and Improved User Experience: Brand recognition has become more important as a crucial foundation for attracting new customers. In today's digital era, this work of stimulating brand recognition becomes

even more challenging, along with the expansion of social media platforms. By listening to customer responses to brand images, AI can analyze their sentiment to determine their level of satisfaction on a platform-cross scale or over the Internet. It also keeps track of important keywords and competitors or suggests the most sustainable social media networks that fit the targeted segmentations. From this point, AI can take CRM not only to structure data but rather to the next level by detecting unsatisfied and satisfied customers and propose an adapted approach. It can also determine non-active customers and stimulate their action by different advertising models that fit their purchase behavior.

Dynamic Pricing: For revenue management, there are three prominent "techniques" widely used: Overbooking, Inventory Allocation, and Dynamic Pricing. By analyzing historical patterns on date-before-arrival bookings, pick-up, and cancellations, AI technologies can suggest the level on which a hotel should use overbooking to avoid wasted inventory without overlooking possible harm to customer experience and the hotel's risk of breaking a contract. It can also propose the most beneficial set of accepted demand that generates its highest revenue over a period by considering the length of stay and average daily rate (HotelQuest, 2017).

Another application of revenue management is "rate fences." In terms of revenue management, rate fences correspond to different price ranges that are most acceptable by each customer segmentation. These fences relate to different elements such as physical fences, origins of transaction, controlled inventories, and especially customers' characteristics (age group, gender, social status, preference, and level of interest, etc...) By proposing different prices, an enterprise can optimize its capacity and reduce costs on wasted products. AI studies customers' preferences and suggests rate fences for these segmentations (HotelQuest, 2017).

AI Concerns: Why isn't AI widely used more widely in the lodging sector? According to James Spellos, former Adjunct Professor at New York University, owner of Meeting-U, and Vice-President of Digital Media for Rock and Wrap it Up, "Hospitality is still in its infancy of leveraging many AI tools. However, COVID-19 boosted the growth of using technologies, at a very accelerated pace."

Secondly, Spellos sees the bias of AI and its potentially negative impact. The data-input process, which requires a human element, is easily biased and affected either by AI itself or by human-being. If the AI system receives data having similar patterns, it will assume based merely on these elements similarly, as humans might affect the data-input process by adding their own general knowledge that might not always be widely applied to different segmentations. Moreover, AI is still in the initial "raw" stage of

its development needs some time to develop and grow exponentially. That said, marketers should pay attention since they are the ones who have control over it.

Spellos also believes that AI is not yet widely used in hospitality, especially by event planning and management, because businesses want to see the "wow" effect, the economy of scales, budget, staffing, and benefits upfront before initial purchase and use. However, brands including MGM Resorts, Accor, Marriott, and Hilton, have already employed AI for different purposes, and individually and collectively, they possess a considerable volume of data collected over time. Consequently, AI is becoming a competitive tool, a "marketing weapon," and this trend will grow faster with the improvement of algorithms and considering the challenges such as privacy concerns.

Michel Goetschmann, Professor of Travel Industry Strategy at the ESSEC Business School in Paris, France, reiterates that AI can never replace people. Although AI seems to be a handy tool in every aspect of today's life and business, particularly in digital marketing, there are still obstacles in applying it in the hospitality and tourism industries: hospitality and tourism are highly people-centric and require human engagement, not only in correcting content but also in understanding people's needs and learning new markets. Thus, AI in hospitality is far less widespread than in more technical industries such as finance or analytics.

"The year of COVID has only emphasized the importance of human contact," shares Goetschmann. "I believe that from now on, travelers will be longing for more cultural and emotional experiences instead of visiting popular sites and famous tourist destinations as before. Thanks to digitalization and especially the Internet and live stream techniques, people can now admire monuments and picturesque nature from far away. Therefore, human aspects are more involved, and travelers are touched with emotions. In this highly human-centric hospitality industry, digitalization, including AI, is good but not enough. There must be human engagement, creating the emotional message and touching customers' souls." Spellos also shares the opinion that society must start a conversation about the constraints of using AI, such as the user's data privacy.

Dmitry Lipkin, Strategic Marketing Advisor for Open City, a leading customer ordering AI company that recently launched a voice-recognition assistant named "Tori," that's being used for drive-thru orders, believes technologies like Tori are efficient, fast, and extremely accurate, are helping restaurants run a more profitable, operationally efficient business with consistent quality. The AI assistant is never sick or tired and is open for dialogue 24/7. Indeed, technologies will never completely replace people in hospitality, but their application will help improve the overall operational efficiency. "We are not taking jobs from people. We are helping businesses automate some of their processes,

thereby, allowing their employees to focus on other priorities and aspects of the business.” Moreover, he reminds us that there is always a backup, a "bridge" when AI needs to involve human interaction to address complexities or details that only humans can address and resolve.

Lipkin points out that sometimes customers do not even realize they just placed an order using Tori. It shows what progress AI technologies have achieved. He believes that more people will start using AI and ultimately getting a better service and experience, compared to using previous drive-thru methods, further validating that AI is here to stay.

Technology is an integral part of our everyday lives, and the pandemic accelerated the need. Undoubtedly, AI is a beneficial tool for marketers, but it is not a panacea. It should be used in conjunction with other marketing tools leading to the best possible results. As Spellos says, "AI is the smartphone of 20 years ago. Nobody thought then how much people would rely on the tool, and now nobody can imagine life without it."

References

- Artificial intelligence (AI): What is it and how does it work? (2017, March 01). Retrieved March 09, 2021, from <https://www.lexology.com/library/detail.aspx?g=5424a424-c590-45f0-9e2a-ab05daff032d#:~:text=The%20Oxford%20Dictionary%20defines%20Artificial,making%2C%20and%20translation%20between%20languages.>
- Belsito, N. (2020, September 16). Former RBI CIO Kelly MacPherson joins OpenCity as Drive-Thru Ordering AI Takes Off. Retrieved May 09, 2021, from <https://medium.com/@nickbelsito>
- Blitzer, A. (2020, May 19). Salesforce state of marketing Report Research. Retrieved April 03, 2021, from <https://www.salesforce.com/blog/top-marketing-trends-navigate-change/>
- Dilmegani, C. (2021, January 01). AI-powered CRM systems IN 2021: In-depth guide. Retrieved April 11, 2021, from <https://research.aimultiple.com/crm-ai/>
- Dissecting the Marriott's 'Alexa for Hospitality' Pilot Run. (2019, June 20). Retrieved May 04, 2021, from <https://www.pragmatic-voice.com/alexa-marriott/>
- Go Moment Ivy. (2020, November 09). Retrieved May 04, 2021, from <https://www.gomoment.com/>
- Hertzfeld, E. (2018, November 29). Consumers want to use chatbots in travel planning. Retrieved April 11, 2021, from <https://www.hotelmanagement.net/tech/consumers-want-to-use-chatbots-travel-planning>

HotelQuest. (2017, September 06). Rate fences – Hotel revenue management. Retrieved May 20, 2021, from <https://www.hotelquest.com/rate-fences-revenue-management/#:~:text=Rate%20fences%20in%20hotel%20revenue,have%20access%20to%20a%20discount.>

IS CRM DEAD? (2020). Retrieved March 21, 2021, from <https://resources.xant.ai/resources/is-crm-dead/>

Johnson, D. (2019, September 20). Hilton & IBM's Robot Concierge stands tall. Retrieved May 04, 2021, from <https://www.smartmeetings.com/tips-tools/technology/85518/hilton-ibm-robot-concierge-stands-tall>

Knippel, E. (2020, December 23). AI in marketing: How to optimize your MARKETING DELIVERY. Retrieved May 19, 2021, from <https://www.adverity.com/ai-marketing/>

Marr, B. (2019, October 16). What is unstructured data and why is it so important to businesses? An easy explanation for anyone. Retrieved May 19, 2021, from <https://www.forbes.com/sites/bernardmarr/2019/10/16/what-is-unstructured-data-and-why-is-it-so-important-to-businesses-an-easy-explanation-for-anyone/?sh=700c26aa15f6>

Neild, B. (2016, March 23). A hotel staffed by robots? It's not science fiction -- it's now. Retrieved May 04, 2021, from <https://www.cnn.com/travel/article/hotels-robot-future-travel/index.html>

Rao, A. (2018, July 30). Ivy is a 24-hour VIRTUAL concierge service that smooths the stay of guests at HOTELS. Retrieved May 04, 2021, from <https://chatbotsmagazine.com/ivy-is-a-a-24-hour-virtual-concierge-service-that-smooths-the-stay-of-guests-at-hotels-raj-singh-12ceacd5cd7b>

Reid, J. (2018, October 27). Amazon's Alexa checks into First Marriott Hotel. Retrieved May 4, 2021, from <https://www.businesstraveller.com/business-travel/2018/10/27/amazons-alexa-checks-into-first-marriott-hotel/>

Revfine. (2020, December 22). How Artificial Intelligence (AI) is changing the travel industry. Retrieved April 11, 2021, from <https://www.revfine.com/artificial-intelligence-travel-industry/>

Schiavini, R. (2020, August 10). How does the AI work with the recommendation system? Retrieved April 11, 2021, from <https://www.smarthint.co/en/ai-product-recommendation-engine/>

Smarty, A. (2019, July 29). How to create audience-engaging content that drives results. Retrieved May 18, 2021, from <https://www.digitalmarketer.com/blog/create-audience-engaging-content/>

Udacity. (2020, August 07). Machine learning for data analysis. Retrieved May 20, 2021, from <https://www.udacity.com/blog/2020/08/machine-learning-for-data-analysis.html#:~>

[:text=Machine%20learning%20constitutes%20model%2Dbuilding%20automation%20for%20data%20analysis.&text=A%20supervised%20algorithm%20provides%20target.to%20guide%20the%20learning%20process.](#)

WiT. (2019, September 10). Expedia to use AI to improve online search in Asian languages. Retrieved April 30, 2021, from <https://www.webintravel.com/expedia-to-use-ai-to-improve-online-search-in-asian-languages/>

[x]cube LABS. (2020, June). Top AI trends to be leveraged by Manufacturing, agriculture and healthcare industries in 2020. Retrieved May 04, 2021, from <https://www.xcubelabs.com/blog/top-ai-trends-to-be-leveraged-by-manufacturing-agriculture-and-healthcare-industries-in-2020/>