SAP

Whitepaper | Hospitality

How AI and automation unlock efficiencies for hospitality businesses

Introduction

The hospitality sector is undergoing a significant transformation due to global changes in consumer behavior alongside advances in digitalization, cloud computing and data analytics.

One of the most impactful applications for the hospitality sector is the ability to harness the vast amounts of data generated by guests and suppliers.

Analytics tools can facilitate real-time data analysis and enable service providers – such as hotels – to gain deep insights into customer preferences and even predict future behaviors. For instance, using data to customize marketing campaigns and offer personalized services to guests. Such tools also enable quick responses to social media comments – which is increasingly crucial in today's digital world.

Amid this changing landscape, this paper will highlight the importance of cloud services, data collection and the increased use of AI within the hospitality sector. We will focus on how the use of cloud-based analytics can improve the customer experience. We also explore the uses of data-driven insights to enhance operations efficiencies by facilitating collaboration between departments.

The expert's overview

Jerrod Ng is the Global Hospitality Lead at SAP, a company that provides comprehensive software and services for businesses, with a focus on applications, analytics, and cloud processes

He explains that there are five key strategic priorities for hospitality:

1. The customer experience

Customer experience will be the primary differentiator for hotels moving forward, Jerrod says. "As consumer expectations evolve, hotels that can leverage technologies that operate based on personalized services, offering targeted marketing, will have a competitive edge. Hotels also need to embrace operational agility and scalability – hotels must be able to adapt to market changes, to scale operations and to optimize their key processes."

2. Embracing operational agility and scalability

Hotels also need to embrace operational agility and scalability. "This means that hotels must be able to adapt to market changes and market fluctuations," says Jerrod. "They must be able to scale operations and to also optimize their key processes."

3. Achieving financial excellence for sustainable growth

Jerrod explains that in the hospitality industry, there are a lot of disparate systems and having a single source of truth – the process of consolidating data from various organizational systems into a single location – across your financials, is key to making sure that the hotel runs efficiently. "With rising operational costs, we believe that it's essential to streamline the financial processes and becoming more efficient with sustainable growth," adds Jerrod.

4. Workforce optimization

Hospitality businesses should pay close attention to workforce management. Technology enhanced by the cloud can also provide useful opportunities for training and build consistency across service delivery. "Particularly in the hotel industry, where staff turnover and mobility are common," Jerrod says. "Being able to manage your workforce efficiently and adapting quickly are critical components for hotels."

5. Harmonizing data for a single source of truth

Having a single source of truth of data subject allows harmonization across operations areas such as back office, kitchen, staff, and maintenance. "Being able to harmonize all of this data to a single source of truth will be important for making informed decisions quickly," says Jerrod. In this last point, data harmonization becomes even more important in a world where AI is set to become a leading method for improving operational efficiency.

The transformative power of the cloud

During the COVID-19 pandemic, the hospitality industry shut down in most countries almost overnight. The mass shutdown also led to a dramatic drop in revenue for many hospitality businesses, forcing them to adapt and diversify services.

As the recovery gathers pace, many hospitality businesses have adapted to the altered landscape and are embracing technology to fill gaps in resources.

This is where the cloud is revolutionizing the hospitality industry, bringing together datasets from previously siloed locations.

In addition, there are significant improvements in operations efficiencies, allowing providers to optimize their tech resources, reduce idle capacity and minimize energy consumption. Streamlining operations allows for significant cost savings with businesses accessing powerful IT infrastructure without the need for extensive and expensive physical resources. The cloud is also scalable, allowing companies to pay only for the storage and computing power they require.

This scalability is a critical advantage for the industry. Businesses can dynamically adjust their resources according to fluctuating demand during peak seasons or promotional events. This flexibility ensures that providers can maintain peak performance levels while avoiding interruptions or slowdowns.

Furthermore, the cloud promotes collaboration among teams and partners, enabling more effective management of marketing campaigns and operational strategies. This collaborative approach is vital for aligning all teams with broader brand objectives, ensuring consistent messaging and enhanced customer engagement.

As the travel and tourism industries shift towards online-only, GlobalData predicts that total online travel sales will reach more than $500bn by 2027[i]. Cloud technologies are enabling this shift, with investments by travel and leisure businesses in management platforms and cloud services predicted to reach $21.87bn in 2028.

Individual investments in cloud technology depend on company size and business requirements. Generally, smaller companies are investing in software-as-a-service (SaaS) solutions. While larger companies invest in infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS) capabilities.

Travel and leisure cloud computing revenue 2019-2027
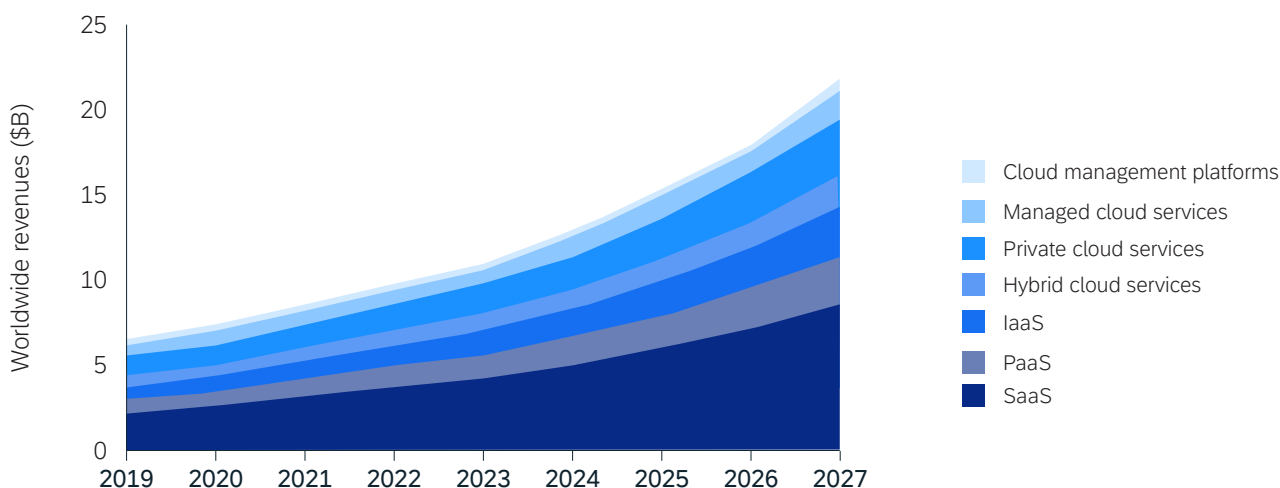
The software as a service (SaaS) category is currently the largest segment for revenue in the travel and tourism sector, representing 39.17% of the market in 2023. Source: GlobalData: Cloud Computing in Travel & Tourism, May 2024[ii]

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[i] Cloud Computing in Travel and Tourism - Thematic Intelligence - GlobalData
[ii] Cloud Computing in Travel and Tourism - Thematic Intelligence - GlobalData – page 17

The enhanced customer experience

The travel and tourism industry is undergoing crucial changes as consumers prioritize more memorable experiences over mass-market options. By using data more effectively, companies in this sector – such as airlines, accommodation providers, cruise, and tour and event operators – can benefit from this trend to offer more personalized services and experiences, boosting client satisfaction and driving long-term loyalty.

The cloud allows businesses to deliver seamless omnichannel experiences across multiple touchpoints, such as websites, mobile apps, and social media channels.

Cloud-based analytics tools enable real-time analysis of the data generated by travelers and guests. Businesses can gain insights into individual preferences, behavior patterns and journey touchpoints. Providers can use these insights to target promotions such as seat upgrades, hotels, and other personalized travel options.

In addition, cloud-based self-service portals allow travelers to manage bookings, check-in for flights and access travel information from any device at any time. This combination of capabilities unlocks new business potential within the customer experience.

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Data security, compliance and consent

For all the advantages available in today's digital age, data security and compliance are critical for travel and tourism businesses. The industry handles vast amounts of sensitive customer information, making servers a prime target for cyberattacks and data breaches.

Not only will any vulnerabilities be exploited by hackers, but they also risk damaging the reputation of a business and, crucially, will undermine trust among consumers. Therefore, cloud platform providers and users must possess robust security measures and compliance certifications to safeguard sensitive data.

Cloud providers must invest in advanced security technologies and undergo rigorous audits to ensure data protection, adhering to industry standards such as GDPR, CCPA, and PCI DSS and agreements. While contracts should clearly define data security, compliance, and incident response responsibilities.

However, in addition to these measures, businesses must implement their own security policies and procedures to mitigate risks and protect data. This includes conducting regular assessments, implementing robust authentication mechanisms, and educating employees about the best security practices.

Finally, customers expect that tools providing them with the information they need are compliant with all privacy regulations, whatever location they are in. This means that customers have the right to opt-out in many locations. In Europe, under Article 17 of the GDPR, consumers have the 'right to be forgotten' and have their personal data deleted.

Technology for finance management

The hospitality industry is increasingly adopting cloud technologies to improve operational efficiency and facilitate digital transformation. Data-driven insights can result in more effective and efficient problem-solving and faster client service, as departments work together to respond more quickly to issues and client queries.

The rise of the digitally native traveler and changing expectations

When it comes to holiday planning, travelers like convenience and simplicity. The idea of knowing exactly what you're getting upfront is a major driving factor for consumers. Loyalty schemes are a significant strategy in the travel and tourism industry, attracting customers through discounts, rewards, and exclusive offers. In 2022, American Airlines and Marriott's loyalty programs generated $3.1bn and $2.7bn in revenue respectively.[iii]

These schemes incentivize users to access their apps and allow companies to collect data on customer preferences, travel patterns, and spending habits, while increasing engagement. Loyalty schemes also drive customer advocacy and word-of-mouth marketing, enhancing brand awareness.

Other branding models include travel subscriptions, where a recurring fee is charged by travel businesses, alongside offering exclusive products, discounted deals, and cashback. The subscription economy is rapidly growing, expected to reach $1.5trn by 2025. It offers time-saving benefits by finding accommodations and activities that align with the traveler's needs and preferences.

This is particularly appealing to digitally native travelers, who often find time-saving essential for their purchases. According to GlobalData's Q3 2023 Consumer Survey, 34% of Gen Z and 35% of Millennials consider time-saving an essential deciding factor of their purchases.

Specialist travel apps have transformed the buyer-seller relationship in travel and tourism segments, making companies more attractive to travelers, offering destination promotions, remote assistance and interactive maps.

More generally, chatbots and virtual assistants can assist travelers with questions about destinations, activities and travel arrangements, freeing up customer service representatives to focus on more complex tasks. Digital assistants can also help make reservations for flights, hotels and other activities, streamlining the customer experience.

For the providers, demand forecasting and pricing optimization can aid businesses in understanding demand, making accurate predictions, and supporting informed decisions about pricing and staffing requirements, maximizing profits.

Finally, translating websites and marketing materials into multiple languages allows businesses to reach a wider audience and improve customer service and satisfaction by allowing them to communicate in their native language.

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iii GlobalData: Thematic Intelligence Travel & Tourism, Travel Apps (2024), May 2024

Accessing siloed data

One area in urgent need of transformation in the hospitality industry is the issue of siloing data – when various divisions that may operate as separate businesses within the same site, for example in a hotel, do not share their data with one another. This creates blind spots that can have consequences across other areas of the business.

One of the main challenges of fragmented data is between ERP systems, financial accounting back-office systems, and property management systems. One solution to siloing is double entry, which is laborious and prone to error.

Another option is batch process integration, which requires validation and checking. This can limit the ability to automate processes and may even increase the need for human interventions. In addition, this approach not only leads to inefficiencies in individual properties – but also creates issues at the corporate level due to the lack of integration between systems and solutions. The result is users must resort to manual channels – such as email – to resolve customer queries.

As with many sectors, hospitality also faces challenges in implementing and optimizing cloud technologies due to a lack of technical expertise and strategic understanding. These skill gaps can lead to inefficiencies in onboarding and training, higher training costs, and reduced service quality, highlighting the need for improved skills and adoption.

Challenges in transitioning to cloud-based systems

For all the advantages, the transition to cloud-based systems poses some challenges – including integrating new technologies with existing infrastructure and ensuring data integrity. Hospitality businesses often face difficulties in ensuring that cloud solutions work seamlessly with their existing technology suite, which can include various legacy systems still in use.

Data migration is also a significant challenge, requiring careful planning, execution, and risk mitigation to protect against data loss. A key requirement is seamless synchronization between cloud and legacy systems.

"You need reliable information you can use to train your AI algorithms so that you get the results you need to improve and drive out the inefficiencies in your processes."

The rise of data-driven AI

When it comes to deciding what data to collect and analyze, the AI component is crucial. Johnny Clemmons is Industry Business Unit Head at SAP's Construction, Travel, & Transportation division. He says that AI must be embedded directly into the business, rather than treated as a separate component.

"It's not a separate thing," explains Clemmons. "You need integrated processes to create the underlying data that is both trusted and contextual. You need reliable information you can use to train your AI algorithms so that you get the results you need to improve and drive out the inefficiencies in your processes."

While AI can help with data analysis and Gen AI with chatbots and customer queries, its effectiveness is heavily dependent on the quality of data it is fed. Hospitality providers are increasingly realizing the importance of investing in AI to stay ahead of the competition. Clemmons suggests that investing in AI is no longer just an option or a luxury, it is now a necessity to avoid being left behind.

According to Clemmons, customers are usually happy for service providers to have their data – as long as they receive something of value in return.

"This is the trade-off – in exchange for your information, they will provide you with these extra benefits and these added services," adds Clemmons. "However, if that trade-off isn't attractive to the customers, then they won't opt-in. So, you must define what services you're going to provide in exchange for their information and be able to communicate to them what the added value of those services are."

Summary

The integration of the cloud and data analytics into the hospitality industry is reshaping how businesses operate, engage with customers, and manage resources. By leveraging guest data, hospitality providers can offer personalized experiences and customized marketing campaigns to attract interest and drive loyalty.

By embracing these technologies, hospitality providers can also achieve greater operational efficiencies and position themselves for success in an increasingly competitive market. Companies with strong cloud capabilities can adapt to changing circumstances seamlessly, scaling back operations when demand is low and creating products quickly for new market opportunities.

With more choices available, travel brands face pressure to attract and retain customers. Personalization is crucial to differentiate brands in a competitive market. Data collection and analysis are essential here, enabling companies to understand customer needs and expectations, make informed decisions, and provide new experiences.

By leveraging guest data, hospitality providers can offer personalized experiences and customized marketing campaigns to attract interest and drive loyalty.

About SAP

SAP has been transforming the tech scene for more than 50 years, harnessing technologies such as AI to help people solve key business challenges and drive real-world results – supporting more than 80% of the world's top hotel groups. The company can assist in services that enhance talent recruitment and guest experience creation, standing out in the industry through continuous innovation.

To learn how SAP can support your hospitality business efficiency goals, please contact your SAP Partner.