

CHATBOTS CLEANBOTS CHECKBOTS

The future of the hotel industry SID: 20118983



Virus



Fear



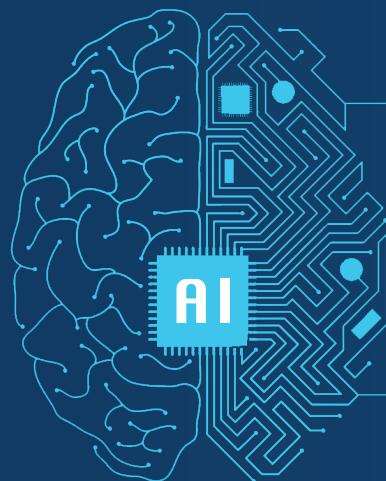
Hygiene



Distance

Pivot Recommendations

"Technology will be the bridge that enables and manages safety and cleanliness procedures and communicates those procedures to guests as well as associates."



Empathetic



Mechanical



Analytical

New concept of service will eliminate physical contact, reduce virus spreading, raise cleaning standards, and create positive experiences.



Digital Pivot Series

Episode 1: Chatbots, Cleanbots, and Checkbots

King's Business School proudly presents the Digital Pivot series. Today's episode will begin by discussing the challenges and opportunities faced by the hotel sector, followed by an assessment of consumer behaviour changes and effects on hotelier value propositions, and concluding with a trio of artificial intelligence-focused recommendations to help the industry pivot successfully.

Part 1

Introduction

The hotel industry has been largely affected by the coronavirus pandemic (McKinsey, 2020). Due to imposed lockdowns and restrictions, consumers were obligated to stay at home and prohibited to travel. According to the Office of National Statistics, “accommodation and travel agency businesses saw the sharpest decline in turnover during the first national lockdown, falling to 9.3% of their February levels in May 2020” (Office of National Statistics, 2021) (see appendix 1). For the Intercontinental Hotel Group (IHG), COVID-19 negatively impacted their demand as they reported an operating loss of \$153m in their Full Year Results to 31st December 2020 (IHG, 2021). Peninsula Hotels were also affected by the pandemic and are currently running at 20-40% capacity (CNBC, 2021). The main challenge for hoteliers is to maintain financial stability until restrictions are lifted. Clement Kwok, the CEO of Hongkong and Shanghai Hotels has stated that, “recovery is going to be dependent on travel protocols being implemented, and increase in vaccinations” (CNBC, 2021). The introduction of the vaccinations should encourage consumers to travel and thus, influence them to stay in hotels. However, the pandemic has also impacted consumer behaviours and attitudes towards the hotel industry.

Part 2

Behaviour change

According to Deloitte's March 2021 Consumer Tracker report, only 39% of consumers feel confident staying in hotels (Deloitte, 2021). As consumers “may be reluctant to return to their old habits” (Deloitte, 2020) (Sheth, 2020) after restrictions are eased, McKinsey suggests that, “recovery to pre-COVID-19 levels could take until 2023—or later” (McKinsey, 2020).

As a result of the pandemic, hygiene standards are now considered a top priority for customer comfort levels in their hotel decision-making process (Statista, 2021) (see appendix 2). Ralph Hollister from GlobalData has commented that, “post-COVID-19, consumers will be likely to place as much importance on hotel hygiene standards as they will on price and location. Fears over contracting the virus will live on far after the pandemic is over” (GlobalData, 2020). Therefore, consumer behaviour is influenced by perceived risk, which has a knock-on effect on overall purchase. Low levels of hygiene can be perceived as external dangers and will influence consumers to adopt new habits and exercise their concern for cleanliness (Chebli

and Ben, 2020). Thus, hoteliers need to revise their business models and prioritise hygiene to create value for their guests.

Business model and value proposition

During this unprecedented time, even an established business model will be affected, particularly its value proposition (Breier et al, 2021) (Ritter and Pederson, 2020) (Osterwalder et al, 2021) (see appendix 3). To maintain a high value proposition, Simon Sinek's Golden Circle concept suggests that hoteliers should shift their focus from 'what' they do, to 'why' they do it. This is because consumers buy 'why' organisations make changes (Straker, 2019). As hotels try to regain consumer confidence, they need to facilitate high standards of cleaning and operate using contactless methods because consumers fear contracting the virus from contaminated surfaces (Forbes, 2021).

In order to relieve consumer pains, confidence and trust must be restored (Deloitte, 2020). With the adoption of technology, hoteliers will achieve this through increasing contactless services. Vanessa Ogle, CEO of Enseo has stated that, "technology will be the bridge that enables and manages safety and cleanliness procedures and communicates those procedures to guests as well as associates" (Business Insider, 2020). Investing in technology, such as Artificial Intelligence (AI), will provide hoteliers with insights into what consumer pains are and how to resolve these autonomously (Ruel and Njoku, 2020; Travel Weekly, 2021). Taking these factors into consideration, it is particularly important that hoteliers revise the emotional, physical, and digital elements of their business models to recover from the sharp decline in sales and revenue (Deloitte, 2020).

Part 3

In light of the COVID-19 pandemic and aforementioned challenges faced by hoteliers, the industry should pivot their business models toward AI because it is "expected to enable businesses to transition towards more digital ways of working, managing, organising and facilitating change in various organisational processes" (Ruel and Njoku, 2020). For example, the application of AI will transform repetitive human services into contactless services, which accommodate the changes in consumer behaviour experiences (Business Insider, 2020). This new concept of service will eliminate physical contact, reduce the virus from spreading, raise cleaning standards, and create a convenient customer experience (Kim and Mauborgne, 2021). To implement this shift in service effectively, I recommend digitising the three stages of Tsiotsou and Wirtz's service consumption model (pre-purchase, service-encounter, and post-encounter) (Tsiotsou and Wirtz, 2015) (see appendix 4) with three types of AI (empathetic, mechanical, and analytical) (Huang and Rust, 2018).

Pre-purchase stage: Empathetic AI

As "uncertainty and perceived risk are considered to be higher in services due to their intangible nature and variability" (McKinsey, 2020), it is critical for hoteliers to exhibit empathy in their services by decreasing physical contact. To address the impacts of COVID-19 and reduce consumer fears, I propose the implementation of empathetic AI because intelligent machines are becoming increasingly adept at recognising speech, intonations and context (Bisoi, Roy and Samal, 2020). Similar to Hilton's "Connie," the concierge robot (IBM, 2016), the hotel industry should adopt chatbots to create value in the pre-purchase stage. The chatbots would be designed to facilitate the booking process and elicit knowledge

from the “shadows consumers leave behind” (Puntoni, Reczek, Giesler and Botti, 2020) to provide personalised responses. In turn, this will reduce human interaction and create value for guests through efficient responses.

Service-encounter stage: Mechanical AI

Building on contactless services, hoteliers should also consider and resolve the external factors that surround guests to ensure safety during their stay. For example, “the average hotel door handle has 918 times more germs than a household toilet seat” (Forbes, 2020). Therefore, hoteliers should adopt mechanical AI in the service-encounter stage because service robots get jobs done autonomously and rely on observation to act and react repetitively (Puntoni, Reczek, Giesler and Botti, 2020). Though this is similar to Crowne Plaza’s delivery robot, Dash (IHG, 2015), I am recommending service robots specifically focused on cleaning: cleanbots (combining the terms ‘cleaning’ and ‘robots’). As the virus can be contracted from unclean surfaces (WHO, 2020), cleanbots would be designed to assist hotel staff and work autonomously (Huang and Rust, 2018). These intelligent machines will monitor hygiene standards to alert staff of areas requiring immediate attention, and scan hotel rooms to perform cleaning tasks. Subsequently, this eliminates consumers fears of external dangers, reduces the risk of spreading the virus through contaminated surfaces, raises hygiene standards, and creates another contactless service for guests.

Post-encounter stage: Analytical AI

In the post-encounter stage of the service consumption model, the hotel industry should digitise check-in and check-out services to optimise changes in the customer journey and leverage customer information (Puntoni, Reczek, Giesler and Botti, 2020). This is important because first and last impressions influence consumer purchase decision in hotels (Countryman and Jang, 2006). For example, regarding consumer concern of social distancing, hotel lobbies are considered social hubs (The Washington Post, 2020). In order to minimise contact, hoteliers should seek to harness the power of analytical AI to configure systemically which timings the lobby is most saturated with guests, introducing checkbots (combining the terms ‘check-in’, ‘check-out’, and ‘robot’). The digitisation of guest check-in and check-out services will generate real-time data that can provide cognitive insight (Huang and Rust, 2018) and predict which timings guests are most likely to be in the lobby. This intelligent machine will serve the guests (Puntoni, Reczek, Giesler and Botti, 2020), who can decide which timings are safest for them to enter or leave the hotel. Thus, creating value for consumers as their comfort levels of maintaining social distance is raised (Statista, 2021) and reduces fears of interaction.

For the hotel industry, extensive research has shown (see appendix 5) that pivoting towards artificial intelligence will transform the “face” of hospitality services (Davenport, Guha, Grewal and Brescott, 2019) and ensure short-term and long-term survival through the pandemic (Harvard Business Review, 2020). The combination of chatbots, cleanbots, and checkbots resolve consumer fears through digitised touchless services and shape the industry’s future business model .

Episode 2: Airlines, Airports, and Aviation

Thank you for listening to this week’s podcast. Join me again next week, where I will discuss how the airline industry can successfully pivot during the pandemic.

References:

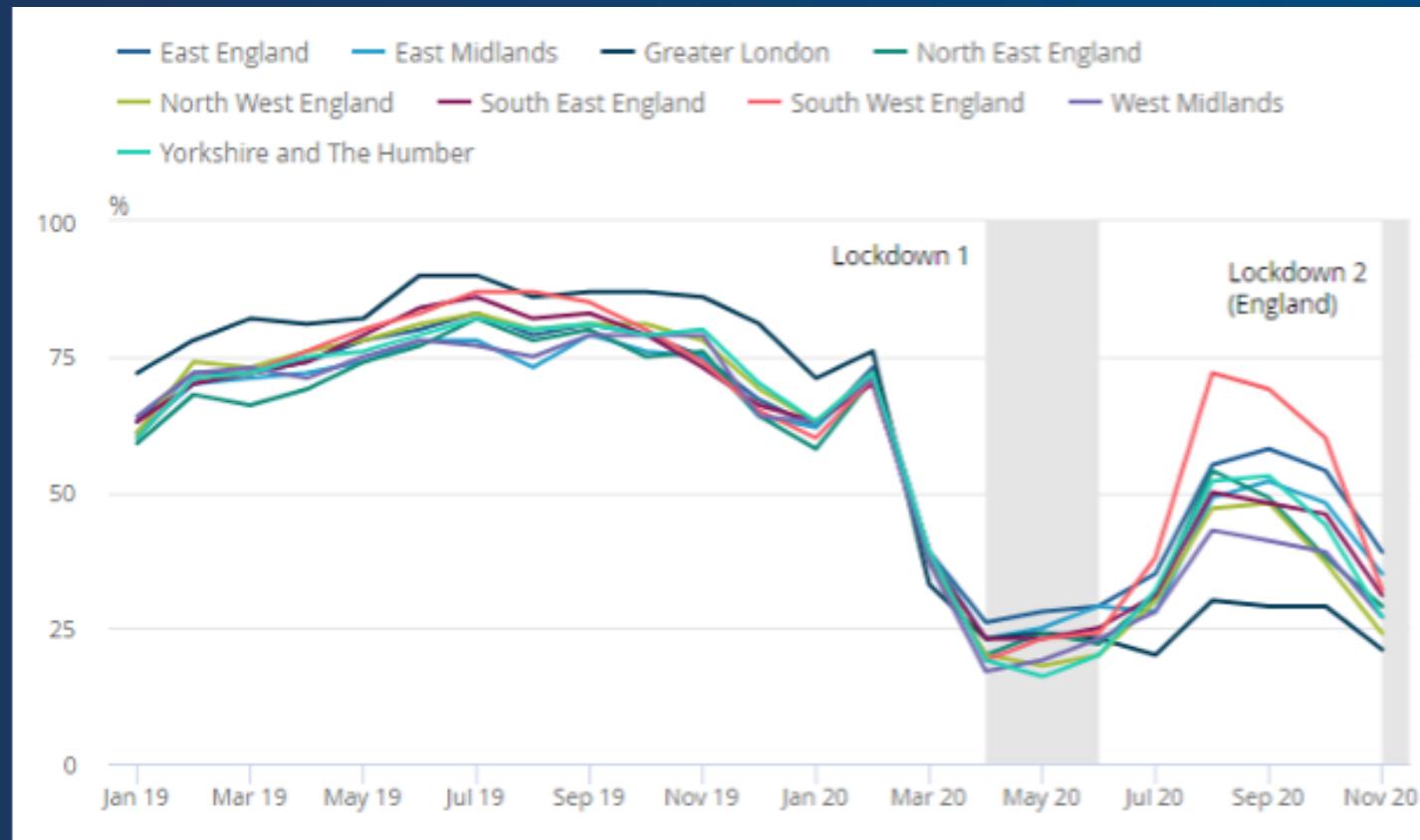
- Bisoi, S., Roy, M., and Samal, A. (2020). *Impact of Artificial Intelligence in the Hospitality Industry*. [online]. Available from: <https://www.researchgate.net/publication/343180745_Impact_of_Artificial_Intelligence_in_the_Hospitality_Industry> [Accessed 19 April 2021].
- Breier, M., Kallmeunzer, A., Clauss, T., Gast, J., Kraus, S., and Tiberius, V. (2021). *The role of business model innovation in the hospitality industry during the COVID-19 crisis*. [online]. Available at: <<https://www.sciencedirect.com/science/article/pii/S0278431920302759>> [Accessed 23 April 2021].
- Business Insider (2020). *Staying in a hotel will be very different post-pandemic — here are new safety and cleaning precautions being implemented by major hotel brands*. [online]. Available at: <<https://www.businessinsider.com/hotel-precautions-coronavirus?r=US&IR=T>> [Accessed 23 April 2021].
- Chebli, A., and Ben Said, F. (2020). *The impact of Covis-19 on tourist consumption behaviour: a perspective article*. [online]. Available at: <<https://mpra.ub.uni-muenchen.de/102910/>> [Accessed 23 April 2021].
- CNBC (2021). *Border openings and vaccine passes are essential for hotel recovery, says CEO of luxury hotel group*. [online]. Available at: <<https://www.cnbc.com/2021/03/18/penninsula-hotels-border-opening-vaccine-passes-needed-for-recovery.html>> [Accessed 19 April 2021].
- Countryman, C., and Jang, Soocheong. (2006). *The effects of atmospheric elements on customer impression: The case of hotel lobbies*. [online]. Available from: <https://www.researchgate.net/publication/235306467_The_effects_of_atmospheric_elements_on_customer_impression_The_case_of_hotel_lobbies> [Accessed 21 April 2021].
- Davenport, T., Guha, A., Grewal, D., and Bressgott, T. (2019). *How artificial intelligence will change the future of marketing*. [online]. Available from: <<https://link.springer.com/article/10.1007/s11747-019-00696-0>> [Accessed 21 April 2021].
- Deloitte (2020). *The future of hospitality – Uncovering opportunities to recover and thrive in the new normal*. [online]. Available at: <<https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/consumer-industrial-products/ca-future-of-hospitality-pov-aoda-en.pdf>> [Accessed 19 April 2021].
- Deloitte (2021). *Establishing the road to a global recovery in the era of COVID-19*. [online]. Available at: <<https://www2.deloitte.com/us/en/insights/industry/retail-distribution/consumer-behavior-trends-state-of-the-consumer-tracker.html>> [Accessed 19 April 2021].

- Forbes. (2020). *The Dirtiest Places In Hotels: It's Worse Than You Think*. [online]. Available from: <<https://www.forbes.com/sites/laurabegleybloom/2020/08/31/dirtiest-places-hotels/?sh=301f120e4c5f>> [Accessed 21 April 2021].
- Forbes (2021). *How The Pandemic Made Contactless Payments The New Normal*. [online]. Available at: <<https://www.forbes.com/sites/forbestechcouncil/2021/04/15/how-the-pandemic-made-contactless-payments-the-new-normal/?sh=3faf3a3b7a>> [Accessed 23 April 2021].
- GlobalData (2020). *Hotels need to demonstrate how they can ensure highest levels of hygiene post-COVID-19*. [online]. Available at: <<https://www.globaldata.com/hotels-need-to-demonstrate-how-they-can-ensure-highest-levels-of-hygiene-post-covid-19/>> [Accessed 19 April 2021].
- Harvard Business Review. (2020). *How Businesses Have Successfully Pivoted During the Pandemic*. [online]. Available at: <<https://hbr.org/2020/07/how-businesses-have-successfully-pivoted-during-the-pandemic#>> [Accessed 19 April 2021].
- Huang, M., and Rust, T. (2018). *Artificial Intelligence in Service*. [online]. Available at: <<https://journals.sagepub.com/doi/full/10.1177/1094670517752459>> [Accessed 21 April 2021].
- IBM. (2016). *Hilton and IBM pilot “Connie,” The world’s first Watson-enabled hotel concierge robot*. [online]. Available from: <<https://www.ibm.com/blogs/watson/2016/03/watson-connie/>> [Accessed 21 April 2021].
- IHG. (2015). *Crowne Plaza Hotels & Resorts tests delivery robot at its hotel in the heart of Silicon Valley*. [online]. Available from: <<https://www.ihgplc.com/news-and-media/news-releases/2015/crowne-plaza-hotels--resorts-tests-delivery-robot-at-its-hotel-in-the-heart-of-silicon-valley>> [Accessed 21 April 2021].
- IHG (2021). *IHG PLC – Full Year Results to 31 December 2020*. [online] Available at: <<https://www.ihgplc.com/-/media/ihg/files/results/2021/prelims-2020/ihg-sea-fy2020.pdf>> [Accessed 23 April 2021].
- Kim, C., and Mauborgne, R. (2021). *Eliminate-Reduce-Raise-Create Grid (ERRC Grid) Blue Ocean Strategy Tools and Frameworks*. [online]. Available at: <<https://www.blueoceanstrategy.com/tools/errc-grid>> [Accessed 19 April 2021].
- McKinsey (2020). *Hospitality and COVID-19: How long until ‘no vacancy’ for US hotels?*. [online]. Available at: <<https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/hospitality-and-covid-19-how-long-until-no-vacancy-for-us-hotels>> [Accessed 19 April 2021].
- Office of National Statistics (2021). *Coronavirus and the impact on the UK travel and tourism industry*. [online]. Available at: <<https://www.ons.gov.uk/businessindustryandtrade/tourismindustry/articles/coronavirusandtheimpactontheuktravelandtourismindustry/2021-02-15>> [Accessed 19 April 2021].

- Osterwalder, A., Pigneur, Y., Bernarda, G. and Smith, A. (2021). *Business Canvas - Business Models & Value Propositions*. [online]. Available at: <<https://www.strategyzer.com/canvas>> [Accessed 21 April 2021].
- Puntoni, S., Reczek, R., Giesler, M., and Botti, S. (2020). *Consumers and Artificial Intelligence: An Experiential Perspective*. [online]. Available from: <<https://journals.sagepub.com/doi/abs/10.1177/0022242920953847?journalCode=jmxa>> [Accessed 23 April 2021].
- Ritter, T., and Pedersen, C. (2020). *Analyzing the impact of the coronavirus crisis on business models*. [online]. Available at: <<https://www.sciencedirect.com/science/article/abs/pii/S0019850120303084?via%3Dihub>> [Accessed 19 April 2021].
- Ruel, H., and Njoku, E. (2020). *AI redefining the hospitality industry*. [online]. Available from: <<https://www.emerald.com/insight/content/doi/10.1108/JTF-03-2020-0032/full/html>> [Accessed 19 April 2021].
- Statista. (2021). *Public opinion on how to improve customer comfort levels in hotels after the coronavirus (COVID-19) pandemic worldwide as of May 2020*. [online]. Available from: <<https://www.statista.com/statistics/1155082/coronavirus-hotels-level-of-comfort-improvement/>> [Accessed 21 April 2021].
- Straker, K., and Nusem, E. (2019). *Designing value propositions: An exploration and extension of Sinek's 'Golden Circle' model*. [online]. Available at: <https://www.researchgate.net/publication/333143676_Designing_value_propositions_An_exploration_and_extension_of_Sinek%27s_%27Golden_Circle%27_model> [Accessed 23 April 2021].
- The Washington Post. (2020). Hotels turned their lobbies into a social hub. Then came the coronavirus. [online]. Available from: <<https://www.washingtonpost.com/travel/2020/06/01/hotels-turned-their-lobbies-into-social-hub-then-came-coronavirus/>> [Accessed 21 April 2021].
- Travel Weekly (2021). *Covid-safe hotels showcased by new booking website*. [online]. Available at: <<https://travelweekly.co.uk/news/tourism/covid-safe-hotels-showcased-by-new-booking-website>> [Accessed 19 April 2021].
- Tsotsou, R., and Wirtz, J. (2015). *The Three-Stage Model of Service Consumption*. [online]. Available from: <https://www.researchgate.net/publication/264673092_The_Three-Stage_Model_of_Service_Consumption> [Accessed 19 April 2021]
- WHO. (2020). *The COVID-19 Risk Communication Package For Healthcare Facilities*. [online]. Available from: <<https://apps.who.int/iris/bitstream/handle/10665/331140/COVID-19-022020.pdf?sequence=1&isAllowed=y>> [Accessed 21 April 2021].

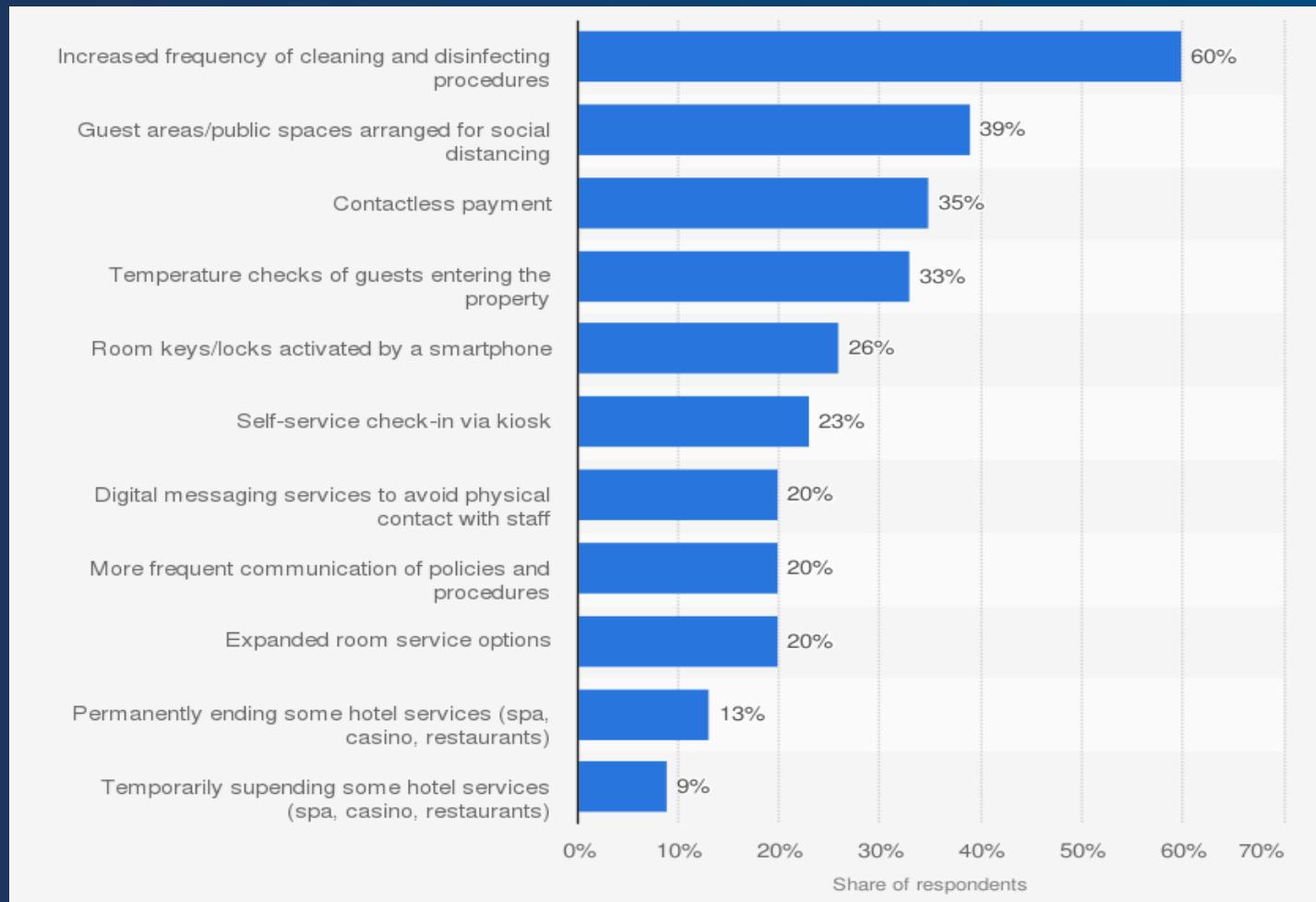
Appendix 1

Percentage of available rooms occupied, monthly (Office of National Statistics, 2021):



Appendix 2

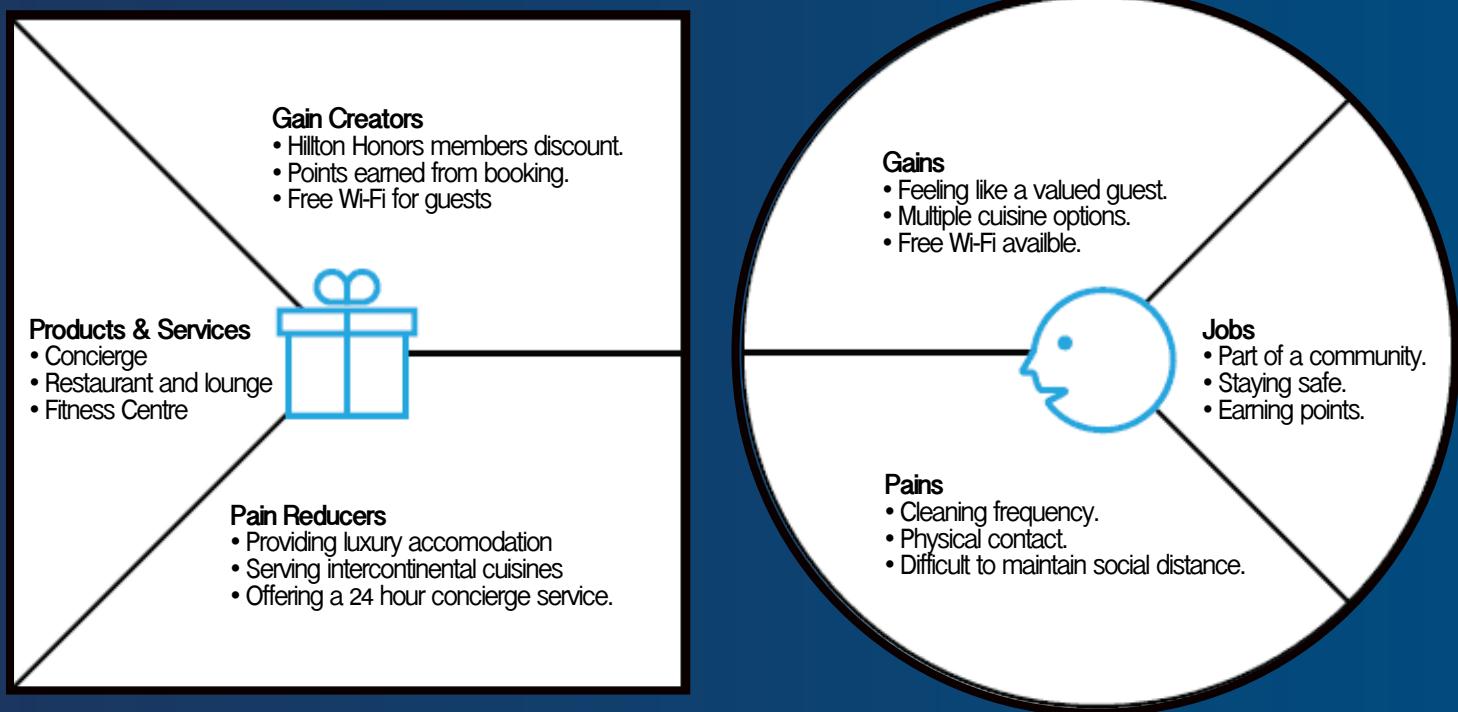
Public opinion on how to improve customer comfort levels in hotel after the coronavirus (COVID-19) pandemic worldwide as of May 2020 (Statista, 2021):



Appendix 3

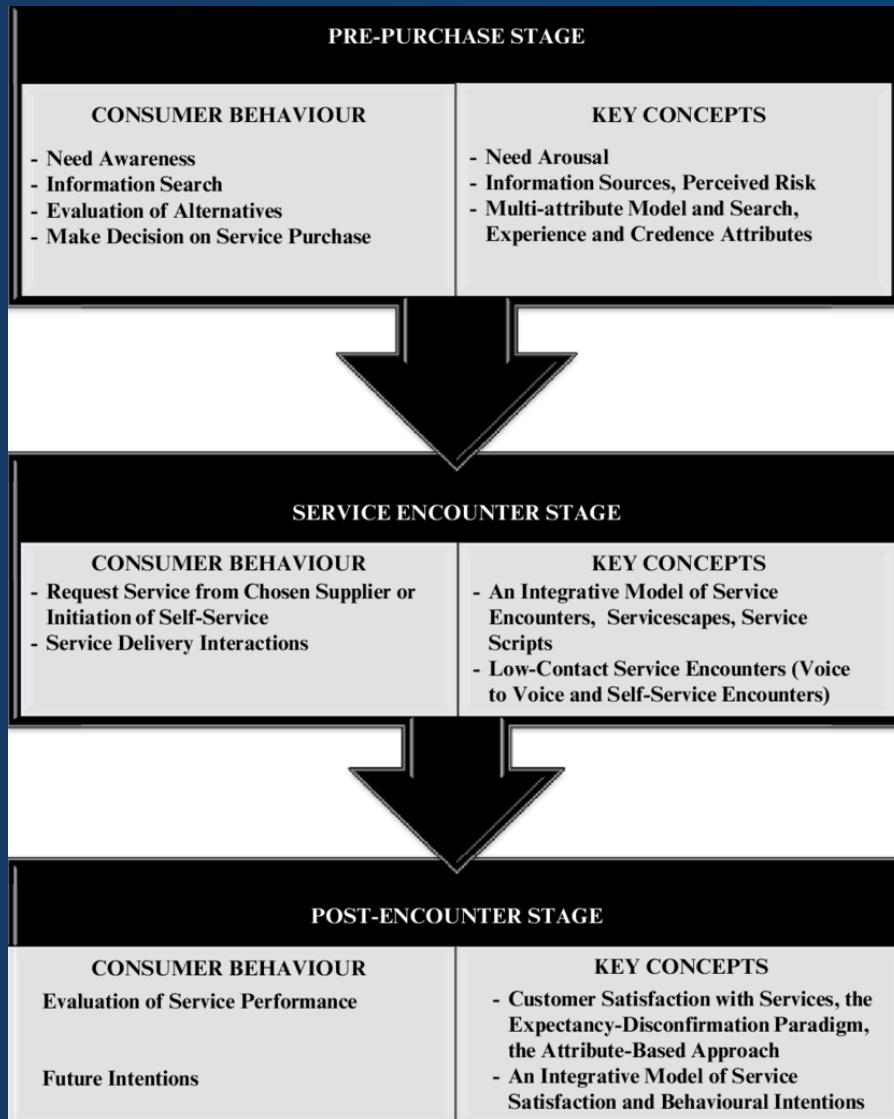
Current Value Proposition Canvas for Hotel Industry (Osterwalder et al, 2021)

Example Company: Hilton Hotel



Appendix 4

The Three Stage Model of Service Consumption (Tsotsou and Wirtz, 2015):



Appendix 5

Literature Review Table:

Title	Author	Source	Key Insights
The impact of Covid-19 on tourist consumption behaviour: a perspective article.	Chebli, A., and Ben Said, F (2020).	Munich Personal RePEc Archive	<ul style="list-style-type: none"> Risk factors influence consumer behaviour. Due to the pandemic, one of the biggest risk factors is health concerns. The authors recommend that the tourism industry needs to invest more in cleanliness.
The role of business model innovation in the hospitality industry during the COVID-19 crisis.	Breier et al (2021).	ScienceDirect	<ul style="list-style-type: none"> Business Model Innovation can help the hotel industry to overcome crises and restart after the COVID-19 pandemic. Digitization in the business model is a useful way for hotels to persuade consumers to return.
Designing value propositions: An exploration and extension of Sinek's 'Golden Circle' model.	Straker, K., and Nusem, Erez (2019).	ResearchGate	<ul style="list-style-type: none"> Most organisations focus on 'what' they do 'how' they do it but on 'why' they do what they do. Looking 'why' along the value proposition is important for success. Organisations need to look 'why' in relation to strategic decisions. This will help them to create value for consumers.
Analyzing the impact of the coronavirus crisis on business models.	Ritter, T., and Pedersen, C. (2020)	ScienceDirect	<ul style="list-style-type: none"> Value proposition promises to create value for customers through an exchange of resources. Organisations need to adapt their business models when crises occur.
AI redefining the hospitality industry.	Ruel, H., and Njoku, E (2020).	Emerald Insight	<ul style="list-style-type: none"> AI can be used to improve on talent management practices, service quality and consumer satisfaction. It does this by creating contactless services. Human talents may be replaced by technology, as AI has the capability to work smarter and produce better business outcomes.
Consumers and Artificial Intelligence: An Experiential Perspective.	Puntoni, S., Reczek, R., Giesler, M., and Botti, S. (2020).	Sage Journals	<ul style="list-style-type: none"> The three elements of AI (data collection, analytical techniques, and output systems) are perceived to enable decisions made on behalf of humans autonomously. Intelligent machines listen and leverage information from different sources to predict consumer activity.
How artificial intelligence will change the future of marketing.	Davenport, T., Guha, A., Grewal, D., and Bressgott, T. (2019).	Springer Link	<ul style="list-style-type: none"> AI aims to adjust its services to the customer's speech and intonations, providing emotional support accordingly. "In the short run, AI will provide evolutionary benefits; in the long run, it is likely to be revolutionary."