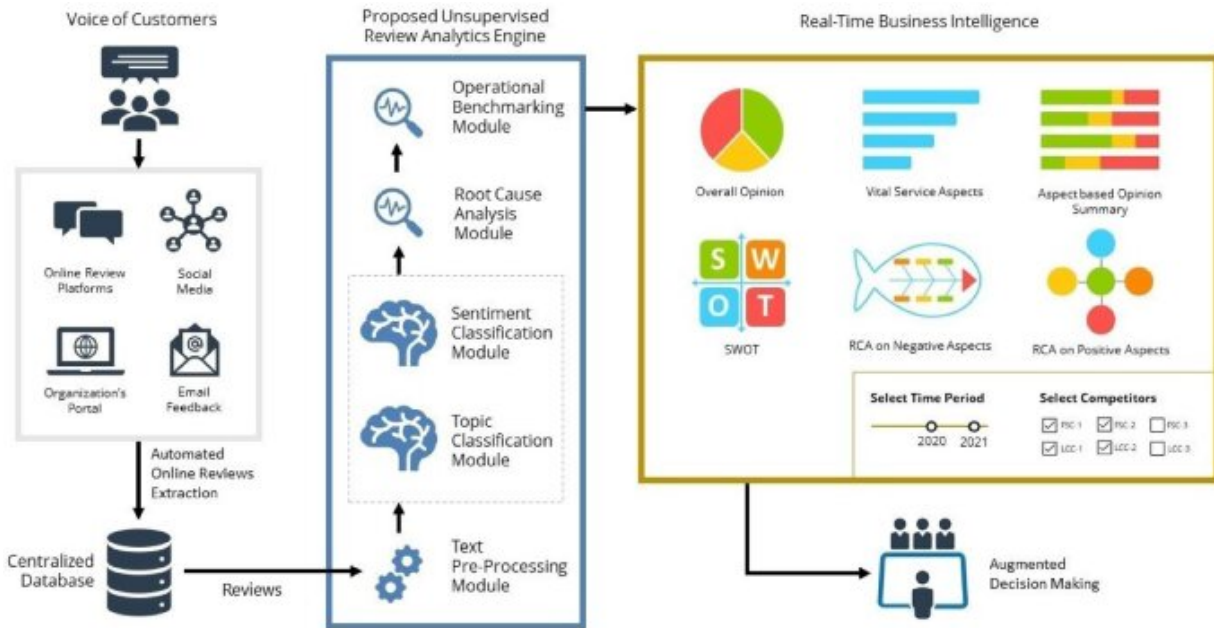


11 ways to improve airlines for customers

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Credit: *Annals of Operations Research* (2023). DOI: 10.1007/s10479-022-05162-9

The name of the game is customer satisfaction, especially in the airline industry where companies are constantly jockeying for business by promising better service than their competitors. Now a professor at the University of Missouri has used artificial intelligence to sort through thousands of customer reviews and identify where airlines are falling short.

Sharan Srinivas, an assistant professor with a joint appointment in the Department of Industrial and Systems Engineering and the Department of Marketing, used AI to analyze nearly 400,000 unique, publicly available [customer reviews](#) of six airline companies throughout the United States. After sorting through the information, he developed algorithms that identified the most common themes discussed in the reviews and then determined the customer's sentiment (positive or negative) toward each of the identified themes, allowing airlines to potentially gain a better understanding of their customers' perspective and experience.

The results showed most of the [negative feedback](#) involved lost luggage, uncomfortable seating and flight cancelations; while customers felt most positively about in-flight entertainment, ground and cabin staff service and service in first- and business-class seating.

Based on this feedback, Srinivas posited 11 recommendations to improve the customer experience:

1. Implement more flexible seating arrangements to improve comfort.
2. Automate the disinfecting process for bathrooms in the plane.
3. Redesign overhead baggage bins.
4. Implement a more personalized cabin environment through seat height and temperature adjustments capabilities.
5. Use analytical models to optimize flight schedules and time buffer between flights.
6. Use an artificial intelligence-based approach to monitor equipment health.
7. Introduce a more flexible booking policy (i.e., no cancellation charge, no change fee, upfront information about costs).
8. Provide ticketing agents with better task clarifications, performance-based feedback and social praise to better improve

morale and interactions with customers.

9. Install more accurate luggage tracking systems by using RFID tags in lieu of regular barcode tags.
10. Provide more frequent and automated baggage related updates to passengers' phones.
11. Use biometrics and blockchain technology to remove the need to present several identification documents at multiple checkpoints. This would eliminate the need for passengers to show a boarding pass, passport and ID.

Srinivas said airlines can use this information to determine their next steps as a company.

"The ultimate goal is to help inform these airlines about what the customer is actually thinking," Srinivas said. "It's impossible to hear every customer and potential customer's voice, especially for bigger airlines, but our software and recommendations will significantly assist the airlines in thinking about things from a consumer perspective."

Srinivas was inspired to pursue this research by an incident in 2017, in which a United Airlines security representative dragged a passenger off a plane when he refused to leave because the flight was overbooked. United Airlines officials said they chose the passenger at random, yet the amount of outrage that poured in via customer review and on social media was staggering.

Consequently, it was challenging for United Airlines to sift through all the customer feedback. Srinivas said this study's AI software would allow companies like United Airlines to sort through customer feedback and more quickly respond to issues when they arise.

"Using our proposed approach could allow companies to digest textual information in a much more automated and streamlined manner,"

Srinivas said. "Without an [automated process](#), it would be much more challenging and time consuming to look at each individual review and come away with something that airlines can use to improve their business."

While stakeholders and employees may have a better understanding of how the business works, Srinivas said that when it comes to the product—air travel in this case—knowing your customers is key.

"The users of a product are the ones that can give you the best insight on what needs to be improved," Srinivas said. "They are the target audience. They are the ones using the product with limited bias and there's a lot of untapped insight in what they are saying."

Srinivas has used different versions of [artificial intelligence](#) to track customer approval in many different industries, including insurance, adaptive clothing and colleges. Srinivas said it can be used to interpret doctor's notes and patient reviews as well.

The research was published in *Annals of Operation Research*.

More information: Sharan Srinivas et al, Passenger intelligence as a competitive opportunity: unsupervised text analytics for discovering airline-specific insights from online reviews, *Annals of Operations Research* (2023). [DOI: 10.1007/s10479-022-05162-9](https://doi.org/10.1007/s10479-022-05162-9)

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