Close to 1 in 2 surveyed say they would use air taxis in the future

Date: May 28, 2024

Source: Nanyang Technological University

Summary: Through a study of 1,002 participants, scientists have found that almost half (45.7 per cent) say they intend to use air taxis when they become available, with over one-third (36.2 per cent) planning to do so regularly. According to the findings, the intention to take autonomous air taxis is associated with factors such as trust in the AI technology deployed in air taxis, hedonic motivation (the fun or pleasure derived from using technology), performance expectancy (the degree to which users expect that using the system will benefit them), and news media attention (the amount of attention paid to news about air taxis).

FULL STORY

A study by researchers from Nanyang Technological University, Singapore (NTU Singapore) has found that Singaporeans are open to ride air taxis, which are small autonomous aircraft that carry passengers over short distances. Through a study of 1,002 participants, the NTU Singapore team found that almost half (45.7 per cent) say they intend to use this mode of transport when it becomes available, with over one-third (36.2 per cent) planning to do so regularly.

According to the findings published online in the journal Technology in Society in April, the intention to take autonomous air taxis is associated with factors such as trust in the AI technology deployed in air taxis, hedonic motivation (the fun or pleasure derived from using technology), performance expectancy (the degree to which users expect that using the system will benefit them), and news media attention (the amount of attention paid to news about air taxis).

Air taxis and autonomous drone services are close to becoming a reality: China's aviation authority issued its first safety approval certification last year to a Chinese drone maker for trial operations, and in Europe, authorities are working to certify air taxis safe to serve passengers at the Paris Olympics this year.

For Singapore, which is looking to become a base for air taxi companies, the study findings could help the sector achieve lift-off, said the research team from NTU's Wee Kim Wee School of Communication and Information (WKWSCI) led by Professor Shirley Ho. Professor Ho, who is also NTU's Associate Vice President for Humanities, Social Sciences & Research Communication, said: "Even though air taxis have yet to be deployed in Singapore, close to half

of those surveyed said they would be keen to take one. This signifies a positive step forward for a nascent technology. Our study represents a significant step forward in understanding the factors that influence one's intention to take air taxis. Insights into the public perception of air taxis will enable policymakers and tech developers to design targeted interventions that encourage air taxi use as they look to build up an air taxi industry in Singapore."

The study aligns with NTU's goal of pursuing research aligned with national priorities and with the potential for significant intellectual and societal impact, as articulated in the NTU 2025 five-year strategic plan.

How the study was conducted

To gauge the public perception of air taxis, the NTU WKWSCI team surveyed 1,002 Singaporeans and permanent residents, drawing on a validated model[2] that measures technology acceptance and use and the factors driving this behaviour.

Participants were asked to score on a five-point scale in response to various statements about factors such as their trust in the AI system used in air taxis, their attention to news reports on air taxis, their perceived ease of use and usefulness of air taxis, as well as their attitudes and intention to take air taxis in the future.

The scores for each participant were then tabulated and used in statistical analyses to find out how these factors related to the participant's intention to take air taxis.

"Generally positive" sentiment about air taxis

Upon tabulating the scores, the researchers found that sentiments around air taxis are generally positive among the participants. Almost half (45.7 per cent) said they intend to use this mode of transport when it becomes available. Close to four in 10 (36.2 per cent) said they plan to do so regularly.

Close to six in 10 (57 per cent) thought taking air taxis would be fun, and 53 per cent said they were excited about taking air taxis.

Six in 10 (60.9 per cent) agreed that taking air taxis would help to get things done more quickly, and 61.2 per cent believed that it would increase productivity.

Half the participants also trusted the competency of the AI technology used in air taxis, and the AI engineers building the technology. Five in 10 (52.9 per cent) agreed that the AI system in air taxis would be competent and effective at helping to transport people.

Factors that predict air taxi use

Upon conducting statistical analyses on the survey data, the researchers found that the following factors directly impacted participants' intention to take air taxis:

- news media attention;
- trust in the AI system used in air taxis;
- attitude towards air taxis;
- performance expectancy;
- hedonic motivation;

- price value;
- social influence;
- habit (the perception that taking air taxis could become a habit).

These findings suggest that when Singaporeans consider whether they would use autonomous air taxis, not only do they value the practical aspects of the technology, but also how much they can trust the AI system, said NTU WKWSCI's PhD student Justin Cheung, a co-author of the study.

Surprisingly, habit was the most robust predictor of people's intention to use air taxis, despite the relatively smaller number of participants who agreed that taking the vehicles would become a habit for them, he said. This suggests that while the user base for autonomous passenger drones may be small, it could be a loyal one, he added.

Another robust predictor of use intention was attention to news media. In addition, the researchers found that news media attention could shape intentions to use air taxis and attitudes towards them by influencing trust in the AI systems, as well as the engineers who develop the AI systems behind air taxis.

Prof Ho said: "When technologies are yet to be deployed in the public sphere, news media offers the main and, in many instances, the only source of information for members of the public. Our findings suggest that policymakers could leverage positive news media reporting when introducing air taxis to shape public perceptions and thereby use intention."

Credibility affects trust in media reports on AI technology

These findings build on a study authored by Prof Ho and WKWSCI research fellow Goh Tong Jee. Published online in journal *Science Communication* in May, the study identified considerations that could affect the public's trust in media organisations, policymakers and tech developers that introduce AI in autonomous vehicles (AVs).

Through six focus group discussions with 56 drivers and non-drivers, the researchers found that media credibility is a foundation upon which the public would evaluate the trustworthiness of media organisations.

The focus group discussion participants said they would consider qualities such as balance, comprehensiveness, persuasiveness and objectivity of media organisations when assessing their ability to create quality content.

The researchers also found that non-drivers raised more qualities than drivers regarding trust in media organisations. The researchers attributed this observation to the enthusiasm non-drivers could have over the prospective use of AVs, which drove the non-drivers' tendency to seek information.

Some qualities raised only by non-drivers during the focus group discussions include a media organisation's ability to spur discussions on whether AV is a need or a want. Another consideration is a media organisation's ability to create varied content.

Non-drivers also shared their expectations that media organisations should be transparent and reveal "unflattering" information in the public's interest during crises, even if it means affecting the reputation of policymakers or tech developers.

The findings from these two studies reaffirm the need for accurate and balanced reporting on AVs such as air taxis, due to the role news media can play in shaping public perception, and the public's expectations of media organisations, said Prof Ho.

Prof Ho added: "The two studies highlight the importance for media organisations to translate emerging scientific evidence accurately to facilitate informed decision-making. Given the speed at which innovative technologies emerge in the age of digitalisation, accurate science communication has never been more crucial."

Notes;

[1]Singapore aims to become base for air taxi firms; CAAS working with regional counterparts on guidelines, CNA

[2] This model, called the Unified Theory of Acceptance and Use of Technology 2, is a validated technology acceptance model that aims to explain user intentions to use an information system and subsequent usage behaviour.

Story Source:

Journal References:

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2. Tong Jee Goh, Shirley S. Ho. **Trustworthiness of Policymakers, Technology Developers, and Media Organizations Involved in Introducing AI for Autonomous Vehicles: A Public Perspective**. *Science Communication*, 2024; DOI: 10.1177/10755470241248169

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