

## AI-Driven Cultural Personalisation in Aviation Marketing: Transforming Airline–Passenger Engagement

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### Abstract

The rapid adoption of Artificial Intelligence (AI) in the aviation industry is transforming how airlines communicate with and attract global passengers. This study explores the role of AI-driven personalisation in airline marketing and its implications for culturally diverse consumer segments. As international air travel connects passengers from different cultural backgrounds, airlines increasingly rely on machine learning algorithms, predictive analytics, and recommendation systems to tailor marketing messages, pricing strategies, and service offerings. This paper examines how AI technologies analyse passenger data—including travel history, digital behaviour, and cultural indicators—to generate culturally adaptive marketing content that enhances customer engagement and brand loyalty. Drawing on theories of cross-cultural marketing and digital personalisation, the study investigates the effectiveness of AI-powered marketing strategies in improving passenger satisfaction and trust in airline brands. It also considers ethical concerns related to data privacy, algorithmic bias, and cultural profiling in automated marketing systems. Using a conceptual framework supported by emerging industry practices in global aviation, the research highlights how culturally responsive AI marketing can reshape airline–passenger relationships in the digital era. The findings contribute to interdisciplinary discussions on technology, culture, and consumer behaviour, offering insights for airlines seeking to balance technological innovation with culturally sensitive marketing practices.

**Keywords:** AI-driven personalisation, cultural personalisation, passenger satisfaction, customer engagement, AI recommendations, airline marketing, artificial intelligence, cultural diversity, algorithmic bias, data privacy, airline customer experience

### INTRODUCTION

Over the last several decades, the aviation sector experienced great development in terms of technological progress, especially due to the introduction of the concept of Artificial Intelligence (AI) into the business processes in many ways (MoghadasNian et al., 2025). Another field in which AI has demonstrated potential transformation is that involving personalised interaction with the customers where the marketing department is a very important aspect in improving customer loyalty, customer satisfaction, and also improving the brand reputation (Taneja, 2025). Airlines, in this digital transformation, have matched the trend of adopting AI-based cultural personalisation in order to enhance their relationship with the global travellers across the various cultural orientations.

With the help of AI technologies (i.e., machine learning algorithms, predictive analytics or recommendation systems) airlines can personalise their marketing messages, pricing strategies, and service offerings, relying on the specifics of each of their passengers (Soni, 2025). As the air travel unites individuals of different cultures and backgrounds, the capacity of AI to align marketing content with the local culture preferences has become necessary in the advancement of airlines in their bid to connect customers in a deeper way (Gündüs, 2023). Through

passenger behaviour, travel history and cultural indicators, airlines are able to provide marketing content that appeals to the cultural norms, preferences and expectations of the passengers and this leads to an enhanced engagement and satisfaction of the passengers (Onifade et al., 2024).

This study will discuss how AI-based cultural personalisation affects airline marketing and the level of passenger satisfaction. With the continued growth of international air travel, how culture can impact marketing performance is an important concept to the future success of the airlines. The study is on the role of utilising AI technologies to establish customer loyalty, engagement, and satisfaction when applied to culturally adaptive marketing. The research uses quantitative research method where SPSS is used in data analysis like correlation, regression, and descriptive statistical analysis to explore AI-driven personalisation effectiveness in enhancing passenger satisfaction and trust. The ethical issues regarding the privacy of data, algorithmic discrimination, and cultural profiling are also assumed in the analysis.

## LITERATURE REVIEW

### **AI in Aviation Marketing**

Artificial Intelligence has transformed the marketing tactics used in different industries, including the aviation industry (Elmekkawi, 2025). AI allows airlines to provide their customers with a very personalised content and services and make their experience more interesting and pertinent. Dwarampudi (2025) point out that the trend toward the use of AI in the marketing industry is motivated by the fact that it can process large volumes of customer data, including the history of travels, buying patterns, and even activity frequency on social media. This abundance of data enables airlines to develop effective but also more cost-efficient targeted marketing campaigns.

The key to AI-driven marketing in the aviation industry is machine learning algorithms and predictive analytics (Spyrou et al., 2025). These technologies allow airlines to forecast customer preferences and behaviour along with the possible future purchases with references to the past data (Spyrou et al., 2025). Airlines can also use AI-driven recommendation engines to provide customised services, discounts, and promotions, thereby enhancing the experience of the passengers (Shrivastav, 2025). Moreover, AI will allow airlines to make dynamic changes to their marketing methods in real time so that the passengers get the most appropriate and up-to-date deals, which results in increased conversion rates.

Nevertheless, as much as AI has some benefits it also has some challenges with regard to ethical issues particularly pertaining to the issue of data privacy and transparency. According to Suresh et al., (2025), sharing personal data in AI marketing has led to concerns regarding the consent of the user, the possibility of information abuse, and the ethical character of making decisions on an automated basis. These issues highlight why there should be a trade-off between efficient AI-based personalisation and the ethical use of customer data.

### **Marketing and Personalisation of Culture**

Cultural influences form a major behaviour of consumers in the global markets (Kabashkin et al., 2025). The cultural backgrounds of consumers tend to influence their tastes, values and purchasing patterns. This is of special concern in the marketing of aviation where passengers are of many different cultural backgrounds. According to the cultural dimensions theory proposed by Hofstede, cultural values are the key elements of consumer expectation and consumer behaviour, so cultural personalisation should be a critical aspect of global marketing

strategy (Moghadas Nian et al., 2025). MoghadasNian (2025) highlight that effective cross-cultural marketing presupposes that the brands should be aware of the cultural differences and address them respectfully and comply with the needs and preferences of every market segment.

The concept of AI-driven cultural personalisation is based on the possibility of airlines to change the content of marketing and marketing services based on the cultural preferences and values of various categories of passengers (Moghaddasnian, 2024). To illustrate, AI systems are able to recognise language preferences, eating habits, or cultural approaches to privacy and exchange of information, which enables airlines to produce marketing content that appeals to the cultural beliefs of the passengers. Research conducted by Florido-Benítez (2024) has revealed that cultural personalisation can be a great way to increase customer satisfaction as passengers feel more acknowledged and appreciated. When passengers can see that the brands appreciate their cultural identity, they will be more inclined to interact with them, and be more emotionally attached to the airline.

Although cultural personalisation has its advantages, Gün (2025) cautiously state that AI should be applied with caution to prevent the reinforcement of stereotypes or to support the problem of bias in marketing content. As an example, AI algorithms may assume wrong assumptions in the taste of a passenger due to partial or prejudice information (Gün, 2025). It shows how there is a necessity of ethical AI systems that are transparent, fair, and devoid of cultural biases that will treat every customer with respect and dignity.

### **Customer Interest and Pleasure**

Brand loyalty and satisfaction in the airline sector mainly depend on the customer engagement. According to Frenette (2022), personalised marketing, which is AI-driven, leads to an enhanced level of engagement among the passengers by providing them with content that seems to be relevant and unique to his or her preferences. By making passengers believe that a particular airline knows them and their cultural backgrounds, they will focus more on the marketing content of specific airline, make bookings, and be faithful to the brand (Frenette, 2022).

The passenger satisfaction level is improved through AI-driven marketing, as it provides more personalised experiences that are seamless. Navarro-Meneses et al. (2025) also recommend that providing passengers in the airline with relevant offers and services (depending on their travel history and cultural orientations) can create the feeling of trust and satisfaction. Exposed passengers will experience the airline as concerned about their needs and, therefore, have a greater degree of loyalty.

But AI personalisation is not the only element associated with engagement and satisfaction. Tariq et al. (2025) believe that although personalised marketing might enhance engagement, it should not be the only approach, but rather complemented by the provision of high-quality services and favourable experience in general. AI-driven personalisation and high-quality customer service make a potent competitive edge of airlines, and enhances customer loyalty and brand image.

### **Moral Concerns with AI-Based Cultural Personalisation**

With the increase in the use of AI-based cultural personalisation in the context of the aviation marketing business, the ethical issues associated with privacy, algorithmic bias, and cultural profiling have also appeared. As Bhardwaj et al., (2025) note, it is essential that the AI systems do not violate the privacy of the passengers or abuse their personal data. This is in the context

of cultural personalisation that requires informed consent of the passengers to be collected prior to data collection and to be told how the data will be used.

Also, the problem of algorithmic bias is a major issue in AI marketing systems. The algorithms of AI can also perpetuate the stereotypes or, based on the partial data, make unfair assumptions concerning the passengers. As a measure to curb such risks, airlines should make sure that their AI systems are audited and optimised on a regular basis to avoid bias and facilitate a sense of fairness (Bhardwaj et al., 2025)

## METHODOLOGY

The quantitative research design is used in this study to examine the correlation between AI-based cultural personalisation and passenger satisfaction. The study employs a structured survey questionnaire to sample data of the airline passengers in terms of their perceptions of AI-driven marketing content, cultural personalisation, and their general satisfaction with airline services.

### **Design and Data Collection**

Likert-scale questions were used in designing the survey in order to measure different variables such as cultural personalisation, AI-led recommendations, customer engagement, and passenger satisfaction. The subjects were requested to provide the rating of their agreement with the statements concerning these variables on a scale (0: Strongly Disagree to 4: Strongly Agree). The questionnaire was sent to 200 airline customers so that the sample was diverse regarding various cultures.

### **Data Analysis Techniques**

The statistical package SPSS (Statistical Package of Social Sciences) which is a strong tool of statistical analysis was used to analyse the data. Statistical procedures used included the following:

**Descriptive Statistics:** The descriptive method was employed to summarise and describe the demographic data of the sample (age, gender, nationality, frequency of traveling). It also gave some data on the overall perception of the passengers concerning the AI-driven cultural personalisation and their satisfaction with the services of the airline.

**Correlation Analysis:** Pearson correlation was employed in order to estimate the strength and direction of the relationships between the independent variables (cultural personalisation, AI-driven recommendations, customer engagement) and the dependent variable (passenger satisfaction). The correlation analysis assisted in determining the strength of each factor on which passenger satisfaction is linked to.

**Regression Analysis:** Multiple regression analysis was performed to establish the predictive accuracy of AI-based cultural personalisation to passenger satisfaction. The regression model was used to determine the extent to which cultural personalisation, AI-driven recommendations, and customer engagement could explain the amount of variance in satisfaction. This discussion made it possible to learn more about the aspects that affected passenger satisfaction.

### **Ethical Considerations**

Ethics were also observed during the process of conducting the research. Anonymity was used by anonymising the survey responses in order to guarantee the privacy and confidentiality of the participants. In addition, informed consent was secured on behalf of the subjects and they informed the subjects that at any point they could withdraw during the study.

## RESULTS

## Demographic Analysis

Table 1: Age

| Age Group    | Frequency  | Percentage (%) |
|--------------|------------|----------------|
| 18-25        | 50         | 25%            |
| 26-35        | 80         | 40%            |
| 36-45        | 30         | 15%            |
| 46-60        | 25         | 12.5%          |
| 60+          | 15         | 7.5%           |
| <b>Total</b> | <b>200</b> | <b>100%</b>    |

Table 2: Gender

| Gender                  | Frequency  | Percentage (%) |
|-------------------------|------------|----------------|
| Male                    | 120        | 60%            |
| Female                  | 75         | 37.5%          |
| Other/Prefer not to say | 5          | 2.5%           |
| <b>Total</b>            | <b>200</b> | <b>100%</b>    |

Table 3: Nationality Distribution

| Nationality      | Frequency  | Percentage (%) |
|------------------|------------|----------------|
| USA              | 70         | 35%            |
| India            | 50         | 25%            |
| UK               | 30         | 15%            |
| China            | 20         | 10%            |
| Australia        | 15         | 7.5%           |
| Others (Various) | 15         | 7.5%           |
| <b>Total</b>     | <b>200</b> | <b>100%</b>    |

Table 4: Travel Frequency

| Travel Frequency                 | Frequency  | Percentage (%) |
|----------------------------------|------------|----------------|
| Rarely (1-2 times/year)          | 50         | 25%            |
| Occasionally (3-5 times/year)    | 70         | 35%            |
| Frequently (6-10 times/year)     | 40         | 20%            |
| Very Frequently (11+ times/year) | 40         | 20%            |
| <b>Total</b>                     | <b>200</b> | <b>100%</b>    |

The population with the highest number (40 percent) in the sample is the age group 26-35. This audience may mostly consist of active travellers who are likely early in their career path

and, possibly, more technologically oriented with the use of digital technologies such as AI-based airline marketing.

The next 18-25 age group consists of 25% meaning that there are a lot of younger passengers who could be more technologically inclined and could be receptive to innovative technologies, including AI-based personalised marketing.

The age group of 46-60 and 60+ are less significant (12.5% and 7.5%, respectively), which is why although AI marketing can lead to better results when working with younger passengers, its effectiveness on the representatives of older generations could be considered further.

60 per cent of the respondents are males and 37.5 per cent are females and 2.5 per cent other / prefer not to say. This disproportion indicates that the data might over-represent the male passengers slightly, yet it will be representative of the trends in the industry as a whole in travel where the percentage of male passengers is usually a higher percentage of all airline passengers. The greater male proportion may affect the validity of the generalisation of the results, and the research can be repeated in the future in gender-specific differences in AI-driven cultural personalisation. 35 percent of the respondents are USA nationals and 25 percent are Indian nationals. The two countries constitute a major sample, which means that AI-driven cultural personalisation are perhaps especially applicable in the areas where there is a varied and digitally active clientele.

The UK and China contribute 15 and 10 percent, respectively, which shows that cultural diversity should be considered in designing AI-based marketing campaigns to meet the needs of other nationalities. The diversity in the number of representatives of different countries (7.5% of Australia and other countries) indicates that airlines require differentiating marketing strategies to suit the needs of passengers with different cultural backgrounds.

One out of four passengers is a regular traveller (3-5 times a year) whereas 25 percent of passengers are infrequent travellers. This implies that the sample has both infrequent and frequent flyers and thus the findings can be generalised to a wide range of passengers. The very frequent flyers and the frequent flyers (both 20 each) are also of particular significance because these two groups will be more actively involved in the airlines and might have a greater view of the efficacy of the AI-based marketing. Airlines that want to conduct culture personalisation with the help of AI need to target frequent users, who will be more willing to receive personalised offers and services.

**Descriptive Statistics**

*Table 5: Descriptive statistics*

|                           | <b>N</b> | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|---------------------------|----------|----------------|----------------|-------------|-----------------------|
| AI-Driven Recommendations | 200      | .00            | 3.67           | 1.1383      | .90982                |
| Customer Engagement       | 200      | .00            | 4.00           | 1.4350      | .92680                |
| Cultural Personalisation  | 200      | .00            | 4.00           | 1.5683      | 1.00740               |
| Passenger Satisfaction    | 200      | .00            | 4.00           | 1.3917      | .96241                |
| Valid N (listwise)        | 200      |                |                |             |                       |

The descriptive statistics of the variables in this research will give valuable tips about the distribution of the answers on such issues as AI-driven recommendation, customer

engagement, cultural personalisation, and passenger satisfaction. In the case of AI-Driven Recommendations the mean score is 1.1383 and the standard deviation is 0.90982 which trusts that there is a moderate level of agreement to the personalised suggestions offered by airlines. The average is rather small as it appears that a great number of respondents did not strongly agree with the fact that AI is effective in offering personalised recommendations. It is also confirmed by the range, starting at 0 (strongly disagree) up to 3.67 (a bit above neutral), which means that there is variability in the perceptions of AI recommendations. On the same note, Customer Engagement has a mean of 1.4350 which has a standard deviation of 0.92680 which implies that it is moderate in nature but not necessarily high among all respondents. There is a degree of variation in the range of responses (0 to 4) as a large number of participants may have been indifferent or marginally interested in the marketing activities of the airline.

Conversely, means of Cultural Personalisation and Passenger Satisfaction are 1.5683 and 1.3917 respectively implying that the respondents are a little more positive about the personalised marketing and the satisfaction with airline services. Nevertheless, the standard deviations of both variables are high (1.00740 of Cultural Personalisation and 0.96241 of Passenger Satisfaction), which means that the degree of differences in the perception of cultural personalisation and overall satisfaction is high among the respondents. The big gap in the answers, i.e. high standard deviations, illustrates that these drivers, i.e. cultural personalisation and passenger satisfaction are not viewed or shared by all passengers, which is why more sophisticated approaches should be adopted. The lowest and highest of all variables (0-4) also contribute to the notion that there are varied passenger experiences and perceptions towards AI-induced personalisation in the aircraft business.

**Correlation Analysis**

*Table 6: Correlation Table*

| Variable                  | AI-Driven Recommendations | Customer Engagement | Cultural Personalisation | Passenger Satisfaction |
|---------------------------|---------------------------|---------------------|--------------------------|------------------------|
| AI-Driven Recommendations | 1                         | .957**              | .943**                   | .956**                 |
| Customer Engagement       | .957**                    | 1                   | .959**                   | .987**                 |
| Cultural Personalisation  | .943**                    | .959**              | 1                        | .979**                 |
| Passenger Satisfaction    | .956**                    | .987**              | .979**                   | 1                      |

The correlation analysis depicts that the relationships among all the variables under study are strong and statistically significant. The level of positive correlation between AI-Driven Recommendations and Customer Engagement ( $r = 0.957$ ) or Cultural Personalisation ( $r = 0.943$ ) is very high. This indicates that the better the airlines are in their AI-based suggestions, the more they are likely to develop customer engagement and cultural personalisation. Moreover, the correlations are extremely strong between Passenger Satisfaction and AI-Driven Recommendation ( $r = 0.956$ ), Customer Engagement ( $r = 0.987$ ), and Cultural Personalisation ( $r = 0.979$ ), which revealed that when passengers are more satisfied with their personalised experience, they are bound to be more engaged and appreciate culturally tailored marketing initiatives.

Customer Engagement has a high correlation with Passenger Satisfaction ( $r = 0.987$ ), which implies engagement is one of the determinants of overall satisfaction with the airline. In the same way, the high correlation between Cultural Personalisation and Customer Engagement ( $r = 0.959$ ) implies that passengers tend to respond to the culturally personalised information that the airline provides in a greater variety which, in its turn, makes them more willing to engage with an airline and, therefore, enhances satisfaction. Such results highlight the significance of AI-based, culturally personalised marketing approaches to improve customer engagement and satisfaction, and the airlines could potentially increase customer loyalty by such means. These correlations ( $p < 0.001$ ) are also statistically significantly significant, which also confirms that such correlations are not caused by chance.

**Regression Analysis**

*Table 7: Model Summary*

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .994 <sup>a</sup> | .987     | .987              | .10904                     |

a. Predictors: (Constant), Cultural Personalisation , AI-Driven Recommendations, Customer Engagement

According to the Model Summary, Passenger Satisfaction has a very strong relationship with the predictors (Cultural Personalisation, AI-Driven Recommendations, and Customer Engagement), and this is supported by the R value of 0.994. The reason why this value is large is because the model accounts for a significant percentage of the variation in passenger satisfaction. The R Sq of 0.987 also indicates that the independent variables can explain about 98.7 percent of the variance, which is the degree of passenger satisfaction, and hence the model has a great explanatory ability. The Adjusted R Square of 0.987 also attests the strength of the model considering the number of predictors to be used. The Std. Error of the Estimate (0.10904) is not big meaning that the values that have been predicted under the model are not far away but on the other hand the estimates are accurate (high degree of precision). All in all, the model is well-fitting and reliable when it comes to predicting passenger satisfaction on the basis of cultural personalisation, AI-based recommendations, and interaction with the customer.

*Table 8: ANOVA*

| Model |            | Sum of Squares | df  | Mean Square | F        | Sig.              |
|-------|------------|----------------|-----|-------------|----------|-------------------|
| 1     | Regression | 181.989        | 3   | 60.663      | 5102.229 | .000 <sup>b</sup> |
|       | Residual   | 2.330          | 196 | .012        |          |                   |
|       | Total      | 184.319        | 199 |             |          |                   |

a. Dependent Variable: Passenger Satisfaction

b. Predictors: (Constant), Cultural Personalisation , AI-Driven Recommendations, Customer Engagement

Table 8 shows that the results of the ANOVA are statistically significant to explain the satisfaction of the passengers, with an extremely high F-value of 5102.229 and p-value of 0.000, which means that the independent variables (Cultural Personalisation, AI-Driven

Recommendations and Customer Engagement) have a significant influence on passenger satisfaction altogether. Regression sum of squares is equal to 181.989 which is the largest part of the variance, and the sum of squares of the residuals is very low (2.330) implying that there is not much unexplained variance. The values of the mean square (60.663 of regression and 0.012 of residuals) also underline the strength of the model, which demonstrates that the predictors are effective in describing the variation in passenger satisfaction. The overall amount of squares is 184.319, which supports that the model captures nearly all variation of the dependent variable.

Table 9: Coefficients

| Model |                           | Unstandardized Coefficients |            | Standardised Coefficients | t      | Sig. |
|-------|---------------------------|-----------------------------|------------|---------------------------|--------|------|
|       |                           | B                           | Std. Error | Beta                      |        |      |
| 1     | (Constant)                | -.103                       | .016       |                           | -6.464 | .000 |
|       | AI-Driven Recommendations | .015                        | .031       | .014                      | .487   | .627 |
|       | Customer Engagement       | .623                        | .035       | .600                      | 17.552 | .000 |
|       | Cultural Personalisation  | .373                        | .029       | .390                      | 13.078 | .000 |

a. Dependent Variable: Passenger Satisfaction

Table 9 illustrates the effect of every predictor on passenger satisfaction in the coefficient. The constant value is -0.103, t-value of -6.464 and p-value of 0.000, which reveals that it is not significant. Customer Engagement has the biggest unstandardized coefficient of 0.623 and standardised coefficient (Beta) of 0.600, t-value of 17.552 and p-value of 0.000, which shows a significant positive impact on passenger satisfaction. The other factor that has significant effect was Cultural Personalisation with unstandardized coefficient of 0.373 with Beta value of 0.390, t-value of 13.078 and p-value of 0.000 which is significant. Conversely, the unstandardized coefficient of AI-Driven Recommendations is significantly lower at 0.015 with a Beta of 0.014, t-value of 0.487 and p-value of 0.627, stating that it has negligible or insignificant influence on passenger satisfaction.

DISCUSSION

The results of the research point to the importance of the role that AI-based cultural personalisation can have in improving passenger satisfaction in the airline sector. The regression model shows that Customer Engagement and Cultural Personalisation are associated with passenger satisfaction in a positive manner with Customer Engagement being the most significant predictor. This aligns with the existing literature that highlights that individual experiences contribute to a greater customer engagement with the brand and in turn to higher satisfaction and loyalty (Moghadas Nian et al., 2025). The existence of a strong positive correlation between Customer Engagement and Satisfaction ( $r = 0.987$ ) in this research confirms the fact that, according to Li and Wang (2021), airlines with a personalised engagement structure have higher chances of creating long-term loyalty.

Moreover, another important critical factor that should be considered is Cultural Personalisation which also greatly leads to passenger satisfaction. A standardised Beta coefficient of 0.390 indicates that this variable is highly significant in that marketing content alignment with the cultural preferences is necessary to enable passengers feel appreciated and understood. These results can be correlated with the cultural dimensions theory proposed by Hofstede according to which cultural values have a great impact on the preferences of consumers (Elmekkawi, 2025). The fact that Cultural Personalisation and the Passenger Satisfaction correlate highly ( $r = 0.979$ ) supports the view that passengers are better placed to experience a positive experience where the airlines consider their cultural backgrounds, which is important in international markets where passengers belong to diverse cultural backgrounds. Interestingly, there was a comparatively low impact of AI-Driven Recommendations on passenger satisfaction and the Beta coefficient and t-value of 0.014 are 0.487, indicating that alone may not have a significant effect on passenger satisfaction in this sample. The finding does not align with the literature like the one conducted by Kabashkin et al. (2025), which reported that AI suggestions helped to improve the travel experience. The difference between that and the sample or the fact that personalised recommendations, even though significant, may not be as immediate an effectiveness as the direct interaction and cultural aspects that airlines offer.

Regarding the ethical issues, the study outlines the necessity of a company to strike a balance between personalisation and data privacy among airlines. Although AI could be used to provide strong personalisation tools, it is important to make sure that their AI systems remain transparent and do not cause cultural profiling or the use of algorithmic biases that would isolate particular groups of passengers (Bhardwaj et al., 2025). The issues of ethical considerations are required to drive the creation and implementation of AI-based marketing tactics to be inclusive and equitable.

## CONCLUSION

This paper shows that cultural personalisation that is powered by AI is one of the most important factors to passenger satisfaction in the airline sector. The findings highlight the importance of Customer Engagement and Cultural Personalisation in terms of enhancing the experience of passengers as being in line with the existing literature that emphasises the significance of personalised marketing messages and one-on-one communication in building loyalty. Although AI-driven recommendations had less impact, customised engagement and cultural relevance can be considered a strong tool to enhance passenger satisfaction. These results can be useful to airlines interested in using AI technologies to deliver better customer experiences and also help to emphasise the importance of responsible and ethical AI practices. The cultural differences that airlines should take into account in their AI strategies are that a marketing content should be appealing to passengers, whereas their concerns regarding privacy and the absence of biased algorithms are also to be addressed. In the future, it might be interesting to study the long-term consequences of the AI-based cultural personalisation and the responses of various customer groups to personalised marketing campaigns.

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### Appendix: Survey Questionnaire

**Instructions:** Please rate the following statements on a scale from **0 to 4**, where:

- **0 = Strongly Disagree**
- **1 = Disagree**
- **2 = Neutral**
- **3 = Agree**
- **4 = Strongly Agree**

#### Section 1: Cultural Personalization (Independent Variable)

1. The marketing content I receive from airlines is tailored to my cultural background.
2. I feel that airlines make an effort to incorporate my cultural preferences in their advertisements.
3. I prefer airlines that provide marketing content in my native language.
4. The promotional offers I receive from airlines reflect my cultural interests and values.

#### Section 2: AI-Driven Recommendations (Independent Variable)

1. I am satisfied with the personalized recommendations I receive from airlines based on my previous travel behavior.
2. The use of AI to suggest flight options or services enhances my travel experience.
3. I believe AI helps airlines offer better-tailored deals for me.
4. AI-driven marketing content feels more relevant to me than generic content.

#### Section 3: Customer Engagement (Independent Variable)

1. I feel more engaged with airlines that use personalized marketing content.
2. Personalized marketing content from airlines makes me feel valued as a customer.
3. I am more likely to interact with an airline's promotional content when it feels personalized.
4. The marketing content I receive from airlines makes me more likely to follow them on social media.

#### Section 4: Passenger Satisfaction (Dependent Variable)

1. I am satisfied with the personalized experiences provided by airlines.
2. The AI-driven marketing content makes me feel more satisfied with my choice of airline.
3. Personalized marketing improves my overall perception of an airline.
4. I am more likely to recommend an airline to others if they use AI-driven cultural personalization effectively.