Trust Toward AI

Cross-Cultural Comparison

Exploratory Research

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Abstract

This study explores how Western and Arab/Emirati respondents differ in their trust toward artificial intelligence (AI) in business. Responses from 50 participants were collected through a Google Form survey containing seven questions on reliability, data handling, ethical decision-making, and perceptions of AI. On average, Arab/Emirati respondents showed much higher trust in AI (3.60/5.0) than Western respondents (1.54/5.0), a difference of 134%. Mann-Whitney U test confirmed this difference is significant ($p < 0.001$). These findings suggest that culture affects how AI is perceived, which businesses should consider when involving AI.

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1. Introduction

Artificial intelligence (AI) is changing how businesses operate, from automated customer service to data-driven decision-making. However, the success of AI depends not only on its technical capabilities but also on whether people trust it. As AI becomes more common, it becomes important to understand why people trust or distrust it, and whether cultural background may affect their willingness to adopt it.

This study compares trust in AI between Western respondents (from the United States, Canada, and Europe) and Arab/Emirati respondents (mostly from the United Arab Emirates). It aims to answer three questions: Do the two groups differ in their trust in AI? Where do they differ the most? Are these differences statistically significant or due to random variation.

2. Background

Trust in artificial intelligence (AI) depends on reliability, accuracy, and predictability. Since it is often not evident how AI systems reach their decisions, concerns about algorithmic bias and interpretability have increased.

Cultural background could suggest how people respond to AI. In the UAE, government-led initiatives such as the UAE AI Strategy 2031 and the appointment of a Minister of Artificial Intelligence have encouraged positive attitudes toward AI [1]. Western discussions, however, have increasingly focused on risks involving privacy, ethics, and job displacement, and this has contributed to a more cautious perception of AI.

3. Methodology

3.1 Survey Design

The survey consisted of seven statements assessing aspects of AI trust in business. Respondents were instructed to indicate the extent to which they agreed or disagreed with each statement using a four-point scale: Agree, Somewhat Agree, Somewhat Disagree, and Disagree. The scale

intentionally excluded a neutral midpoint to reduce the likelihood of respondents selecting a neutral response.

The statements covered:

1. comfort with AI-automated customer service

2. trust in AI-provided information

3. belief in AI's ability to treat people without bias

4. value of explainable AI

5. trust in businesses' handling of personal data with AI

6. confidence in AI supporting ethical decisions

7. belief that AI provides competitive advantage

3.2 Participants

Fifty respondents completed the survey between January and February 2026. Participants were recruited through Reddit and convenience sampling. The sample included 26 Western respondents (from the United States, Canada, United Kingdom, and Western Europe) and 24 Arab/Emirati respondents (primarily from the UAE, with additional participants from Syria and Sudan). The Western group had an average age of 31.5 years, while the Arab/Emirati group averaged 19.8 years. This age difference was not intentional in the sampling design but became an important consideration in interpreting results. The age distribution of participants is shown in the **Appendix**.

3.3 Analysis

Responses were analyzed using Python with the pandas library for data processing, matplotlib for visualization, and scipy for statistical testing. Likert scale responses were converted to numeric values (Agree = 5, Somewhat Agree = 4, Somewhat Disagree = 2, Disagree = 1) for quantitative analysis. An average trust score was calculated for each participant by averaging their responses across all seven questions.

To assess statistical significance, the Mann-Whitney U test was used. This non-parametric test was chosen because it does not assume normal distribution of data and is appropriate for small sample sizes. The test determines whether observed differences between groups are likely to be genuine or could reasonably occur by chance.

4. Results

4.1 Overall Trust

The analysis revealed a substantial difference in trust between the two cultural groups. From the figure below, Western respondents reported an average trust score of 1.54 out of 5.0, while Arab/Emirati respondents averaged 3.60. This represents a difference of 2.06 points, or approximately 134% higher trust among Arab/Emirati.
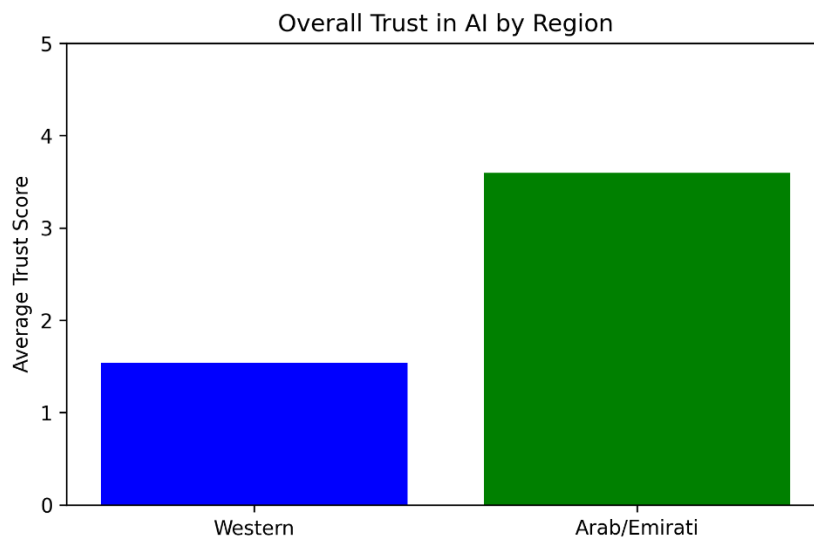

Figure 1: Trust Between Groups

The Mann-Whitney U test yielded a U-statistic of 57.0 with a p-value of 0.000001 ($p < 0.001$). This highly significant result indicates that the probability of observing such a large difference by random chance is extremely low.

4.2 Trust Differences

Figure 2 shows Arab/Emirati respondents reported higher trust across all aspects. The largest difference appeared in perceptions of AI's ability to treat people without bias (2.56 points),

followed by ethical decision-making (2.31 points) and comfort with AI customer service (2.16 points). Interestingly, Western respondents showed their highest absolute trust score (2.35/5.0) for AI that explain their reasoning.
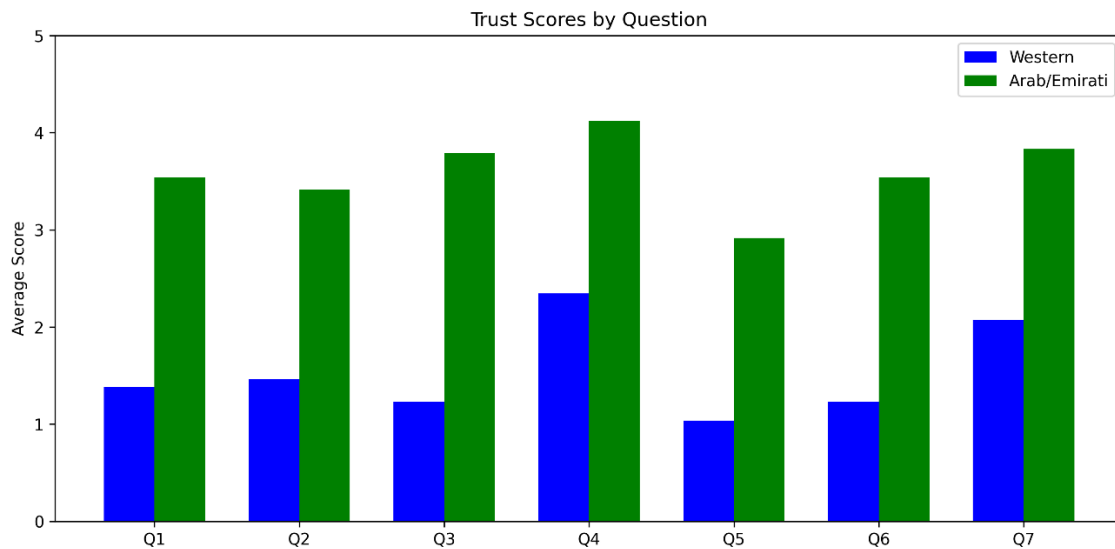

Figure 2: Trust by Question

5. Discussion

5.1 Understanding the Difference

Higher trust among Arab/Emirati respondents aligns with the UAE's strategic support for AI, whereas lower trust among Western respondents comes from the attention given to concerns surrounding AI. Western respondents reported lower trust in AI being unbiased, likely because reported cases of biased AI in hiring and lending.

The age difference between the groups needs to be considered. Younger individuals are often assumed to be more comfortable with technology, which may partly contribute to the higher trust observed among the Arab/Emirati respondents. However, the 134% trust gap is too large to be explained by age alone. Even within the Western group, younger respondents trusted AI no more than older ones.

These results have practical implications for AI use. Western respondents trusted AI far less, so developers may need to focus on reducing bias and providing explanations for AI decisions. Arab/Emirati respondents showed higher trust, but this still depends on responsible use.

5.2 Limitations

This study has few limitations. First, although the sample size of 50 respondents is appropriate for exploratory research, a larger sample would support stronger and more reliable conclusions. Additionally, the use of convenience sampling through online platforms may introduce selection bias. Participants who voluntarily engage in AI-related surveys may hold different attitudes than the general population, meaning the sample may not fully represent public perspectives.

Second, age differences between the two groups. Because the Western and Arab/Emirati participants differed in average age Future research using age-matched samples would strengthen the validity of cross-cultural comparisons.

Third, the study reflects responses collected during this period. Trust in AI is likely to change as technologies advance, narratives shift, and individuals gain direct experience with AI. Longitudinal research would show how trust develops and evolves over time.

6. Conclusion

This study demonstrates that cultural background could affect trust towards AI. Arab/Emirati respondents showed higher trust than Western respondents, with differences too large to attribute to chance or age alone.

These findings have practical implications. AI strategies effective in one culture may fail in another. As AI expands, businesses must understand and adapt to these cultural differences in trust.

However, while this study shows trust differences exist, it does not explain why. Understanding the reasons behind these differences requires further research.

Reference

[1] UAE Artificial Intelligence Office, "UAE National Strategy for Artificial Intelligence 2031," Jul. 2021. [Online]. Available: https://ai.gov.ae/wp-content/uploads/2021/07/UAE-National-Strategy-for-Artificial-Intelligence-2031.pdf
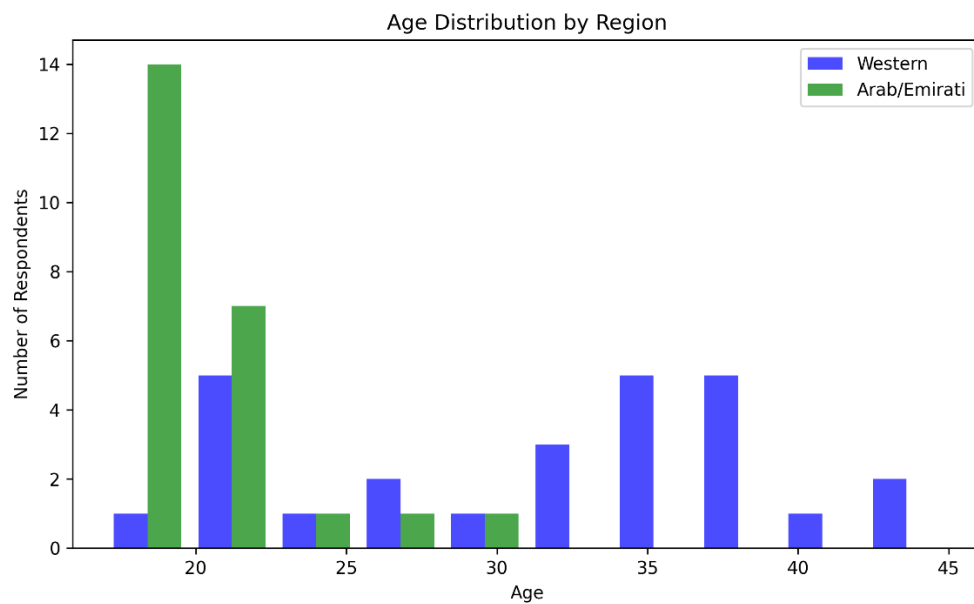
Appendix

Figure 3: Respondents Age

Figure 3 shows the age distribution of the 50 respondents, with more Arab/Emirati in the younger age groups and Western spread across more age groups.

The survey used for this study can be accessed through this link:

https://forms.gle/9MpyeDBCHt4Wpo118