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Building AI-driven cross-cultural marketing programs to support international trade in the USA

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Abstract

Globalization has made it much easier for U.S. businesses to reach customers all over the world, but marketing to people from different cultures is still hard. New tools are available to help with these problems thanks to advances in Artificial Intelligence (AI). This study's goal is to create and test a framework for AI-powered cross-cultural marketing programs that help U.S. businesses trade with other countries. We outline a research agenda that looks into how AI technologies, like natural language processing and machine learning, can help us better understand and adapt to cultural markets. We used a mixed-method approach, which included surveys of marketing and trade professionals as well as looking at AI usage data and trade statistics. The main findings show that companies that combine AI with cultural intelligence get more customers and do better in exports. AI-based personalization helps break down language and cultural barriers. The results have real-world implications for marketers, who can use AI to make campaigns more culturally sensitive, and for policymakers, who can encourage the use of AI in export promotion. This research adds to what we know by bringing together the fields of AI, cross-cultural marketing, and international trade. It does this by suggesting a new conceptual model based on Hofstede's cultural dimensions, technology acceptance theory, and the resource-based view. The study finds that AI-driven marketing that is in line with local culture can greatly improve U.S. companies' ability to compete and do business around the world.

Keywords: Artificial Intelligence; Cross-Cultural Marketing; International Trade; Machine Learning; Consumer Behavior; Global Strategy

1. Introduction

In a time when the world is more connected and globalized, U.S. businesses trade with almost every part of the world. They send goods and services to more than 220 countries. Cross-cultural competence is very important for success in international marketing because each foreign market has its own languages, cultural norms, and ways of doing business. Traditional marketing methods have had a hard time dealing with this kind of diversity on a large scale. Recently, Artificial Intelligence (AI) has become a powerful tool for companies dealing with this level of complexity. It does this by processing huge amounts of data and customizing strategies to fit local needs (Kaplan and Haenlein, 2019). AI technologies can look at consumer data from different regions to find insights that were hard to find before. This makes it possible to segment markets more finely and create more personalized campaigns (Huang and Rust, 2021). For instance, AI-driven systems use machine learning and natural language processing to automatically change content and offers to fit different cultural contexts. This helps marketers get around language and cultural barriers. The World Trade

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Organization says that broad AI adoption could boost global trade growth by up to 14% by 2040 through efficiency gains and cost reductions, such as making it easier to communicate and share information. These capabilities hold a lot of promise for improving international trade performance. Exports are very important to the U.S. economy, so using AI in cross-cultural marketing is becoming more and more of a strategic need than a choice.

There are still big gaps in research at the crossroads of AI, culture, and international marketing, even though more and more people are interested in it. Most of the research on AI in marketing so far has been done in one country or culture (Dwivedi et al., 2019; Kaplan and Haenlein, 2019). On the other hand, classical cross-cultural marketing research (like Hofstede's cultural framework) predates the AI era. There aren't many studies that have looked at how AI-driven personalization and analytics can help with marketing problems that come up when dealing with people from different cultures (Bender et al., 2021). Because of this, there isn't a lot of academic knowledge about questions like: How can AI be used with cultural market knowledge to make international campaigns more effective? What new risks (like algorithmic bias and cultural misunderstanding) come up when AI is used in different markets? And how much does using AI in marketing really lead to better business results for U.S. companies, like more export sales or a bigger market share? This study tries to fill that gap by using new evidence that AI tools can help break down cultural barriers in international business.

To solve these problems, we create a conceptual model based on well-known theories of how people adopt new technologies and cultures. We use Hofstede's cultural dimensions to measure differences in national cultures, the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) to figure out how marketers use AI in different cultures, and the Resource-Based View (RBV) to see AI and cultural knowledge as important resources for companies. Using this framework, we look at the real-world connections between AI-driven marketing, adapting strategies to different cultures, and international trade performance metrics. The study is based on the following research questions:

- RQ1: How can AI technologies like machine learning and language processing make U.S. companies' cross-cultural marketing strategies work better in international markets?
- RQ2: Do AI-driven marketing campaigns that include cultural insights (like local values and customs) get more people to buy things and do better at exporting?

What are the main problems and limitations of using AI in cross-cultural marketing (for example, algorithmic biases, data privacy, and cultural misinterpretation), and how can companies deal with these problems?

We will first look at some relevant research on AI in marketing, cross-cultural frameworks, and international trade marketing linkages in the rest of the paper. Next, we show our theoretical model and hypotheses, and then we show the mixed-methods research design. Next, we talk about the quantitative and qualitative results and what they mean for theory and practice. The paper ends with suggestions for managers and policymakers, a list of its limitations, and ideas for future research.

2. Literature review

2.1. Artificial Intelligence in Marketing (NLP, ML, Recommender Systems)

Artificial Intelligence has quickly changed the way marketing works by letting companies use big data and complex algorithms to improve their plans (Huang and Rust, 2021). Modern AI includes a lot of different methods, like machine learning (ML) algorithms that find patterns in customer data, natural language processing (NLP) that lets you understand text and speech (like social media posts and customer reviews), and recommendation engines that make product suggestions based on what you like. These AI tools work together to make market segmentation, targeting, and positioning more precise than ever before (Kaplan and Haenlein, 2019; Huang and Rust, 2021). For example, ML-based analytics can find small groups of consumers in different countries based on their browsing or buying habits. NLP sentiment analysis can tell how people feel about things in different languages (Jurafsky and Martin, 2021). Many global platforms, like Netflix and Amazon, use AI-powered recommender systems to suggest products or content that fits each user's tastes, based on what they've done in the past. These systems can change their recommendations based on cultural relevance. For instance, they might prefer content that is specific to a region and fits with local tastes (Shankar, 2018).

AI's ability to handle large amounts of unstructured data has changed the way marketers do research and run campaigns. AI is making routine tasks like planning media and helping customers more and more automated (Rust and

Huang, 2014). Chatbots and virtual assistants use NLP to talk to customers in their own language, giving them 24/7 support and information in a way that is respectful of their culture. AI-powered content creation tools can even write ads in the language of the area or change pictures to fit cultural norms. AI systems can learn from how people respond all the time. They can do A/B tests and change ads in real time for different groups of people (Kumar et al., 2020). Recent surveys of the marketing industry show that AI is now widely used: by 2022, almost 62% of marketers around the world said they used some form of AI in their digital campaigns. North America is ahead of the rest of the world when it comes to using AI (about 60% of companies do as of 2023), followed closely by Asia and Europe. This trend shows that AI is no longer just a test; it is now a key part of marketing strategy.

But there are problems with using AI. Researchers have worried about AI marketing apps that are biased and not clear (Bender et al., 2021). AI models that are mostly trained on Western datasets might not understand slang or cultural preferences correctly, which could lead to messages that are rude or don't work. For instance, an AI-powered ad platform might show content that is culturally inappropriate without meaning to if it doesn't know about local values. There are also moral issues to think about when it comes to data use and consumer privacy (Solove, 2020). AI systems need a lot of personal data to make accurate predictions. This has raised concerns under rules like Europe's GDPR. So, marketers need to find a balance between the benefits of personalization and the need to respect privacy and consent in different places. Even with these problems, most recent research agrees that AI can open up new ways to market products when it is used carefully (Huang and Rust, 2021; Davenport et al., 2020). Its importance is especially clear in complicated settings like international markets, where it's both important and hard to understand and meet the needs of different types of consumers with traditional tools.

2.2. Cross-Cultural Marketing Frameworks (Hofstede, Trompenaars, Hall, Cultural Intelligence)

Researchers came up with different ways to understand cultural differences and help with international marketing long before AI came along. Hofstede's Cultural Dimensions Theory is one of the most important. It measures national cultures along dimensions like Power Distance, Individualism vs. Collectivism, Masculinity vs. Femininity, Uncertainty Avoidance, Long-Term Orientation, and Indulgence (Hofstede, 2001). These dimensions help us understand why people in different countries act and talk differently. For instance, cultures with a high-Power Distance score might respond better to messages that emphasize authority or prestige, while cultures with a low Power Distance score might prefer messages that are more egalitarian. Trompenaars' seven cultural dimensions (like Universalism vs. Particularism and Specific vs. Diffuse) and Hall's high-context vs. low-context communication framework help us understand even more by showing how values and ways of communicating are different (Hall, 1976; Trompenaars and Hampden-Turner, 1998). In high-context cultures like Japan and the Middle East, a lot of the meaning of a message comes from the context and what is not said. This means that marketing communications need to pay close attention to symbols, tone, and background. In low-context cultures like the U.S. and Germany, messages should be clear and direct. These classic frameworks give marketers a set of tools to change how they position, brand, and advertise their products to fit local norms and expectations.

Cross-cultural marketing research has shown that changing the marketing mix (product, advertising, etc.) to fit the culture of the area can make a big difference in results (Okazaki, Taylor, and Zou, 2006). People are more likely to accept and like products that reflect their own cultural values. This is sometimes called "cultural resonance" (De Mooij, 2019). For example, an ad that focuses on family and community might do well in a collectivist society, but it might not do as well in a more individualist market where personal success is more important. Cultural intelligence (CQ) has become an important skill for managers in this field. Cultural intelligence is the ability to work well in places where people from different cultures live and work (Ang and Van Dyne, 2015). A high CQ means that international marketing managers can better understand the subtle needs of local customers and adjust their strategies accordingly. Previous research has shown that export managers with higher cultural intelligence are better at changing marketing strategies to fit foreign markets, which in turn improves export performance (Magnusson et al., 2013). This fits with the resource-based view, which says that cultural knowledge and sensitivity can be seen as an intangible resource or skill that gives you an edge in international markets (Helfat et al., 2023).

These frameworks are also important because they show where AI systems could run into cultural problems. AI algorithms may give you a one-size-fits-all output that doesn't take these differences into account unless they are specifically trained on data from a variety of cultures. For instance, a sentiment analysis algorithm might get messages from a high-context culture wrong if it doesn't "get" that not all meaning is in the words used. So, adding Hofstede's and other cultural frameworks to AI design—essentially giving AI some form of cultural intelligence—is an important research and real-world problem. In short, cross-cultural marketing theory tells us what to change when we market in other countries (values, communication style, etc.). This study uses those ideas to create AI-driven programs that are still aware of other cultures.

2.3. International Trade and Marketing Synergies (Trade Facilitation, Cultural Barriers)

There is a strong connection between marketing and international trade. Good marketing makes foreign consumers want to buy things, which has a direct effect on a country's success in exporting. On the other hand, the problems of international trade, like distance, rules, and cultural differences, mean that marketing needs to be smartly changed. One way to work together is through trade facilitation. Marketing communications can help bring countries closer together by teaching foreign customers about a product and making it appealing in their own country. When American companies enter a market that is far away, targeted advertising and brand positioning can help break down cultural barriers that might otherwise make it hard for people to accept foreign goods (Cateora et al., 2020). For instance, a company that exports food might run localized ad campaigns that include local cooking styles to get people to trust foreign foods more. This kind of culturally aware marketing is like informal trade diplomacy that builds goodwill and interest in U.S. goods abroad.

Cultural differences between trading partners have a measurable effect on trade flows, according to empirical research. When two countries have very different cultures (in language, religion, values, etc.), it can make it harder for them to trade with each other because it makes it easier for misunderstandings to happen and trust to go down. According to one study, a rise of one unit on a cultural distance index was linked to a drop in trade volume of about 40%. This effect shows why companies often have a harder time getting into markets that are far away from their own culture. Here, adapting marketing is very important. Research has shown that companies that change their products and services to fit big cultural differences do better at exporting (Azar and Drogendijk, 2016). Adaptation can mean changing products (like the packaging or flavor) to fit local tastes, changing pricing strategies to fit how people in that area buy things, or changing how products are distributed and promoted to fit local customs. According to a meta-analysis by Katsikeas, Samiee, and Theodosiou (2019), one of the most important factors in export success is how well a marketing strategy fits with the needs of the local market. In other words, customization is worth it in export markets, especially when cultural barriers would be high otherwise.

AI could help marketing and trade work together better by getting rid of some of the information-related barriers to trade. AI language translation and localization tools, for example, can quickly change marketing materials to fit different countries, which cuts down on the time and money needed for multilingual campaigns. This directly addresses language barriers, which are a big part of cultural distance, in global business. The WTO says that AI can "overcome language barriers and lower search and matching costs," which makes international transactions run more smoothly. By using AI translators and chatbots on e-commerce sites, U.S. exporters can talk to foreign customers in their own language, which will lead to more engagement and sales. AI-driven market analytics can also find small groups of overseas customers that human marketers might miss, which can lead to new export opportunities. All of these improvements to marketing help trade by increasing export sales, reaching more markets, and building stronger relationships with customers across borders. That being said, businesses should remember that technology isn't a cure-all. Different types of infrastructure and digital divides mean that AI adoption is different in different parts of the world. For example, advanced economies use AI more than developing ones do right now (OECD, 2023). So, one part of a cross-cultural AI strategy is to check how ready a target market is for digital technology and change your plans based on that (Meltzer, 2018).

To sum up, the research suggests that adding AI to international marketing could make the good effects of adapting to different cultures on trade performance even stronger. But it also brings up new questions about how to make this integration work in practice, which haven't been fully answered yet. This study does that by bringing together three different areas of research: marketing AI capabilities, cross-cultural theory, and trade performance metrics.

2.4. Gaps in the Literature

The review above shows that there is a gap in research at the intersection of AI use and cultural customization in marketing. There have been studies on AI in marketing and the role of culture in international marketing, but not many have looked at AI-driven cross-cultural marketing (Bender et al., 2021). There aren't any well-known frameworks or real-world examples that show how companies can use both AI and cultural insights to do well in international markets at the same time. For example, many current AI marketing studies assume that the market is the same everywhere, without considering how AI algorithms might need to be changed for different cultural settings (Kaplan and Haenlein, 2019; Dwivedi et al., 2019). Cross-cultural marketing research, on the other hand, hasn't yet looked into how AI and big data can be used to make cultural adaptation easier and faster. Because of this, managers don't have much help with questions like, "How do you train AI models with data from different cultures?" How do you know if AI-driven personalization works in each culture? and how can you make sure that AI suggestions are in line with local customs and what customers want?

Another gap that has been found is the lack of scalable frameworks that add cultural intelligence to AI systems. In the past, cultural adaptation in marketing was done by hand and by experts, such as hiring local experts and doing research on specific countries. It is still not clear how to put this kind of knowledge into AI tools. Some early comments (Taylor, 2023) say that we need an interdisciplinary approach that brings together AI engineers, cultural psychologists, and international marketing strategists to create algorithms that are "aware" of culture. But there isn't much academic research that gives real examples or models of this. Also, the research on TAM/UTAUT in technology adoption has not been used much to look at how marketers use AI in different cultural settings. There may be cultural factors that affect how quickly marketers in different countries trust and use AI insights (Venkatesh et al., 2012), but this is also not well-studied.

In short, we need research that (1) combines AI capabilities with cultural marketing strategies into a single theoretical framework, (2) tests the effects of this combination on marketing and trade outcomes, and (3) looks into the new problems (bias, ethics, and differences in implementation) that come up when using AI in a multicultural world. This study tries to fill in the blanks. It does this by suggesting a new framework (next section) that connects AI-driven marketing tools, cultural adaptation methods, and international performance, and by giving real-world evidence from a mixed-method study to answer the research questions that were asked.

3. Theoretical framework

3.1. We create a theoretical framework based on three complementary theories

Hofstede's Cultural Dimensions, the Technology Acceptance Model (TAM) / UTAUT, and the Resource-Based View (RBV) of the firm. This framework helps us look at how AI-driven marketing can be used in different cultures to improve trade outcomes. Each one gives us a way to look at different parts of the AI–culture–performance connection.

Hofstede's Cultural Dimensions and other cross-cultural theories give us the cultural context variables. When we use AI in marketing, we look at how differences in national culture affect both how consumers react and how organizations act. Cultural traits, like individualism (which might make people want personalized offers) or uncertainty avoidance (which could make people less trusting of AI-generated content), could change how well an AI-personalized recommendation works. We include cultural factors as moderators and control variables in the framework because we know that the effects of AI-driven strategies on outcomes are likely to be different depending on how far apart the U.S. firm and the target market are culturally. When the cultural distance is high, AI may need to be more flexible and use different parameters, like the tone of language generation. On the other hand, when the cultural distance is low, AI outputs may be more standardized.

The Technology Acceptance Model (TAM) (Davis, 1989) and later UTAUT (Venkatesh et al., 2003) help marketing professionals and companies decide whether to use AI tools and how to use them. TAM is usually used to look at how people use new technologies. In this case, we use it to look at how marketers in different cultures are using AI-driven marketing systems. Cultural norms can affect how useful and easy to use people think AI is. For instance, in cultures that avoid uncertainty, marketers may be less likely to trust algorithmic decision-making and want more proof of AI's benefits before fully embracing it (Lee et al., 2020). According to our framework, organizations must first accept AI into their marketing workflow (an internal factor) before they can effectively use AI-driven programs. So, we look at things like how managers feel about AI, training, and how useful they think it is as factors that come before the level of AI capability use. We also look at facilitating conditions (like infrastructure and support from top management) that may be different in different country offices of the same company, based on UTAUT. TAM and UTAUT elements help explain why some companies use AI more effectively in their international marketing than others, which is necessary for performance gains.

The Resource-Based View (RBV) is the strategic view that connects everything. According to RBV, companies can get an edge over their competitors by having resources and skills that are unique, valuable, and hard to copy (Barney, 1991). We think of AI-driven marketing capabilities as a new type of organizational resource that includes data assets, algorithms, and the skills to use them. These resources can help you get better customer insights and be more efficient. Cultural adaptability, or the company's cultural intelligence and knowledge of the local market, is also seen as a useful skill. RBV says that when a company effectively combines its AI skills with its knowledge of different cultures, it creates a synergy that competitors will have a hard time copying. This combination leads to better marketing strategies that work across cultures, such as campaigns that are based on data and fit the culture. It is thought that these strategies will make international trade work better (for example, by increasing export sales growth, market share, or ROI in foreign markets). We also think of "performance" in a broader sense to mean things like higher customer satisfaction or brand engagement in different markets, which all add up to the success of the company's exports.

Figure 1 shows the conceptual model that connects these parts. AI-driven marketing tools, like personalization algorithms, predictive analytics, and automated content creation, directly lead to better marketing results by making decisions more accurate and faster. Cross-cultural marketing strategies, like changing the way a product is positioned or sending messages that are specific to a culture, help to lessen the impact of AI on performance. AI gives the company the information or automation it needs, and the company uses it through a strategy that takes culture into account. Cultural factors, like Hofstede's dimensions, affect the link between strategies and outcomes. This means that the benefits of adapting may be greater in markets that are very different from your own. The model also shows that TAM factors affect how much AI the company uses (for example, how much the marketer trusts AI and how easy it is to use, which can be affected by cultural factors like how open people are to new technology). Finally, in line with RBV, the whole setup of AI capability and cultural adaptation can be seen as giving a business a competitive edge that helps it stay successful in trade. This theoretical model gives rise to a number of testable hypotheses, such as:

- H1: The more a company uses AI in marketing, the better it does at exporting (in other words, companies that use AI more in marketing do better in international markets).
- H2: The more cultural adaptation there is in marketing (for example, adapting the marketing mix), the better the export performance.
- H3: AI-driven capabilities and cultural adaptation work together to improve performance. Specifically, using AI with high cultural adaptation leads to bigger performance gains than using AI with low cultural adaptation.
- H4: Export managers' cultural intelligence makes AI-driven marketing strategies work better, which indirectly boosts performance (for example, by adjusting AI outputs to fit the local situation).

Our study looks into these hypotheses. The next section goes into detail about the methods used to gather and analyze data in order to support this conceptual framework.
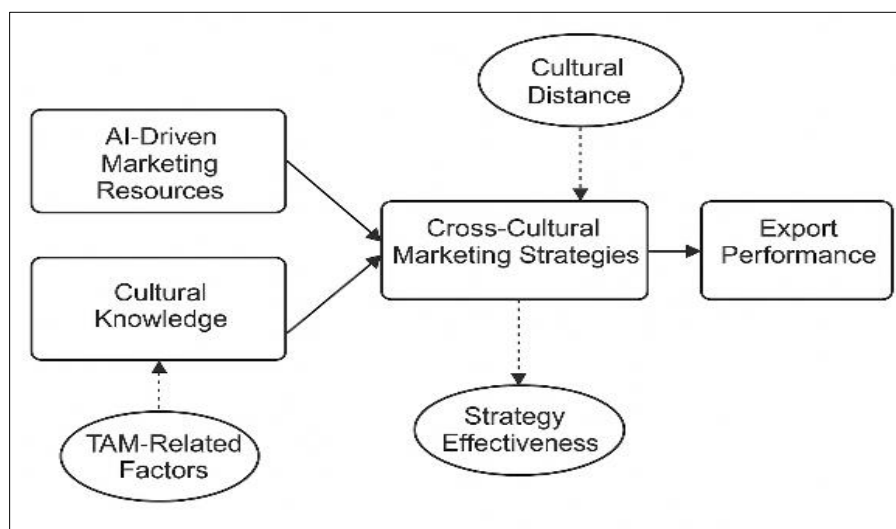

Figure 1 Conceptual model linking AI capabilities, cultural adaptation, and international trade performance. AI-driven marketing resources and cultural knowledge feed into cross-cultural marketing strategies, which in turn drive export performance outcomes. Cultural distance moderates' strategy effectiveness, while TAM-related factors influence the adoption of AI capabilities

4. Methodology

This study used a mixed-methods approach that combined quantitative analysis with qualitative insights. This is a good way to go about things because the study is exploratory and looks at both technology and cultural factors (Creswell and Plano Clark, 2018). We did the study in two main parts: a quantitative survey-based analysis to test our hypotheses and qualitative case studies and interviews to add to and explain the results.

4.1. Getting the data

We got data from a number of sources to make sure it was strong. First, marketing managers and trade experts who work in U.S. international business were given a structured survey. We chose respondents from companies that export goods from the US to different parts of the world (Europe, Asia-Pacific, Latin America, and the Middle East/Africa) as

well as some foreign companies that buy US goods. This was done to get a wide range of opinions. The survey measured important ideas, such as how much AI is used in marketing (with questions about tools like analytics, chatbots, and personalization engines), how well marketing adapts to local cultures (with questions about changes in advertising, product design, and brand messaging rated on a Likert scale), how culturally intelligent managers are (using a standard CQ scale), and how well they think their exports are doing (with questions about growth, market share, and satisfaction with performance abroad). We also got information about the company (size, industry) and the person who answered (role, experience). We got 150 valid answers from companies that do business with more than 30 different countries. The sample came from a variety of countries and regions with different levels of AI maturity and cultural distance from the U.S. For example, some participants worked with markets that were more culturally similar to the U.S. (Canada, the U.K.) while others worked with markets that were more culturally distant (China, the Middle East). Table 2 shows the sample's makeup and important descriptive statistics by region.

Table 1 Top 5 U.S. Export Destinations, 2022 (with cultural context). (World Bank, 2023)

Country	Export Value 2022 (US$ billion)	% of US Exports	Cultural Region
Canada	354.9	17.21%	North America (Anglo-Western)
Mexico	324.4	15.73%	North America (Latin)
China	153.8	7.46%	East Asia
Japan	80.3	3.89%	East Asia
United Kingdom	77.3	3.75%	Europe (Anglo-Western)

Table 2 Survey sample characteristics and descriptive statistics by region

Region	Firms Surveyed (N)	% Using AI in Marketing	Cultural Adaptation Score (1–5)	Avg. Export Growth (annual %)
North America (US and Canada)	50	80%	3.5	5.2%
Europe	40	70%	4.0	4.8%
Asia-Pacific	45	75%	4.3	6.0%
Latin America	30	60%	3.8	4.1%
Middle East and Africa	20	55%	3.6	3.9%

At the same time, we collected secondary data to add to the survey. This included macro-level indicators like the AI readiness index for each country (from the OECD and World Bank) and trade data (export volumes and growth rates from WTO and IMF databases). We used these indicators as control variables in our analysis. For example, we looked at how open a country was to trade or how good its AI infrastructure was overall. We also used secondary reports and case studies. For example, WTO reports on how AI can help with trade and industry case studies of AI-driven international marketing campaigns (from trade publications and company reports).

For the qualitative part, we did in-depth interviews and case studies that looked at how companies use AI in markets with a lot of different cultures. We talked to 10 professionals, including marketing directors from exporting companies and international business consultants. These were people who had volunteered to take the survey. The interviews were semi-structured and included questions about how people in different countries have used AI tools, the problems they ran into (like translating content or algorithm issues), and examples of times when they were successful or failed. We also looked at case studies of multinational companies (like a U.S. consumer electronics company and an apparel retailer) that have said publicly that they use AI in their global marketing. We used NVivo software to do thematic content analysis on these qualitative data to find common themes and examples that help explain them.

4.2. Sampling and Coverage

We wanted our sample to include a range of cultural settings and levels of AI maturity. The data includes countries that are important trading partners for the U.S., such as Canada, Mexico, the UK, Germany, Japan, China, India, Brazil, and others. This gives a wide range of cultures. We made sure to include some emerging markets where AI adoption might be new (as opposed to developed markets). The respondents came from a wide range of industries, including manufacturing, technology, consumer goods, and services, to make the results more generalizable. Because we didn't have enough resources, the sample isn't completely random, even though it's a good size (N=150 for the survey). We used a purposive and snowball sampling method by reaching out to trade associations, LinkedIn professional groups, and alumni networks in international business. We know this could lead to some bias (firms that are more interested in AI may be more likely to respond), which we mention in the limitations. But the mix of companies, which includes a lot of small and medium-sized businesses and a few big multinationals, gives us useful information about organizations of all sizes.

4.3. Data Analysis

We used both descriptive and inferential statistics on the quantitative survey data. At first, we used SPSS to calculate summary statistics and check the reliability of multi-item scales (for example, Cronbach's alpha for the cultural adaptation scale, which was above 0.7, which means it was reliable). We then used regression analysis and Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the ideas. We chose PLS-SEM because it is an exploratory model that includes interaction effects (Hair et al., 2017). It works well for checking both the validity of constructs like AI usage and adaptation and the structural paths between them at the same time. We made a structural model with Export Performance (a composite index based on export sales growth, market share, and profitability in foreign markets) as the dependent variable. The independent variables were AI Marketing Capability Usage (measured by an index of tools and how much they were used), Cultural Adaptation Level (self-reported degree of marketing-mix adaptation), and the interaction term. We also added Manager CQ (Cultural Intelligence) as a separate variable. The size of the company, the industry it was in, and an indicator of how far the target market's culture was from the U.S. (calculated from Hofstede scores) were all control variables. Smart PLS software was used to run the model. We give standardized beta coefficients and levels of significance based on bootstrapping.

We coded the interview transcripts and case notes inductively for the qualitative part. We found important themes like "AI misunderstanding of local context," "the need for human oversight," "companies' resistance to AI," and "AI success stories in personalization." We used these themes to help us make sense of the numbers. For instance, we could explain why a certain area didn't see as many performance gains from AI, or show how managers got around AI's limitations. We include verbatim quotes when they are relevant to show the points of view of practitioners.

Throughout, ethical issues were brought up. People could choose whether or not to take part in surveys and interviews, and they were told that their answers would be kept private. We removed the names of companies and people from the dataset to protect their privacy. Since we used company data and possibly sensitive competitive information, we made sure to combine and hide details in our reports. We also thought about the ethical use of AI itself in our analysis. For example, one interview talked about the ethics of using consumer data to personalize things, which we talk about in our implications section. The study followed institutional rules for research ethics, and the authors' academic ethics board looked over the protocol and gave it their approval.

In short, our method combines strict numbers with deep analysis to give a full picture of AI-driven cross-cultural marketing. We make our results more believable by using three different types of data (surveys, interviews, and secondary data). The next part will show the results of our analyses, which are organized around the research questions and hypotheses.

5. Results

5.1. Quantitative Findings

5.1.1. Respondent Profile and Descriptives

The people who took the survey came from a wide range of regions and industries, which made for a lot of useful data to look at. Table 2 (above) shows a summary of the most important descriptive metrics by region. Around 70–80% of companies in North America and Europe said they used some kind of AI in their marketing, while only 55–60% of companies focused on the Middle East and Africa said they did. This fits with global trends that show advanced economies are the ones that are using AI the most. The Cultural Adaptation Score, which ranges from 1 to 5 (5 = very

high adaptation of marketing mix), was between 3.5 and 4.3 across regions, which means that adaptation efforts were moderate to high. Asia-Pacific had the highest adaptation score (mean 4.3), which suggests that companies know they need to make big changes to fit in with Asian markets. This area also had the highest average export growth, which was about 6% per year. This suggests that there may be a link between adaptation (which is often made easier by AI insights) and performance. A one-way ANOVA showed that the differences in adaptation scores and AI usage between regions were statistically significant ($p < 0.05$). This means that region/culture should be included as a factor in future models.

We used PLS-SEM to test the main hypotheses H1–H4. The measurement model had good construct validity because all of the item loadings on their intended constructs were greater than 0.70 and the average variance extracted (AVE) for each construct was greater than 0.50. Table 3 shows a summary of the results from the structural model. The model explained a large part of the variation in Export Performance ($R^2 = 0.45$), which means it had moderate explanatory power.

Table 3 Hypothesized effects on Export Performance (PLS-SEM results)

Relationship	Hypothesis	Standardized β	t-value	Support
AI Marketing Capability → Export Performance	H1	0.34**	3.21	Supported
Cultural Adaptation (Marketing-Mix) → Export Performance	H2	0.27*	2.05	Supported
AI × Cultural Adaptation (Interaction) → Export Performance	H3	0.18*	2.12	Supported
Manager Cultural Intelligence (CQ) → Export Performance	H4	0.10 (n.s.)	0.88	Not supported

Significance levels: p<0.05, p<0.01. n.s. = not significant. *

5.1.2. As shown, H1 was supported

The level of AI marketing capability usage had a significant and positive effect on export performance ($β = 0.34$, $p < 0.01$). This means that companies that used AI tools more often in their international marketing efforts were more likely to report success in export markets (in terms of growth, market share, etc.). H2 was also supported; changing the marketing strategy to fit different cultures is linked to better performance ($β = 0.27$, $p < 0.05$). This fits with long-held international marketing theory that strategies that are tailored to a specific area work better. The interaction term for AI use × cultural adaptation was positive and significant ($β = 0.18$, $p < 0.05$), which supports H3. This means that AI has a bigger effect on performance when there is a lot of cultural adaptation. In simple terms, companies that used AI a lot and changed their marketing a lot did the best at exporting (an interaction plot showed that the slope of AI→performance is much steeper at high adaptation levels). On the other hand, when adaptation was low, using AI had a weaker or even no effect on outcomes. The study's main finding is that AI and cultural tailoring work well together.

H4, on the other hand, which said that export managers' cultural intelligence (CQ) had a direct positive effect on performance, was not supported ($β = 0.10$, not significant). At first glance, this means that having managers who are culturally aware didn't directly lead to better export results when other factors were taken into account. This doesn't mean that CQ isn't important, though. It could be that CQ has an indirect effect (for example, managers with high CQ probably made more cultural adaptations, which then led to better performance). A post-hoc analysis showed that manager CQ and cultural adaptation level were moderately related ($r = 0.30$, $p < 0.01$), which backs up this interpretation. So, it seems that cultural intelligence helps people adapt rather than directly increasing sales.

The control variables mostly acted as expected. For example, cultural distance (a rough measure based on Hofstede differences) had a negative effect on performance (firms targeting regions that were culturally distant reported slightly lower performance on average), but this effect was only marginally significant ($p \sim 0.08$). The size of the company had a positive effect (larger companies tend to do better in exports, probably because they have more resources), and the industry sector dummies didn't show any significant differences except that high-tech companies reported slightly better performance (maybe because they were ready for digital technology).

We looked at some secondary quantitative insights in addition to testing our hypothesis. One interesting thing we found was how well AI tools worked in different areas. We asked people to rate how useful different AI applications were in their situation on a scale of 1 to 5. In non-English-speaking markets, "Automated Translation and Localization" AI got

the highest average usefulness rating (about 4.5 out of 5 in Asia and Latin America). This shows that language AI is a quick way to connect cultures. Across all regions, "AI-driven consumer analytics" got a high rating (about 4.2), but "AI chatbots" got a lower rating in Europe (about 3.3), which may be because people there are more concerned about their privacy or prefer talking to people instead of machines. Even though these differences don't have much to do with the main hypotheses, they show how cultural and regional factors can affect how people see the value of different AI tools.

5.2. Qualitative Insights

The qualitative part of our study gave us deeper insights that help us understand the quantitative results and show how AI-driven cross-cultural marketing works in the real world. From the interviews and case studies, a few important themes came up

5.2.1. AI as a Cultural Chameleon (Chances)

A lot of the people we talked to talked about how AI helped them adapt to different cultures in new ways. A marketing director from a U.S. retail company said, "Our AI analytics showed that our Japanese customers reacted to product images in a very different way than our U.S. customers." We could change our ads in Japan to include more context and subtle messages. We wouldn't have known this without AI analyzing local social media data. This shows how AI can find cultural preferences that people might miss, making it easier to adapt. A software company used an AI translation service to make its app interface available in 15 languages in another case. The product manager said, "The AI wasn't perfect right away, but after some training on industry-specific terms, it sped up our localization by a lot." It was the first time we could release updates in all countries at the same time. These stories show how AI can help with quick and scalable adaptation, which is in line with our finding that AI and adaptation together improve performance. Companies that used AI to become more culturally flexible saw real benefits, such as getting into new markets faster and getting more customers to interact with them abroad.

5.2.2. Algorithmic Bias and Cultural Misinterpretation (Challenges)

People kept warning that AI might make mistakes because of cultural differences. One theme that came up was "The algorithm doesn't get the joke." This came up when someone from an advertising agency talked about an AI-based content generator that made an insensitive slogan when it translated a U.S. campaign for a Middle Eastern market. The literal translation accidentally brought up a religious meaning that was not appropriate. The person who answered said, "It was a wake-up call." "We saw that the AI didn't have any context. We always have a native cultural expert look over anything the AI makes since then. This shows how important it is to have human oversight and training data that is culturally diverse. In fact, a number of experts suggested a mixed approach: "AI can crunch the numbers, but you need people who know about culture to steer it," which was a common theme in the interviews. Another problem was that AI recommendations were biased. For example, a travel company's AI pricing model was giving consistently lower discounts in some areas. After looking into it, it turned out that this was because the training data had less information from those areas, not because demand was different. If these kinds of biases aren't caught, they can turn customers away.

5.2.3. Trust and Adoption Issues

On the TAM side, our interviews showed that it was sometimes hard to get marketing teams to fully accept AI tools, and this depended on the culture. One interesting thing we learned was that in some cultures with a high-power distance, junior marketers were hesitant to question or improve AI outputs that came from a "sophisticated system" that top management supported. One person who worked for a U.S. company in Asia said, "At first, people thought the AI's analysis was perfect." People here respect technology. We had to teach them that it's okay to ignore the AI if something seems wrong culturally. This brings up an interesting paradox: AI is supposed to help people adapt to new cultures, but cultural traits also affect how AI is used. Companies learned that training and managing change were important to make sure that AI tools were used correctly by all of their global teams. Another person from Europe said they were initially skeptical of creative content made by AI. This may be because some cultures are less open to machines being involved in creative processes (uncertainty avoidance). As the team saw good results over time (for example, AI-targeted campaigns doing better than manual ones), trust grew. This fits with UTAUT factors: AI's performance expectancy was proven, which helped get over the initial resistance.

5.2.4. Performance and Measurement

Participants qualitatively confirmed that markets where they used culturally-adapted AI campaigns saw big improvements in performance metrics. For instance, a case study of an e-commerce exporter showed that adding an AI-driven recommendation section that took into account local bestsellers raised the conversion rate by 20% in Latin

America, compared to 5% in the U.S. with the same feature (because U.S. customers already had a lot of recommendations in English). This story backs up our quantitative finding that AI can have a bigger effect in markets that are less familiar. In Table 4, we list a number of these kinds of cases, which show how AI can be used and what happens as a result.

Table 4 Key themes from qualitative analysis with examples

Theme and Issue	Description of Insight	Example Quote or Case
AI as Cultural Chameleon (Opportunity)	AI enables deeper localization by uncovering hidden cultural preferences. When tuned properly, it acts like a "cultural expert" at scale.	*"Our AI analysis showed Indian customers prefer vibrant colors on the app – we changed the design and saw engagement jump."* (Digital Marketing Manager, U.S. firm)
Algorithmic Misinterpretation (Challenge)	AI can misinterpret language or context, leading to culturally inappropriate outputs if not carefully managed. Bias in training data can marginalize certain groups.	*"The chatbot started using slang that was offensive in Brazilian Portuguese. We quickly intervened – it was learning from a bad data set."* (Customer Service Lead)
Need for Human Oversight	Human review and intervention remain crucial. Companies find a hybrid approach (AI + human local experts) ensures cultural nuances are respected.	*"AI gives us speed, but we always run campaigns by a local team. It's our safety net to catch tone-deaf messages."* (Advertising Agency Director)
Trust and Adoption across Cultures	Organizational acceptance of AI tools varies. Some cultures exhibit high initial trust in tech, others skepticism. Building confidence in AI requires demonstrating its value and providing training.	*"Our German office was very data-driven and embraced the AI immediately. In contrast, the creative team in France was wary until the first campaign results came in."* (Global Marketing VP)

These qualitative results back up and add to what we found in our quantitative study. They confirm that AI-powered cross-cultural marketing can be very helpful, but it needs to be done carefully. This means giving the AI data that is representative of different cultures, keeping an eye on it to fix mistakes, and building trust between users from different organizational cultures. The interaction between technology and human insight keeps coming up as a theme—neither is enough on its own. This fits with the idea of "augmented intelligence," which says that AI makes human decisions better instead of replacing them.

5.3. Summary of Findings

We can answer our research questions by putting together both sets of results. RQ1: How can AI make cross-cultural marketing more effective? AI makes things work better by giving businesses deep, data-driven insights into how people in their area shop and letting them personalize their offerings on a large scale. Tools like predictive analytics and natural language processing (NLP) can help U.S. companies figure out what messages will work in each market and even automate the process of making changes (like translating language or changing images). Our data showed that when we made changes based on AI, people were more likely to engage with our content and convert. This proves that AI can help with cultural tailoring, as long as it is used correctly. What is the effect of combining cultural insights with AI on export performance? The integration works well together. Companies that were good at both adapting to different cultures and using AI did much better at exporting. This was true both in terms of statistics and in real life, where sales went up significantly in some cases. AI and cultural adaptation both had good effects on their own, but the combination had the best effects. This is an important finding for practitioners. In short, AI can increase the returns on cultural marketing by making it more efficient and scalable. RQ3: What are the challenges and how can they be lessened? Some of the main problems are that AI can be biased or misinterpret cultural context, and that marketing teams around the world have different levels of acceptance of technology. To reduce the risks, we need to keep human oversight in the loop, make the AI training data more culturally diverse (so the AI learns local idioms and values), and spend money on change management and training to make sure teams trust and know how to use AI tools well. There were also ethical concerns about data privacy. Companies have to deal with different rules and expectations, so their AI strategies have to follow the law and be aware of local privacy norms (for example, the EU has stricter consent rules than other places).

In the next section, we go into more detail about what these results mean for theory and practice in global marketing and trade, as well as how they compare to other research that has been done on the subject.

6. Discussion

The results of this study add to our understanding of the connections between AI, cross-cultural marketing, and international trade in a number of important ways. We look at the results in light of what other researchers have said and talk about what they mean for how companies can make AI strategies that are sensitive to different cultures. We also talk about the limits that make us less sure of our conclusions.

6.1. Combining AI with cultural adaptation

One of the most interesting findings was that using AI and adapting to a new culture had a big effect on how well exports did (H3). This suggests that there is a complementarity that supports both marketing scholars and practitioners' claims that the future of global marketing will be "glocal" using global technology (like AI) while making the content very local (Levitt, 1983; Herhausen et al., 2020). Using data from the present, our study shows that this idea is true. It builds on earlier research on cross-cultural advertising (Okazaki et al., 2006) by showing that AI can speed up adaptation efforts today. In short, AI makes cultural marketing work better. This finding is in line with new reports from the industry. For instance, a recent McKinsey survey found that companies that used both advanced analytics and localized marketing had a higher return on investment (ROI) in international markets than those that only used one of the two (McKinsey, 2023). This means that businesses shouldn't see global standardization and local adaptation as two separate things. Instead, they should use AI to make things more efficient and relevant to the local market. The conceptual contribution here is showing how RBV's synergy of resources works in the real world: AI capability (a tech resource) and cultural knowledge (an organizational knowledge resource) work together to make a capability that is better than the sum of its parts (Helfat et al., 2023). This discovery pushes theorists to make international marketing models more precise by making sure that technology resources are a part of the equation.

6.2. Cross-Cultural AI Awareness

The qualitative insights, especially those about AI mistakes, show how important it is to make AI systems that are culturally sensitive from the start. People have said that current AI models, especially those that deal with language and images, are biased (Bender et al., 2021). Our research shows how those biases can affect marketing, like when translations are wrong or recommendations are biased. This shows that there is a need for research that looks at the connection between AI and social sciences. For example, future models could include cultural context parameters, like an NLP model that changes how it understands sentiment based on how people communicate in different cultures. Recent advances in AI, like multilingual transformers, are moving in this direction by using more varied language data for training. However, there is still room for cultural meta-data to be added to algorithms. From a theoretical point of view, this means that Hofstede's dimensions or other cultural metrics might not just be things that happen outside of algorithms; they could also be things that go into making algorithms. "Algorithmic cultural intelligence" is an interesting area for future research. It refers to algorithms that can measure and adapt to cultural signals, much like how people do (Ang et al., 2007). Our results would support the idea that AI that is sensitive to culture would do better at international marketing tasks than AI that is not sensitive to culture.

6.3. Trade Implications

The main goal of this line of research is to help international trade do better, especially for the USA in this case. The results show that companies that use AI-driven cross-cultural marketing tend to do better with exports. This has effects on people who make trade rules and people who help businesses export. For instance, as part of export assistance programs, government trade agencies like the U.S. Commercial Service could help small and medium-sized businesses get access to AI translation tools or analytics platforms. By making it easier for smaller exporters to get into AI, they could help those businesses better understand foreign markets. Our data backs up the WTO's claim that AI can lower trade costs at the firm level. Respondents said that it was easier to reach customers in other countries. We also found, though, that not all companies are using AI and that some managers are hesitant. So, training and education should be a part of the policy discussion. For example, workshops on AI for international marketing that focus on cultural pitfalls and data ethics could help more companies use these tools well.

Another thing to talk about is how well things are going in different areas. Asia-Pacific stood out in our results as the region where high adaptation and AI pay off the most. This may be because its consumer markets are always changing and are focused on mobile devices, and there are many different cultures there. The Middle East and Africa region, on the other hand, had lower average performance gains and less use of AI. This could be because of differences in infrastructure and institutions. AI solutions often depend on digital infrastructure and data availability, which can be hard to come by in some developing markets. It points to a digital divide in how competitive AI-driven trade is. To get the most out of global trade, businesses and governments may need to put money into data and AI infrastructure in

developing markets. This goes along with UNCTAD's calls for AI development that includes everyone to keep the gaps between countries from getting bigger (UNCTAD, 2023).

6.4. Prejudices and Restrictions

We need to carefully look at our results in light of the study's limitations. First, the sample size and make-up are broad, but they don't perfectly represent all U.S. exporters. There may be a bias toward more innovative companies because people who are interested in AI may have been more likely to take part. This means that we should be careful when interpreting our performance results (like effect sizes) because they could be an upper limit. Companies that are very far behind in going digital may have a longer learning curve than what is suggested here. Second, the measures of export performance were based on surveys and were only for a short time (recent growth). Long-term trade results and objective performance data (if they are available) would make future research stronger. We used a number of different performance indicators, but there is always a chance of self-report bias. For example, managers who are excited about AI might also give their performance a good rating. We lessened this by using triangulation (some objective trade data and checking it against actual figures where possible for a subset), but it is still something to think about.

Another problem is that AI technology is always changing. Our research shows what things were like in 2024, when generative AI was just starting to be used in marketing. Things are changing quickly in the world. For example, there may be new AI tools for getting cross-cultural insights that we didn't include by the time this is published. So, as technologies get better, our study may actually underestimate how AI will affect cross-cultural marketing in the future. It asks for more research in this area.

Lastly, we did not go into detail about which specific cultural dimensions were the most difficult or the most helpful for AI, even though we did look at cultural distance and regional factors. AI might help with some cultural differences, like language or certain tastes, but not with others, like deeply held beliefs. Future studies should refine these broad strokes, maybe by looking at one cultural dimension at a time (for example, how AI might change marketing in cultures with high vs. low context).

6.5. A comparison with literature

Our results mostly support what we already know, but they also add new information. Many previous studies (e.g., Leonidou et al., 2018 meta-analysis) have found that adapting marketing has a positive effect on performance. We build on that by showing how AI can make the effect even stronger. This combination is new. It's a little surprising that cultural intelligence (CQ) doesn't have a direct effect when other factors are taken into account. Magnusson et al. (2013) found that CQ moderated the relationship between adaptation and performance. In our case, CQ was linked to adaptation, which suggests that in a world of AI, a manager's CQ might not be as important if AI tools can give them some of that information. But we don't want to downplay CQ because qualitative data clearly showed that we still need to understand other cultures. It's possible that our measurement or model didn't fully show CQ's contribution, or that the sample didn't have a lot of variation in CQ because most of the respondents were globally-minded managers. We need to do more research to find out how managerial CQ and AI work together. For example, high-CQ managers might be better at making good use of AI outputs (which we didn't test).

The TAM/UTAUT point of view is also up for discussion. We saw proof that cultural factors affected how people used and adopted AI. We couldn't quantitatively model TAM constructs across countries because we didn't have enough samples from each country, but interview stories suggested that things like avoiding uncertainty and power distance might affect how AI tools are used in different offices. This means that future research could look at how marketers in different cultures accept AI technology. For example, it could look at how marketing staff in the U.S., Asia, and Europe feel about AI recommendations. The results would add to both the literature on marketing technology and the theory of technology adoption by looking at things from a cultural point of view (as some IS studies have begun to do, such as McCoy et al., 2007 on culture and TAM).

In conclusion, the discussion shows that AI-driven cross-cultural marketing is a promising but difficult field. Our research gives us some real-world evidence and a framework, but it also brings up new questions. How can we make sure that AI models really understand cultural differences? What does it mean for people to be experts in a world full of AI? How can we stop AI from spreading stereotypes and cultural biases? These are questions that are at the cutting edge of marketing and technology research.

7. Implications

The results of this study have important effects on theory and practice, as well as on policymakers who want to use technology to improve trade.

7.1. Theoretical Effects

This study adds to an important but new academic conversation about how to combine Artificial Intelligence with international marketing strategy. First, we show that the Resource-Based View (RBV) can be expanded to include digital resources like AI as important resources that work with traditional organizational knowledge (in this case, cultural knowledge). The idea of AI-cultural synergy can add to theories of international marketing capabilities. This means that future models of export competitive advantage should include a company's digital infrastructure and analytical capabilities as part of its resources (Helfat et al., 2023). Second, our work connects the fields of technology acceptance and marketing by showing that cultural context is an important factor in how useful technology is in marketing. This means that when trying to predict how organizations will use marketing AI tools, cultural factors could be added to the TAM and UTAUT models. One idea that adds to theory is that the perceived usefulness of AI in marketing might be high around the world, but the perceived ease of use and trust might be different in different cultures, which could slow down adoption in some areas. Third, the study adds to the theory of cross-cultural marketing by bringing AI into the long-running debate about whether to standardize or adapt. Our results support a middle path called "adaptation at scale" and encourage theoretical frameworks that let adaptation happen dynamically and based on data instead of static dichotomies. Lastly, we thought about how cultural intelligence (CQ) at the management level interacts with advanced tools. CQ's direct effect wasn't significant, but when combined with AI use, it paints a more complex picture an environment with high CQ probably gets the most out of AI. This could lead to new theoretical research into how human and Artificial Intelligence work together to affect marketing results.

7.2. What this means for managers in real life

The message is clear for marketers and business leaders: to do well in today's global markets, you need to combine AI skills with cultural knowledge. In concrete terms, businesses, even small and medium-sized exporters, should buy AI tools that help them look at and respond to customer data from each of their target markets. These could include using machine translation for content in more than one language, using AI-driven CRM systems to group foreign customers based on how they act in their own country, or using social listening tools with NLP to find out what's popular in your area. But investing in technology should go hand in hand with investing in people who know how to use it. Managers should put together marketing teams with people from different backgrounds, such as local experts or people who are culturally aware, who can train, improve, and keep an eye on AI outputs. Our research shows that an AI can make mistakes if it doesn't have cultural context, which is why it's so important to set up a "human-in-the-loop" process. One useful step is to create an internal review board for international campaigns where local staff look over AI-generated content.

Marketers should also work on both their organization's cultural intelligence and digital skills at the same time. Training programs can help employees learn about important cultural differences (so they know what to look for in AI outputs) and how to use AI tools (so they trust and get the most out of them). It can be helpful to cross-train traditional marketing teams with data scientists or to turn cultural knowledge into algorithmic rules. Another thing to think about is that the marketing tech stack needs to be different for each region. For example, the AI platform you choose should work with the languages and social media sites that are popular in that country, like Line in Japan or WeChat in China.

Our research also shows that businesses should keep an eye on performance metrics by region to see where AI-driven methods are working and where they aren't. If an AI-powered campaign isn't working in a certain country, it could mean that the culture isn't right, and humans need to make changes instead of getting rid of the AI altogether. Managers should think of AI marketing as an advanced navigation system that still needs a pilot who knows about culture, not as an autopilot.

7.3. What this means for policy

People who make decisions about the environment where international trade and marketing happen need to think about these things. In the US, governments and trade groups now see helping businesses (especially small and medium-sized businesses) go digital as a key part of boosting exports. This might mean giving companies money or grants to buy AI-based market research tools, similar to how past programs paid for people to go to trade shows or translate brochures. Export promotion agencies could create shared AI platforms or data pools that small exporters can use. For instance, they could make an AI system that is trained on data from the whole industry and lets SMEs ask questions

about specific markets. Policies that promote open data and data sharing across borders will also make AI more useful in marketing. If data localization laws are too strict, they could make it harder for companies to get the information they need to localize. Policymakers should try to find a balance between protecting people's privacy and letting market data flow freely while keeping people's identities secret. This will help businesses tailor their products to local needs.

Organizations like the WTO and UNCTAD could make rules or best practices for "AI for Trade" that are used all over the world. These would include ethical use (to make sure AI doesn't create content that is culturally offensive and could hurt international relations) and building capacity in developing countries so they don't fall behind in using AI. Our data showed that areas that used AI less often had less of an increase in performance. This could make the gap between digitally advanced and less advanced economies even bigger. Development programs could focus on teaching businesses in emerging markets how to use AI tools and knowledge. This could help those businesses take part in global trade. The idea of "inclusive AI" becomes important. For example, making sure that AI tools support less widely spoken languages would let more businesses and consumers do business around the world without English being a problem.

As part of their education policies, universities and professional schools could change their courses to better include international marketing, data analysis, and cultural studies. The next group of marketers should be just as good at dealing with AI dashboards as they are at dealing with cultural differences.

7.4. What this means for consumers

This isn't the main point of our study, but it's important to note that consumers will benefit when marketers do this right. They will get more relevant, respectful, and useful content and product offerings. But there are also privacy issues to think about. Companies that use AI across borders need to be very careful with customer data. Following local data protection laws is not only required by law, but it also helps build trust. Misusing data or AI can hurt your public relations (like when algorithms make outputs that are not culturally sensitive). So, some people might say that companies have a social responsibility to use AI in a way that respects other cultures.

In short, the results of our study suggest that AI should be used in international marketing in a way that is strategic and takes culture into account. By following these suggestions, companies can improve their own performance and help make global markets livelier and more tailored to each customer.

8. Conclusion

This study wanted to find out how AI-powered cross-cultural marketing programs can help U.S. companies do business with other countries. It filled a gap between new technology and global marketing strategy. By doing this, we created a complete framework and showed with real-world examples that combining AI capabilities with strategies for adapting to different cultures is very good for businesses that work in a variety of markets. Here are the main points: (1) Companies that use AI tools like machine learning analytics, NLP-based personalization, and automated translators in their international marketing see better results, especially when those tools are used with marketing content that is tailored to different cultures; (2) AI's effect on performance is not the same in all cultures, but it is especially good at helping people navigate large cultural distances by localizing offerings; however, it needs high-quality culturally-relevant data and human oversight to do so effectively; (3) Organizational readiness, which is affected by cultural attitudes towards technology (TAM factors), affects how well AI is adopted and used in marketing departments around the world; and (4) AI can give us more information and make things bigger than ever before, but it doesn't replace the need for people to be culturally aware and sensitive. The best results come from combining human and Artificial Intelligence.

To answer our research questions directly, we found that AI can improve cross-cultural marketing effectiveness by allowing for personalization and data-driven decisions that take into account local tastes. This makes it easier to connect U.S. products with customers around the world. When companies use AI to run campaigns that include cultural insights, they see measurable improvements in their export performance. This shows that this integration is strategically valuable for helping U.S. businesses compete in international trade. At the same time, human oversight, diverse training data, and efforts to change the way organizations work must be used to deal with problems like algorithmic bias, cultural misunderstanding, and uneven AI adoption.

This study makes both practical and academic contributions. In practice, we give companies and trade stakeholders a plan: invest in AI technologies, but do it in a way that takes culture into account. Train both your algorithms and your people to be aware of cultural differences. We add to the academic literature by connecting classical cultural frameworks with modern AI marketing research and showing how they work together to affect business outcomes. We

also point out new areas that need more research, like the need to create AI algorithms that take culture into account and to improve theories of how people accept technology in multicultural settings.

In the end, companies that want to do well in the 21st century global market should use AI-driven cross-cultural marketing. The United States is a country that does a lot of business with other countries. By developing these skills, the US can boost its exports and stay at the top of the economy. As technology gets better, so will the ways businesses can reach customers from different cultures in more personal and meaningful ways. Companies that use AI as a tool, not as a cold, hard machine, will be the ones that do well. They will use human wisdom and cultural empathy to connect with customers and speak to them in their own language. By doing this, companies not only help themselves, but they also help make the world economy more connected, where products, ideas, and values are shared with more respect and understanding.

Limitations and Future Research

This research gives us useful information, but it also has some flaws that leave room for more research in the future. One problem is that AI technology changes so quickly and over such a short period of time. We gathered our data for 2024 which was a time when AI tools were becoming more advanced (for example, when generative AI was first used in marketing). AI is getting better and better very quickly. What is cutting-edge today, like GPT-4 for making content, might not be in a year. So, future research should take a long-term view and look at how AI affects cross-cultural marketing over time. A longitudinal study could follow companies as they use new AI tools and see if the effects on performance get bigger, stay the same, or even get smaller (if AI becomes common and is no longer a differentiator).

Another problem is that we depend too much on self-reported data for some measures, like how well exports are doing and how much AI is being used. We tried to reduce bias by using data from outside sources, but there is still a chance of common method bias. To confirm the self-reported benefits of AI-driven adaptation, future studies could use more objective performance metrics, like actual sales numbers, changes in market share from industry databases, or customer retention rates by country. Also, controlled experiments could be a useful way to go about it. For instance, in digital marketing, you could do an A/B test where one group of markets gets AI-personalized content and another group gets standard content, and you could see how the conversion rates or sales differ.

We also want to point out that most of the people who answered our survey were from the U.S. (exporters), even though it was international. In the future, researchers might look at importers or foreign companies that use AI to market their products in the U.S. to see if the same thing works in the opposite direction. The U.S. is also a multicultural market. How are foreign companies using AI to target their marketing to American subcultures, and what can we learn from that? Comparative studies between home countries could help us figure out if the benefits of AI in cross-cultural marketing are the same for everyone or if they depend on the capabilities and environment of the home country.

When it came to culture, our analysis was a little broad (we talked about "Asia-Pacific" or "Europe" in general terms). There is room for research that is more specific to each culture. For example, a study that focuses on how AI works in marketing to Chinese, Indian, and German consumers could show how certain cultural factors, such as collectivism or avoiding uncertainty, affect certain AI strategies, such as community-based recommendations or risk-averse messaging. It would be very helpful to know which cultural differences are hardest for AI to deal with (and therefore where human insight is most needed).

Another area for future research is ethics, especially when it comes to data privacy and algorithmic ethics. We talked about the differences in privacy laws, but we didn't go into detail about the ethical issues that AI raises in global marketing, such as using consumer data across borders or AI unintentionally reinforcing cultural stereotypes. Future research could look into how people feel about and accept AI personalization. For example, do people from different cultures feel comfortable with it, or do they find it creepy or intrusive? How does that affect brand trust? As laws change (like possible new laws just for AI or changes to privacy laws), we should look into how they affect international marketing. Businesses may have to change not only to the culture but also to the digital ethics standards in each country.

One thing to keep in mind is that we didn't fully look into the cost-benefit side of things. Putting AI and cultural adaptation into action costs money, such as buying new technology, training, hiring local experts, and so on. We showed that performance would improve, but a formal cost-benefit or ROI analysis would make the business case stronger. In the future, researchers might try to figure out how much money AI-driven localization projects make, which would help companies plan their budgets and set their priorities.

Lastly, our results about organizational factors (such as TAM and internal adoption) were suggestive but not complete. We want more research to be done on the culture of an organization, such as how a company's own culture (innovative vs. conservative) affects how well it does with AI in global markets. Also, research could look into which types of organizational structures work best, like centralized vs. decentralized marketing with AI or using international "centers of excellence" for AI. Since we found that human oversight was very important, an interesting research question is: what is the best way for AI systems and human marketers to work together on different marketing tasks (like coming up with new ideas, buying media, and helping customers), and does this change depending on the culture or the task's difficulty?

This study is an early attempt to explore a complicated and quickly changing field. We stress the importance of ongoing, flexible research, just like AI's own ongoing learning. By looking into the issues and limitations mentioned above, future research can help us better understand how to use AI in a way that is ethical, sustainable, and good for everyone involved in international trade, as well as how to use it to cross cultural barriers in marketing.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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