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The Relationship Between the Extent of Using Product and Service Images in Virtual Networks and the Dominant Atmosphere of Political Interactions with the Increase of Iran–Gulf Cooperation Council (GCC) Trade Exchanges

ABSTRACT

The purpose of this study is to examine the relationship between the extent of using images of products and services in virtual networks and the dominant atmosphere of political interactions with the increase in trade exchanges between Iran and the Gulf Cooperation Council (GCC) countries. Survey research is the method employed in the present study. The statistical population consisted of 541 merchants and virtual-space journalists in Tehran, from which 28 individuals were selected as the sample based on Cochran's formula. To develop the research literature, concepts, and theoretical studies, a library method using note-taking techniques and a questionnaire was applied. SPSS software was used to analyze the data. The calculated Cronbach's alpha for twelve Likert-scale items demonstrates acceptable reliability; the computed reliability was 0.904, indicating a satisfactory level of internal consistency. The results showed that the test of the two variables—extent of image usage and various visual components—with a value of 18.903 and a significance level of 0.000, is confirmed with 99% confidence and a 1% error level; therefore, the use of various images in virtual networks plays a role in increasing trade exchanges between Iran and the GCC countries. The test of the two variables—dominant atmosphere of political interactions between Iran and the GCC countries for increasing trade exchanges—with a value of 1.489 is also confirmed; thus, the dominant atmosphere of political interactions between Iran and the GCC countries, with a correlation coefficient of 0.889 indicating a desirable correlation, has an effect on increasing trade exchanges.

Keywords: Iran's trade exchanges, virtual networks, product images, dominant atmosphere of political interactions, Gulf Cooperation Council (GCC) countries

Introduction

In the contemporary global economy, digital transformation has become one of the most decisive forces shaping competitive advantage, trade flows, and organizational value-creation structures. The emergence of e-commerce platforms, digital media ecosystems, and data-driven decision-making has altered traditional pathways for commercial interactions while enabling new market access opportunities. The foundational perspective on the power of communication in the digital age emphasizes that modern economic and political relations are increasingly mediated through networked structures that reshape how individuals, firms, and states produce, store, and exchange information [1]. This shift has created new dynamics in trade, particularly for countries seeking to enhance regional and international commercial relationships through digital means.

The growth of digital economies and virtual environments has led to fundamental changes in market structures and business models. Research shows that the benefits of the digital economy in the Middle East and North Africa are linked to increased efficiency, reduced transaction costs, and greater transparency in cross-border exchanges [2]. Analysts argue that acceleration of digitalization within developing economies depends on investments in ICT infrastructure, digital skills, and policy frameworks that support innovation ecosystems [3]. The transformative role of digitalization on trade is exemplified in studies of Arab economies, where virtual platforms, online marketplaces, and digital tools have expanded producers' ability to engage with consumers across borders and have enhanced the visibility of products and services beyond domestic markets [4]. These technological shifts have also influenced regional interactions, including Iran and the Gulf states, where digital channels increasingly mediate economic, cultural, and political exchanges.

In this context, media usage and digital consumption patterns have undergone notable evolution. Digital media content—especially visual material—plays a central role in shaping consumer preferences, brand engagement, and trust formation. Earlier research suggests that media consumption operates as both a cultural and economic phenomenon, influencing behavioral tendencies and shaping market dynamics [5]. Social networks, particularly visual-centric platforms such as Instagram, TikTok, and YouTube, have created new opportunities for firms to present their products through images and short videos that capture attention and drive engagement. These practices reinforce the theoretical understanding that digital interaction is increasingly dominated by visual communication, a trend closely tied to the interactive and participatory nature of Web 2.0 and 3.0 ecosystems.

From a theoretical perspective, the expansion of digital trade and virtual interactions is supported by media theories that highlight how technological environments influence perception, identity formation, and collective behavior [6]. The rise of digital business environments has also been influenced by globalization processes, economic crises, and shifts in consumption logic. Economic analyses of the past two decades reveal that crises often accelerate technological adoption as firms seek cost-efficient and innovative ways to maintain competitiveness and market access [7]. Moreover, the digital economy in Iran has experienced major structural changes, as growing numbers of consumers and producers adopt online platforms for communication, trade, and marketing activities [8]. These changes underscore the importance of digital literacy, virtual business competency, and technological adaptation in enhancing economic performance.

Scholars have observed that digital media business models increasingly require innovative branding strategies, especially as online competition intensifies and user expectations evolve. For instance, studies on digital media in Iran highlight the necessity of building distinctive brands that can capture consumer trust and differentiate themselves in saturated digital marketplaces [9]. Similarly, research on the structure of Iran's internet-based digital media framework identifies a variety of organizational and regulatory challenges that influence firms' capacity to scale digital services effectively [10]. These challenges are directly connected to broader shifts in consumption habits, where users rely on interactive digital content—including visual material—to evaluate product quality, pricing, and brand credibility.

In parallel, global research continues to emphasize the role of digital technologies in transforming supply chains. Digital transformation in supply chains, especially within e-commerce ecosystems, improves visibility, reduces uncertainty, and increases overall operational efficiency [11]. These benefits are critical for firms operating in competitive regions such as the Middle East and the Gulf, where logistics efficiency and delivery accuracy are essential for cross-border trade. In this regard, the importance of logistics prediction systems, routing algorithms, and big data analytics has grown significantly. For instance,

studies on educational goods distribution reveal the potential of machine learning and advanced analytics to enhance e-commerce logistics and improve delivery performance [12]. Such technological advancements strengthen digital infrastructures that facilitate trade between Iran and Gulf Cooperation Council (GCC) countries.

Recent global research further demonstrates that digital platforms are reshaping consumer behavior in profound ways. In the Economy 5.0 era, e-commerce enables continuous interaction between producers and consumers, fostering immersive, personalized, and adaptive consumption experiences [13]. These changes accelerate the digital transformation of traditional commerce into smart, interconnected commercial ecosystems. Similarly, conceptual studies on e-commerce underscore its role in expanding market access, promoting transparency in transactions, and enhancing consumer convenience [14]. Advances in artificial intelligence have also enabled companies to forecast consumer trends and purchasing patterns more accurately, empowering decision-makers with predictive insights for product development, marketing strategies, and demand planning [15]. These innovations directly influence how businesses use digital visuals—including images of products and services—to shape consumer perceptions and drive commercial activity.

The growing emphasis on sustainability in e-commerce further highlights the significance of consumer choices and their measurable impacts on digital markets. Scholars analyzing sustainable e-commerce note that online purchasing decisions are increasingly shaped by trust, perceived value, and visual representations of product features [16]. In this sense, high-quality product imagery enhances consumers' willingness to engage in online transactions and facilitates cross-border trade by reducing uncertainty associated with virtual purchases. Likewise, research conducted on e-commerce during health crises and pandemics indicates that visual communication became even more central as consumers relied heavily on online cues to assess product quality, safety, and availability [17]. Collectively, these findings confirm that digital visual content is a crucial determinant of consumer behavior across markets.

In regional contexts, political dynamics significantly influence trade flows, investment decisions, and cross-border collaborations. A large body of scholarship in the humanities suggests that understanding political environments is essential for interpreting trade patterns and strategic exchanges between states [18]. In the case of Iran and the Gulf states, geopolitical considerations continue to shape commercial interactions, investments, and bilateral agreements. While political tensions at times hinder economic cooperation, periods of diplomatic stability often stimulate trade growth and encourage private-sector engagement. Thus, political atmospheres form a structural variable that either facilitates or restricts the effectiveness of digital tools—including product images—in enhancing trade relations.

At the same time, consumer-brand relationships in digital environments have become more complex, influenced by personality traits, brand experience, and emotional engagement. Digital brand experience research demonstrates that positive emotional responses to online visual content significantly shape consumer loyalty and purchasing decisions [19]. In this context, firms that use attractive, high-resolution images of their products on social networks are better positioned to strengthen brand recognition and motivate cross-border transactions. Such branding effects expand opportunities for trade between Iran and GCC countries, where visual presentation plays a crucial role in building trust among diverse cultural audiences.

As the global digital economy expands, governments and private-sector firms face increasing pressure to adopt strategies that support digital commerce and cross-border economic integration. Emerging research indicates that comprehensive digitalization policies enhance the competitiveness of local industries, improve export performance, and strengthen regional

cooperation frameworks [4]. Likewise, the strategic positioning of e-commerce as a catalyst for economic resilience is widely recognized in contemporary economic theory, especially in the Middle East where digital transformation is central to long-term development agendas [3]. These trends reinforce the need to better understand how digital tools—specifically product and service images—impact trade flows between Iran and GCC countries.

Given these considerations, the present study examines the interconnected role of digital imagery and the political atmosphere in shaping Iran–GCC trade exchanges. Therefore, the aim of this study is to investigate the relationship between the use of product and service images in virtual networks and the dominant political interaction environment with the increase of trade exchanges between Iran and Gulf Cooperation Council countries.

Methodology

The method employed in this study is survey research. The statistical population includes merchants and virtual-space journalists in Tehran. The researcher selected this city due to accessibility. In this study, the sample size was determined based on statistical data extracted from the Tehran Chamber of Commerce, Industries, Mines, and Agriculture and from the National Media System database: 541 merchants and virtual-space journalists in Tehran, from which 28 individuals were calculated as the sample using Cochran's formula. Convenience sampling was used to distribute the questionnaires among the merchants and virtual-space journalists, and Tehran was the target region for the researcher.

To collect theoretical studies, concepts, and the research literature, the library method was used, and note-taking techniques along with a questionnaire were applied. To assess the validity and reliability of this study, the opinions of public relations experts, as well as the supervisor and advisor, were used. Furthermore, to achieve instrument validity, the CVR table was employed. The validity value, based on the use of five experts, was calculated at 99%. To determine reliability, Cronbach's alpha formula was used. The results of Cronbach's alpha calculations indicate adequate reliability for twelve Likert-scale items. The calculated reliability was 0.904, demonstrating desirable reliability.

SPSS software was used to analyze descriptive data and conduct inferential statistical tests.

Findings and Results

The results showed that, among the merchants and virtual-space journalists investigated in the present research, 24 individuals (85.7%) were male and 4 individuals (14.3%) were female; therefore, the majority were men (85.7%) and the fewest were women.

Table 1

Frequency and Percentage Distribution Based on Use of Social Networks

Social Network	Frequency	Percentage
Facebook	5	17.9%
YouTube	3	10.7%
Instagram	8	28.6%
TikTok	2	7.1%
LinkedIn	5	17.9%
Twitter	5	17.9%
Total	28	100%

The ease of use of social networks in virtual space and their level of security were considered in this study. Use of social networks was as follows: 5 participants (17.9%) Facebook, 3 participants (10.7%) YouTube, 8 participants (28.6%) Instagram,

2 participants (7.1%) TikTok, 5 participants (17.9%) LinkedIn, and 5 participants (17.9%) Twitter. Therefore, Instagram had the highest use rate (28.6%) and TikTok the lowest (7.1%). Thus, Instagram was the most frequently used network, and its various visual and communicative features contributed to greater adoption (Table 1).

Table 2

Frequency and Percentage Distribution Based on Time Spent Checking Virtual Messages

Time Spent Checking Virtual Messages	Frequency	Percentage
Every hour	18	64.3%
Every two hours	6	21.4%
More than three hours	3	10.7%
Once every few days	1	3.6%
Total	28	100%

Due to the importance of presence in virtual space as one of the research variables, the amount of time spent checking virtual messages was examined. The time reported was: 18 participants (64.3%) every hour, 6 participants (21.4%) every two hours, 3 participants (10.7%) more than three hours, and 1 participant (3.6%) once every few days. Therefore, the most frequent interval for checking messages was every hour (64.3%) and the least frequent was once every few days (Table 2).

Table 3

Frequency and Percentage Distribution Based on Use of Product or Service Images and Increased Foreign Trade Exchanges

Use of Product/Service Images and Increased Foreign Trade	Frequency	Percentage
Very high	14	50%
High	6	21.4%
Moderate	5	17.9%
Low	3	10.7%
Very low	0	0%
Total	28	100%

The level of interest in foreign trade and business in virtual space among merchants and virtual-space journalists was: 7 participants (25%) very high, 13 participants (46.4%) high, 5 participants (17.9%) moderate, 2 participants (7.1%) low, and 1 participant (3.6%) very low. Therefore, the interest level in foreign trade and online business was high at 46.4%.

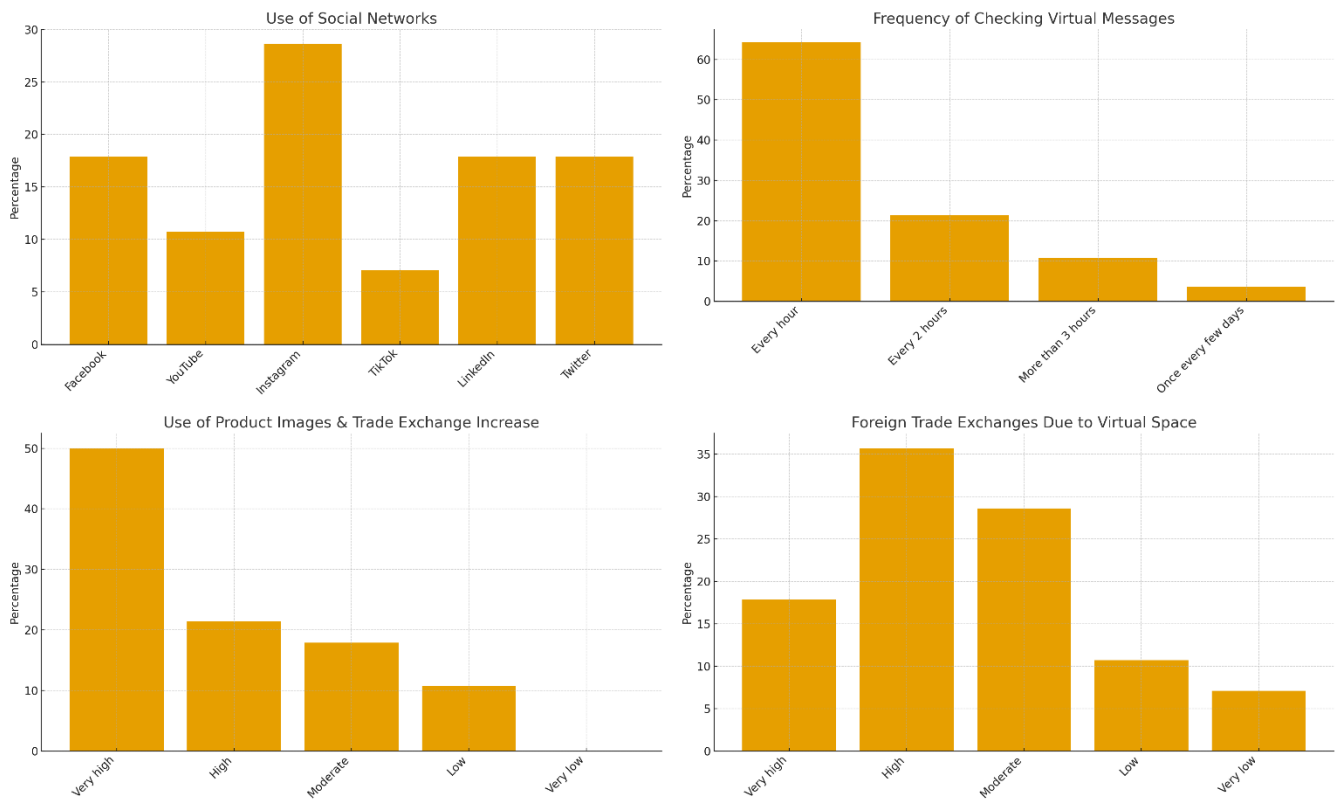
The level of using product or service images to increase foreign trade exchanges was: 14 participants (50%) very high, 6 participants (21.4%) high, 5 participants (17.9%) moderate, and 3 participants (10.7%) low. Therefore, the effectiveness of using images in increasing trade exchanges was confirmed at a very high level (50%) (Figure 1).

Table 4

Frequency and Percentage Distribution Based on Foreign Trade Exchanges Resulting from Attention to Virtual Space

Foreign Trade Exchanges Due to Virtual Space	Frequency	Percentage
Very high	5	17.9%
High	10	35.7%
Moderate	8	28.6%
Low	3	10.7%
Very low	2	7.1%
Total	28	100%

Foreign trade exchanges resulting from attention to virtual space were: 5 participants (17.9%) very high, 10 participants (35.7%) high, 8 participants (28.6%) moderate, 3 participants (10.7%) low, and 2 participants (7.1%) very low. Therefore, the probability of increased foreign trade exchanges due to virtual-space activity was high at 35.7% (Table 4).

Figure 1.*Frequency and Percentage Distributions***Table 5**

Relationship Between Use of Product and Service Images in Virtual Networks and Increased Trade Exchanges Between Iran and GCC Countries

Variable	Statistic Type	Value
Correlation between image use and increased trade exchanges	Kendall's correlation coefficient	0.704
	Significance level	0.000
	Test statistic value	18.903

The test of the two variables—use of images and various visual components—showed a statistic value of 18.903 and a significance level of 0.000, confirmed at the 99% confidence level with a 1% error margin. Therefore, the use of various images in virtual networks plays a role in increasing trade exchanges between Iran and GCC countries (Table 5).

Table 6

Relationship Between the Dominant Atmosphere of Political Interactions Between Iran and GCC Countries and Increased Trade Exchanges

Variable	Statistic Type	Value
Correlation between political interaction climate and increased trade	Pearson correlation coefficient	0.889
	Significance level	0.006
	Test statistic value	1.489

The test of the two variables—the dominant atmosphere of political interactions between Iran and GCC countries and increased trade exchanges—showed a statistic value of 1.489 and a significance level of less than 0.05, confirmed at the 99%

confidence level with a 1% error margin. Therefore, the dominant political interaction climate, with a correlation coefficient of 0.889 indicating a strong correlation, affects the increase in trade exchanges (Table 6).

Discussion and Conclusion

The findings of this study provide significant insight into the interplay between digital visual communication, political interaction environments, and the expansion of trade exchanges between Iran and the Gulf Cooperation Council (GCC) countries. The results showed a strong positive relationship between the use of product and service images in virtual networks and the growth of trade exchanges, as evidenced by the high proportion of respondents who indicated that visual content greatly influences cross-border commercial engagement. These results align with contemporary perspectives on the power of communication in networked societies, where digital content, especially visual material, acts as a primary driver of economic activity and interpersonal interaction [1]. Within such networked structures, visual representations are not merely aesthetic additions to trade but serve as essential economic signals that reduce uncertainty and shape perceptions of product quality, reliability, and desirability.

This study's findings also corroborate global analyses demonstrating that the digital economy enhances transparency, efficiency, and market connectivity in regions such as the Middle East and North Africa [2]. When respondents indicated that frequent use of virtual networks strengthens the likelihood of trade exchanges, their views reflected established scholarship that positions digitalization as an accelerator of international trade, particularly among economies seeking modernization and diversification [4]. The strong correlation identified in this study between political interaction environments and trade flows further reinforces the argument that digital trade cannot be separated from geopolitical contexts. Political stability, cooperative diplomatic atmospheres, and regional communication frameworks create conditions that either facilitate or hinder the effectiveness of digital platforms in supporting trade, echoing broader analyses of Middle Eastern economic integration dynamics [3].

The emphasis placed by merchants and virtual-space journalists on social network usage, particularly Instagram, suggests that visually oriented platforms continue to dominate the digital trade landscape. This aligns with existing findings in media studies showing that digital communication is increasingly shaped by visual content that captures attention, builds trust, and influences consumption patterns [5]. From a theoretical perspective, media theories highlight how digital content not only informs but transforms user behavior, creating new expectations for product visibility and authenticity [6]. Social networks reinforce these dynamics by creating interactive spaces where consumers can rapidly assess products through images, comments, and user experiences, forming multi-layered impressions that shape purchase decisions. The results of this study—showing strong reliance on visual images to guide trade-related behaviors—align directly with this theoretical foundation.

The calculated reliability of the survey tool and the strength of correlations observed lend empirical support to the argument that digital spaces function as core infrastructures for modern business environments. This is consistent with economic analyses that identify digitalization as a critical component of contemporary business models and organizational competitiveness [8]. As participants indicated frequent monitoring of digital messages and high usage rates of visually rich networks, the study parallels global research showing that digital consumer behavior is increasingly shaped by habitual engagement with virtual platforms [13]. In the digital economy, consumers often rely on quick, heuristic evaluations, and

visual cues serve as the most immediate form of information processing, enabling rapid decision-making in fast-paced commercial environments.

The results are also supported by studies on digital media business model innovation, which underline the need for distinctive branding supported by high-quality visual content to compete effectively online [9]. Since many respondents associated visual content with increased trade exchanges, the findings are consistent with frameworks that emphasize the centrality of brand experience in digital marketplaces. Research has long established that consumer-brand relationships are heavily influenced by product presentation and brand identity, especially in digital contexts where customers cannot physically inspect products [19]. Visual consistency and clarity thus become essential tools in generating trust, reducing perceived risk, and encouraging cross-border purchases. The present findings reinforce this mechanism by demonstrating how strong visual communication encourages merchants to expand their engagement with foreign markets.

Moreover, the relationship found between digital imagery and trade expansion aligns with regional business studies showing that Iran's digital media and virtual trade frameworks—despite existing infrastructural and regulatory limitations—are rapidly integrating into international systems through visual-based communication channels [10]. This integration is particularly relevant within the context of economic uncertainties and crises, which have historically accelerated technological adoption and digital migration as firms seek efficient, cost-effective, and scalable solutions [7]. Respondents' reliance on visual tools indirectly reflects such structural transformations in Iran's digital landscape, where businesses increasingly depend on virtual networks to maintain competitiveness during fluctuating economic conditions.

At the same time, the study's findings align strongly with global analyses of digital supply chains, which highlight how visual information, digital tracking tools, and online representations of products facilitate smoother market transactions [11]. The ability of visual content to supplement or replace physical inspection is a cornerstone of e-commerce operations, particularly in cross-border trade. In related research, machine learning algorithms are shown to reinforce these processes by improving logistics forecasting and delivery systems, further strengthening buyer confidence in online trade [12]. These findings collectively confirm the central role of digital imagery in activating, maintaining, and expanding trade channels within regional and international markets.

The observed relationship between political interactions and trade exchanges also reflects established frameworks in the humanities and political economy, which emphasize the influence of geopolitical conditions on commercial activity [18]. In regions where diplomatic relations fluctuate, digital platforms may either bridge or amplify political divides depending on the prevailing political climate. The strong correlation observed in this study suggests that stable political environments—characterized by cooperation, alignment of economic interests, and reduction of geopolitical tension—significantly enhance the effectiveness of digital trade tools, including visual communication. These findings also resemble broader regional analyses showing that stable political relationships in the Gulf stimulate economic cooperation and enable the deeper integration of digital trade mechanisms [3].

On the global scale, recent scholarship highlights the role of AI-driven prediction models in analyzing consumer behavior, suggesting that digital imagery functions not only as a marketing tool but as a dataset feeding into predictive analytics [15]. The growing technological sophistication of e-commerce platforms lends further credibility to this study's findings, showing that imagery contributes to both human and algorithmic interpretations of product value. This is consistent with studies demonstrating that consumer behavior in digital economies is increasingly mediated by algorithmic curation, personalization

systems, and predictive technologies [13]. The participants' emphasis on visual content as a primary determinant of trade activity thus aligns with the global shift toward intelligent commerce ecosystems.

Additionally, the behaviors observed in this study correspond with sustainability-focused analyses demonstrating that consumers increasingly rely on digital cues to make informed, ethical, and environmentally conscious purchase decisions [16]. Whether intentionally or not, high-quality product images convey information about material quality, production practices, and authenticity—factors that shape perceptions of responsible consumption. Similarly, conceptual studies suggest that the rapid expansion of e-commerce as a viable business model is rooted in its ability to visually and interactively communicate product features to a global audience [14].

The dependence on visual communication is further magnified during crisis periods, such as public health emergencies, when consumers rely heavily on digital platforms to access essential goods. Studies examining Chinese e-commerce during epidemic periods confirm this pattern, showing increased reliance on visual content to verify product safety, delivery availability, and logistical reliability [17]. The strong positive assessments expressed by respondents in this study reflect similar behavioral shifts in Iran and the Gulf region.

The cumulative findings of this study, when situated within the broader literature, demonstrate that digital visual communication and political alignment jointly shape the growth of regional trade flows. This dual influence underscores the necessity of integrated digital and diplomatic strategies for enhancing trade performance in the digital era.

This study is limited by its relatively small sample size, which restricts the generalizability of the findings to broader populations of merchants and digital media professionals. The convenience sampling method also introduces potential bias by selecting participants based on accessibility rather than representativeness. Additionally, the study measures perceptions rather than actual trade data, which may limit the precision of its conclusions regarding real-world economic outcomes. The reliance on self-reported behaviors introduces the possibility of social desirability bias, and the cross-sectional design prevents analysis of long-term trends.

Future studies could employ larger and more diverse samples, including merchants from multiple provinces and international trading partners, to enhance external validity. Longitudinal designs would allow for examining how the role of digital imagery evolves over time alongside changes in political conditions. Future research could also integrate actual trade performance data to compare perceived and observed outcomes. Finally, investigating the role of artificial intelligence, augmented reality, and other emerging technologies in shaping virtual trade interactions would provide valuable insight into next-generation digital commerce.

Practitioners should prioritize the production of high-quality, authentic visual content to strengthen trust and engagement in cross-border e-commerce activities. Governmental and trade organizations can leverage digital imagery as part of broader digital diplomacy strategies aimed at improving regional economic relationships. Firms should invest in digital marketing capabilities, visual branding, and technological tools that enhance visibility in competitive online environments. Strengthening political cooperation frameworks may further amplify the positive effects of digital communication on trade expansion.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. Written consent was obtained from all participants in the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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