



Explaining the Strategic Model of Iran's Trade Diplomacy in World Expo Exhibitions

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Abstract

World Expo exhibitions, due to their unique structure, are among the important platforms for implementing governments' trade diplomacy. The present study aims to explain the strategic model of Iran's trade diplomacy in World Expo exhibitions. The research is applied in terms of its purpose and is mixed-exploratory in terms of its paradigm. In the qualitative phase, interviews were conducted with 15 trade diplomats, businesspersons, university professors, and World Expo organizers until theoretical saturation was achieved. In the quantitative phase, based on Cochran's formula, 384 participants, including trade diplomats, businesspersons, university professors, and World Expo organizers, were selected through simple random sampling. In the qualitative section, thematic analysis was used to analyze the interviews. Accordingly, 33 concepts and 8 indicators were identified and classified based on coding and their relationship with the main dimensions. The proposed strategic model for Iran's trade diplomacy in World Expo exhibitions includes eight components: cultural representation, presentation of business and economic opportunities, trade negotiation, resource management, national branding, private sector participation, development of a trade diplomacy document (transparent articulation of the trade diplomacy document), and research and development. Subsequently, using exploratory factor analysis, the dimensions forming Iran's trade diplomacy in World Expo exhibitions were identified, and the validity of the proposed model was confirmed through confirmatory factor analysis using Amos software.

Keywords: Trade diplomacy, exhibition, Expo.

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1. Introduction

Trade diplomacy is associated with macro-level trade policy issues and seeks to facilitate the developmental goals and resources of a country [1]. Additionally, trade diplomacy encompasses activities related to supporting and promoting trade. An important aspect of trade diplomacy involves providing informational support regarding export and investment opportunities. Five primary activities for trade diplomacy include trade promotion, enhancing foreign investment attraction, collaboration in scientific and technological fields, promoting tourism, and supporting the business community. Kosteki and Naray (2007) argue that trade diplomacy is a value-creating activity. Given the significant role of trade interests in the economic diplomacy of countries, trade diplomacy, as part of economic diplomacy that specifically pursues trade interests, has become a necessity [2]. Mercier (2007) and Kosteki and Naray (2007) concluded that the term "trade diplomacy" is often used to cover two types of activities: policymaking and business support. While many believe the core of trade diplomacy focuses on business support [3], trade diplomacy tools help achieve specific trade outcomes through export promotion, attracting inward investments, preserving investment opportunities abroad, and encouraging the transfer of technology. Trade diplomacy is positioned at the intersection of international relations and international trade, integrating government and trade functions and benefits [4, 5]. It encompasses all concepts of business support and promotion, including exports and imports, investment, science and technology, intellectual property protection, and more [6].

Hosting a World Expo offers an opportunity to showcase the socio-cultural and economic achievements and perspectives of the host country while elevating the host city [7]. De Groot believes that the nature of World Expo exhibitions has evolved significantly since their inception in 1851. He identifies three phases of the exhibitions: the Industrialization Era, the Cultural Exchange Era, and the Nation Branding Era [8]. During the Industrialization Era, World Expos focused on trade and gained fame for displaying advancements and innovative progress. In the second phase (1939–1987), attention shifted to specific cultural themes, envisioning a better future for society as a whole. Since 1988, the focus has been on enhancing countries' positions by showcasing their strengths. Initially centered on product displays and transactions, the Expos have gradually transitioned to exhibitions of newer

technologies and innovative ideas, creating a suitable platform for international exchanges. Participating countries and international organizations design and build their pavilions based on their social and cultural foundations, level of scientific innovation, and alignment with the Expo's theme and slogan, as determined by the Bureau International des Expositions (BIE) [9].

The Expo Organizing Bureau recognizes governments for participation in this major international event and typically invites official state representatives. The private sector cannot independently participate, which is why this study uses the concept of trade diplomacy rather than strategies, as such strategies are under governmental control and primarily consider national interests [10]. Iran participated in the first Expo held at the Crystal Palace in London in 1851. However, a review of recent Expos reveals that Iran has not been able to gain the same benefits from this international event as even less experienced countries. Leading exporters can achieve their desired goals of serving the nation by actively participating in international markets and enhancing the quantity and quality of their products. Through the efforts and perseverance of Iranian producers and the development of the exhibition industry, the private sector has paved the way for expanding non-oil exports. By activating all production capacities in the country, it is now time to fully utilize this established platform [11].

The literature on trade diplomacy underscores the multifaceted role it plays in enhancing national competitiveness, fostering sustainable exports, and strengthening international relationships. Zarei et al. (2023) designed a systemic model for trade diplomacy aimed at sustainable exports for knowledge-based companies using a mixed-methods approach. Their findings highlighted the need for a systemic perspective incorporating inputs, processing, outputs, and feedback loops [12]. Sheikholeslami et al. (2024) explored the role of economic and trade diplomacy in enhancing national branding through case studies of China, Turkey, and Qatar, emphasizing strategies like trade expansion, foreign investment attraction, and leveraging competitive advantages [13]. Kheyrikhah et al. (2023) examined the challenges of cultural and media diplomacy in Iran's trade relations with neighboring countries, suggesting that strengthening these dimensions could address the current imbalance in trade relations, which fulfill only 1.76% of neighboring countries' import needs [14]. Heydarpour (2022) studied international trade diplomacy management in multinational corporations, finding that effective trade diplomacy positively impacts

financial and non-financial metrics such as reputation and market positioning [11]. Ghasemnezhad et al. (2023) provided a typology of business diplomacy in emerging economies, revealing three distinct pathways influenced by industry, company size, and international experience [15]. Nose (2022) revisited the European Community's participation in the 1970 Osaka Expo as a case of cultural and economic diplomacy, highlighting its primarily economic motives despite cultural aspirations [5]. Together, these studies provide a comprehensive understanding of trade diplomacy as a strategic tool for enhancing economic competitiveness, fostering international collaboration, and addressing challenges in global and regional markets.

The primary challenge is the absence of a comprehensive roadmap for presenting an appropriate image of Iran's trade environment internationally and organizing the presence and presentation of trade potentials. In other words, determining what share of the physical pavilion space and the mental space of decision-makers and audiences should be allocated to each trade sector in the international arena is the central focus of this study. As discussed, achieving success in trade planning and policymaking, and ultimately attaining trade goals and benefits, requires effective trade diplomacy. This is especially critical considering that trade diplomacy components have not been specifically studied in the unique context of World Expo exhibitions. Furthermore, the absence of a roadmap for Iran's Expo participation and the lack of access to successful countries' diplomacy in Expos highlight the importance of this research. Thus, the present study seeks to propose an effective trade diplomacy model for governmental participation in Expos.

2. Methodology

The present study is applied in nature based on its objectives, employs a descriptive-survey approach, and uses interviews as the method for data collection. This research follows a mixed-methods approach and utilizes thematic analysis as its primary method. Thematic analysis is a qualitative research technique through which theories are developed using a set of data. In this method, all content or data related to the research topic serves as a source of information. A key step in this process is identifying techniques for data collection. Thematic analysis requires the simultaneous and iterative collection and analysis of data. Theoretical sampling in this method means that data is collected in a way that contributes to the development of a theory. In this study, using this method, the model was

developed through the continuous process of data collection, analysis, and categorization via interviews. In theoretical sampling, information collection and data analysis are highly interdependent and must be conducted alternately, as analysis directs the sampling of data.

In this study, sampling began by identifying individuals with executive and academic relevance to the research. Interviews were conducted until theoretical saturation was achieved. Consequently, the sample consisted of 15 individuals, including trade diplomats, businesspersons, university professors, and World Expo organizers, all of whom had a minimum of ten years of experience and were knowledgeable in the research domain. After this number of interviews, the researcher determined that the data reached saturation, and additional interviews were unnecessary. The resulting data and concepts were analyzed and organized into coding tables to identify the main concepts and central categories. At this stage, the researcher utilized the concepts derived from open coding, reviewed and redistributed the data, and re-examined the information collected through direct contact or interviews. After making adjustments and incorporating expert opinions, the information was categorized in axial coding tables under the label of categories. The axial coding stage is based on connecting categories to concepts, linked through the six grounded data approaches.

The reliability and validity of the components were assessed, and Cronbach's alpha for all components was above 0.7. Subsequently, a research questionnaire was designed for the quantitative phase of the study. The statistical population included 384 individuals, comprising trade diplomats, businesspersons, university professors, and World Expo organizers, selected through simple random sampling based on Cochran's formula. At this stage, structural equation modeling techniques were used to evaluate model fit and perform the necessary analyses, employing SPSS and AMOS software.

3. Findings

In open coding, concepts are identified, and in axial coding, categories are extracted by summarizing these concepts. In selective coding or the theory-building stage, the core phenomenon is systematically linked to other categories, relationships are verified, and categories that require further improvement and development are enhanced. Finally, the researcher presents a model. At this stage, the researcher utilizes the information from the components

(axes) derived from the axial coding table, reviews them, and incorporates feedback from knowledgeable experts and some interviewees (considered experts) to make necessary adjustments and refinements. By selecting from the categories and central axes related to the strategic trade diplomacy of Iran in World Expo exhibitions through thematic analysis, eight main categories were identified and considered as influential and impactful factors in the

research. These were integrated into selective coding, and the qualitative hypothetical model of the research was created.

At this stage, as detailed in Table 1, 33 categories were classified based on axial coding, and their relationships with the components were identified and categorized. The results of the axial coding in the present study are presented in the table below, listing the components of axial coding.

Table 1. Components of Selective Coding

Indicators	Categories	Concepts
Cultural Display	1. Display of national art and culture	The architecture and structure of Expo exhibitions are very important. / Ritual dances should be used to attract audiences. / Display of Iranian artworks at Expo. / Greater use of the penetration power of Persian carpets as a recognized product at Expo. / Why don't we showcase our cultural richness at Expos? / Local musicians can highlight Iran's heritage and authenticity. / Iranian-style architecture.
	2. Cultural exchange and strengthening international interactions	We should establish cultural friendship associations. / Expo is an excellent opportunity to introduce our culture to the world. / Friendship associations between countries play an important role in interactions. / Countries with closer cultural ties provide better opportunities for economic and trade interactions. / Culturally similar countries should be pursued more sensitively at Expos.
	3. Public awareness of culture and history	We should showcase our historical progression to the world. / The primary issue at Expo is showcasing cultural authenticity and history. / Displaying our cultural heritage at Expo. / Highlighting the influence of our scholars on global science and culture through promotions.
	4. Promoting the culture of peace and friendship	Neutralizing negative propaganda against Iran by promoting Iranian culture. / Cultural products representing peace and friendship. / We are not a war-seeking nation.
	5. Tourism and handicrafts	Presenting handicrafts as authentic Iranian art. / Handicrafts reflect the spirit of Iranian civilization. / Handicrafts can boost foreign tourism. / Proper cultural presentations can attract more foreign tourists. / Cultural heritage has a direct correlation with tourism attraction. / Trade diplomacy plans should address cultural infrastructure and foreign tourism.
Trade and Economic Opportunities Display	1. Display of industry and trade	Presenting domestic trade opportunities. / Focusing on internal strengths. / Supporting large companies to participate in Expos.
	2. Trade advertising	Using effective advertisements to highlight internal capacities. / Organizing trade meetings. / Holding press conferences to showcase business opportunities.
	3. Foreign investor attraction	Partnering with foreign businesses. / Identifying compatible international companies for collaborations. / Attracting foreign investors for ongoing development projects.
	4. Export development	Focusing on export marketing at Expos. / Interacting with other countries at Expo to identify business opportunities.
	5. International marketing	Signing bilateral and multilateral trade agreements. / Expos as the best platforms for international marketing. / Identifying new markets for products and services.
Trade Negotiations	1. Establishing connections	Trade diplomacy officers at Expos should establish connections with trade representatives and economic officials of other governments. / Government-level trade negotiations. / Government representatives can create opportunities for trade expansion between countries by fostering relationships.
	2. Governmental institutions	Avoiding redundancy in decision-making by governmental institutions. / Supporting domestic businesses through governmental incentives. / Governmental support includes financial facilities, export assistance, and customs facilities. / Unified and cohesive policymaking and planning.
	3. Enhancing cooperation	Trade negotiations and diplomacy at Expos can achieve positive results in strengthening collaborations. / Trade and business envoys can create international opportunities for domestic businesses.
	4. Training trade envoys	Training commercial envoys. / Enhancing the engagement level of trade envoys. / Ensuring that trade envoys have detailed knowledge of domestic business conditions.
Resource Management	1. Budgeting and financial management	Allocating appropriate budgets for architectural presentations at Expos. / Sufficient advertising for Expo participation. / Employing suitable personnel to implement trade objectives at Expos. / Budget management for high efficiency.
	2. Attracting financial resources	Securing financial resources for effective Expo participation. / Maximizing financial assistance from BIE. / Private sector investments. / Governmental support.
	3. Investment management	Investing in necessary infrastructure for Expo participation. / Including experts in decision-making teams. / Enhancing the knowledge of human resources involved in Expo participation.
	4. Appropriate financial strategies	Developing suitable pricing strategies for services and products at Expos. / Export credits. / Financial support for innovative and knowledge-based companies.

	5. Economic stability	Currency fluctuations as a barrier to international trade. / Stability in the domestic financial market as a foundation for international trade growth.
National Branding	1. Leveraging competitive advantages	Highlighting services and products with competitive advantages. / Focusing on energy as a competitive advantage for Iran. / Supporting knowledge-based products. / Providing international health services considering Iran's capacity for health evaluations at low costs.
	2. Participation in international economic and trade organizations	Membership in international organizations and maintaining cooperation with them. / Removing barriers to connect with the global value chain. / Hosting multilateral meetings to introduce the country's competitive potentials.
	3. Enhancing the country's image	Presenting a transparent and favorable image of the country's internal environment. / Highlighting cultural and tourism potentials at Expos to promote trade.
Private Sector Participation	1. Supporting private sector businesses	The government alone cannot pursue trade diplomacy objectives. / The private sector needs governmental support to play its role effectively in international trade.
	2. Supporting knowledge-based companies and creative industries	Knowledge-based companies are a good investment for the government in international trade. / Iran has competitive advantages in creative industries and knowledge-based companies.
	3. Decentralizing government decision-making and involving private sector elites	Forming a policymaking committee comprising public and private sectors. / Utilizing private sector organizations and associations to advance trade diplomacy objectives.
	4. Obligating government institutions to provide information to the private sector	Establishing effective communication between trade envoys and business owners. / Updating customs data regularly.
Drafting a Trade Diplomacy Document	1. Setting trade diplomacy objectives and planning	Which countries should be targeted? / What is our comprehensive trade plan? / The government should define its overall trade diplomacy strategy.
	2. Outlining the vision of trade diplomacy	What are our ultimate goals in trade? / Which country's trade diplomacy serves as our model?
	3. Developing a trade diplomacy framework	Preparing a strategic document for trade diplomacy.
Research and Development	1. Market research	Competitor analysis. / Analyzing the needs of target countries. / Gathering trade statistics. / Developing appropriate marketing strategies.
	2. Product and service development	Updating and developing products suitable for global markets. / Improving product and service quality.
	3. Knowledge-based and innovative products	Innovation can serve as a unique competitive advantage. / Innovative products can attract significant international attention.
	4. Networking	Building connections with other countries successful in trade diplomacy. / International collaborations in knowledge and information exchange.

Since qualitative research follows an inductive reasoning approach (from specific to general), it advances systematically at each stage toward broader concepts, moving from indicators to components, from components to dimensions, and from dimensions to a concept. Ultimately, after validating the indicators through the three-step Delphi method, the results were approved by experts.

After collecting research data and extracting information from the sample, initial data processing and analysis were performed using SPSS statistical software. Subsequently, the data were processed and analyzed with Amos statistical software. Inferential statistical methods were employed to test the research model, and the data were analyzed accordingly. The overall measurement model for explaining Iran's strategic trade diplomacy framework in World Expo exhibitions is presented below.

To identify the research's theoretical model and calculate the effect coefficients and model significance, structural equation modeling (SEM) with Amos software was used. Regression analysis is commonly applied to examine the

impact of one or more variables on another. However, regression analysis allows only one dependent variable at a time. Additionally, regression analysis can only be used when each variable in the model plays either a predictor or an outcome role, not both simultaneously. While it is possible to analyze such models with regression, doing so requires multiple iterations of analysis and combining results, which complicates interpretation.

To address this issue, path analysis is applied. Path analysis, an extension of regression analysis, allows for analyzing multiple dependent variables simultaneously and enables a variable to act as both a predictor and an outcome within the model. Beyond this, structural equation modeling (SEM) expands on path analysis. SEM not only retains all the capabilities of path analysis but also enables the inclusion of latent variables.

In SEM, there are two types of variables: observed variables, which can be measured directly, and latent variables, which cannot be measured directly and are inferred using multiple observed variables. For example,

several survey questions might be designed to assess a particular concept from multiple perspectives. These questions are considered indicators or markers of the latent variable. Overall, SEM uses a set of techniques similar to multiple regression to uncover the internal structure of

relationships among variables. In this study, Amos 26 software was used to design the research model.

The overall measurement model of Iran's strategic trade diplomacy framework in World Expo exhibitions is illustrated below.

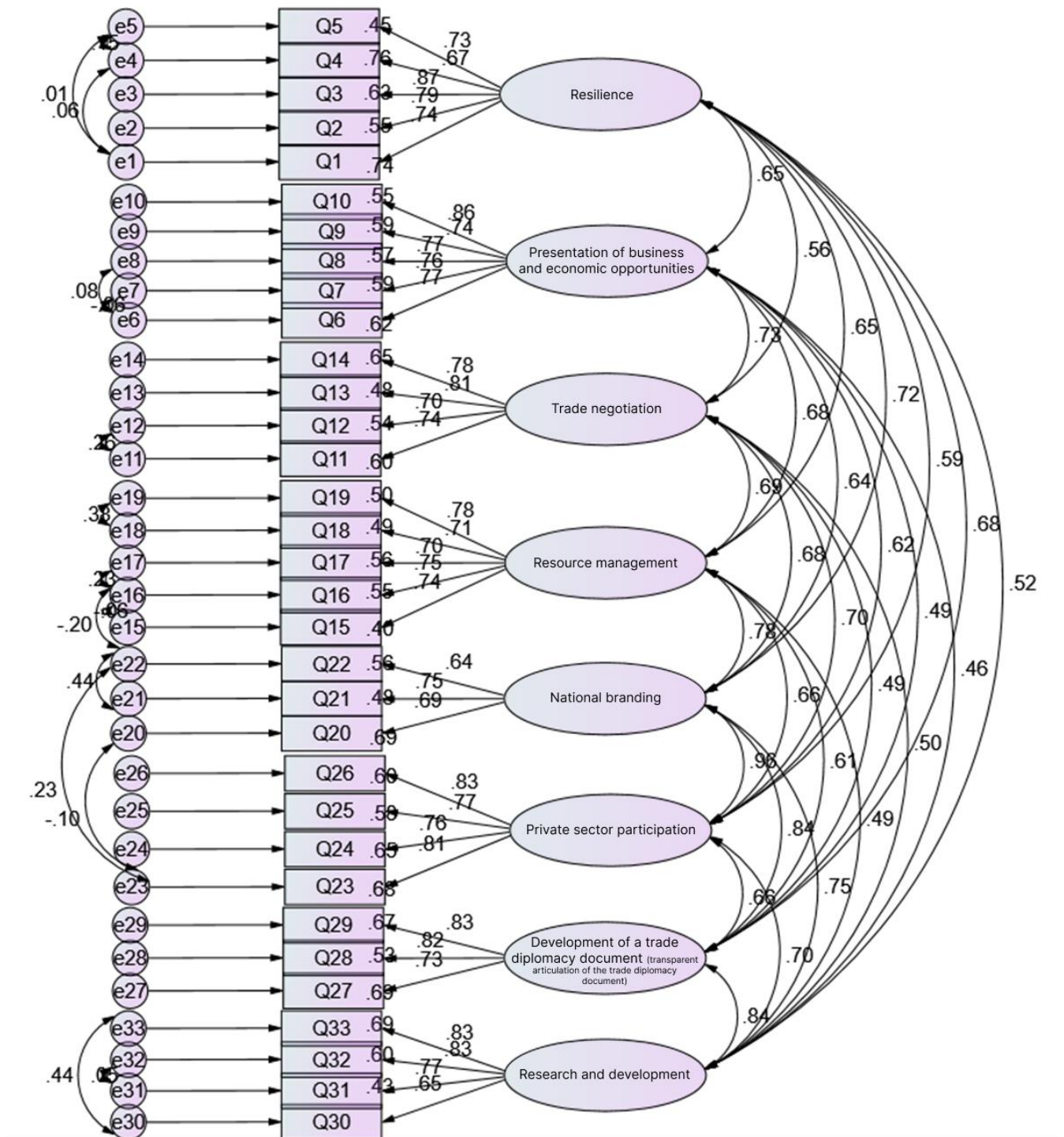


Figure 1. Overall Measurement Model of Iran's Strategic Trade Diplomacy Framework in World Expo Exhibitions

The factor loadings for all categories exceeded 0.5 and were deemed appropriate. Additionally, the p-values for all categories were less than 0.05, indicating that all categories within the strategic trade diplomacy framework for Iran's

participation in World Expo exhibitions significantly and meaningfully contributed to the model. The final model was refined by incorporating correlations between certain categories to improve model fit indices

Table 2. Factor Loadings of the Overall Measurement Model for Iran's Strategic Trade Diplomacy Framework in World Expo Exhibitions

Category	Symbol	Factor Loading	Standard Error	T-Value	P-Value
Cultural Display	Q1	0.739			<0.001
	Q2	0.791	0.084	14.983	<0.001
	Q3	0.874	0.081	16.375	<0.001
	Q4	0.671	0.087	13.101	<0.001
Trade and Economic Opportunities Display	Q5	0.730	0.088	13.978	<0.001
	Q6	0.767			<0.001
	Q7	0.757	0.062	14.735	<0.001
	Q8	0.766	0.062	15.988	<0.001
	Q9	0.742	0.060	14.654	<0.001
	Q10	0.863	0.063	17.152	<0.001
Trade Negotiations	Q11	0.735			<0.001
	Q12	0.696	0.065	15.219	<0.001
	Q13	0.809	0.078	14.689	<0.001
	Q14	0.784	0.077	14.309	<0.001
Resource Management	Q15	0.742			<0.001
	Q16	0.746	0.075	13.312	<0.001
	Q17	0.700	0.080	12.678	<0.001
	Q18	0.707	0.068	12.702	<0.001
	Q19	0.775	0.076	13.947	<0.001
National Branding	Q20	0.691			<0.001
	Q21	0.746	0.073	13.912	<0.001
	Q22	0.635	0.072	11.925	<0.001
Private Sector Participation	Q23	0.808			<0.001
	Q24	0.763	0.062	16.419	<0.001
	Q25	0.773	0.059	16.721	<0.001
	Q26	0.828	0.055	18.292	<0.001
Drafting a Trade Diplomacy Document	Q27	0.730			<0.001
	Q28	0.819	0.075	15.335	<0.001
	Q29	0.826	0.069	15.542	<0.001
Research and Development	Q30	0.653			<0.001
	Q31	0.771	0.084	12.064	<0.001
	Q32	0.833	0.090	12.795	<0.001
	Q33	0.832	0.066	17.206	<0.001

The fit indices of the measurement model are summarized below.

Table 3. Goodness-of-Fit Indices for the Strategic Trade Diplomacy Framework

Index	Value	Acceptable Range	Result
RMSEA	0.062	<0.08	Confirmed
TLI	0.907	>0.9	Confirmed
CFI	0.921	>0.9	Confirmed
AGFI	0.803	>0.8	Confirmed
GFI	0.909	>0.9	Confirmed
Chi-Square/DF	2.476	<5	Confirmed

Table 4 presents the overall validity and reliability indices. Composite reliability and Cronbach's alpha exceeded 0.7, while AVE values were above 0.4, confirming

adequate convergent validity and reliability for the overall measurement model of Iran's strategic trade diplomacy framework in World Expo exhibitions.

Table 4. Reliability and Validity Assessment of the Measurement Model for Research and Development in Iran's Strategic Trade Diplomacy Framework in World Expo Exhibitions

Category	Cronbach's Alpha	CR Coefficient	AVE Coefficient
Iran's Strategic Trade Diplomacy Framework in World Expo Exhibitions (Overall)	0.956	0.978	0.582
Acceptable Thresholds	>0.7	>0.7	>0.5
Result	Confirmed	Confirmed	Confirmed

The results of factor loadings, reliability, validity, and goodness-of-fit indices for the overall measurement model indicate an appropriate model fit, with all indices falling within acceptable ranges.

Correlation analysis was performed to examine the relationships between variables. All variables were entered into the software to measure their impact on the dependent variable and each other. This test provides a comprehensive view of the mutual interactions between variables. The

correlation coefficient, ranging between -1 and 1, measures the strength and direction (positive or negative) of the relationship. A coefficient closer to 1 indicates a stronger relationship but does not imply causation.

The results in Table 5 show that all correlation coefficients are significant. The strongest correlation (0.963) is between National Branding and Resource Management, while the weakest (0.147) is between Private Sector Participation and Research and Development.

Table 5. Correlation Test Between Components of Iran's Strategic Trade Diplomacy Framework in World Expo Exhibitions

From Variable	To Variable	Correlation Coefficient	Standard Error	T-Statistic	P-Value
Cultural Display	Trade and Economic Opportunities	0.559	0.036	8.316	<0.001
	Trade Negotiations	0.650	0.031	7.396	<0.001
	Resource Management	0.719	0.032	8.099	<0.001
	National Branding	0.586	0.038	8.260	<0.001
	Private Sector Participation	0.678	0.034	7.961	<0.001
	Trade Diplomacy Document	0.517	0.036	8.295	<0.001
	Research and Development	0.725	0.034	6.814	<0.001
Trade and Economic Opportunities	Trade Negotiations	0.676	0.045	8.699	<0.001
	Resource Management	0.643	0.043	8.406	<0.001
	National Branding	0.619	0.047	7.850	<0.001
	Private Sector Participation	0.458	0.045	8.394	<0.001
	Research and Development	0.494	0.043	6.392	<0.001
Trade Negotiations	Trade Diplomacy Document	0.690	0.042	6.947	<0.001
	Resource Management	0.782	0.039	8.259	<0.001
Resource Management	National Branding	0.963	0.046	8.545	<0.001
National Branding	Private Sector Participation	0.660	0.054	10.109	<0.001
	Trade Diplomacy Document	0.747	0.052	8.834	<0.001
	Research and Development	0.701	0.054	7.834	<0.001
Private Sector Participation	Trade Diplomacy Document	0.835	0.045	8.451	<0.001
	Research and Development	0.147	0.051	8.265	<0.001

The structural equation model (SEM) results for the strategic framework of Iran's trade diplomacy in World Expo exhibitions are shown below.

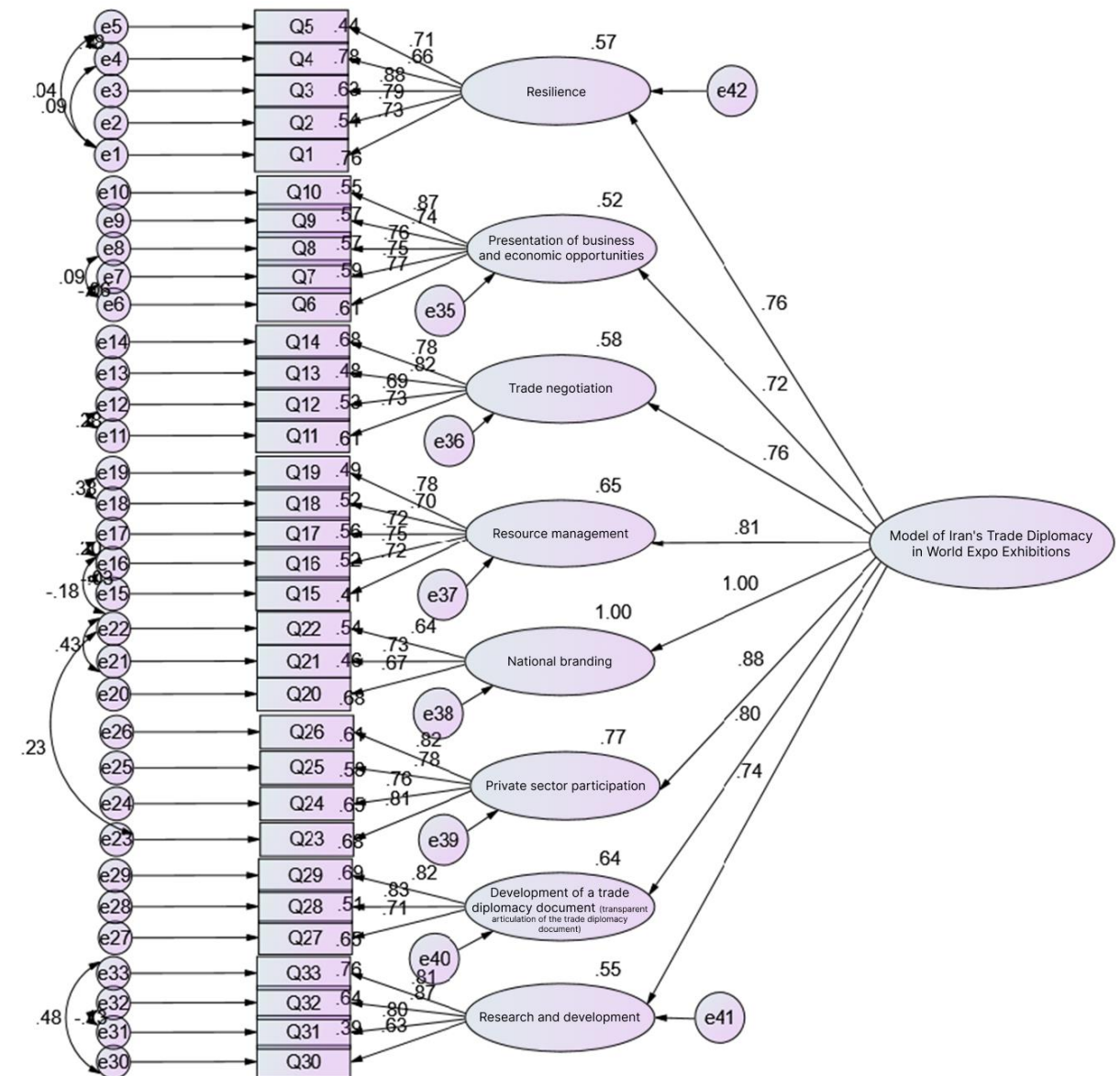


Figure 2. Structural Model of Iran's Strategic Trade Diplomacy Framework in World Expo Exhibitions

Based on Table 6, the structural model fit indices indicate good model fit. The chi-square/df value of 2.476 confirms appropriate fit, and the RMSEA of 0.071 is within acceptable limits. Additional indices (CFI = 0.912, GFI =

0.909, TLI = 0.908, AGFI = 0.834) are also within their respective acceptable thresholds, supporting the validity of the structural model.

Table 6. Goodness-of-Fit Indices for Iran's Strategic Trade Diplomacy Framework

Index	Value	Acceptable Thresholds	Result
RMSEA	0.071	<0.08	Confirmed
TLI	0.908	>0.9	Confirmed
CFI	0.912	>0.9	Confirmed
AGFI	0.834	>0.8	Confirmed
GFI	0.909	>0.9	Confirmed
Chi-square/df	2.476	<5	Confirmed

Table 7 provides the standardized path coefficients for the eight identified components of the strategic trade diplomacy

framework. All coefficients exceed 0.5 and are statistically significant at the 5% level.

Table 7. Final Components of the Framework

Variable	Coefficient	Standard Error	T-Statistic	P-Value
Trade and Economic Opportunities	0.722	0.133	9.775	<0.001
Trade Negotiations	0.764	0.123	9.699	<0.001
Resource Management	0.805	0.123	9.893	<0.001
National Branding	1.000	0.151	10.681	<0.001
Private Sector Participation	0.880	0.139	11.269	<0.001
Trade Diplomacy Document	0.797	0.134	9.820	<0.001
Research and Development	0.740	0.145	8.633	<0.001
Cultural Display	0.757			<0.001

The analysis confirms that the eight identified components—Trade and Economic Opportunities, Trade Negotiations, Resource Management, National Branding, Private Sector Participation, Trade Diplomacy Document, Research and Development, and Cultural Display—significantly contribute to the strategic trade diplomacy framework for Iran's participation in World Expo exhibitions. No further model modifications are required.

4. Discussion and Conclusion

In this research, traditional approaches to data collection treat it as a distinct stage, typically completed before data analysis. However, in grounded theory, the data collection model differs. In grounded theory studies, data collection and analysis occur simultaneously. In this context, in-depth interviews are a suitable method for data collection. Data analysis in grounded theory is conducted through three stages of coding. The first step involves identifying conceptual categories in the data at an initial level of abstraction. The second step establishes relationships between these categories, and the third step conceptualizes and reports these relationships at a higher level of abstraction.

As outlined above, the three stages of coding—open coding, axial coding, and selective coding—form the core of thematic analysis. During open coding, concepts are identified, and in axial coding, categories are derived by summarizing these concepts. In selective coding, or the theory-building phase, the core phenomenon is systematically linked to other categories, relationships are verified, and categories requiring further improvement are enhanced. Finally, the researcher develops a model using the information derived from the components (axes) in the axial coding table, refining and adjusting the data based on expert feedback and input from some of the interviewees

(considered experts). Using this approach, 33 main categories related to Iran's trade diplomacy in World Expo exhibitions were identified, considered as influential factors, incorporated into selective coding, and used to construct the qualitative hypothetical model.

The chi-square/df ratio of 2.476 and RMSEA of 0.062 are within acceptable thresholds (<5 and <0.1, respectively). Additionally, CFI, GFI, and TLI indices are 0.921, 0.921, and 0.907, respectively, all exceeding 0.9. The AGFI is 0.803, also within the acceptable range (>0.8). Therefore, the model demonstrates a good fit with the collected data, and all goodness-of-fit indices fall within acceptable ranges. The final measurement model for Iran's strategic trade diplomacy framework in World Expo exhibitions is accepted.

The reliability and validity indices of the framework are satisfactory. Composite reliability and Cronbach's alpha exceed 0.7, while the AVE index surpasses 0.4, confirming convergent validity and reliability for the overall model.

A correlation analysis between the components of Iran's strategic trade diplomacy framework in World Expo exhibitions was also conducted. Correlation analysis evaluates relationships between variables by entering all variables into the software and assessing their mutual effects on the dependent variable and each other. This test provides a comprehensive view of the mutual interactions between variables. The correlation coefficient measures the strength and direction (positive or negative) of relationships, ranging from -1 to 1, with 0 indicating no relationship. A coefficient closer to 1 reflects a stronger relationship but does not imply causation. The results indicate that all correlation coefficients are significant. The strongest correlation (0.963) is observed between National Branding and Resource Management, while the weakest (0.147) is between Private Sector Participation and Research and Development.

Structural fit indices for the model reveal a chi-square/df ratio of 2.476, indicating good model fit, and an RMSEA of 0.071, which is also acceptable. CFI (0.912), GFI (0.909), and TLI (0.908) demonstrate logical model fit, while AGFI (0.834) falls within the acceptable range. These results confirm the acceptance of the structural model for Iran's strategic trade diplomacy framework in World Expo exhibitions. Using significance tests of estimated path coefficients, the final model for Iran's strategic trade diplomacy framework in World Expo exhibitions was finalized.

The structural model results show that all T-values and P-values support the significance of relationships between constructs at the 5% error level. All eight identified components—Trade and Economic Opportunities, Trade Negotiations, Resource Management, National Branding, Private Sector Participation, Trade Diplomacy Document, Research and Development, and Cultural Display—have standardized path coefficients greater than 0.5 and are statistically significant. Therefore, these components are considered key elements of the strategic trade diplomacy framework for Iran in World Expo exhibitions.

The findings are consistent with previous studies [1, 2, 16]. These studies concluded that one of the pillars of competitiveness is creating a foundation for trade diplomacy. Another critical input factor is the presence of skilled trade diplomats who are up-to-date, knowledgeable in negotiation techniques, and experienced in commerce. This finding aligns with Pacheco and Matos (2021), who identified inadequate trade diplomats as a key reason for the failure of Portuguese export companies in target markets. Strengthening trade diplomacy requires setting rigorous and expert-approved criteria for selecting and preparing inputs, as outcomes like sustainable exports and subsequent impacts are heavily dependent on this stage.

To optimize the use of World Expo exhibitions for trade diplomacy, several practical recommendations and policy guidelines are suggested. These exhibitions provide unique opportunities for countries to showcase their economic strength, innovations, and culture, influencing international interactions. A primary strategy should focus on marketing and promotional initiatives. Countries must develop clear plans to present their products and services in ways that are not only attractive and innovative but also foster engagement with visitors and potential investors. These initiatives should incorporate advanced technologies such as augmented reality and interactive displays to capture attention and create memorable experiences. Additionally, collaboration

with trade organizations and international entities can enhance a country's presence and impact. Such collaborations could include participation in discussion panels, hosting seminars, and organizing business networking events, all of which promote investment and trade opportunities more effectively.

Authors' Contributions

Authors equally contributed to this article.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

All procedures performed in this study were under the ethical standards.

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