Iranian Journal of Management Studies (IJMS) *http://ijms.ut.ac.ir/*
Vol. 12, No. 4, Autumn 2019 *Print ISSN: 2008-7055*
pp. 677-701 *Online ISSN: 2345-3745*
Document Type:Research Paper *DOI: 10.22059/ijms.2019.273512.673470*

International Strategic Alliances in the Iranian Home Appliance Industry: A Model of the Perceived Risks for Foreign Partners

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(Received: January 10, 2019; Revised: August 23, 2019; Accepted: September 11, 2019)

Abstract

Attracting foreign investment is one of the most important policies of the Iranian government for improving economic conditions. Nevertheless, despite the government and the Ministry of Industry's emphasis as well as the efforts of Iranian companies to attract foreign partners, this is less common in Iranian home appliance industry, which indicates the risks for foreign investors. Accordingly, the present study aims to identify and model the risks that foreign investors face through a Strategic Alliance with local companies in the Iranian home appliance industry. Hence, the Strategic Alliance risks are investigated through semi-structured interviews with 20 industry experts and the use of qualitative content analysis, and next, the extracted factors are validated by the academic and industry experts' views using Confirmatory Factor Analysis (CFA). The final model is proposed using Interpretive Structural Modeling (ISM). The research results demonstrate 9 major risk factors in the formation stage, 13 risk factors in operational stage and 6 risk factors in the termination stage of strategic alliance lifecycle. One of the significant findings of this study is that the political, legal and economic risks of Iran are the main risk factors for foreign companies in all three stages of strategic alliance lifecycle in Iran.

Keywords

Strategic Alliance, Risk, Home Appliances, Foreign Investment, Joint Venture.

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Introduction

Iran has the potential for international investors who are currently looking for new investment opportunities. Rich natural resources, geostrategic location in the heart of the Middle East, developing transport infrastructure, and a large domestic market are some of the key motivations for foreign companies to invest in Iran.

Yet, foreign investment in Iran, like any other country, is associated with risks and hazards. Among the issues that lead to the complexity of decision making by non-Iranian companies are the lack of familiarity with the Iranian business laws, regulations and administrative codes, the way of using local facilities, and cultural complexities. Hence, and given the familiarity of Iranian companies with the country's regulations and preferences, these non-Iranian companies prefer to make alliances with Iranian companies to reduce the above risks. One of the strategies to enter new markets is the Strategic Alliance (SA) that can be used to share risks with other local companies as an effective way to manage operational risk (T. K. Das & Teng, 2001).

However, the Strategic Alliance includes its own risks at each stage of its implementation, which, if not properly managed, may lead to a failure of the alliance. According to statistics, the failure rate in alliances is far greater than the failure to create a single company (Hrebiniak, 2013). This failure could also occur for the Strategic Alliances between foreign and Iranian companies that can result in the waste of resources and losses for partner companies and even the economy in general.

Despite the extensive literature on Strategic Alliance, as well as its broad application, previous studies conducted in this area are scattered, cross-sectional, and also non-exhaustive due to the underlying factors such as environmental and cultural stimuli, etc. that influence decision making about Strategic Alliance types as well as the partners' perceptions about the intention and actions of other partners. Therefore, none of the past studies can be considered as a comprehensive reference to understand the risks of Strategic Alliances in partnerships between foreign and Iranian partners.

Accordingly, the present study aims to identify and model risks in the strategic alliance between foreign investors and their Iranian partners in the home appliance industry from the foreign companies'

point of view. The results obtained from the current study help the foreign and Iranian companies to identify the risks involved in implementing Strategic Alliances in Iran. Foreign companies can rely on the results of this study to make more reliable and faster strategic decisions about how to manage alliances and how to manage potential risks, and attempt a win-win long-term investment.

Research literature

Strategic Alliance

Strategic Alliance is an inter-organizational relationship in which partners agree to invest resources, share knowledge, and engage in economic activities that create value based on resource synergy and cumulative abilities of each partner (Agarwal et al., 2010). So, strategic alliance can be defined as a common pursuit of agreed objectives, based on a shared understanding of the contribution of each company as well as expected outcomes (Gulati et al., 2012).

Equity Alliance and Non-equity (contractual) Alliance are two main types of Strategic Alliances (T. K. Das & Teng, 2001). The Equity Alliance (also called Hierarchical aAlliance), either acts as a separate operating entity that has its own power structure (such as joint venture) or includes investment in shares of a partner by another partner (Gerwin, 2004).

International Joint venture

A joint venture (JV) is a form of Equity Strategic Alliance including the creation of a separate entity by two or more partners, such that alliance control is done both by partners and by the new company (Gerwin, 2004). The independent management structure and hierarchical control systems in the organization are the key features of such alliances. The cost and time needed to create this kind of alliance is more than other types of Strategic Alliances and requires a more complex decision-making process and its risk is more than other alliances due to the need for more resources (Ebrahimi & Rahmanseresht, 2014).

International Joint Venture is a kind of long-term economic relationship which has distinct characteristics than other contracts due to the inclusion of partners of different nationalities. International JV is done in the form of an alliance agreement or the establishment of a joint organization by the participation of the local company in the host

country and the foreign party. Penetration into new markets, access to cheaper raw materials, skilled labor, cheaper labor, and other benefits of doing business in the host company can be mentioned among the main goals of foreign companies of a joint venture in the host country (Ebrahimi & Rahmanseresht, 2014).

Stages of Strategic Alliance Development

In the current study, three stages of strategic alliance development are considered as follows (Russo & Cesarani, 2017; Ebrahimi & Rahmanseresht, 2014; Kale & Singh, 2009):

A) Formation: specifying goals, type of cooperation, partner selection, and initial Alliance agreement. This stage is a prerequisite and an introduction to other steps, and if there is a major problem or weakness at this stage, then managing the next steps will also associate with multiple challenges and is very difficult.

B) Operational: determining and implementing governance structure and control mechanisms, dispute resolution, determination of information flow procedures, and Strategic Alliance operations. This phase plays a significant role in alliance success. In fact, even if an alliance is well-formed and relationships between partners are managed properly, but the appropriate strategies are not taken into account and the developed programs are not implemented well, the goals set will not be realized, and the alliance will ultimately fail.

C) Evaluation and termination: partners will decide on the termination or development of their future cooperation considering the situation and circumstances resulted from the alliance.

Risk in Strategic Alliance

Risk means loss of opportunity according to Webster's Dictionary ("Random House Webster's College Dictionary," 2000). Risk is also interpreted as the probability of uncertainty associated with the outcome of a decision in the management literature (March & Shapira, 1987). In this study, the risks ahead of Strategic Alliances are divided into the following 5 general categories:

1. Political and legal risks: Risks associated with government direct or indirect interference in corporate activities, through policies and capital laws, labor force, regulatory insecurity, and customs restrictions (Ozorhon et al., 2007).

2. Economic risks: factors such as inflation, taxes, interest rates, etc. affecting directly the alliance profitability (Ahiaga-Dagbui et al., 2011).

3. Internal Risks: Risks that arise due to differences in the nature, culture, experience and technical capabilities of participating organizations in a Strategic Alliance. These risks are also called relational risks which refer to the problems between partners (Adnan, 2009).

4. Project specific risks: Risks related to the project's own characteristics (Adnan, 2009).

5. External risks: social, cultural, environmental and other risks that occur in a Strategic Alliance environment (Adnan, 2009).

Iranian Home appliance industry

The home appliance industry is one of the most profitable industries in the world. The global revenues are estimated at 202 billion USD with 5.3% annual growth from 2011 to 2016. By 2020, annual turnover for the industry is expected to reach 344 billion USD, which assumes a CAGR of 6.1% between now and then. Globally the industry employs over 1 million people (ILIA Corporation, 2018) .

This industry is important in the economic system of Iran for several reasons. On the one hand, the country's growing demand for these products, which has a direct relationship with the increase in the standard of living of society and social well-being, and, on the other hand, a large number of its employees at all levels, considering the downstream factories producing parts, equipment and materials used for this industry lead to a lot of added value for the country (the strategic plan of the Ministry of Industry, Mine and Trade of Iran , 2015).

Conceptual Framework

The conceptual framework of this study is based on the integration of Relational Capabilities theory, Transaction Cost Economics (TCE), trust and alliance formation stages:

- **Relational Capabilities theory:** integrated the concepts of Resource-Based View (RBV), dynamic capabilities, the capabilities approach, and the relational view to form the perspective of relational capabilities in strategic alliances. It refers to firms' capacity purposefully to create, extend, or modify their resources and routines, augmented to include the resources and capabilities of the alliance partners (Dyer & Kale, 2007).

- **Transaction-Cost Economics (TCE)**: is one of the leading theoretical perspectives in management and organization research (David and Han, 2004). TCE refers to the consideration of the transaction cost involved in economic exchanges and their minimization. The theory states that transaction costs are due to bounded rationality, opportunistic behavior, and assets specificity.
- **The concept of trust:** is a particularly important aspect of relational quality in alliances, because it increases transparency, lowers transaction cost, facilitates disputed resolutions and lowers investment risk (Das and Teng, 1998).
- **Alliance formation stages:** which in this study, three stages of formation, operational and termination are considered (Russo & Cesarani, 2017).

Therefore, the initial conceptual framework of this study is presented in Fig. 1.

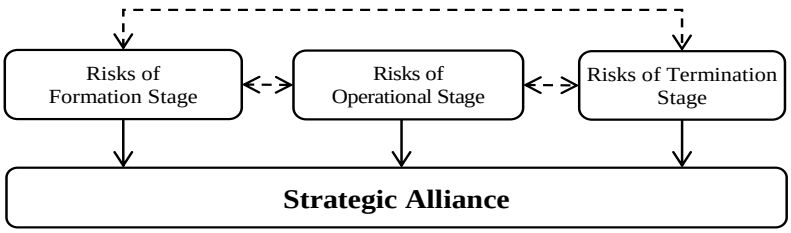

Fig. 1. The initial conceptual framework of the study

Method

The exploratory mixed method has been used in this study to identify the risks facing foreign companies in different stages of Strategic Alliances. Accordingly, firstly, the qualitative method is used to obtain the rich information from the perception and experience of the industry experts, and then, a quantitative method is used to validate the factors obtained from the quantitative stage and form the final model. The exploratory mixed method is the most appropriate method to investigate a phenomenon since it allows the researcher to evaluate and test a new theory (Creswell & Clark, 2011).

Qualitative stage

To collect rich data, in-depth and semi-structured interviews were

conducted with 20 selected people consisting of academic experts and professors, heads of relevant unions, as well as the board of directors, senior managers and specialists of companies active in the Iranian home appliance industry. As the target respondents were hard-to-reach, a purposive sampling technique was adopted alongside a snowballing technique for sampling purposes. All the interviews were done face-to-face to ensure reliability and validity of data collected.

Qualitative data including semi-structured interview transcripts and supporting documents were analyzed using qualitative content analysis. This technique is a qualitative analysis tool that facilitates categorization and identification of themes within the data (Hsieh & Shannon, 2005). Interview transcriptions and supporting documents were coded using MAXQDA software.

Since the coding is done by the researcher, it is impossible to deny the effect of the researcher view on the formation of the indicators. Therefore, a questionnaire was obtained from 20 academic and industry experts regarding the validity and prioritization of the components. These questionnaires were analyzed using second-order confirmatory factor analysis (CFA) and SmartPLS software. Considering the nature of using a Likert scale questionnaire, Cronbach's alpha was used to measure the reliability. The Cronbach's Alpha values are presented for the group of questions related to each phase of the Strategic Alliance in Table 1; it indicates very good reliability of the questionnaire given the higher value of 0.7. Also, as the sample size was below 30 which might result in having a weak Cronbach's Alpha, questions were explained to each expert one-by-one to ensure the reliability and reduce error.

Table 1. Cronbach's alpha coefficients of the questionnaire

Description	Number of factors	Cronbach's alpha
Questions for the first phase of alliance	46	0.928
Questions for the second phase of alliance	54	0.925
Questions for the third phase of alliance	8	0.773

Quantitative stage

The required data is gathered using a questionnaire from industry and financial experts and the final model is developed using the Interpretive Structural Modeling (ISM). ISM utilizes the principles of mathematics

and expert judgment to design large and complex systems. This allows the identification and explanation of the complex relationships between a large number of elements and helps researchers to regulate the elements complexity in the environment (Lashkarbolouki et al., 2012). The results show the hierarchy to which the elements influence or being influenced, the significant relationships between the elements of each level and the elements of the lower level, as well as the relationships among the elements of each row.

A total of 6 academics and industry experts were selected through purposive sampling method in this regard and were interviewed. It was required to complete the ISM questionnaire in person due to the complexity of the theoretical concepts in the questionnaire.

Data Analysis

Step 1: Identifying risk factors

Considering the nature of the required data, "concept" is considered as the unit of analysis in this section. For this purpose, the researcher first examined the text of the interview based on the discussed concepts. At this stage, sentences or sequential sentences referring to a single issue were put together in one "phrase". Each of the experts was assigned with an original identifier in order to facilitate tracing, and then, an "ID" was assigned to each of the "phrases" extracted from his/her conversations on this bases. In the next step, the terms were examined and coded with a deductive approach. Finally, all the results were put together in order to obtain a complete picture and summarize the experts' views. All of the above steps are done using MaxQDA software.

In sum, 390 phrases were extracted and then were categorized in 111 indices using relevant references. Of these 111 indicators, 29 factors have been obtained, which are grouped into 5 risk categories mentioned in the literature review. Then, the second-order CFA method was used for the categories, factors, and indicators belonging to each factor and SmartPLS software was used to confirm the significant relationship between them. For this purpose, a questionnaire was designed and the views received from 20 experts of foreign companies regarding the components' validity. To receive the accurate data, it was very important that these experts should have been experienced in Iran home appliance industry and have been

engaged in the process of International strategic alliances which allowed a limited population for our study. Therefore, based on the small sample size, we used a bootstrap procedure in SmartPLS to obtain reliable results (Hoyle, 1999, Garson, 2016).

According to the obtained result, the indices of "the lack of unity among various investment-related organizations", "low level of ease of doing business index", "unhealthy competitive environment", "low value of Iranian goods in other countries", "smuggling problem", "longer business startup time than PLC", " low number and variability of working days", " high land cost in Iran", " financial facility restrictions" and "high interest rates" and the factor "damaging the brand of foreign investor due to activity in Iran" were excluded from the study due to factor loading below 0.3, or T -statistic less than 1.645 (90% confidence level). It is worth mentioning that in cases where only one indicator exists for a factor, the T-statistic becomes zero, which is acceptable according to what was said earlier. Table 2 shows the final results of content analysis and factor analysis.

Table 2. The Final risk factors resulted in Content Analysis and CFA

Concept	***Factors* / Indicators**	**T Statistics**	**Factor Loadings**
The risks of the first phase of a strategic alliance			
Internal risks	*Partner Selection (T. Das & Teng, 1999)*	*0.000*	*1.000*
	Lack of proper recognition of the other party	5.583	0.615
	Shared goal and common value between partners	19.248	0.810
	Lack of experience and expertise of Iranian companies	4.199	0.621
	Lack of reliable partners	3.448	0.591
Political and legal risks	*Political Risks (Rodríguez, 2008)*	*52.542*	*0.916*
	Nationalization of Foreign investments	6.430	0.595
	Government interference in corporate governance through laws and policies	7.788	0.566
	Iran internal political tensions	10.160	0.708
	Instabilities in the Middle East	10.130	0.686
	Iran foreign political tensions	17.900	0.785
	Returning sanctions and related consequences	17.809	0.765
	The historical record of political instability	4.521	0.499
	Conceived false image of Iran	7.448	0.615
	Legal Risks (Ozorhon et al., 2007)	*31.637*	*0.848*
	Very slow administrative and legal bureaucracy	9.620	0.686
	Lack of rules transparency	13.858	0.799

Table 2. The Final risk factors resulted in Content Analysis and CFA

Concept	*Factors* / Indicators	T Statistics	Factor Loadings
Political and legal risks	Complex and non-transparent tax system	41.165	0.859
	Instability of Iranian laws	24.392	0.802
	Person-dependent decisions and management in Iran	5.123	0.397
	Weaknesses of Foreign Investment Laws (research results)	*15.587*	*0.739*
	Lack of unity among various investment-related organizations	0.992	0.043
	Over-protection of workers by labor laws	6.529	0.607
	The obligation of using Iranian courts for arbitration	6.087	0.600
	The complexity of investment law for foreigners	20.468	0.807
	Non-assignment of immovable property to foreigners	20.106	0.806
External risks	*The Insecurity of Investment (research results)*	*40.331*	*0.842*
	Weak judiciary; discrimination in favor of Iranians	37.676	0.828
	The short-term perspective of Iranians	18.009	0.827
	Short-term strategies of Iran's industry	75.290	0.929
	Absence of int. investment insurance companies	5.184	0.571
	Weaknesses in Infrastructure (Adnan, 2009)	*35.839*	*0.884*
	Weaknesses of unions	17.933	0.805
	Weak production infrastructure	13.704	0.755
	Weak international transport infrastructure	62.767	0.885
	Weak domestic transport infrastructure	37.593	0.867
	Lack of developed retail network	5.933	0.460
	Lack of free trade agreements with neighboring countries	9.163	0.716
	Lack of Transparent Information (research results)	*45.266*	*0.909*
	Even Iranian companies do not fully know the market	33.251	0.835
	Lack of adequate knowledge of the Iranian market	36.705	0.883
	Inconsistency of economic information provided by various entities	15.896	0.761
	No official classification of Iranian companies	2.375	0.391
	lack of financial transparency of Iranian companies	7.139	0.552
	Lack of transparent competitive information	8.086	0.609
Economic risks	*Economic Instability(Ahiaga-Dagbui et al., 2011)*	*0.000*	*1.000*
	The unexpected changes in monetary policy	35.596	0.859
	Exchange rate instability	19.625	0.825
	Lack of economic stability	46.758	0.892
Project-specific risks	*Iran's Low Attraction for Investment (research results)*	*0.000*	*1.000*
	Weak Iranian national brand	24.546	0.832
	Low level of nationalism of the Iranian people	14.203	0.724
	No history of successful Strategic Alliance in Iranian home appliances	68.441	0.919
	The low growth rate of home appliances versus inflation	21.776	0.807
	Low ease of doing business index	0.906	0.131

Table 2. The Final risk factors resulted in Content Analysis and CFA

Concept	*Factors* / Indicators	T Statistics	Factor Loadings
The risks of the second phase of the Strategic Alliance			
External risks	*Competitive Risks (research results)*	*10.406*	*0.733*
	High competitive risks	-	1.000
	Unhealthy competitive environment	1.282	0.743
	Labor Problems (research results)	*7.452*	*0.715*
	Disproportionate rules of the Ministry of Labor	13.863	0.847
	Lack of expert workforce	5.331	0.802
	The Low Value of the Made-in-Iran Brand (research results)	*7.098*	*0.655*
	The low value of Iranian goods in other countries	1.529	0.906
	The low value of the made-in-Iran brand (domestic market)	-	1.000
Internal risks	*Lack of Adherence to Commitments (Delerue, 2005)*	*10.409*	*0.662*
	Failure to fulfill commitments	22.578	0.884
	Avoid sharing information	19.116	0.844
	Internal Conflicts in Management (Wang, 2013))	*34.599*	*0.866*
	Conflict in decision making	5.004	0.736
	Cultural conflict	6.271	0.784
	The difference in handling environmental threats	1.654	0.334
	Loss of Key Capabilities (Hui-hui & Qing, 2011)	*19.426*	*0.864*
	Loss of knowledge and competitive advantage	2.736	0.446
	Information transmission risk	6.995	0.941
	The weakness of intellectual property laws	6.839	0.945
	Opportunistic Behaviors (Hui-hui & Qing, 2011)	*1.781*	*1.000*
	Fairness	-	1.000
Political and legal risks	*Political Risks (Rodríguez, 2008)*	*22.922*	*0.784*
	Disruption of activity by false allegations	30.086	0.845
	International cooperation of the foreign party with the enemies of Iran	25.641	0.851
	Legal Risks (Ozorhon et al., 2007)	*235.853*	*0.975*
	Smuggling problem	0.423	0.070
	Very slow administrative and legal bureaucracy	25.506	0.811
	Instability of Iranian laws	13.282	0.686
	The plurality of institutions and lack of unity of procedure	27.649	0.806
	Production of foreign brands in Iran is not considered as local production	3.786	0.407
	Longer business startup time than PLC	0.800	0.099
	Lack of transparency in rules	31.849	0.855
	The complexity of the laws of Iran	67.516	0.919
	The complex process of receiving financial facility	5.463	0.565
	Damaging the Brand of Foreign Investor due to Activity in Iran (Research results)	*1.327*	*0.554*
	Damaging brand due to the internal issues of Iran	0.957	1.288
	Damaging brand due to production in Iran	0.070	0.423

Table 2. The Final risk factors resulted in Content Analysis and CFA

Concept	*Factors* / Indicators	T Statistics	Factor Loadings
Project-specific risks	*Demand Risks (Anderson et al., 2015)*	*11.962*	*0.734*
	Low product diversity due to demand limitation	44.804	0.843
	Demand less than economies of scale	9.725	0.651
	Lack of government support for exports	16.787	0.754
	Lack of necessary infrastructure for export	31.308	0.895
	Emotional and fluctuating behavior of Iranian consumers	11.856	0.654
	High Finished Cost (Hui-hui & Qing, 2011)	*53.894*	*0.900*
	Low productivity in Iran	2.172	0.413
	Low number and variability of working days	0.505	0.170
	High cost of land in Iran	0.935	0.203
	Expensive labor cost in Iran	9.380	0.652
	High cost of producing in Iran	28.220	0.881
	High rate of production wastes in Iran	32.629	0.855
	Financial facility restrictions	1.137	0.318
	High-interest rates	0.663	0.184
	Poor Supply Infrastructure for Naw Materials (Adnan, 2009)	*48.493*	*0.911*
	Low-quality domestic suppliers	5.168	0.523
	High cost of raw materials in Iran	24.902	0.823
	Instability of domestic supplies	7.616	0.596
	Lack of basic and supporting industries	15.918	0.796
	Decentralized structure of industrial cities in Iran	5.339	0.458
	Limited available resources	11.978	0.739
	Lack of efficient suppliers	22.407	0.915
	Geographical distribution of components suppliers	5.002	0.501
Economic risks	*Economic Problems (Ahiaga-Dagbui et al., 2011)*	-	*1.000*
	International banking problems	17.136	0.743
	Unstable economy	33.868	0.867
	Unexpected changes in customs tariffs	43.434	0.888
	Uncertain conditions of Iranian customs	72.144	0.928
External risks	Risks of Phase 3 of the Strategic Alliance		
	Issues in Cashing out Capital (research results)	*104.542*	*0.950*
	How to sell equipment and cash out capital	111.808	0.960
	Lack of mergers and acquisitions in Iran	124.099	0.962
	The Problem of Capital Outflow (Rodríguez, 2008)	51.027	0.894
	International banking problems	17.305	0.772
	Abuse of the sentiments of popular nationalism (Iranian capital label)	42.918	0.838
Internal risks	*Creating a New Competitor (Adnan, 2009)*	*21.851*	*0.788*
	Iranian partner becomes a new competitor	21.320	0.788
	Defining the Share of Partners (Hui-hui & Qing, 2011)	*21.851*	*1.000*
	Valuation and asset allocation	21.320	0.788
Political and legal risks	*Legal Weaknesses (Ozorhon et al., 2007)*	*0.000*	*1.000*
	Non-transparency of laws	18.317	0.735
Economic risks	*Economic Risks (Ahiaga-Dagbui et al., 2011)*	*0.000*	*1.000*
	Lack of economic stability	18.524	0.714

Step 2: Identifying the relationship between factors

In this step, ISM is used to find and prioritize the relationships between the risk factors in Strategic Alliance in the home appliance industry of Iran. This includes the following steps (Azevedo et al., 2013):

1. Identifying variables (risk factors): which is the result of the first step of the study;
2. Developing Structural Self-Interactional Matrix (SSIM) representing pairwise relationships among all variables. For the barriers, the following four symbols are utilized to denote the relationship between barrier i and barrier j:

V= Barrier i will alleviate barrier j;
A= Barrier j will alleviate barrier i;
X= Barriers i and j will alleviate each other;
O= Barriers i and j are not related;

3. Developing a reachability matrix from SSIM by converting relationship symbols into binary values 1 and 0 and checking for transitivity. This replacement into 1s and 0s is based on the following criteria:

- If "V" is allotted in the cell (i,j) of SSIM, then cell entry of (i,j) in reachability matrix converts into "1" and the entry (j,i) turns into "0".
- If "A" is allotted in the cell (i,j) of SSIM, then cell entry of (i,j) in reachability matrix converts into "0" and the entry (j,i) turns into "1".
- If "X" is allotted in the cell (i,j) of SSIM, then cell entry of (i,j) in reachability matrix converts into "1" and the entry (j, i) also turns into "1".
- If "O" is allotted in the cell (i,j) of SSIM, then cell entry of (i,j) in reachability matrix converts into "0" and the entry (j,i) also turns into "0".

1. Level portioning of reachability matrix into various levels. The reachability set and antecedent set for each barrier is found from the reachability matrix. The reachability set is composed of the barrier itself for a specific barrier and for all those barriers which it may help to achieve, whereas antecedent set for a particular barrier comprises the barrier itself and those barriers which may alleviate them. Then an intersection set for all the barriers is derived. That

barrier is considered as a top-level barrier in ISM hierarchy for which the reachability set and intersection set are alike. This top-level barrier would not impact or influence any other barrier above its level. The top-level barrier when identified is omitted from the reachability and the antecedent sets. The same process is repeated to dig out the next level barrier and repeated againg until the level of the last barrier is identified. This iteration process of level partitioning helps in building the ISM model.

2. Formation of ISM Based Model: the ISM based model is constructed on the basis of the reachability matrix. The relationship between two barriers i and j is denoted by an arrow which directs from i to j. This graph is known as the ISM based hierarchical model. The first and topmost level barriers are positioned at the top of the hierarchy; second level barriers are positioned at the second level. This is continued till the last and fourth level barrier is placed at the bottom position of the hierarchy.

Risks of phase 1: Formation

Table demonstrates the reachability matrix for the risks of the first phase of Strategic Alliance in Iran home appliance industry from foreign companies' perspective and based on the accumulative judgment of experts.

The reachability set, antecedent set, and intersection set are provided in Table 4. As described earlier, the intersection set and reachability set for risk factor number 1, "partner selection", are alike. This means that this risk factor is on the top-level (level I) in ISM hierarchy of our model.

Table 3. Reachability matrix for the risks of the first phase of the Alliance

	Risk Factor	1	2	3	4	5	6	7	8	9
1	Partner selection	1	0	0	0	0	0	0	0	0
2	Political risks	1	1	1	1	1	1	1	1	1
3	Insecurity of investment	1	0	1	0	0	0	1	0	0
4	Weaknesses in infrastructure	1	0	1	1	0	0	1	1	1
5	Economic instability	1	0	1	1	1	0	1	1	1
6	Legal risks	1	0	1	1	1	1	1	1	1
7	Iran's low attraction for investment	1	0	0	0	0	0	1	0	0
8	Lack of transparent information	1	0	1	0	0	0	1	1	0
9	Weaknesses of foreign investment laws	1	0	1	0	0	0	1	0	1

Table 4. Determining the top level risk factor of the first phase of the Alliance

	Reachability Set	Antecedent Set	Intersection Set	Level
1	1	1,2,3,4,5,6,7,8,9	1	I
2	1,2,3,4,5,6,7,8,9	2	2	
3	1,3,7	2,3,4,5,6,8,9	3	
4	1,3,4,7,8,9	2,4,5,6	4	
5	1,3,4,5,7,8,9	2,5,6	5	
6	1,3,4,5,6,7,8,9	2,6	6	
7	1,2	2,3,4,5,6,7,8,9	2	
8	1,3,7,8	2,4,5,6,8	8	
9	1,3,7,9	2,4,5,6,9	9	

The top-level barrier when identified is omitted from the reachability and the antecedent sets and the same process is repeated to dig out the next level barrier. Thus, the second level barrier would be risk factor number 7, "Iran's low attraction for investment" (Table 4).

The similar process is repeated until the level of the last barrier is identified. The level of each risk factors of the first phase of Strategic Alliance is presented in Table 6.

Finally, the model of the risks involved in the first phase of the Strategic Alliance is presented in Figure 2.

Table 5. Determining the level of each risk factor of the first phase of the Alliance

	Reachability Set	Antecedent Set	Intersection Set	Level
2	2,3,4,5,6,7,8,9	2	2	
3	3,7	2,3,4,5,6,8,9	3	
4	3,4,7,8,9	2,4,5,6	4	
5	3,4,5,7,8,9	2,5,6	5	
6	3,4,5,6,7,8,9	2,6	6	
7	2	2,3,4,5,6,7,8,9	2	II
8	3,7,8	2,4,5,6,8	8	
9	3,7,9	2,4,5,6,9	9	

Table 6. Determining the level of each risk factor of the first phase of the Alliance

	Reachability Set	Antecedent Set	Intersection Set	Level
1	1	1,2,3,4,5,6,7,8,9	1	I
2	1,2,3,4,5,6,7,8,9	2	2	VIII
3	1,3,7	2,3,4,5,6,8,9	3	III
4	1,3,4,7,8,9	2,4,5,6	4	V
5	1,3,4,5,7,8,9	2,5,6	5	VI
6	1,3,4,5,6,7,8,9	2,6	6	VII
7	1,2	2,3,4,5,6,7,8,9	2	II
8	1,3,7,8	2,4,5,6,8	8	IIII
9	1,3,7,9	2,4,5,6,9	9	IIII

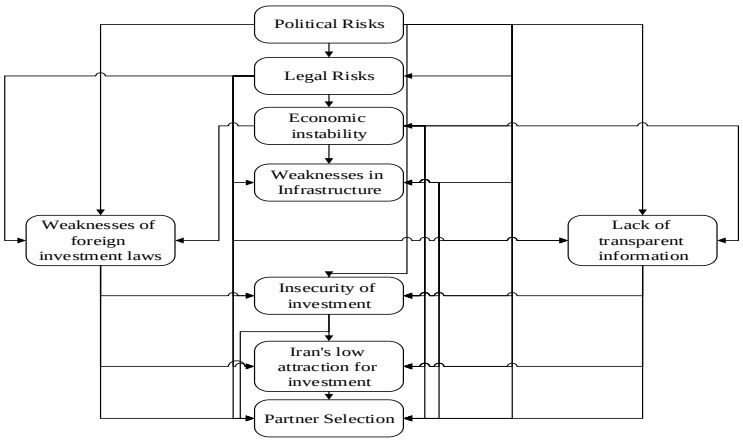

Fig. 2. A model of the risks of the first phase of the Alliance

Risks of phase 2: Operation

Table 7 demonstrates the reachability matrix for the risks of the second phase of Strategic Alliance in Iran home appliance industry.

The reachability set, antecedent set, intersection set and the determined level of each risk factor of the second phase is calculated and provided in Table 8.

Finally, the model of the risks involved in the second phase of the Strategic Alliance is presented in Figure 3.

Table 7. Reachability matrix for the risks of the second phase of Alliance

	Risk Factor	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Competitive risks	1	1	1	1	0	1	0	0	1	1	0	1	1
2	Opportunistic behaviors	1	1	1	1	0	1	0	0	1	1	0	1	1
3	Demand risks	1	1	1	1	0	1	0	0	1	1	0	1	1
4	Lack of adherence to commitments	1	1	1	1	0	1	0	0	1	1	0	1	1
5	Labor problems	1	1	1	1	1	1	0	0	1	1	0	1	1
6	Internal conflicts in Management	1	1	1	1	0	1	0	0	1	1	0	1	1
7	Political risks	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Legal risks	1	1	1	1	1	1	0	1	1	1	1	1	1
9	High finished cost	1	1	1	1	0	1	0	0	1	1	0	1	1
10	Poor supply infrastructure for raw materials	1	1	1	1	0	1	0	0	1	1	0	1	1
11	Economic problems	1	1	1	1	1	1	0	0	1	1	1	1	1
12	Low value of made-in-Iran brand	1	1	1	1	0	1	0	0	1	1	0	1	1
13	Loss of key capabilities	1	1	1	1	0	1	0	0	1	1	0	1	1

Table 8. Determining the level of each risk factor of the second phase of Alliance

	Reachability Set	Antecedent Set	Intersection Set	Level
1	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
2	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
3	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
4	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
5	1,2,3,4,5,6,9,10,12,13	5,7,8,11	5	II
6	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
7	1,2,3,4,5,6,7,8,9,10,11,12,13	7	7	V
8	1,2,3,4,5,6,7,8,9,10,11,12,13	7,8	7,8	IIII
9	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
10	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
11	1,2,3,4,5,6,7,8,9,10,11,12,13	7,8,11	7,8,11	III
12	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I
13	1,2,3,4,6,9,10,12,13	1,2,3,4,5,6,7,8,9,10,11,12,13	1,2,3,4,6,9,10,12,13	I

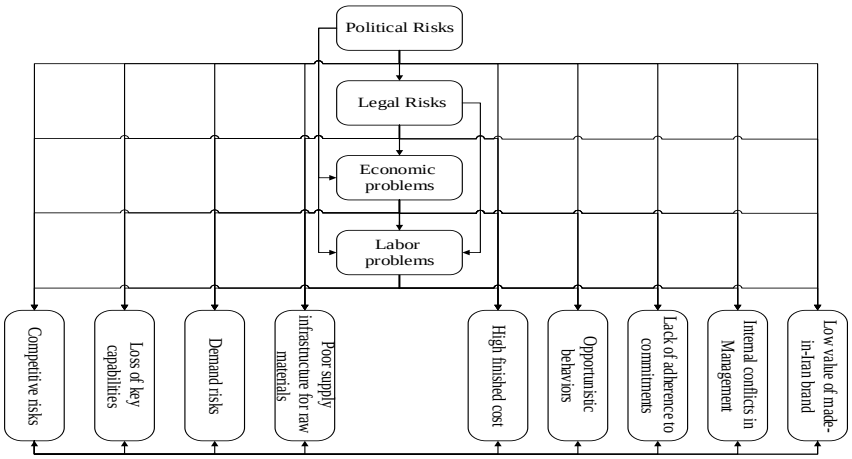

Fig. 3. A model of the risks of the second phase of the Alliance

Risks of the third phase: Evaluation and Termination

Likewise, Table 9 demonstrates the reachability matrix for the risks of the third phase of strategic alliance in Iran home appliance industry.

The reachability set, antecedent set, intersection set and the determined level of each risk factor in the third phase is calculated and provided in Table 10.

Finally, the model of the risks involved in the third phase of the Strategic Alliance is presented in Figure 4.

Table 9. Reachability matrix for the risks of the third phase of the Alliance

	Risk Factor	1	2	3	4	5	6
1	Issues in cashing out capital	1	0	0	0	0	1
2	The problem of capital outflow	0	1	0	0	0	0
3	Creating a new competitor	0	0	1	0	0	1
4	Legal weaknesses	1	1	1	1	1	1
5	Economic risks	1	1	0	0	1	1
6	Defining the share of partners	0	0	0	0	0	1

Table 10. Determining the level of each risk factor of the third phase of the Alliance

	Reachability Set	Antecedent Set	Intersection Set	Level
1	1,6	1,4,5	1	II
2	2	2,4,5	2	I
3	3,6	3,4	3	II
4	1,2,3,4,5,6	4	4	IV
5	1,2,5,6	4,5	5	III
6	6	1,3,4,5,6	6	I

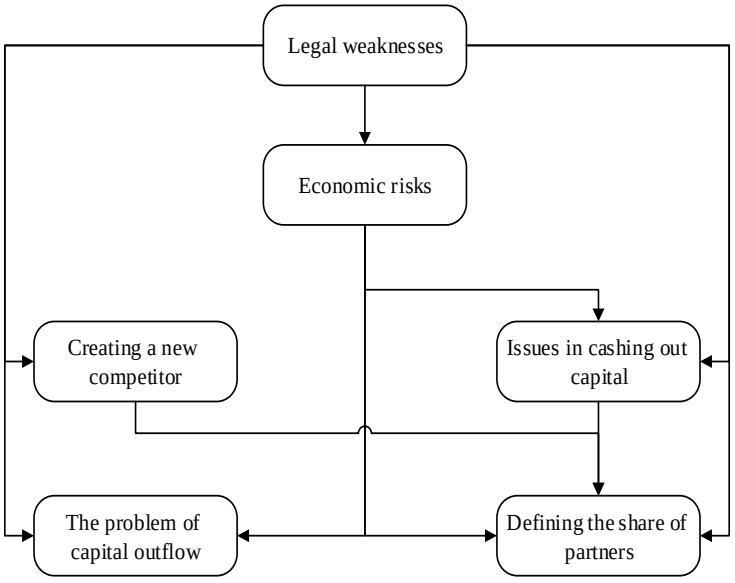

Fig. 4. A model of the risks of the third phase of the Alliance

Effect of the risks of each phase on each other

Table 11 demonstrates the reachability matrix for the risks of each phase of Strategic Alliance in Iran home appliance industry. Accordingly, the reachability set, antecedent set, intersection set and the determined level of each risk factor is calculated and provided in Table 12. All stages of the Strategic Alliance are at one level. So, the model of the risks of each phase of the Strategic Alliance is presented in Figure 5.

Table 11. Reachability matrix for the stages of the Alliance

	Risk Factors	1	2	3
1	Risks of the first phase of Alliance	1	1	1
2	Risks of the second phase of Alliance	1	1	1
3	Risks of the third phase of Alliance	1	1	1

Table 12. Determining the level of the stages of the Alliance

	Reachability Set	Antecedent Set	Intersection Set	Level
1	1,2,3	1,2,3	1,2,3	I
2	1,2,3	1,2,3	1,2,3	I
3	1,2,3	1,2,3	1,2,3	I

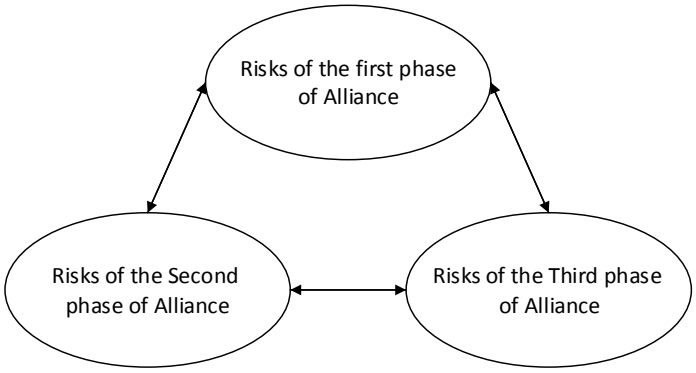

Fig. 5. A model of the stages of the Alliance

Final Model

By combining the four preceding models, the final and comprehensive model of the risks of Strategic Alliance in the home appliance industry is obtained from the perspective of foreign investors and presented in Figure 6.

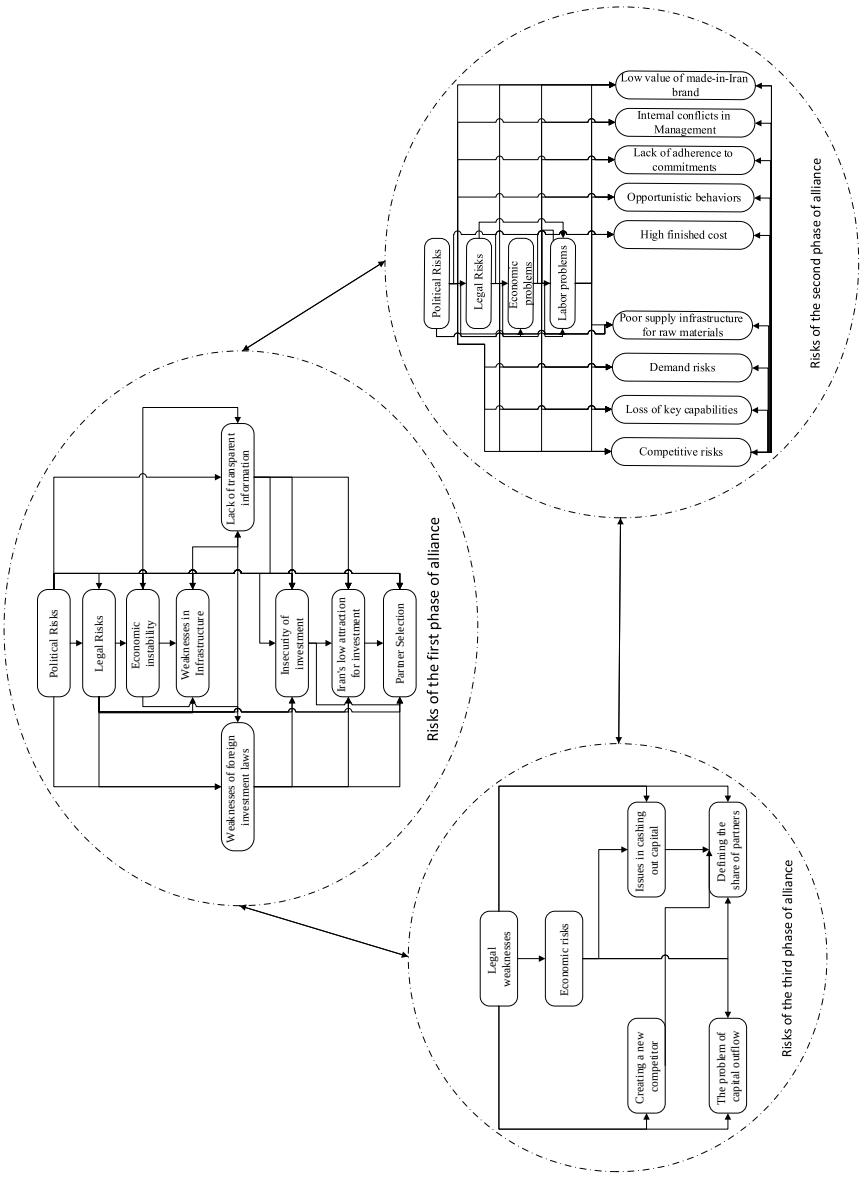

Fig. 6. The final model of the risks of Strategic Alliance in the home appliance industry

Summary and Conclusion

Attracting foreign investment is one of the main strategies for enhancing the economy of the country. In addition, having the impact on economic growth, foreign investment causes transferring practices and technology, as well as management and marketing science to the country. A common strategy for investing in foreign markets is the Strategic Alliance. Despite the high emphasis given by the Ministry of Industry, Mine and Trade of Iran to attract international home appliance companies to invest and produce in Iran, this has not yet been reached to a desirable level. So, the present study aimed to identify and model the risks of foreign investment in the form of a Strategic Alliance in the Iranian home appliance industry. To analyze the qualitative content in this study, deep interviews were conducted with 20 experts in the home appliance industry. Then the second factor CFA was used to confirm the significance of the relationship between indices and factors. Also, ISM was used to discover the relationships and create the model. A total of 28 factors were identified as foreign investment risks in the form of Strategic Alliance with the Iranian partner; these 28 factors were then classified into three stages of formation, operation, and termination of Strategic Alliance.

According to the results obtained from the first phase or the Strategic Alliance formation stage, the factor "partner selection" has the least effect and factors of "political risks", "legal risks" and "economic instability" have the most impact on other risk factors. Among the indicators of the "political risk" factor, the indicators of "Iran foreign political tensions", "returning sanctions and related consequences" and "Iran internal political tensions" are the most important perceived risks by foreign companies. Also, the indicators of "complex and non-transparent tax system", "instability of Iranian laws" and "lack of rules transparency" are the most important perceived risks among the indicators of the "legal risks" factor.

In the second phase or the Alliance operational phase, the factor of "low value of made-in-Iran brand", "internal conflicts in management", "lack of adherence to commitments", "opportunistic behavior", "high finished cost", "poor supply infrastructure for raw materials", "demand risks", "loss of key capabilities" and "competitive risks" are at the highest level with the least impact and factors of "political risks", "legal

risks" and "economic problems" are at the lowest levels and have the greatest impact on other risk factors. Also, "complexity of the laws of Iran", "very slow administrative and legal bureaucracy", "plurality of institutions and lack of unity of procedure", "uncertain conditions of the Iranian customs" and "unstable economy" are among the important indicators of these factors.

In the third phase or the Alliance termination phase, the factors of "the problem of capital outflow" and "defining the share of partners" are at the highest level and have the least effect and the factors of "legal risks" and "economic risks" are at the lowest levels and have the most effect on other factors. "Non-transparency of laws" and "unstable economy" are indicators of the high impact of these factors.

According to the results of the study, political, legal and economic risks are the biggest concerns of foreign companies for investment in Iran. Therefore, it is recommended that relevant officials seek to eliminate these concerns and provide the necessary guarantees to encourage foreign companies to invest in Iran. The most important expectations of foreign companies from the government to attract investors are to set a long-term plan to support foreign investment and provide unity and stability in laws. Also, in order to achieve a successful long-term and win-win alliance in the home appliance industry, it is recommended that government officials, managers of foreign investment companies, as well as directors of Iranian companies who wish to engage with foreign companies, think of the necessary measures to control and manage other identified and modeled risks according to the findings of the present study.

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