

Critical Success Factors in Strategic Alliances in Iran's Pharmaceutical Industry: A Qualitative Content Analysis Study

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Abstract

To overcome internal and external obstacles, including political crises, the Iranian pharmaceutical industry forms strategic collaborations. The high failure rate of strategic partnerships emphasizes the need to identify and evaluate success factors at different stages of the alliance lifecycle. Additionally, directed content analysis is used to assess the findings. In the formation phase, the most critical factors are partner selection and choice of the most important governance form, whereas in the operation phase, relational capital, coordination, conflict management, and selecting the appropriate alliance people are crucial. Evaluation of alliance performance should be undertaken throughout the duration of the alliance's existence.

Keywords: strategic alliances, partnerships, critical success factors, alliance lifecycle, cooperation, Iranian pharmaceutical companies, qualitative, content analysis

1. Introduction

Jenkins et al. (2015) say every organization has a purpose, vision, and aim. They may face internal and external hurdles to achieve their goal, maintain their competitive advantage, and improve their performance. Using SWOT, they can identify external and internal forces that may require solutions to sustain their mission and objectives. Businesses can use strategic partnerships to address these difficulties and achieve their aims. Strategic relationships help companies survive and compete in unpredictable markets (Bronder and Pritzl, 1998). They use it to develop their businesses by acquiring resources (Eisenhardt and Schoonhoven, 1996).

Diverse market conditions, such as Covid-19, and the difficulties of globalization of the market were among the factors that prompted companies to rely heavily on strategic alliances (Piroozi et al., 2021; Russo and Cesarani, 2017). Effective risk management, economies of scale, learning from partners, and cost-effective market entry are a few of the additional opportunities that strategic alliances present to businesses and which contribute to their growth and competitive advantage (Ireland et al., 2002; Kale and Singh, 2009; Arrigo, 2012).

Due to the high rate of failure in strategic alliances that previous research (Russo and Cesarani, 2017) revealed, Piroozi et al. (2021) suggest that there are a number of challenges that companies may face when employing this strategic instrument. Therefore, it is crucial for businesses to learn more about the critical success factors in strategic alliances and implement them effectively in order to achieve their initial goal of value creation and meet the challenges of a VUCA (volatile, uncertain, complex, ambiguous) environment.

Piroozi et al. (2021) say that pharmaceutical companies in Iran also use strategic alliances for different purposes either to gain value creation advantages and increase their competitive advantage, or to deal with consequences of new market conditions like occurrence of Covid-19 pandemic and political sanctions.

In light of the fact that companies are increasingly forming partnerships and their high failure rates, it is essential to identify the factors that can help businesses succeed. Numerous studies in this field have presented these variables in a disorganized fashion. The model presented by (Piroozi et al., 2021) analyzed the literature, identified and categorized the success factors of strategic alliances based on various theories, and will serve as the foundation for this study (Figure 1).

According to the protocol proposed by (Tranfield et al., 2003), there are three primary steps of literature review: I. Planning a review, II. Conducting a review, and III. Reporting and dissemination. Following these steps, a complete literature review was conducted.

A conceptual discussion of the research problem and a statement of the problem's significance were provided at the planning stage as to the aim of the research (Tranfield et al., 2003); thus, the scoping study at this stage provided a brief overview of management theoretical and practical history surrounding strategic alliances performance by considering its connection with some important management theories such as resource-based view and transaction cost theory. Utilizing an inductive approach, the existing literature was explored and conclusions were derived through a process of exploration, discovery, and development. The objective was to collect information that was most pertinent to the research, as opposed to merely summarizing it (Tranfield et al., 2003; Saunders et al., 2009; Patr io et al., 2021).

To conduct the review (Tranfield et al., 2003), keywords and search phrases derived from the scoping study and the literature were identified. To determine the success factors and to comprehend the relationships between the theoretical perspectives and the success factors in strategic alliances, the following keywords were searched: strategic alliances, cooperation, collaboration, partnership, success factor, failure factor, strategic alliance lifecycle, strategic theories, theoretical perspectives, resource-based view, network theory, dynamic capability, and alliance capability view. Several more papers that relate strategic alliances entirely to other fields of study were discovered, but they were not chosen because the purpose of the search is limited to strategic alliances performance, success criteria, and management theories. By focusing on scholarly, peer-reviewed journals and databases (such as Scopus, Elsevier, Emerald, Wiley, etc.) published in the last two decades, the output of this information was a list of articles with core contributions upon which the literature review was based (Tranfield et al., 2003; Patr io et al., 2021). To determine the study's quality, the value and relevance of the research were assessed (Patr io et al., 2021).

The selected publications were individually and thoroughly analyzed, and the pertinent information was extracted in order to answer the research problem, identify the relationship between management theories and strategic alliance performance, and classify the success factors. In the last stage of the literature review, the principal success factors in the three phases of strategic alliance formation, operation, and evaluation were identified and presented based on theoretical viewpoints (Figure 1).

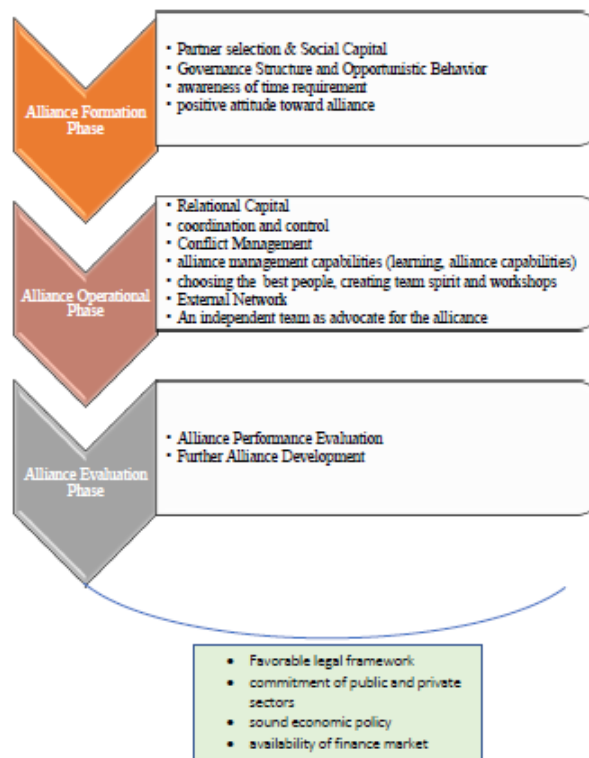


Figure 1. Strategic alliances lifecycle phases and the related critical success factors (Piroozi et al., 2021)

As this research uses a qualitative directed content analysis study with interviews, it uses literature-extracted components as coding categories for the content analysis. The outcomes of the examination can help Iranian pharmaceutical businesses establish a successful partnership and reach their aim.

To define a strategic alliance's performance success, its participants must review its progress and determine whether it achieved its initial aim, was profitable, and strengthened their competitive advantage (Lavie et al. 2012). Russo and Cesarani (2017) say a strategic alliance's performance can be examined from economic, strategic, operational, and relational perspectives.

1.1 Strategic Alliance Lifecycle and the Success Factors in Each Phase

While (Marxt and Link, 2002) categorized the lifecycle of strategic alliances into five stages (Initiation phase, Partner Selection developing profile, Designing the partnership, Implementation of the partnership, and Termination), (Piroozi et al., 2021) adopts the classification of (Russo and Cesarani, 2017), which consists of three main stages: Alliance formation phase, Alliance operational phase, and Alliance evaluation phase. According to these stages, (Piroozi et al., 2021) extracted from the literature the critical success factors that are essential in each phase.

1.1.1 Alliance Formation Phase

In the alliance formation phase, the company exhibits interest in strategic alliances, evaluates the reasons and benefits, chooses a partner, and agrees on collaboration governance (Russo & Cesarani, 2017).

Partner selection, social capital (previous experience), choosing the most appropriate governance structure for alliance management, preventing opportunistic behavior, time requirement awareness, and a positive alliance mindset are crucial at this point (Piroozi et al., 2021).

Partner Selection/fit: Finding the ideal partners entails matching "resources, goals, and strategies" (Das and Teng, 2003). Complementarity, congruence, and compatibility are important for partner fit. Complementary resources assist partners close gaps. Partner congruence occurs when partners' goals and objectives align (Russo and Cesarani, 2017). Partner compatibility is cultural and organizational fit (Child et al., 2005).

Social capital is defined as prior partner-specific experience and prior general partnering experience (Shakeri and Radfar, 2017)

Choice of the most appropriate governance: Alliance governance combines legal and social controls to coordinate and protect the alliance (de Man and Roijackers, 2009). (Kale, 2010) classifies alliance governance into equity ownership,

contractual provisions, and self-enforcing governance.

Williamson (1981) defines **opportunistic behavior** as "self-interest seeking with guile"; it means that partner is willing to pursue personal goals at the expense of the collective ones in the partnership (Russo and Cesarani, 2017).

1.1.2 Alliance Operational Phase

Second, the alliance is operationalized. Relational Capital (trust, commitment, communication, power sharing), Coordination, Control, Conflict Management, Alliance Capabilities, Learning, choosing the best people, creating team spirit and workshops, External Network, An independent team as an alliance advocate are factors to consider at this phase (Piroozi et al., 2021).

Relational Capital (trust, commitment, communication): (Mohr, 1994) defines trust as the belief that a party's word is reliable and that a party will fulfill its obligation in an exchange. If trading partners are willing to exert effort on behalf of the relationship, it is referred as commitment (Porter et al., 1974). Mutual commitment is a sense of duty toward the partner and relationship; A sense of loyalty and cooperation is created through mutual commitment (Muthusamy and White, 2005). As to (Mohr, 1994) communication captures the utility of the information exchanged, and communication behavior consists of three aspects: communication quality, extent of information sharing between partners, and participation in planning and goal setting.

Conflict management: Frank R. C. de Wit (2018) defines conflict management as dealing with (perceived) incompatibilities or disagreements, such as conflicting viewpoints, objectives, and needs. Effective conflict management approaches can limit or prevent harmful impacts of conflict while improving positive outcomes, without ending the issue (Frank R. C. de Wit, 2018). High partner interdependence causes many alliance conflicts (Russo and Cesarani, 2017).

Coordination is defined as a set of tasks that each partner expects the other to perform in order to reach the common objectives (Mohr, 1994).

Control: Control is a system of rules and methods that makes partners' conduct predictable and ties their activities to cooperative goals (Russo and Cesarani, 2017). Control is regulated and monitored for organizational purposes (Das and Teng, 2001).

Alliance capability is a difficult-to-achieve resource that can boost a firm's alliance performance. Learning processes capture higher-order resources. This learning process can boost a company's ability to undertake repeating patterns of activity, such as selecting partners, establishing partnerships, or reshaping personal and strategic alliance portfolios (Shakeri and Radfar, 2017).

Learning: Information and know-how are two types of knowledge (Shakeri and Radfar, 2017) that can be Learned from the alliance partner. Alliance learning helps a firm and its managers learn, stockpile, and exploit alliance management know-how. This process involves articulating, encrypting, sharing, and internalizing alliance management know-how (Shakeri and Radfar, 2017).

Best people for the job: Abraham and Cullen (1998) say the first step is to build each alliance's finest team. These people can be alliance members or outsiders. Their dedication, integration, motivation, skill, teamwork, and trust will define the alliance's success (Abrahams and Cullen, 1998).

Recruiting an independent team as advocate for the alliance: These teams perceive themselves as allies and impartial partners who protect the alliance. Managers of these teams aren't obligated to provide detailed reports on their activities or the alliance's performance. This permits management to decide what's best for the partnership (Kupp et al., 2017).

Secure a large and committed external network: As to (Kupp et al., 2017), the need for experience and domain knowledge about the various aspects of setting up and growing a business is vital. By definition, a business cannot cover all domain expertise they require from day one and very often not even after a few years. Providing an easy and frictionless access to this expertise is, therefore, a key asset for a successful business that can be provided through external networks.

1.1.3 Alliance Evaluation Phase

The final phase is alliance evaluation, where it matures and reaches its potential benefits, and companies review and decide on its future (Piroozi et al., 2021; Russo and Cesarani, 2017).

Last step of alliance lifecycle requires performance evaluation and further alliance development (Piroozi et al., 2021).

Alliance performance evaluation: Alliance performance evaluation shows the progress during the alliance lifecycle. Partners understand if an alliance requires adaptations or termination by doing performance evaluation (Tjemkes et al., 2013). An integrated performance evaluation approach, composed by metrics that assess all the multiple aspects of strategic alliances performance has to be developed by partners (Tjemkes et al., 2013).

Further alliance development: Further alliance development manifests how the alliance develops over time; it includes several evolution choices which can lead to re-organization or termination. The options of further alliance development are natural end, extension, premature termination, changes in the alliance structure and takeover of one partner by the other (Tjemkes et al., 2013).

Besides, this research, considers the two market effects of Legislation & Sanctions and also the Covid-19 Pandemic. Favorable legal framework, Sound economic policy, Availability of finance market, Political support, Government involvement by providing guarantee and Social support are the factors that were considered to evaluate the success of strategic alliances (Piroozi et al., 2021).

1.1.4 Favorable Legal Framework, Political Support, Sound Economic Policy

An enabling regulatory, legal and political environment is the cornerstone of a successful alliance (Li et al., 2005). The legal framework includes legislation relating to planning and the environment, employment, health and safety, corporate and commercial law, construction, finance and insurance (Payne, 1997). Politics has a close relationship with the development and implementation of public policy (Li et al., 2005). A stable macro-economic environment means the market exhibits reasonable certainty and market risk is correspondingly low. The government can help to create and maintain a stable environment by manipulating economic policy levers to ensure stable prices and by maintaining a balanced budget. Good macro-economic policy affects the credibility of a price regimen and trust in the convertibility of the currency, which is essential for foreign investors (Dailami and Klein, 1997).

The pharmaceutical market in Iran is growing rapidly and still expanding in comparison to other developing countries (Shakeri & Radfar, 2017). This industry, like many industries, has faced many challenges, both internal and external. As mentioned earlier, strategic collaborations are one of the means that pharmaceutical companies in Iran use to deal with these challenges. As a case in point, R&D production as an upstream capability and commercialization know-how as a downstream capability join together in strategic alliances to add value and combine the assets in partnerships in pharmaceutical companies (Welter et al., 2013; Kim, 2011). Considering the importance of this industry as well as strategic cooperation, it is very crucial to examine the success factors and the degree of their importance and impact on the success of strategic cooperation in this industry.

On the other hand, by examining literature in the field of strategic alliances, even though this issue has been studied widely and many articles have addressed the factors that are effective in the success of cooperation, the applicability of these factors in practice, especially which have been fully classified in (Piroozi et al., 2021) during the alliance life-cycle, have not been investigated in the pharmaceutical industry.

By conducting an empirical qualitative study, this research deals with the effect of these factors identified in the literature on the success rate of strategic collaborations in one of the important industries and examines their applicability in practice.

In addition, managers of strategic collaborations and pharmaceutical companies and even other industries can manage their collaborations with other companies more effectively and achieve their goals using the results obtained from this research.

The results of this research will contribute to previous empirical studies that have investigated strategic cooperation and how to achieve success in this strategic tool.

2. Methodology

Directed qualitative content analysis was used to determine which of the literature's key success factors in strategic alliances are essential in pharmaceutical sector partnerships in Iran.

Seven classic steps are the similar analytical process to qualitative content analysis including formulating the research questions, sample selection, defining the categories to be applied, outlining the coding process and implementing it, determining the trustworthiness and finally analyzing the results of the coding process (Hsieh & Shannon, 2005; Kaid, 1989)

To make sense of the occurrences and interpret them in terms of the semantics offered by people in their natural positions, a qualitative approach (Elo and Kyngas, 2008) and purposive sampling were applied. Thus, individuals with a wealth of experience in strategic alliances and the willingness to articulate them were selected (Polit and Beck, 2006). Following maximum variation sampling,

Qualitative data was gathered from 17 in-depth interviews with Iranian pharmaceutical firm managers. Convenience sampling was used to collect samples with maximum variance from pharmaceutical value chain companies. This study attempted to acquire as much information about this phenomena by selecting interviewees based on these criteria:

- Academics and businesspeople.
- Individuals with strategic alliance experience.
- Individuals with a variety of responsibilities in the pharmaceutical industry, ranging from manufacturers to distributors, both public and private.

After outlining the research aims and getting consent, an interview was planned.

The interviewees consist of four CEOs of private manufacturing companies, three CEOs of private importing companies, one supply chain manager of a public holding with 24 subsidiary companies (16 manufacturing companies, 4 distribution companies, and 4 trading companies), one regional manager of a private company; one supply chain manager of a subsidiary of a governmental holding, one market access and health policy manager of an international company, two supply chain managers of private manufacturing companies, one business development manager of a private company; one CEO of a Knowledge-based startup who is an academic member of an accredited pharmacy school in Iran, one CEO of a private distribution company, and one manager of a private pharmacy (Table 1).

Table 1. Summary of interviewees and their roles

No. of Interviewees	Roles	Company type
4	CEO	Private Manufacturing company
3	CEO	Private importing company
1	Supply Chain Manager	Public holding with 24 subsidiaries companies (16 manufacturing companies, 4 distribution companies, and 4 trading companies)
1	Regional manager	Private manufacturing, exporting company
1	Supply chain manager	Subsidiary of a governmental holding
1	Market access and health policy manager	International company
2	Supply chain manager	Private manufacturing company
1	Business development manager	Private manufacturing company
1	CEO, Academic Member	Knowledge-based startup, Tehran University (Pharmacy school)
1	CEO	Private distribution company
1	Manager	Private pharmacy

This study utilized directed content analysis, a more structured method than the conventional method (Hickey & Kipping, 1996). As described in the literature review, using existing theories, the transaction cost theory, the resource-based view, the knowledge-based view, as well as previous research, the key concepts and factors were identified and categorized, and these categories served as the coding categories (Potter & Levine-Donnerstein, 1999). Table 2 provides an overview.

Table 2. The factors (codes) extracted from literature

Alliance Life Cycle	Codes (Factors)	Sub-codes
Alliance Formation Phase	<ol style="list-style-type: none"> 1. Partner Selection/fit 2. Social capital 3. Choice of the most appropriate governance 4. opportunistic behavior 5. awareness of time requirement 6. positive attitude toward alliances 	<ol style="list-style-type: none"> 1. aligned goal; required resources 2. prior experience 3. contract type; terms of alliance 4. self-interest; personal goal
Alliance Operational Phase	<ol style="list-style-type: none"> 1. Trust 2. Commitment 3. Communication 4. Conflict management 5. Coordination 6. Control 7. Alliance Capability 8. Learning 9. Best people for the job 10. An independent team as advocate 	<ol style="list-style-type: none"> 1. Reliable 2. Sense of duty; sense of loyalty and cooperation 3. Information exchange; planning; goal setting 4. Dealing with incompatibilities, disarrangements 5. Perform the tasks 6. Process of regulation and monitoring; rules to bond

	11. External network	partners actions to cooperation 7. A resource which improves the alliance performance 8. Information; know-how 9. Team; member; teamwork 10. Observer
Alliance Evaluation Phase	<ol style="list-style-type: none"> 1. Alliance performance evaluation 2. Further alliance development 	<ol style="list-style-type: none"> 1. Progress of alliance; metrics to assess 2. Extension; termination; end; changes in the alliance structure
External factors	<ol style="list-style-type: none"> 1. Favorable Legal Framework 2. Political Support 3. Sound Economic Policy 4. Covid-19 pandemic 	

Open-ended questions were used to allow interviewees to express their perspectives freely, on their own terms, and at their convenience, and to acquire as much information as possible from each interview. First-interview questions were examined.

- Considering the introduction's description of alliance performance, respondents were asked if a strategic alliance is successful (local or international alliances).
- After a brief overview of the topic and strategic alliance stages, they were invited to identify essential success criteria in this alliance or in their strategic alliances in general.
- Which criteria are most and least essential, and if any others should be addressed.

The open-ended questions were followed by targeted questions about literature-based success factors and supplementary questions based on participant responses. For more accurate data, other controls were utilized.

- Specify strategic alliance type.
- Local/international cooperation

Interviews lasted 30-60 minutes.

Regarding the number of interviews for qualitative study (Chang, 2018), Eisenhardt (1989) stated that cases should be added until "theoretical saturation" is reached; he stated that four to ten cases are sufficient for any qualitative research to generate theory. Lincoln and Guba (1985) reached a similar conclusion regarding sampling selection "to the point of redundancy." Due to the high cost of qualitative interviews, Hedges (1985) suggested a maximum of 12 cases, whereas Perry (1998) proposed a range from two to four cases as the minimum to fifteen cases as the maximum.

Interviews were done until interviewees added repeated material and no fresh opinions or information could be gathered where saturation point reached. This study had 17 interviews.

The processes of data collection and analysis occurred simultaneously. The data analysis assisted in determining which of the success factors identified in the literature are important in Iranian pharmaceutical strategic alliances. The interviews were conducted through the "ZOOM" platform, recorded, and subsequently transcribed. Multiple times, interviews were listened to and transcripts are reviewed and edited. As the participants used their own words to describe the significant success factors, the data were immediately analyzed and coded in accordance with the meaning of each factor and the predetermined codes (factors). Uncodeable data were identified and subsequently analyzed to determine whether they represent a new category or a subcategory of an existing factor (Hsieh & Shannon, 2005).

The research endeavored to ensure the consistency and credibility of the data by reviewing the interviews multiple times and utilizing directed content analysis to link the qualitative study with the literature.

This research was guided by a number of ethical considerations, including the participants' oral consent to participate in the study and be recorded during the interviews, their freedom to leave the study or withdraw their recordings, and the preservation of their anonymity.

3. Results and Discussion

The key findings from each phase of the alliance lifecycle are presented and discussed.

3.1 Alliance Formation Phase

According to the interviews, at this stage it is of the utmost importance to choose the right partner, followed by the most suitable governance structure. Important to the success of an alliance is the selection of partners with desirable resource and goal matches. In addition, both partner compatibility and appropriate governance structure inhibit opportunistic behavior significantly, facilitating conflict management and fostering a relationship that is stronger in terms of commitment, trust, and communication.

Supposedly, an equity ownership partnership protects the interests of both partners in terms of value creation and resources such as branding. Past experience can benefit in conflict management and creating alliance trust, but it is not necessary, and taking the time to identify the right partner can affect the entire alliance even without prior experience. Moreover, it can facilitate future conflict management.

The restrictions imposed by political sanctions expose international partnerships to a high risk of opportunistic behavior, as foreign companies do not always enter into formal agreements with Iranian companies or the terms of contractual agreements with these companies are biased and unilateral, allowing them to terminate the contract at any time. In another point of view, it was mentioned that international businesses are more committed to strategic connections and their responsibilities, and they do not engage in opportunistic behavior. Companies must create contract terms in accordance with international relations; as a result, they can retain some valuable resources, such as knowledge and intellectual property rights, in their international relationships, although this is not possible with local businesses. In the appendix, Table 3 summarizes the most significant highlights.

3.2 Alliance Operational Phase

As evidenced by the outcomes, developing relationship capital traits such as trust and commitment is vital to obtaining the desired outcome when the partnership is applied. In this regard, the members of the cooperation team who manage the strategic alliance, the method in which they communicate, their conflict management strategies, and even their personality have a considerable effect on the desired outcomes of each alliance. Consequently, it is essential to choose the right individuals for the alliance.

Conflict is a natural and unavoidable challenge in every relationship. Even some disagreements are caused by cultural differences and communication preferences. The alliance's effectiveness is contingent on the development of conflict management techniques. Communication is one of the most important tools in this field. In addition, workflow coordination is a crucial feature that contributes to the alliance's smooth operation by avoiding conflicts and making their management easier. Therefore, it is essential that all of the work's particulars are clearly expressed and that all parties are aware of their respective roles, responsibilities, the work's particulars, and the expected conclusion.

Having power and influence over an alliance through the terms of a contract or other ways binds partners to the alliance, but the creation of relational capital has a greater impact on the outcomes. Some companies may choose to have an external advocate observe the alliance procedure, which could have a positive impact; nevertheless, this is not a common practice among Iranian pharmaceutical companies. If they have access to an external network, Iranian pharmaceutical companies may benefit from opportunities such as worldwide market access.

Valuable capabilities that should be protected include the ability to learn from each alliance experience and enhance alliance capabilities. Keeping the human resources engaged in each partnership, as well as the acquired knowledge and experience, is one of the methods organizations utilize to maintain this capability. Some businesses may include knowledge and experience in future-applicable contract provisions. Although uncommon, some companies may preserve their experience by creating comprehensive documentation of the lessons they have learnt. Table 4 (appendix) provides main citations from interviews.

3.3 Alliance Evaluation Phase

Now, the entire strategic alliance is evaluated. Throughout the duration of a collaboration, both parties often examine the workflow and results. They may utilize a check list to assess if the alliance complies with the conditions of the contract and the initial goal and objective. On the basis of their evaluation, they choose the future evolution of the

alliance; they may choose to continue, modify the terms of the contract or the plan, convert to a different type of alliance, or even dissolve the alliance and seek a new partner. Therefore, it is necessary that both partners and the associated team observe and assess the entire alliance. Relevant data are presented in Table 5. (appendix)

3.4 Results of Certain External Factors

Political conditions have had a profound effect on the pharmaceutical business in Iran. Political and economic sanctions imposed on the country affected strategic alliances in a number of ways, including partner selection and a lack of adherence to contract conditions and timetables. On occasion, though, political conditions have generated opportunities for local enterprises; due to the lack of information and technology induced by sanctions, local knowledge and technology are of great value. Additionally, Iran's strong links with Russia boosted the willingness of Russian pharmaceutical companies to engage with Iranian firms.

In Iran's bureaucratic legal system, lengthy and time-consuming procedures have badly impacted both domestic and foreign partnerships. Sometimes, Western pharmaceutical corporations are unwilling to partner with their Iranian counterparts due to this bureaucratic environment. Concerning local partnerships, the legal framework imposes a variety of barriers on the alliances method, ranging from the necessity for unnecessary licenses to the existence of divergent individual and governmental interests, which encourages opportunism. In addition, even when the terms of the agreement are clearly specified, it is difficult to protect intellectual property rights in Iran due to the country's extensive bureaucracy and complex legal system, which make its implementation hard.

The Covid-19 pandemic is yet another external market circumstance that has affected the strategic partnerships of Iranian pharmaceutical companies. Despite technological improvements that improved workplace communication, this epidemic had a negative impact on strategic partnerships. For example, the majority of companies were forced to reduce their workforces, resulting in considerable delays in alliance procedures. Other alliances were disbanded because the basic reason for their formation ceased to exist, such as those created to produce a certain type of antibiotic (Table 6; appendix).

4. Conclusion

Numerous pharmaceutical companies in Iran utilize strategic partnerships for a variety of reasons, such as getting access to key resources, strengthening their competitive advantage, and overcoming the hurdles of new market conditions, such as governmental sanctions and pandemic outbreaks. There are countless strategic alliances, but not all of them are effective.

Diverse theoretical perspectives try to characterize this topic and its success factors as a strategic instrument. This study applied the model presented by (Piroozi et al., 2021) to investigate the key success factors in strategic alliances in Iranian pharmaceutical companies. The preceding model classified the essential success factors within the lifespan of a partnership. According to this qualitative study, the most significant success factors for strategic alliances in Iranian pharmaceutical companies are Partner selection, Choice of the most important governance form, Relational Capital (especially communication, which can aid in conflict management), Coordination, Conflict management, Choosing the right people for the alliance, and Alliance performance evaluation. There were also a variety of difficulties and causes for failure, such as opportunistic behaviors, bureaucracy and the legal system, political hurdles, especially in international alliances, and economic factors.

Although Covid-19 provided some departments with opportunities for technological breakthroughs and workplace collaboration, it had a negative influence on strategic partnerships overall.

The findings of this qualitative empirical research provide a clear view of the impact of factors affecting the success of strategic alliances that have been introduced in the literature. In other words, this research shows how in practice these factors are effective on the success rate of partnerships. The breadth and comprehensiveness of the factors that have been classified in this research provides a deeper understanding of the affect of these factors and also their use in the management of strategic cooperations.

Strategic alliance managers can achieve their goals in their partnerships more effectively by using the results of this research. For example, these results showed them that in the first stage, spending enough time and comprehensive review to select a strategic partner will be effective on the entire partnership process and its success, although the choice of the alliance governance is equally important at this stage. In the implementation stage, conflict is unavoidable, so choosing the right people who can solve these conflicts using the relational capital and communication techniques and strategies will be very fruitful for the results of cooperation. And in the end, having a suitable mechanism that monitors and checks the performance of the alliance at all stages will help to achieve the desired result.

The results provide a richer understanding of the factors that affected the performance of strategic alliances in pharmaceutical industry. The findings support the results of other empirical studies on strategic alliances, their performance and the factors affect them (Shakeri & Radfar, 2017; Zamir et al., 2014; Lavie et al., 2012; Dadfar et al., 2014; Gonçalves & da Conceição, 2008; Jefferies et al., 2014; Wibowo and Alfen, 2014; Walker and Jacobsson, 2014; Babatunde et al., 2012).

This research is limited by the lack of distinction between different forms of strategic alliances. This limitation can serve as a guideline for future research that examines the key significant aspects in a certain sort of strategic cooperation among Iranian pharmaceutical companies. In addition, an organization's portfolio of partnerships might be evaluated rather than a single alliance. In addition, the position of firms along the value chain and the strategic alliances between them (further upstream or further downstream of the value chain) may influence the performance of strategic alliances; therefore, future research should focus on this issue, which was not considered in this study.

Conflicts of Interests

None.

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Appendix

Table 3. Alliance formation phase, the critical success factors and the related citations

Main Factor	citations from interviews	Other Factors
	Consider the partner's resources and qualities when forming an alliance.	
	Evaluating the partner's ethical frameworks, culture, and ethical norms might affect trust and commitment in the relationship.	Relational capital (trust, commitment)
	By doing a SWOT analysis and assessing each company's needs, headquarters tries to find the perfect partner to help each organization achieve its strategy, resource, and other goals. One business in Iran has the requisite manufacturing line, whereas Roche offers the required product portfolio.	
	To create a successful alliance, you must have a common vision, know your partner through and out, and have clear goals.	
	Along the supply chain, businesses select and enter partnerships based on the resources each side needs to succeed, such as formulation knowledge, drug analysis, or machine production based on our requirements.	
	Before choosing a partner, we evaluate their resources, service, trustworthiness, skills, pricing, speed of service, etc. This helps us identify the ideal partner for	

	quick, affordable service.	
	Finding the ideal partner takes time. It prevents complications and ensures seamless functioning.	Conflict management
Partner Selection/Fit	Working with private corporations causes less complications, but it's crucial to find a trustworthy, competent, and committed partner. You want to prevent your partner from stealing your product-making knowledge.	Prevention of opportunistic behaviors, Relational Capital (Trust, commitment, communication)
	We begin with a contract. Both parties assessed the collaboration and found it didn't assist them attain their aims. They modified the partnership's structure from contracts to ownership shares.	
	By transitioning to equity ownership, opportunistic behavior stopped, problems were managed effectively, and a strong, long-term partnership was created.	conflict management, prevention of opportunistic behaviors
	In an alliance, a lot of intangible value is created, such as brand ownership, knowledge, and experience. By having equity ownership, all interests, values created, and goals attained are for both parties.	
	A strategic alliance can be formed without a formal contract through an informal encounter between two CEOs at an international conference.	Relational Capital
Choice of the most appropriate governance form	Contract type is necessary to reduce opportunistic behavior caused by sanctions. We can tell a partner's seriousness by the contract. Having alliance power is crucial.	opportunistic behaviors, trust, commitment, power sharing, control, political factors
	Startup enterprises may need different contracts and outsource most of their processes, including commercial, marketing, customs clearing, manufacturing, etc. Startup contracts are diverse.	
	In the contract, all the details of the service we require, the time, the cost, and the procedure of work, details of both sides tasks and evaluation of collaboration are written in full; thus, both sides know exactly what the other side wants from this cooperation, reducing conflicts.	Coordination, Conflict management
	The most important thing is to clarify the contract terms from the start, including the service you need, the procedures, the plan, and how to address disagreements.	Coordination, Control, Conflict management
	Due to sanctions-induced trade limits, foreign partners negotiate one-way contracts that give them the right to terminate if there is a risk, or the type of agreement is not well-structured, giving them the flexibility to depart whenever they want, increasing the risk of opportunistic behavior.	choice of the most appropriate governance form for alliance management, trust, commitment, political factors due to sanctions
Opportunistic Behavior	Foreign corporations are more responsive than domestic companies if the contract terms are based on international ties. And protecting propriety is easier.	choice of the most appropriate governance form, partner selection, commitment

Table 3 provides an overview of the citations for the following success factors: Partner fit/selection, choice of the most appropriate governance form, opportunistic behavior.

Table 4. Alliance formation phase, the critical success factors and the related citations

Main Factor	citations from interviews	Other Factors
Relational Capital (trust, commitment, communication)	Trust, commitment, team spirit, and team working process are vital for accomplishing goals. Even under equity ownership, obligations should be outlined.	coordination, control, choosing the right people for the alliance team, creation of team spirit
	Due to language, time, and legal constraints like hijab, misunderstandings and improper communications can cause disputes, so conflict management is crucial.	conflict management, social factors
Communication	We strive to resolve conflicts by communication, but contracts outline legal actions.	conflict management, choice of the most appropriate governance form
	When you contract with government firms, information is wasted, the companies are unresponsive, their time and capacity aren't appropriate for the contract, and production and decision-making are difficult owing to their resources, which give them more authority.	opportunistic behaviors, power sharing
commitment, trust	When you contract with government firms, information is wasted, the companies are unresponsive, their time and capacity aren't appropriate for the contract, and production and decision-making are difficult owing to their resources, which give them more authority.	opportunistic behaviors, power sharing
commitment, communication	We don't have equal authority in contracts with government enterprises; the part with the manufacturing line has greater power. Problems can be solved through discussion rather than contract terms and legal action.	power sharing
Trust; Relational Capital	Private enterprises are more trustworthy and cooperative than state ones.	
Commitment	International companies are more responsible, making working with them easier. The FDA's bureaucratic procedure and regulatory limits, especially during covid-19, prevent them from inspecting the manufacturing line.	legal restrictions
Coordination	Each partner's competencies should be stated, categorised, and the corresponding tasks and duties should be separated completely.	Control
	Clear Business plan and project management is very important.	
Power Sharing	After financial issues and other problems are resolved, alliance members should define and bold their role, which is not crucial and is resolvable.	
Alliance capabilities, Learning	The company that has the resources has more power.	
	Challenges are easier with partner experience. The new alliance method can benefit. Previous partner experience discourages opportunism.	previous experience, prevention of opportunistic behaviors, conflict management
	Previous alliance experience and know-how can be utilised in future alliances, however they don't have a mechanism to maintain the information and experience. Keeping team members allows the organization to employ and preserve alliance experience and process. Keeping alliance experience requires assigning and training a team.	Creating team
	Some firms have a basic system for documenting the information and experience obtained in strategic projects, but it's not well developed.	
	We try to document the clauses of contracts to use them in future but they	

	may change over time.	
	Documentation of experience is good but not common and somehow difficult to do.	
Best people for alliance, Creation of team spirit	In contractual type, they couldn't achieve a positive team spirit since each party was focused about its own interests, keeping the work and procedure to itself, and worrying about the other side's opportunistic behavior.	conflict management, Prevention of opportunistic behaviors in sharing the knowledge and experience, etc.
	Choosing the correct alliance members is crucial.	
	The team must have a clear understanding of the project, select qualified project managers, and specify task coordination.	Coordination
	The cooperative team and choosing the correct people, including their personalities, might affect success.	
	We can't control external forces, so we adapt by using the terms I mentioned and appointing a good team and project manager to observe, follow, and evaluate overall cooperation.	
External independent observing team	Some alliances use a third-party project supervisor, which is useful but rare.	
	An external team to observe cooperation is rare.	
Secure a large and committed external network	We exported to Latin America via external networks.	

Table 4 summarizes the quotations for Relational capital (trust, commitment, communication), coordination, control, power sharing, alliance capability, learning, best people for alliance, independent observing team, external network.

Table 5. Alliance formation phase, the critical success factors and the related quotes

Main Factor	citations from interviews	Other Factors
Alliance performance evaluation, further alliance development	Both start with contractual agreements, but evaluations demonstrate they don't meet initial intentions. They switched from contractual to equity ownership.	
Alliance performance evaluation	They're creating a business plan to analyze future success.	
Alliance Performance Evaluation, Further Alliance Development	We strive to review contracts and work procedures using a checklist, however due to legal and political constraints in Iran, work doesn't always go as planned.	Legal and political restrictions
Further Alliance Development	We may change the partner, the contract, etc. based on our evaluation.	
Alliance Performance Evaluation, Further Alliance Development	During the cooperation, the assigned team routinely evaluates it, and the contract terms may alter when we renew them.	

Alliance performance evaluation, further alliance evaluation citations are provided in Table 5.

Table 6. External forces and their effect on alliance performance

Main Factor	Citations from Interviews	Other Factors
Political effects	During Sanctions, local technical knowledge, resources and values will be of great importance. If no sanction, international companies to enter Iran market would need local companies for there will be opportunities for local companies to make international alliances.	
Favorable legal framework	Legal frameworks include formalizing the contract, certifying all components, and forming a jury. Rules allow co-branding.	
Political support (factors)	Not all governmental actions negatively affect strategic alliances; due to good relations with Russia, Iranian pharmaceutical industries can collaborate with them.	
Political, legal factors	Iran doesn't have international intellectual property rights, therefore foreign partners fear opportunistic behavior.	opportunistic behaviors
Legal factors (PESTELE)	Bureaucracy has increased in Iran and had negative effect.	
Economic factors (PESTELE)	7-8 different exchange rate is defined in Iran and has negative effect. Even the GDP is not clear.	
Environmental factors (PESTEL)	Some foreign partners care about Iran's poor environmental policy.	
Political factor (PESTELE)	The government wants to keep Iran's pharmaceutical industry local and not expand the market.	
Economic effects, political factors	Currency exchange affects firm capabilities, commitment, and timing. Sanctions can be economic, time-based, or affect collaboration.	commitment
Political restrictions	Sanctions may force us to prefer Chinese and Russian enterprises over European, affecting quality and foundation.	Partner selection
Legal and economic situation	Iran has one of the greatest investment development laws in the world, but the bureaucracy and inflation hurt it..	
Legal restrictions	As most of our contracts are with government entities, the process is much more difficult.	
Legal barriers	Contract start, bureaucratic procedures, and people's (particularly government's) varied interests are all challenging and time-consuming.	opportunistic behaviors
Legal restrictions	Both legislative administration and the company we wish to deal with are troublesome in this contract.	partner selection
legal restrictions	Administrative procedures can be more successful than partner resources in this type of contract. Sometimes we have to start a new production line due to that, wasting country resources.	Partner selection
Legislative problems	We strive to protect our property rights through contract clauses, but most lack an executive assurance, so we can't follow them.	choice of the most appropriate governance form
Covid-19	Covid-19 harmed business but not partnerships. Markets and societal demands altered, but not alliance performance.	Coordination

Pandemic effect	Pandemic both helped and hurt. It helped remote work and communication.	Coordination, working environment
	Covid-19 epidemic also affected several strategic alliances, including as antibiotic manufacture, as their consumption fell.	
	Most Indian enterprises that work with Iran were closed during Covid-19, slowing down work.	Coordination
	Technology improvements have enhanced several job practices.	Coordination, Technology effect
	Covid-19 slowed down remote working, which was challenging because in our manufacturing (manufacturing line, R&D, laboratory) activity, personnel are needed. Digitalization streamlined administrative parts.	Coordination, Technology effect
	Covid-19 has complicated dealing with overseas corporations, but in general it's easier.	

Favorable Legal Framework, Sound Economic Policy, Political support, Social factors, Environmental factors, and Technological factors are presented in Table 6.

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