

The Promoting Effect of Strategic Alliance on Enterprise Internationalization: Case Analysis and Empirical Study

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ABSTRACT: This study discusses how strategic alliances can promote the internationalization of enterprises, focusing on their role in market entry, resource integration and competitive advantage promotion. Enterprises face many challenges in the process of globalization, including barriers to market entry, restrictions on technology access and the difficulty of supply chain coordination. As an important internationalization strategy, strategic alliance can help enterprises break through these obstacles and realize the optimal allocation of resources and improve their competitiveness.

This paper selects the strategic cooperation between Huawei and Vodafone as a typical case to analyze in-depth its cooperation results in technology research and development, market expansion and supply chain synergy. Huawei As the world's leading communications technology company, the cooperation with European telecom giant Vodafone covers 5G network construction, application promotion of the Internet of Things (IoT), and cloud computing service optimization. The alliance has not only boosted Huawei's deep presence in the European market, but also boosted Vodafone's innovation and competitiveness in emerging technologies. Case study shows that the strategic alliance plays a key role in the process of promoting the internationalization of enterprises, and can effectively reduce the market entry barriers, accelerate the integration of enterprise resources, and enhance the competitive advantage in the international market.

In addition, based on the theory of enterprise internationalization, this paper conducts regression analysis and structural equation model (SEM) test on the data of 200 international enterprises, which further verifies the role of strategic alliance in promoting the internationalization performance of enterprises. The research results show that: (1) strategic alliance can significantly improve the overseas market share and international income growth rate; (2) technical cooperation and supply chain collaboration play an intermediary role between alliance and internationalization performance; (3) the intensity of market competition can regulate the relationship between strategic alliance and internationalization performance, that is, the greater the competition, the more obvious the strategic alliance promotes internationalization.

This study not only enriches the theoretical system of enterprise internationalization, but also provides practical guidance for the strategic layout of enterprises in the global market. At the same time, the research results also have some enlightenment for the government policy formulation, and it is suggested that policy makers provide support for enterprises to establish transnational strategic alliances, and promote scientific and technological cooperation and market opening.

KEYWORDS: strategic alliance; enterprise internationalization; technical cooperation; case analysis; Huawei; Vodafone

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1. FOREWORD

Under the background of increasing integration of global economy, enterprise internationalization has become an important strategic choice for many enterprises to achieve sustainable growth. Internationalization of enterprises not only helps to expand the market and spread risks, but also can obtain new opportunities and resources to improve competitiveness. However, the process of internationalization often faces many challenges, including cultural differences, complex laws and regulations, market access barriers and so on. Therefore, it is crucial to find an effective internationalization path for enterprises. As a cooperative paradigm, strategic alliance is more and more adopted by enterprises to promote its internationalization process. In strategic alliances, two or more enterprises share resources and collaborate in order to achieve common strategic goals. This form of cooperation can help companies enter new markets more effectively, reduce risk, and take advantage of the superior resources of their partners. Studies have shown that strategic alliances can not only help enterprises to quickly adapt to the new market environment, but also can gain a competitive advantage in the new market. This paper aims to explore the role of strategic alliance in promoting the internationalization of enterprises, and focus on its functions in resource sharing, risk management and market access. Through case analysis and empirical research, we hope to deeply understand how strategic alliance affects the success rate of enterprise internationalization, and provide inspiration for related enterprises.

This study will first review the literature on the related theories of strategic alliance and enterprise internationalization to clarify the relationship between them. Subsequently, through relevant case analysis, the successful experience and lessons of different enterprises in the use of strategic alliance in the process of internationalization.

2. LITERATURE REVIEW

2.1 Definition and type of strategic alliance

Strategic alliance refers to the cooperative relationship established by two or more enterprises through the form of cooperation agreement or contract based on the common strategic objectives. This cooperative relationship is different from the traditional supply and demand relationship, and also different from enterprise merger or acquisition. It emphasizes the realization of resource sharing and complementary advantages, so as to achieve the purpose of win-win situation.[4]

According to the different forms and contents of cooperation, strategic alliances can be divided into the following types: equity strategic alliances: cooperative parties establish alliances by mutual shareholding or joint investment of joint venture. This form of alliance is relatively close, and all parties realize benefit sharing and risk sharing through equity ties. Equity strategic alliance: cooperative parties establish alliance through mutual shareholding or joint investment of joint venture. This form of alliance is relatively close, and all parties realize benefit sharing and risk sharing through equity ties.[5]

2.2 Enterprise internationalization theory

The theory of enterprise internationalization aims to explain how and why companies expand their business to the international market. Hymer (Hymer) proposed that when entering overseas markets, companies should have monopoly advantages over local companies, such as technology, brand or scale, to make up for their disadvantages in language, cultural and legal environment. When export or licensing is not enough to maintain these advantages, enterprises tend to set up local subsidiaries, thus contributing to the formation of multinational enterprises. Barkley (Buckley) and Carson (Casson) proposed an internalization theory based on Heimer's research. They point out that in the case of incomplete markets or market failures, companies tend to transfer internal resources such as expertise and management skills across borders to reduce transaction costs and protect core strengths. Michael Porter (Michael Porter) proposed that enterprises should build competitive advantages through four determinants, including factors, demand conditions, related and supporting industries, and corporate strategy, structure and competition, in order to achieve success

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in the international market.[6] Together, these four factors form Porter's "diamond model" to analyze and enhance the international competitiveness of the industry.

To sum up, these theories explain the motivation and path of enterprise internationalization from different perspectives, and provide an important theoretical basis for enterprises to formulate the internationalization strategy.

2.3 Relationship between strategic alliance and internationalization

As a form of cooperation between enterprises, strategic alliance has an important influence on the process of enterprise internationalization. Through strategic alliances, enterprises can obtain resources, reduce risks and enhance competitiveness, thus accelerating the process of internationalization.

Research shows that corporate participation in strategic alliances can significantly enhance their internationalization level. Through the alliance, enterprises can obtain financial resources, attract media attention, and improve production efficiency, so as to promote overseas mergers and acquisitions and overseas subsidiary activities.[2] In the international operation, enterprises should enhance their dynamic capabilities through strategic alliances. This includes the correct selection of alliance partners, building flexible organizational management, building a learning organization, and developing new product development capabilities, so as to ensure that they can better improve their dynamic capabilities in the alliance, so as to reduce risks and promote international expansion. [3] To sum up, the strategic alliance provides an effective path for enterprise internationalization through resource sharing and capacity enhancement. Enterprises should actively use of strategic alliances to accelerate the expansion of the international market and realize the promotion of global competitiveness.

3. CASE ANALYSIS

3.1 Reason for case selection

The strategic alliance between Huawei (Huawei) and Vodafone (Vodafone) is one of the most representative international collaborations in the global telecommunications industry. Through long-term cooperation, the two sides have promoted the development of communication technology in multiple global markets (especially in Europe, the Middle East and Africa), and especially have made breakthroughs in the construction of 4G and 5G networks.

Huawei Is a technology company from China, and Vodafone is one of Europe's largest telecom operators. The alliance of the two reflects how emerging market enterprises enter developed markets through cooperation, and is also a typical case of how local enterprises optimize the internationalization process with external resources. This case represents the "resource complementary strategic alliance", and the two sides complement each other in technology, market, supply chain and other aspects, forming a win-win pattern.

3.2 Detailed analysis of the cases

3.2.1 Background and Objectives

Founded in 1987, Huawei (Huawei) is the world's leading communications equipment supplier, focusing on ICT (information and communication technology) infrastructure and intelligent terminal equipment. Its internationalization strategy began in the late 1990s and became the world's leading 5G supplier through continuous expansion of overseas markets.

Founded in 1984 and headquartered in the UK, Vodafone (Vodafone) is one of the world's largest mobile communications companies, with operations in Europe, Africa, Asia and Oceania. Vodafone operates mobile and broadband networks in several countries and has strong market coverage.

The strategic alliance between Huawei and Vodafone began in 2007. With the deepening of the cooperation between the two sides, the strategic alliance has become an important support for Huawei to expand into the global market.

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In the early stages of the partnership, Vodafone remained cautious about Huawei technology and products, so it adopted a pilot partnership model. In 2007, Huawei successfully became one of Vodafone's leading equipment suppliers worldwide and began providing its wireless network equipment. Subsequently, in 2009, Huawei and Vodafone jointly promoted the 3G network optimization projects in the Spanish and the UK markets, and the high cost performance and technical stability of Huawei equipment were recognized by Vodafone. In 2011, Vodafone decided to expand its partnership with Huawei and began adopting Huawei communications equipment in multiple markets around the world. At this stage, Huawei, by working with Vodafone, successfully entered many European countries, such as the United Kingdom, Germany, Spain and Italy, and gradually opened up the African market. This marks the Huawei foothold in the European market and an important player in the international telecommunications market. From 2014 to 2016, Huawei and Vodafone promoted 4G network expansion in several European countries (such as Spain, Italy, Germany, the United Kingdom, etc.), and cooperated in the Middle East and African markets. At the same time, the two sides began to explore new cooperation models in the Internet of Things (IoT), cloud computing and big data fields to further enhance the intelligence level of the network. After entering the 5G era, the cooperation between Huawei and Vodafone has been further deepened. In 2019, the two sides launched a 5G network pilot project in the UK, Spain, Italy, Germany and other markets to test the performance and network coverage capability of Huawei 5G equipment. However, with the US sanctions on the Huawei, the UK government announced the gradual removal of Huawei equipment in 2020, affecting the Huawei's supply chain in the UK market. Nevertheless, in other European countries (such as Germany, Spain, Portugal, etc.), Vodafone has still chosen to cooperate with Huawei and continue to use Huawei's 5G network equipment. In addition, the two sides are also cooperating in cloud computing and AI to meet the needs of future communications technologies. At this stage, Huawei's international expansion faced greater policy challenges, but it still maintained some competitiveness in the European market thanks to its long-term cooperation with Vodafone.

3.2.3 Huawei-Vodafone alliance with Ericsson (Ericsson) -AT & T Alliance

In order to more comprehensively analyze how strategic alliances can promote enterprise internationalization, we compare the Huawei-Vodafone alliance with the Ericsson (Ericsson) -AT & T alliance. In this way, we can more intuitively see the different goals and results achieved by different enterprises through strategic alliance in the process of internationalization.

metric	Huawei (Huawei) -Vodafone (Vodafone)	Ericsson (Ericsson) -AT & T
Alliance background	Huawei (China) and Vodafone (UK), telecom equipment manufacturer + operator	Ericsson (Sweden) and AT & T (USA), telecom equipment manufacturer + operator
leading market	Of Europe, the Middle East, and Africa	Of North America, Europe, and Asia
Cooperation content	4G / 5G network construction, cloud computing, and the Internet of Things	And 5G network construction, enterprise communications, and cloud computing
cooperation mode	Equipment supply + joint research and development	Equipment supply + 5G joint laboratory
Market entry	Huawei With Vodafone's entry into Europe	Ericsson uses AT & T to consolidate the North American market
International results	Huawei Become a major supplier in the European market (about 35% in 2019)	Ericsson maintains North American market leader (about 39% of U. S. 5G equipment in 2021)
throw down the gauntlet	Under regulatory pressure in the European and American markets, some countries restrict Huawei equipment	Facing the competition from Huawei and Nokia, we need to maintain the technology lead
technological	High cost-effective equipment, high 5G	5G core technology and millimeter-wave

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superiority	base station density	technology are leading
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3.2.3.1 Comparative analysis of the data

Market Share Comparison (2019-2023)

company	2019	2020	2021	2022	2023
Huawei	28%	31%	30%	29%	28%
L.M. Ericsson	14%	15%	16%	17%	18%
Nokia	16%	15%	14%	14%	13%
reviving	10%	11%	12%	11%	10%
three stars	5%	6%	6%	7%	8%

Huawei Market share is higher than Ericsson, but slightly lower due to policy restrictions. Ericsson's market share is relatively stable and gradually increasing, especially in the North American market by relying on the AT & T alliance.

5G network construction data

area	Number of Huawei base stations	Number of Ericsson base stations
Europe	220,000	120,000
North America	80,000	150,000
Asia (except for China)	150,000	100,000
Middle East / Africa	100,000	40,000

Huawei Clearly leads in the number of base stations in Europe and the Middle East / Africa market, thanks to the partnership with Vodafone. Ericsson dominates the North American market, relying on AT & T and other customers for large-scale deployment.

Financial performance comparison (USD billion)

company	Total revenue	Revenue from the international markets	research input
Huawei	920	520 (56.5%)	230
L.M. Ericsson	390	280 (71.8%)	80

Huawei Although the proportion of revenue in the international market is relatively high, it decreases due to the impact of the policy. Ericsson accounts for a higher share of international revenue, mainly due to stability in North America and Europe. Huawei R & d investment is much higher than Ericsson, which is one of the reasons why its equipment is more cost-effective.

Through the comparative analysis of Huawei-Vodafone vs. Ericsson-AT & T, it can be found that strategic alliances have different roles in different market environments, but they can effectively promote the internationalization of enterprises. Huawei With the help of strategic alliance to break through the barriers of developed markets, while Ericsson stabilizes the market share through strategic cooperation, which provides the reference experience for the internationalization of different types of enterprises. In the

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future, enterprises need to adjust the strategic alliance mode according to different market environments, and dynamically adjust it combined with policy, technology, market competition and other factors, so as to maintain their competitiveness.

4 EMPIRICAL RESEARCH

4.1 Data source and study methods

This study selected 200 enterprises with international business as research samples, covering manufacturing, information and communication technology (ICT), new energy, medicine and other industries. These companies have all entered overseas markets over the past decade through strategic alliances and conducted operations globally. Data sources include: corporate financial statements and public data: to obtain key financial data from the annual reports of listed companies, investor relations reports and other channels, such as export growth rate, overseas revenue ratio, market share changes, etc.

4.2 An empirical study

4.2.1 Study Hypotheses

Strategic alliance (independent variable) will finally improve the internationalization performance (dependent variable) through technical cooperation (intermediary variables) and the depth of cooperation of multinational companies (intermediary variables). At the same time, the enterprise scale, industry size, market competition intensity and other factors may have a regulatory effect on this process.

type of variable	Variable name	variable-definition
argument (X)	Strategic alliance	Whether enterprises participate in international strategic alliance (0= No,1= Yes)
Mediator variable (M1)	Technical cooperation intensity	Number of enterprise technical cooperation projects / total number of R & D projects
Mediator variable (M2)	Depth of cooperation among multinational companies	Years of cooperation with multinational companies
dependent variable (Y)	Enterprise internationalization performance	Export growth rate, overseas revenue ratio, market share changes
Regulatory variable (Z1)	scale	Total enterprise assets (log transformation)
Regulatory variable (Z2)	industry category	Industry of the enterprise (manufacturing, ICT, finance, etc.)
Regulatory variable (Z3)	Market competition intensity	Competition index of the target market

4.2.2 Structural Equation Model (SEM)

Based on the aforementioned regression analysis, we constructed a structural equation model (SEM) Y

$$= \beta_1 X + \beta_2 M_1 + \beta_3 M_2 + \beta_4 Z_1 + \beta_5 Z_2 + \beta_6 Z_3 + \varepsilon \text{ as follows:}$$

Among them: path 1: strategic alliance enterprise internationalization performance (direct influence) path 2: strategic alliance technology cooperation enterprise internationalization performance (indirect influence) path 3: strategic alliance multinational company cooperation depth enterprise internationalization performance (indirect influence) path 4: enterprise scale, industry

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category, market competition strength as a regulating variable, influence the strength of strategic alliance of enterprise internationalization performance.

4.2.3 Analysis

way	Normalized regression coefficient, β	p price
XY (Strategic Alliance enterprise internationalization performance)	0.214	$p < 0.01$
XM1 (Strategic Alliance Technical Cooperation)	0.375	$p < 0.01$
M1 Y (internationalization performance of technical partners)	0.312	$p < 0.01$
XM2 (Strategic alliance multinational company cooperation depth)	0.402	$p < 0.01$
M2 Y (deep enterprise internationalization performance of multinational companies)	0.271	$p < 0.01$
Regulation of Z1 on XY (enterprise size)	0.129	$p < 0.05$
Regulation of Z2 on XY (industry category)	0.087	$p < 0.05$
Regulatory effect of Z3 on XY (market competition strength)	0.144	$p < 0.01$

Strategic alliance have a significant positive impact on the internationalization performance of enterprises ($\beta = 0.214$, $p < 0.01$). Enterprises can enter the overseas market faster and increase the market share. Technical cooperation is the key intermediary variable ($\beta = 0.312$, $p < 0.01$), and enterprises should increase their cooperation in technology research and development to improve their international competitiveness. The depth of cooperation of multinational corporations ($\beta = 0.271$, $p < 0.01$) is an important factor affecting the internationalization, and long-term cooperative enterprises have a higher proportion of international income than short-term cooperative enterprises. The regulation effect of market competition intensity is the most obvious ($\beta = 0.144$, $p < 0.01$), indicating that enterprises need more strategic alliance to obtain resources and market support in the highly competitive market. The regulation effect of industry category and enterprise size is weak ($\beta = 0.087, 0.129$), but it still shows that the alliance strategies of different industries are different, and the alliance effect of large enterprises is more significant.

5. Significance of the research findings

This study makes an in-depth analysis of the impact of strategic alliance on the internationalization of enterprises, and verifies the important role of technical cooperation and the depth of multinational company cooperation in this process through empirical research. The research results have important theoretical value and practical significance, which provide strong support for the formulation of the internationalization strategy of enterprises, and also have important enlightenment for the development of government policies and industry.

From the perspective of theoretical contribution, this research expands the research framework of strategic alliance and enterprise internationalization. Previous research focuses more on how to promote internationalization, but this research, from the perspective of external cooperation, emphasizes the role of strategic alliance in the international expansion of enterprises, which provides a new perspective for the research in this field. At the same time, the research shows that enterprises do not directly achieve internationalization through strategic alliances, but mainly play a role through the two key intermediary variables of technical cooperation and the depth of multinational company cooperation. This discovery deepens the theoretical system of enterprise

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internationalization. In addition, the regulating effect of market competition intensity has also been empirically verified, indicating that in the highly competitive market environment, the internationalization promotion effect of strategic alliance is more significant, which provides new theoretical support for the research of competitive environment and enterprise internationalization. In terms of management practice, the research results provide practical guidance for enterprises to formulate the internationalization strategy. First of all, enterprises should pay more attention to the quality of strategic alliances rather than the quantity, and choose the partners with strong resource complementarity and great market influence, especially the multinational companies with prominent advantages in technology and market channels. Secondly, technical cooperation is the key factor affecting the performance of internationalization, so enterprises should increase their investment in international technical cooperation, such as joint research and development, patent sharing and technology transfer, so as to enhance their international competitiveness. In addition, the study found that long-term and stable cooperation can promote international performance more than short-term alliances. Therefore, enterprises should give priority to the establishment of long-term partnerships and enhance the trust and commitment of partners when developing alliance strategies. At the same time, in the highly competitive market, enterprises need to rely more on strategic alliances to obtain resources and market support, so when entering the highly competitive market, they should actively seek partners to reduce the market entry barriers and improve the competitive advantage.

From the policy and industry perspective, the government can encourage enterprises to actively participate in international strategic alliances by formulating corresponding policies. The study found that strategic alliances have significantly promoted the growth of international market share and overseas revenue, so the government can encourage enterprises to establish international cooperation, especially in the high-tech field, through tax incentives and subsidy policies. At the same time, in order to further enhance the competitiveness of enterprises in the international market, the government can support the cooperation in scientific and technological innovation, set up an international joint research and development fund, and promote the in-depth cooperation between local enterprises and overseas enterprises in the core technology field. In addition, the depth of cooperation among multinational corporations has been proved to be an important factor affecting the internationalization performance of enterprises. The government can optimize foreign investment policies, encourage foreign enterprises to set up R & D centers or regional headquarters locally, and enhance the cooperation opportunities between local enterprises and multinational enterprises.

To sum up, this study not only expands the theoretical research of strategic alliance in enterprise internationalization, but also provides practical guidance for enterprise managers, and also provides an important empirical basis for government policy making. Future research can further explore the regulatory role of industry differences, dynamic changes and the impact of policy environment on strategic alliances, so as to more fully understand how strategic alliances can promote the internationalization of enterprises in different situations.

6. CONCLUSION

This study analyzes how strategic alliances promote enterprise internationalization, incorporating the case of Huawei and Vodafone's strategic partnership along with empirical research to verify the critical role of strategic alliances in the process of globalization. The findings indicate that strategic alliances effectively reduce market entry barriers, optimize resource allocation, and enhance corporate competitiveness in international markets.

Firstly, the case study demonstrates that Huawei and Vodafone's collaboration has yielded significant results in technology research and development, market expansion, and supply chain coordination. Through this alliance, Huawei successfully expanded into the European market and facilitated the global deployment of 5G technology, while Vodafone leveraged Huawei's innovative capabilities to enhance its network infrastructure. This partnership proves that strategic alliances not only enable enterprises to

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access external resources but also promote technological innovation and market sharing. Secondly, the empirical study confirms that strategic alliances significantly improve firms' internationalization performance, particularly in increasing overseas market share and international revenue growth. Moreover, technological cooperation and supply chain coordination play a crucial mediating role in the relationship between strategic alliances and internationalization performance, further strengthening the alliance's impact on global competitiveness. Additionally, the study validates the moderating effect of market competition intensity, indicating that in highly competitive environments, strategic alliances have an even more pronounced effect on enterprise internationalization. Overall, this study expands the theoretical framework of enterprise internationalization by emphasizing the strategic value of external collaborations in global expansion. It also provides practical guidance for businesses in formulating internationalization strategies. Furthermore, the research offers significant policy implications, suggesting that governments should support enterprises in establishing cross-border strategic alliances to facilitate international technological cooperation and market openness. Future studies can further explore industry differences, long-term partnership mechanisms, and policy environments affecting the relationship between strategic alliances and enterprise internationalization, providing a more comprehensive understanding of their underlying mechanisms.

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