

MINISTRY OF SCIENCE AND HIGHER EDUCATION
OF THE RUSSIAN FEDERATION

Federal State Budgetary Educational Institution of Higher Education

PENZA STATE UNIVERSITY

Institute of Economics and
Administration
Field of study
Master's degree programme

Department of Sociology, Economic
Theory and International Processes
38.04.01 Economics
International Economics and Business

GRADUATION THESIS

on

Development strategies of transnational corporations in the contemporary conditions

Master's degree student

Zhang
Nan

signature, date

Academic adviser

Vlazneva S. A.

signature, date

Compliance supervisor

Vlazneva S. A.

signature, date

Reviewer

Barbashova S. A.

signature, date

Head of the Department
of Economics and Finance of Penza Branch of
Federal State Educational Budgetary
Institution of Higher Education
Financial University under the Government of
the Russian Federation

The thesis was approved for defence (record of the department meeting dated _____ no.____)

Head of the Department

Rozhkova L.V.

signature, date

The thesis was defended and marked _____ (record of the State Examination Board dated
_____ no.____)

Secretary of the SEB

Rasskazova N. V.

signature, date

Institute of Economics and Administration
Department of Sociology, Economic Theory and International Processes
Field of study 38.04.01 Economics,
Master's degree programme International Economics and Business

APPROVED BY:
Head of the Department
Doctor of Social Sciences,
Professor
Rozhkova L.V.

« _____ » _____ 20 ____

ASSIGNMENT
FOR THE GRADUATION THESIS OF

Master's degree student Zhang Nan, group 23ЭЭВам1, full-time mode of study

1 The topic of the graduation thesis: "Development strategies of transnational corporations in the contemporary conditions"

was approved by the university order

dated « ____ » _____ 20 ____ no. _____

2 The deadline for the Master's degree student to complete the graduation thesis is 11.06.2025.

3 The input data for the graduation thesis is the regulatory and legal framework, scientific literature and reference books, and Internet data.

4 The list of issues to be studied includes definition and characteristics of transnational corporations, common expansion models of transnational corporations, comparative analysis of development strategies, economic benefits and risk analysis under different development models, digital transformation and empowerment through intelligent technologies.

5 The list of visuals contains tables and figures.

6 The date of setting the assignment is 7.09.2023.

Academic adviser _____ / Vlazneva S. A. /
(signature) (full name)

The assignment was accepted by Master's degree student _____ / Zhang Nan /
(signature) (full name)

Schedule for completing the graduation thesis

№ п/п	Content of the thesis	Deadline for completion	Due date, signature of the academic adviser
First year of study			
1	Substantiating of the research topic and methodology, subject and object of research	1.09.2023 – 31.10.2023	
2	Framing the scientific concept of research	1.11.2023 – 18.12.2023	
3	Collection of scientific literature for the thesis	19.12.2023 – 15.01.2024	
4	Substantiating the relevance, concept, and novelty of the research	16.01.2024 – 19.02.2024	
5	Framing of a detailed plan and layout of the research	20.02.2024 – 12.03.2024	
6	Studying new literature sources within the topic of the thesis	13.03.2024 – 26.03.2024	
7	Conducting theoretical research within the first chapter of the thesis	27.03.2024 – 30.04.2024	
8	Preparing the first chapter of the thesis	1.05.2024 – 30.06.2024	
Second year of study			
9	Conducting analytical research within the second chapter of the thesis	1.09.2024 – 22.10.2024	
10	Preparing the second chapter of the thesis	23.10.2024 – 24.12.2024	
11	Conducting analytical research within the third chapter of the thesis	25.12.2024 – 25.02.2025	
12	Preparing the third chapter of the thesis	26.02.2025 – 21.04.2025	
13	Preparing the introduction and conclusion	22.04.2025 – 12.05.2025	
14	Completing the graduation thesis	13.05.2025 – 26.05.2025	
15	Handing in the thesis for compliance control and antiplagiat	27.05.2025 – 9.06.2025	
16	Getting acquainted with the feedback and review	10.06.2025	
17	Presenting the written thesis	11.06.2025	

Academic adviser _____ / Vlazneva S. A. /
(signature) (full name)

The assignment was accepted by Master's degree student _____ / Zhang Nan /
(signature) (full name)

Summary

The graduation thesis comprises 87 pages, 3 chapters, 19 figures, 2 tables, 62 sources.

TRANSNATIONAL CORPORATION, MODELS OF TRANSNATIONAL CORPORATIONS, DEVELOPMENT STRATEGIES

The object of this research is transnational corporations.

The subject is the development strategies employed by transnational corporations in the context of contemporary global conditions.

The research purpose is to compare and contrast the development strategies adopted by transnational corporations in response to shared contemporary global conditions, identifying sector-specific patterns of adaptation.

The methodological framework of the paper is formed by system approach, analysis and synthesis, statistical and comparative methods. To display identified economic dependencies graphical method was applied.

The results of research include: definition and characteristics of transnational corporations were studied, common expansion models of transnational corporations were overviewed, comparative analysis of development strategies was conducted, economic benefits and risk analysis under different development models were examined, digital transformation and empowerment through intelligent technologies were introduced.

The novelty of the paper is that the research reveals emerging trends and critical challenges in how transnational corporations formulate and implement growth strategies amid today's complex global conditions.

The theoretical and practical significance of work involves that the findings establish a foundation for future research on evolving TNC strategies in dynamic global markets. The results of the research can be used in the teaching of educational disciplines World Economy, International Economic Relations, International Trade.

Content

Introduction.....	3
Chapter 1 Current development of transnational corporations.....	6
1.1 Definition and characteristics of transnational corporations.....	6
1.2 Common expansion models of transnational corporations.....	11
Chapter 2 Comparative analysis of development strategies: Huawei vs. Ericsson.....	17
2.1 Overview of Huawei and Ericsson.....	17
2.2 Comparison of development strategies.....	23
2.3 Economic benefits and risk analysis under different development models....	58
Chapter 3 Future development directions of transnational corporations.....	63
3.1 Digital transformation and empowerment through intelligent technologies...	63
3.2 Deepening global localization.....	68
3.3 Hedging geopolitical risks.....	73
Conclusion.....	78
References.....	82

Introduction

As a core driving force of economic globalization, multinational corporations (MNCs) play a dominant role in shaping international industrial structures and facilitating technology diffusion and industrial relocation through their ability to mobilize production factors and allocate resources across borders. In particular, within the technology-intensive telecommunications equipment manufacturing sector, the strategic behaviors of MNCs not only determine their own market positions and developmental trajectories but also profoundly influence the organization of global value chains and the mechanisms of value distribution.

Huawei Technologies Co., Ltd., as a representative of Chinese domestic enterprises that have successfully entered the ranks of global industry leaders, exemplifies the evolutionary logic of a modern multinational corporation. Its global deployment and developmental process reflect not only a heightened sensitivity and responsiveness to changes in the international environment but also the strategic thinking and pragmatic wisdom of emerging market firms in overcoming institutional, technological, and resource-related barriers.

Since its founding in Shenzhen in 1987, Huawei has undergone a transformation from a regional distributor to a global provider of information and communication technologies (ICT). Its internationalization trajectory and expansion strategies offer a compelling case for studying the global behaviors of multinational enterprises. Unlike traditional MNCs from developed countries that rely on first-mover advantages in capital, technology, and institutional infrastructure, Huawei has effectively leveraged latecomer advantages in its globalization process. Specifically, it has developed distinctive approaches in areas such as R&D network construction, market localization, and supply chain management – approaches that diverge from those of Western MNCs.

This study centers on Huawei as a primary case, systematically analyzing its globalization strategies. Drawing on international economics and theories of enterprise internationalization, the research begins by clarifying the definition, drivers, and strategic characteristics of MNCs, and then examines Huawei's positioning within global industrial

chains and its transnational expansion model. Based on this foundation, the paper further investigates the firm's decision-making logic at key junctures, including international market entry pathways, global R&D resource allocation, and localized management practices, in order to assess the adaptability and agency embedded in its global strategy.

To enhance the comparative dimension of the analysis, Ericsson is introduced as a benchmark enterprise renowned for technological innovation and global operations within the same industry. A horizontal comparison between the two firms elucidates their respective choices in technological pathways, international market layout, and mechanisms for integrating into the global value chain. This comparative framework helps identify the unique structure and internal logic of Huawei's globalization strategy. In particular, it sheds light on how emerging market firms navigate and respond to rising uncertainties in the global marketplace, intensifying technological barriers, and mounting geopolitical risks – thereby offering an analytical perspective on how firms from emerging economies can achieve strategic breakthroughs amid de-globalization trends.

Against the backdrop of a rapidly evolving global digital economy and the continuous restructuring of international industrial competition, Huawei's globalization practices are not only of strategic relevance at the enterprise level but also provide a real-world model for understanding how Chinese multinational corporations respond to external institutional pressures and technological containment while pursuing independent development. By systematically reviewing and analyzing Huawei's developmental trajectory and strategic choices, this study aims to uncover the behavioral logic through which new-generation MNCs integrate global resources and adjust strategies in a complex international environment. Ultimately, the findings offer both theoretical insights and practical guidance for other enterprises from developing countries seeking to internationalize. This research contributes meaningfully to the advancement of international business strategy theory and holds substantial academic and policy significance for informing China's Going Global initiatives.

The object of this research is transnational corporations.

The subject is the development strategies employed by transnational corporations in the context of contemporary global conditions.

The research purpose is to compare and contrast the development strategies adopted by transnational corporations in response to shared contemporary global conditions, identifying sector-specific patterns of adaptation.

In order to achieve it we need to complete the following tasks:

- to introduce definition and characteristics of transnational corporations;
- to overview common expansion models of transnational corporations;
- to conduct comparative analysis of development strategies;
- to examine economic benefits and risk analysis under different development models;
- to determine future development directions of transnational corporations.

The novelty of the paper is that the research reveals emerging trends and critical challenges in how transnational corporations formulate and implement growth strategies amid today's complex global conditions.

The theoretical and practical significance of work involves that the findings establish a foundation for future research on evolving TNC strategies in dynamic global markets. The results of the research can be used in the teaching of educational disciplines World Economy, International Economic Relations, International Trade.

Chapter 1 Current development of transnational corporations

1.1 Definition and characteristics of transnational corporations

Transnational corporations (TNCs) or multinational corporations (MNC) are business entities that own or control production or service facilities in more than one country. According to the United Nations, an MNC is defined as an enterprise that owns or controls production or service facilities outside the country in which it is based. Through their global operations, these enterprises significantly influence international trade, capital flows, and the organization of global value chains.

The origins of multinational corporations can be traced back to the late 19th and early 20th centuries, when industrialization and the expansion of global trade prompted firms to establish overseas branches in order to access resources, expand markets, and reduce costs. Modern MNCs typically have their headquarters in one country and operate subsidiaries, branches, or production facilities in other countries (figure 1.1). They engage in a wide range of activities such as production, sales, and research and development (R&D) on a global scale, forming complex international operational networks. These affiliates play crucial roles in global production, employment, R&D, and exports. As a result, MNCs have become increasingly important in the global economy, influencing nearly every aspect of modern life – from car purchases and the use of artificial intelligence to online streaming services.

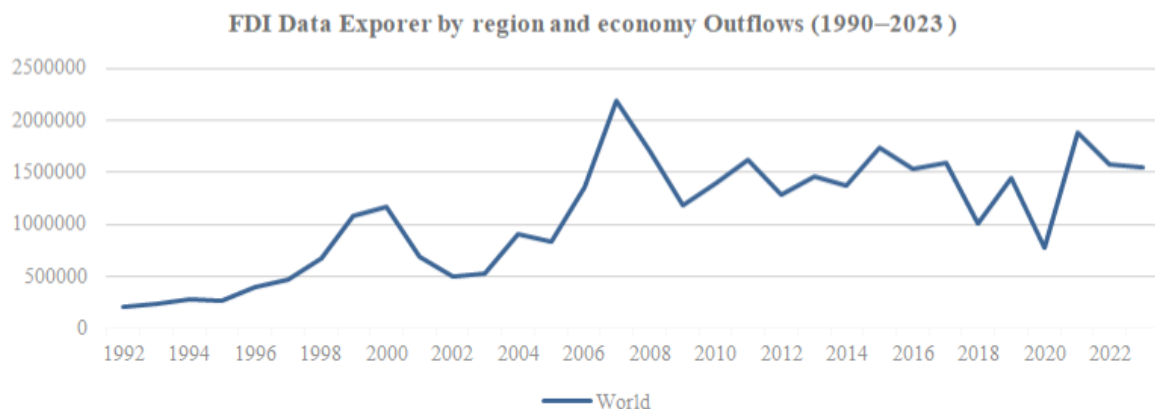


Figure 1.1 – FDI data exporter by region and economy, outflows (1990–2023) [51]

Key characteristics of multinational corporations:

Global Operations: multinational corporations (MNCs) exhibit a high degree of organizational complexity and strategic flexibility in their global operations. By establishing subsidiaries, branches, or joint ventures across multiple countries, they build transnational networks for production, research and development (R&D), marketing, and management, forming highly integrated global value chain systems. According to the Organisation for Economic Co-operation and Development (OECD), MNCs and their foreign affiliates occupy a significant position in the global economy, accounting for approximately one-third of global output and world GDP, and contributing to around half of global exports [35].

This global operational model enables MNCs to allocate resources flexibly across countries, optimize production processes, reduce costs, and respond swiftly to market changes. For instance, many MNCs locate their R&D centers in technologically advanced countries while situating production facilities in regions with lower labor costs, thereby maximizing cost-efficiency. At the same time, they expand market share and enhance competitiveness through global sourcing and sales networks.

To better understand and analyze the global activities of MNCs, the OECD developed the Analytical AMNE Database, which provides detailed data on the operations of multinational enterprises by country and industry. These data include indicators such as output, employment, R&D expenditure, compensation of employees, and exports. The database enables researchers and policymakers to gain deeper insights into MNCs' operational patterns, value chain integration strategies, and their impacts on host country economies.

Centralized Decision-Making with Decentralized Execution: In the organizational structure of multinational corporations (MNCs), the centralized decision-making and decentralized execution model is a common management approach. This model typically involves the headquarters making unified decisions at the strategic level, while subsidiaries in various locations execute these decisions based on the specific conditions of local markets. The aim of this structure is to maintain global consistency while enhancing the adaptability to local markets.

For example, Apple Inc. employs a highly centralized management structure, with key decisions driven by the headquarters to ensure consistency in product design and user experience. However, at the execution level, Apple also grants local teams a certain degree of autonomy to adapt to the needs of different markets. This balance allows Apple to maintain brand consistency globally while remaining flexible in responding to market changes in various regions.

Another example is Johnson & Johnson, which adopts a decentralized management structure, granting a high degree of decision-making autonomy to its business units and subsidiaries. This structure enables Johnson & Johnson to adjust its products and marketing strategies according to the demands of different markets, thereby improving responsiveness to local market needs.

In practice, the model of centralized decision-making with decentralized execution helps multinational corporations achieve their strategic goals on a global scale, while maintaining agile responses to local markets. This structure not only enhances organizational efficiency but also strengthens employee engagement and responsibility, fostering innovation and continuous improvement. By designing the organizational structure and management processes appropriately, MNCs can better align with their global strategic objectives.

Resource Integration: The ability to integrate resources enables multinational corporations (MNCs) to efficiently allocate and utilize various production factors – such as capital, technology, talent, and information – on a global scale, thereby achieving cost optimization, accelerated innovation, and market expansion.

In the context of globalization, MNCs establish complex supply chains and production networks, distributing processes such as raw material procurement, product manufacturing, R&D design, and market sales across different countries and regions. For example, Apple Inc. sources components globally and operates manufacturing and assembly plants in multiple countries, with its products ultimately sold worldwide. This global resource allocation not only reduces production costs but also enhances the market adaptability and competitiveness of the products.

Moreover, MNCs also hold significant advantages in the integration of technology and knowledge. By establishing R&D centers in different countries, MNCs are able to pool global research resources and talent, thereby driving technological innovation and product development. For instance, Google has R&D facilities in several countries, where its technical teams collaborate to develop globally influential products and services. MNCs also integrate global resources through mergers, acquisitions, and strategic alliances to expand market share and business scope. For example, Unilever rapidly entered emerging markets through the acquisition of local brands and leveraged its global network to promote new products. This resource integration strategy not only strengthens the company's global competitiveness but also fosters local economic development and job creation.

Technology Transfer and Innovation: Through their operations in multiple countries, multinational corporations (MNCs) not only introduce advanced production technologies and management practices to host countries but also strategically allocate R&D resources globally, fostering the localization of technology and enhancing innovation capabilities. However, this process does not occur automatically; it is influenced by various factors, including the host country's absorptive capacity, the policy environment, and the strategic choices of the multinational corporations.

According to the World Investment Report published by the United Nations Conference on Trade and Development (UNCTAD), multinational corporations have progressively internationalized their R&D activities over the past few decades, particularly by establishing R&D centers in developing countries to cater to local market demands and leverage cost advantages. For example, South Korea's semiconductor industry, through collaboration with foreign companies, has transformed from technology transfer to independent innovation, becoming one of the world's leading industries.

There are various modes of technology transfer, including direct investment, joint ventures, licensing agreements, and personnel training. Among these, personnel training is considered a key method for enhancing the host country's technology absorption capacity. For instance, Motorola's investment in Tianjin, China, not only brought advanced

communication technologies but also contributed to local employee training, raising their technical skills and fostering the development of the local communications industry.

Broad-Based Global Influence: One of the most prominent characteristics of multinational corporations (MNCs) is their extensive global operational capabilities. This globalization is not only reflected in their geographic presence but, more importantly, in their strategic integration of functions such as production, marketing, and management, which enables them to optimize efficiency and enhance competitiveness.

Apple Inc. exemplifies another form of globalized operation through its complex supply chain and retail network. The company sources components from over 40 countries and assembles products at various locations, including China and India. At the same time, Apple's retail stores span multiple continents, allowing it to efficiently serve a diverse global customer base.

The strategic distribution of operations enables MNCs to fully leverage the comparative advantages of different regions. For example, by locating manufacturing facilities in countries with lower labor costs, companies can effectively reduce production costs. Additionally, establishing R&D centers in innovation hubs provides access to highly skilled talent and cutting-edge technological resources. Furthermore, global operations help to achieve risk diversification. By conducting business in multiple markets, MNCs can mitigate the negative impacts of economic fluctuations in any single region.

As key players in the global economic system, multinational corporations fundamentally integrate resources, optimize allocations, and achieve economies of scale across national borders. They exhibit unique and systematic characteristics in global operations, centralized decision-making with decentralized execution, resource integration, technology transfer and innovation, and broad influence. MNCs not only reshape the organizational boundaries of traditional enterprises but also drive the deep integration of national economies. Understanding these characteristics helps provide a more comprehensive grasp of the role and function of MNCs in the globalization process, laying a theoretical foundation for further exploration of their expansion models.

1.2 Common expansion models of transnational corporations

The theoretical connotations and practical forms of multinational corporations (MNCs) continue to evolve. The differences in their globalization development models profoundly reflect the complex interplay between industry characteristics and corporate strategic positioning.

Export.

The export model of outward expansion is one of the most traditional and widely adopted approaches in the internationalization process of multinational corporations (MNCs). This model allows companies to sell their products to international markets without making large-scale overseas investments, thereby reducing initial risks and accumulating experience. The core of the export model lies in leveraging the production advantages of the home country to achieve market penetration through cross-border trade. This model requires companies to consider multiple factors, including the policy environment, supply chain efficiency, and consumer demand.

The export model can be divided into two main forms: indirect export and direct export. Indirect export typically involves third-party intermediaries such as trading companies or export agents, allowing companies to avoid handling international sales directly. This method is particularly suitable for small and medium-sized enterprises with limited resources, enabling them to enter overseas markets quickly and at a low cost. The advantage of this model lies in its reduced operational complexity, but it also means weaker control over sales channels and market feedback. In contrast, direct export requires companies to establish their own overseas sales networks, including setting up offices or partnering with local distributors. Although this method requires a larger investment, it allows companies to gain more direct control over market dynamics and improve profit margins. MNCs and their overseas subsidiaries contribute to approximately one-third of global exports and more than half of cross-border trade [48], indicating the significant role that direct export plays in the internationalization strategies of large enterprises. To this day, export remains the primary form of international trade.

Licensing and Franchising.

Licensing and franchising are two important contractual models for outward expansion by multinational corporations (MNCs). These models facilitate the cross-border transfer of brands, technologies, or business models through authorization, thereby avoiding the high costs and risks associated with direct investment. The core logic of both models lies in granting specific rights to overseas partners through contracts in exchange for ongoing royalty fees or revenue shares.

The essence of licensing is the authorization of technology or intellectual property. The multinational corporation (licensor) grants its patents, trademarks, copyrights, or proprietary technologies to a host-country company (licensee), allowing the latter to use these assets for production or sales within the agreed-upon scope. This model is particularly common in technology-intensive industries, such as pharmaceuticals, electronics, and chemicals. In 2022, cross-border payments for intellectual property usage (including technology licensing) exceeded 100 billion dollars for the first time, reaching approximately 1 trillion dollars (figure 1.2). Intellectual property payments accounted for 7.5 % of total commercial services trade in 2022. Among the main licensors are companies from the United States, Germany, and Japan, while emerging markets such as China, India, and Brazil are the primary recipients of technology transfers.

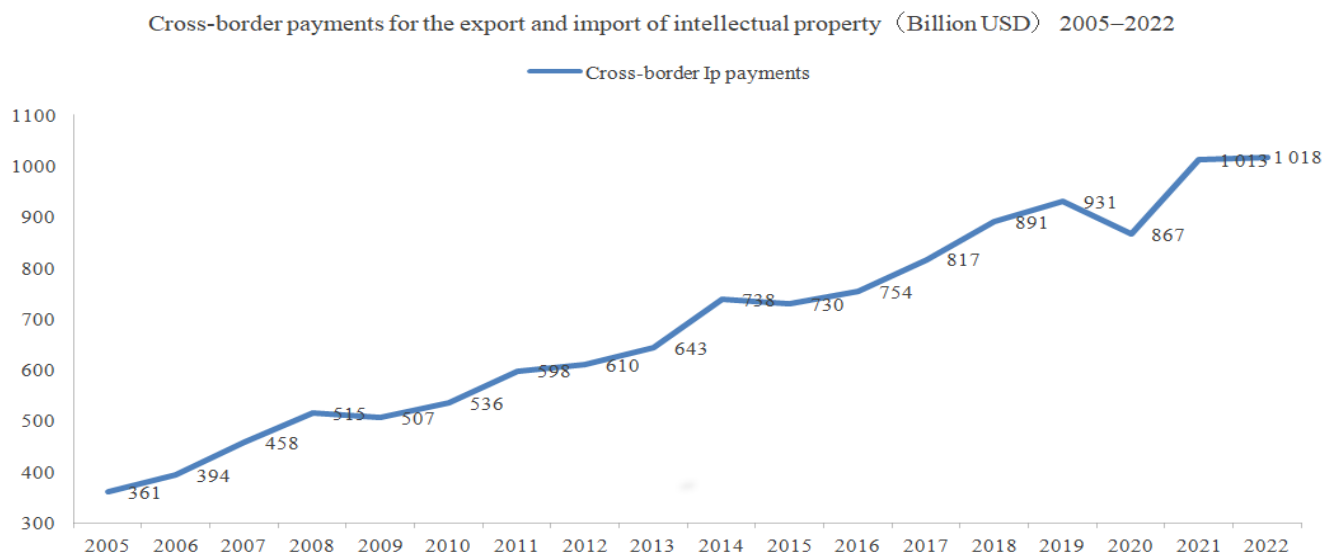


Figure 1.2 – Cross-border payments for the export and import of intellectual property, in USD, 2005–2022 [4]

Franchising, on the other hand, focuses more on the replication of business models and is typically applied in standardized service industries such as food and beverage, retail, and hospitality. The franchisor (multinational corporation) authorizes franchisees to use its brand, operating systems, and supply chain, while the franchisees are responsible for local operations and pay franchise fees. In 2022, the global franchising market size reached 3.8 trillion dollars, with the United States accounting for approximately 45 %. The markets in China, Southeast Asia, and the Middle East experienced the fastest growth, with an annual growth rate exceeding 10 %. McDonald's is a typical example of this model, with approximately 93 % of its global outlets operating under franchising. According to McDonald's 2023 financial report, franchising revenue accounted for more than 60 % of total revenue. The success of this model relies on stringent standardized management, such as McDonald's Global Operations Manual, which outlines more than 800 details, from food recipes to employee training, ensuring consistency in the consumer experience worldwide.

Joint Ventures.

Joint ventures (JVs) serve as an important means for multinational corporations (MNCs) to enter new markets, reflecting the deep integration of international capital and local resources. This model typically involves a joint investment by the multinational corporation and a host-country firm to establish a new entity, achieving complementary advantages through equity cooperation. This strategy is particularly suitable for entering markets with restrictions on foreign direct investment (FDI). By partnering with local companies, MNCs can better understand and adapt to local market demands and regulations [39]. Unlike wholly-owned subsidiaries or mergers and acquisitions, the core value of joint ventures lies in combining the international firm's technology and management with the local firm's market insights and policy resources, thereby creating a unique competitive advantage.

The governance structure of joint ventures often reflects the negotiation and compromise between the partners. Regarding equity arrangements, although many countries have relaxed foreign ownership restrictions, control allocation remains a key issue. In terms of technology cooperation, a typical practice is to separate the management

of R&D and production processes, protecting core technologies while enabling local production.

The policy environment in emerging markets continues to influence the development of the joint venture model. In countries such as Indonesia, foreign investment in sectors like e-commerce and pharmaceuticals is still required to form joint ventures with local companies. This policy direction has led to various adaptive innovations, such as the light JV model, which meets regulatory requirements while maintaining operational flexibility. However, regulatory scrutiny of these adaptive practices is becoming increasingly stringent.

The degree of localization in a joint venture significantly impacts its performance in the target market. Firms that can deeply integrate local supply chains, adapt to local consumer preferences, and operate effectively in the local environment tend to have a competitive edge. Whether in industrial manufacturing or consumer goods, deep localization typically results in higher operational efficiency, stronger brand adaptability, and broader market acceptance.

Mergers and Acquisitions (M&A).

Mergers and acquisitions (M&A) are an important model for multinational corporations (MNCs) to enter markets and expand their business through the direct acquisition or merger of overseas companies. Unlike greenfield investments or joint ventures, the core of M&A lies in quickly acquiring the target company's existing resources through capital operations, including market share, technological patents, supply chain networks, and talent teams, thereby achieving immediate strategic synergies.

The driving force behind M&A typically comes from the strategic need for key resources. When MNCs attempt to enter a highly mature or closed market, building a business from scratch often faces significant barriers. In contrast, M&A offers a fast track to overcome market barriers. For example, in highly regulated industries like financial services and pharmaceuticals, acquiring a local company allows the acquirer to inherit its operating licenses and compliance qualifications directly. In 2022, the global total value of cross-border M&A transactions reached 1.3 trillion dollars, accounting for 65 % of that year's global foreign direct investment (FDI) flow [49]. This proportion has remained

stable over the past decade, reflecting the continued importance of M&A as a key channel for capital globalization.

M&A exhibits distinct industry concentration characteristics. The technology, healthcare, and consumer goods sectors are the most active fields for M&A, where rapid technological iterations and high brand value allow for quick compensation of the acquirer's capability gaps through acquisitions.

In recent years, there has been an increasing focus on national security concerns, leading to stricter M&A reviews, particularly for transactions involving critical technologies, infrastructure, and data security. Many countries have strengthened their regulation of foreign acquisitions, especially for transactions that may affect national security. The U.S., European Union, and other major economies have established corresponding review mechanisms, creating a globalized M&A regulatory system.

Greenfield Investment

Greenfield Investment is a classic model for multinational corporations (MNCs) to expand into new markets by establishing production facilities, research and development centers, or operational entities in the host country. Greenfield investment is mainly concentrated in industries such as mineral resources and energy development, automobile manufacturing, and trade [38]. Its essence is to build a complete commercial presence from scratch, including land acquisition, factory construction, equipment installation, recruitment, and supply chain setup, among other full-process investments.

From a strategic perspective, greenfield investment typically serves two main objectives: market-oriented and efficiency-oriented. Market-oriented greenfield investment targets emerging markets with significant potential but high entry barriers. When MNCs believe that exporting or licensing cannot fully tap into local demand, they opt to establish localized production bases directly. A typical example is Volkswagen's new factory in Xinjiang, China, which not only serves the local market but also becomes an export hub to Central Asia. Efficiency-oriented greenfield investment, on the other hand, focuses on optimizing global production layout by leveraging the host country's factor cost advantages (such as labor and energy prices) to enhance international competitiveness. According to the United Nations Conference on Trade and Development

(UNCTAD) World Investment Report 2023, around 40 % of global manufacturing greenfield investment projects are efficiency-seeking, mainly located in regions with significant cost advantages, such as Southeast Asia and Eastern Europe [50].

From an industry distribution perspective, capital and technology-intensive industries are more inclined to adopt the greenfield model. Industries such as semiconductors, new energy vehicles, and biopharmaceuticals often require a tailored production environment due to the specificity of their production processes. A typical case is Taiwan Semiconductor Manufacturing Company's (TSMC) chip factory project in Arizona, which invested billions of dollars to ensure that every detail, from factory cleanliness to wastewater treatment systems, adhered to the same standards as its headquarters in Taiwan. Although this clone-style investment is costly, it maximizes the consistency of product quality. In contrast, asset-light industries such as retail and food service are less likely to adopt pure greenfield models, often opting to combine with local partners instead.

In terms of operational management, greenfield projects face unique localization challenges. Although MNCs retain full control, they must adapt to the host country's labor laws, business customs, and social culture. A study by Japan's Ministry of Economy, Trade, and Industry (METI) found that Japanese manufacturing companies' greenfield factories in Southeast Asia typically take 18 to 24 months to reach the production efficiency standards of the parent company, with the main obstacles being language barriers, differences in work habits, and the need to fine-tune local supply chains.

Chapter 2 Comparative analysis of development strategies: Huawei vs. Ericsson

2.1 Overview of Huawei and Ericsson

As a representative case of Chinese multinational enterprises, Huawei offers a typical example of how a company makes strategic choices in complex external environments. Its business spans several sectors, including global telecommunications equipment, digital infrastructure, enterprise services, and smart terminals, featuring both technology-intensive and policy-sensitive characteristics. Particularly in recent years, amid multiple external constraints, Huawei's responses in areas such as investment in technological research and development, supply chain restructuring, market structure adjustment, and compliance governance provide a rich empirical basis for understanding how companies adapt to uncertainty and reconstruct competitive advantages in the global economic system.

Founded in 1987, Huawei Technologies Co., Ltd. initially operated as a small telecommunications equipment agent. After more than thirty years of development, it has grown into a globally influential information and communications technology (ICT) solutions provider. Positioned as a technology-driven enterprise, Huawei has implemented a global R&D strategy [1]. As a representative case of China's internationalization process, its development trajectory reflects the continuous adjustment and deepening of strategies by multinational technology enterprises in global markets.

Huawei's internationalization journey began in 1996 when the company first formulated a five-year internationalization strategy, with Russia as its initial target market. The Russian telecommunications industry had been stagnant due to the financial crisis, creating a significant market gap [60]. In 2001, the company established its first overseas R&D center in Sweden, marking a strategic shift toward technology-seeking. Subsequently, Huawei continued to expand into mature markets such as Europe, and in 2005, it collaborated with British Telecom to become a key supplier for its 21st Century Network project.

According to Huawei's 2024 Annual Report, by the end of 2024, Huawei's business had expanded to over 170 countries and regions, serving more than 3 billion people globally. Its global expansion is particularly notable in the internationalization of its R&D system. As of 2024, Huawei has 29 R&D centers worldwide, located in 14 countries, and has established partnerships with over 210 universities and colleges, training more than 30,000 ICT professionals. By the end of 2024, Huawei holds over 150,000 valid patents, ranking among the top global companies (table 2.1).

Table 2.1 – Consolidated financial summary: 2020–2024 [21]

Indicator	2024	2023	2022	2021	2020
Revenue	862,072	704,174	642,338	636,807	891,368
Operating Profit	79,361	104,401	42,216	121,412	72,501
Operating Profit Margin	9.20 %	14.80 %	6.60 %	19.10 %	8.10 %
Net Profit	62,574	86,950	35,562	113,718	64,649
Cash Flow from Operating Activities	88,417	69,807	17,797	59,670	35,218
Cash and Short-term Investments	372,232	475,317	373,452	416,334	357,366
Working Capital	319,178	421,662	344,938	376,923	299,062
Total Assets	1,290,149	1,263,597	1,063,804	982,971	876,854
Total Borrowings	264,871	308,414	197,144	175,100	141,811
Owner's Equity	544,619	507,568	437,076	414,652	330,408
Debt-to-Asset Ratio	57.80 %	59.80 %	58.90 %	57.80 %	62.30 %

Unit: RMB (million)

In terms of business structure, Huawei has formed a collaborative development model across three major segments: carrier business, enterprise business, and consumer business. In 2024, the company achieved a global sales revenue of 862.1 billion RMB, with overseas markets contributing more than a third of this total. Despite the impact of geopolitical tensions and supply chain restrictions, its consumer business has remained resilient (figure 2.1).

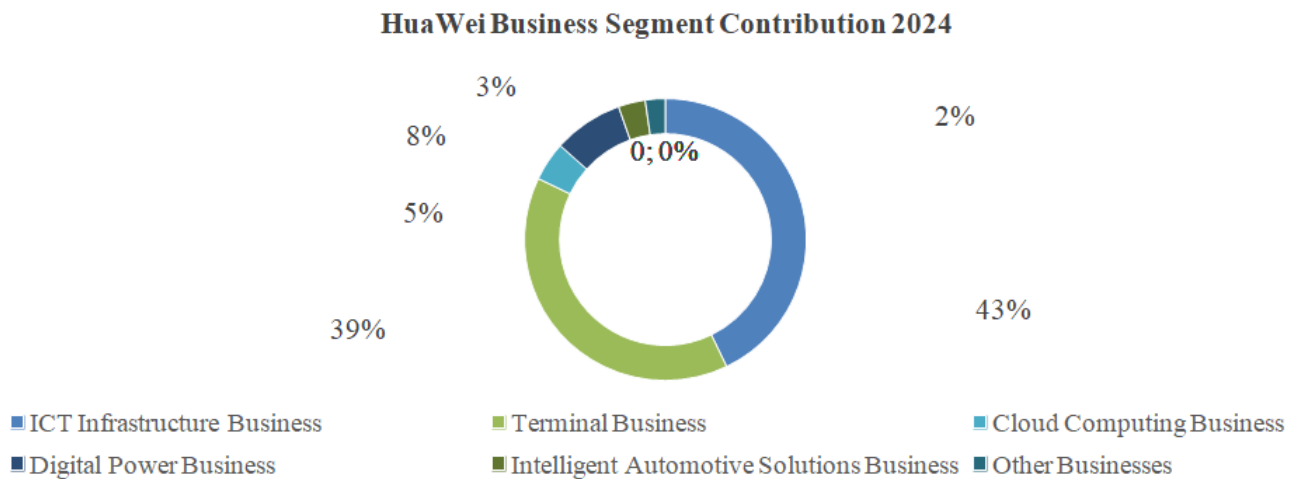


Figure 2.1 – HuaWei business segment contribution 2024 [22]

In response to the current complex international environment and technological blockades, Huawei is adjusting its global strategic deployment. On one hand, the company is enhancing regionalization and localization by establishing local operations centers in regions like Southeast Asia and the Middle East to improve market adaptability (figure 2.2). On the other hand, Huawei continues to significantly increase its self-research and development investments. In 2024, the company's R&D expenditure reached 179.7 billion RMB, accounting for 20.8 % of its total revenue, far exceeding the industry average globally. Through strengthening technological independence and supply chain security, Huawei aims to maintain long-term competitiveness and strategic resilience in the face of an uncertain international landscape.

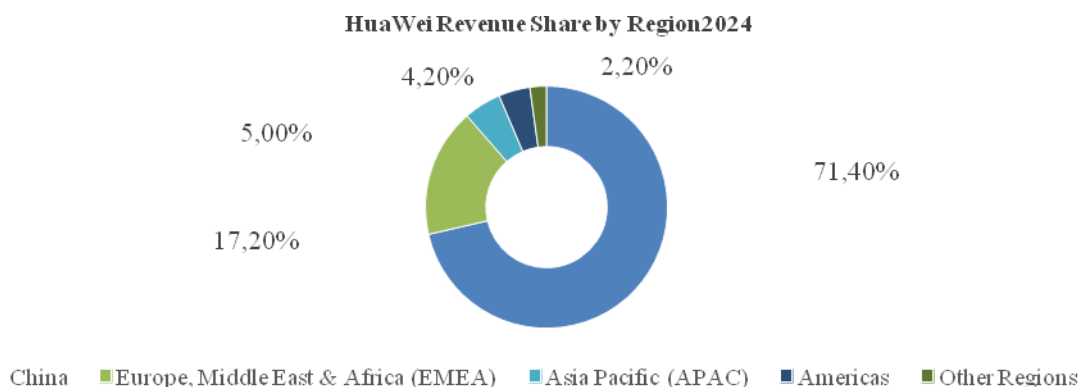


Figure 2.2 – HuaWei revenue share by region 2024 [23]

Huawei's globalization strategy dates back to the 1990s, with its core elements including technological localization, product customization, customer demand orientation, and channel expansion.

Its global market expansion can be divided into the following stages:

Initial Stage (1997–2000): In 1995, Huawei began its long and arduous journey towards internationalization with its own brand. In 1997, Huawei established a joint venture with Russian local company Beto in Russia to enter the Russian market. Subsequently, leveraging its localization strategy and a price advantage of 30 % lower than its competitors, Huawei rapidly expanded into Latin America, Southern Africa, and Asian countries such as India and Thailand.

Rapid Globalization Stage (2001–2010): After entering the 21st century, Huawei not only established a solid market share in Asia and the Middle East but also began expanding into developed markets in Europe and North America. After 2000, Huawei began launching customized products tailored to the demands of different markets such as Europe, Latin America, and Africa, quickly gaining recognition from local operators. Its success in the African market, particularly its cooperation with local operators, became an important breakthrough in Huawei's globalization strategy.

High-End Market Competition Stage (2011 – present): Since 2010, Huawei gradually shifted its focus to high-end markets and further enhanced its global market competitiveness through technological research and development in areas such as 5G, artificial intelligence, and cloud computing. The breakthrough in 5G technology provided strong support for Huawei's expansion into North American and European markets. Despite facing significant political pressure from Western countries like the United States, Huawei has maintained strong competitiveness in global markets, particularly in Asia, Africa, and Latin America.

Ericsson, founded in 1876, is one of the earliest companies to enter the telecommunications equipment field and has long focused on the research and deployment of mobile communication network infrastructure. As a typical European multinational technology company, Ericsson's development path reflects strategic characteristics of stability and specialization.

Compared to comprehensive technology companies that include terminal products, consumer electronics, and ICT solutions, Ericsson's business layout is relatively concentrated, primarily focusing on core communication technology areas such as wireless access networks, core networks, and cloud infrastructure. This de-terminalized strategic positioning has limited its brand influence among consumers, but it has maintained long-term technical and market advantages in the global telecommunications operator market (figure 2.3).

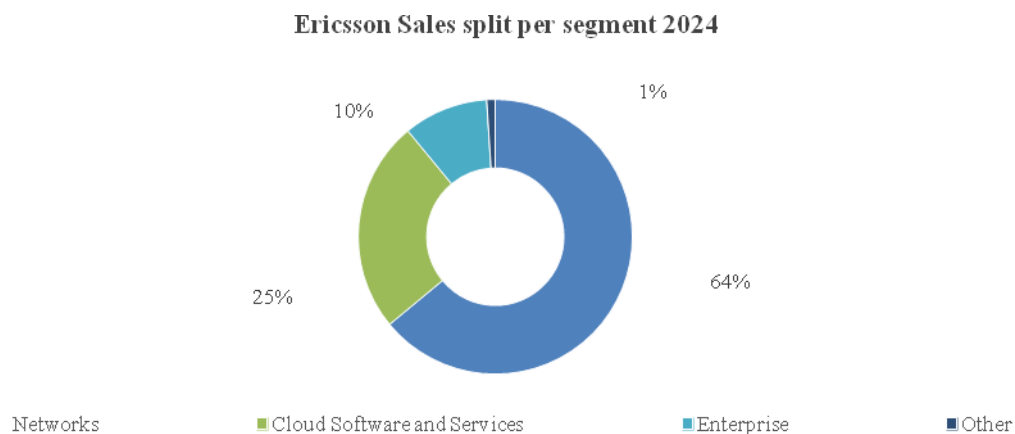


Figure 2.3 – Ericsson sales split per segment 2024 [8]

As of the first quarter of 2025, Ericsson had a total of 92,866 employees globally, with the largest number of employees in the Europe, Middle East, and Africa regions, totaling 40,677 (with 13,222 in Sweden), followed by Southeast Asia, Oceania, and India, with 25,991 employees. As of the end of 2024, female employees accounted for 26.5 % of the company's workforce. In 2024, the company achieved net sales of 247.9 billion Swedish kronor, with operating profits of 4.3 billion Swedish kronor; for the first quarter of 2025, net sales were 55.0 billion Swedish kronor, with operating profits of 5.9 billion Swedish kronor. The company possesses strong research and development capabilities globally, with 26,744 R&D employees [7].

Compared to Huawei's bottom-up approach of gradually advancing into high-end markets, Ericsson's globalization process reflects a top-down adjustment and restructuring logic. As a long-established multinational enterprise that entered global markets as early as the late 19th century, Ericsson's international expansion has always been closely tied to

significant technological changes in the telecommunications industry and fluctuations in global market cycles (figure 2.4).

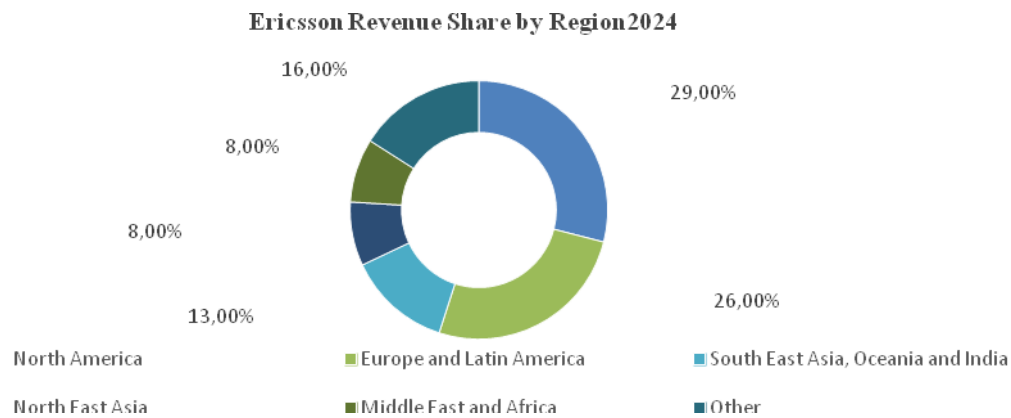


Figure 2.4 – Ericsson revenue share by region 2024 [8]

Its global expansion can be roughly divided into the following stages.

Global Leadership and Industry Growth Phase (1990s to 2007). During this period, mobile communications rapidly proliferated globally, and 2G and 3G technologies were commercialized in succession. Ericsson, leveraging its early advantages in standard-setting and system equipment, became a core equipment supplier to global operators. Around the year 2000, Ericsson's market share in the global communications system equipment market exceeded 30 %, and it established a stable customer base and technical cooperation network in regions such as Europe, North America, Latin America, and the Middle East. At the same time, its R&D and delivery centers set up globally supported the localized implementation of large-scale overseas projects.

Structural Adjustment and Crisis Response Phase (2008–2016): Affected by the financial crisis and the contraction of global telecom capital expenditure, Ericsson underwent a deep organizational restructuring starting in 2008. During this period, its business focus gradually shifted from traditional voice equipment to mobile broadband and core networks, while it gradually exited the terminal equipment and consumer product lines (e.g., the mobile phone business joint venture with Sony was terminated in 2012). During this phase, Ericsson emphasized its core technology assets and network service

capabilities, seeking a balance between cost control and customer stickiness through outsourcing operations, network hosting, and other models.

Re-globalization under New Technology Orientation (2017 – present): In response to the 5G wave and the global digital transformation trend, Ericsson launched a new round of strategic focus in 2017, concentrating its resources on 5G, cloud core networks, and private network solutions, with an emphasis on software-defined networks and virtualization architecture. Since 2020, with the U.S. government's restrictions on Huawei, Ericsson has gained new market share in several countries, particularly strengthening its supply dominance in high-end markets in Europe and North America. Despite constraints from cost structure and regulatory pressures, Ericsson has maintained its global market share of around 20% in mobile network equipment, second only to Huawei.

2.2 Comparison of development strategies

Technology and R&D Investment.

R&D investment, as the foundation of research projects and products, has both positive and negative impacts on a company's performance. Therefore, high-tech enterprises must plan and manage their technological R&D in a rational and scientific manner, striving to maximize the impact of R&D investment on their business performance [58].

Huawei's R&D philosophy – high-intensity investment drives independent innovation – is not only a corporate development strategy but also reflects its forward-looking positioning and long-term planning in the global technological competition landscape. Ordinary companies typically measure innovation performance by revenue, positioning themselves at the mid- or low-end of the global value chain with little industry influence, so they are generally not subject to bottleneck restrictions. In contrast, leading technology companies naturally bear the responsibility of mastering key core technologies, driving the synergistic development of the industry and innovation chains. Therefore, they must break free from reliance on foreign mainstream technological paths [25]. The core of this strategy is to continuously invest large-scale financial, human, and organizational

resources to master critical technologies, achieve technological autonomy, and thus reduce dependency on external high-tech ecosystems, enhancing the company's long-term competitiveness and risk resilience in the global market.

R&D is regarded by Huawei as the most crucial link in its corporate value chain, which is why the company has consistently maintained the highest R&D investment ratio globally. In terms of core technology R&D, by 2019, 45 % of Huawei's 180,000 global employees were researchers [14]. According to Huawei's 2024 annual report, the company's total R&D investment for that year reached 179.7 billion RMB, accounting for 20.8 % of total revenue. Over the past decade, the cumulative R&D investment has exceeded 1.249 trillion RMB, far surpassing the R&D expenditure ratios of most technology companies. This strategy is not a short-term measure but the result of long-term accumulation and execution by Huawei since the 1990s. This unprecedented investment intensity has laid a solid foundation for the company in several cutting-edge technological fields (figure 2.5).

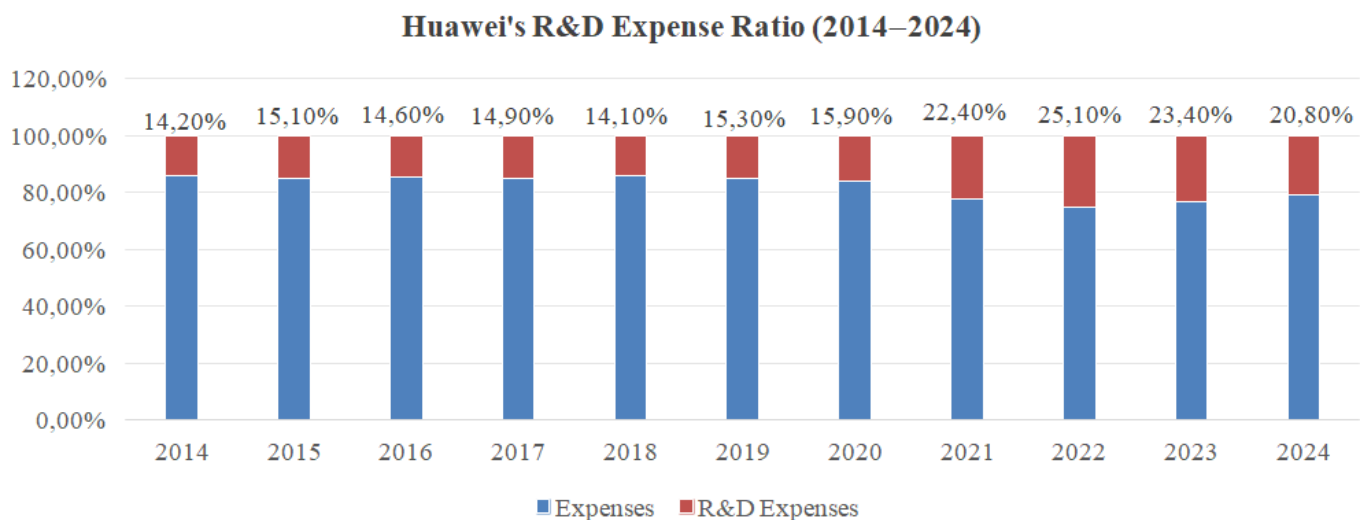


Figure 2.5 – Huawei's R&D expense ratio (2014–2024) [6]

In terms of R&D focus, Huawei has centered its independent breakthroughs around information and communication infrastructure (ICT), particularly in areas such as 5G, artificial intelligence, cloud computing, chip design (e.g., the Kunpeng processor, Ascend AI chips), and self-developed operating systems (e.g., Harmony OS), forming a systematic technological layout. Looking toward future strategic industries, Huawei has also

vigorously expanded smart automotive solutions, green energy systems, and enterprise cloud service platforms, aiming to build a cross-industry technological ecosystem.

Huawei's R&D investment is reflected not only in the digital scale but also in the breadth of its R&D personnel and global layout. By the end of 2024, Huawei's R&D staff reached 113,000 people, accounting for more than 54.1 % of the company's total employees [21]. In addition, the company has established multiple R&D centers worldwide, implementing a localized R&D strategy. This allows Huawei to quickly respond to the needs of different markets, while absorbing diversified technologies and talent resources, thereby strengthening its influence in the global innovation network.

Huawei's strategy of high-intensity investment driving independent innovation is underpinned by deep institutional arrangements and economic logic. Firstly, in the context of high external uncertainty and the increasing politicization of global technology supply chains, Huawei builds a technological foundation through independent R&D to avoid the risk of being choked off. In May 2019, the U.S. Department of Commerce officially added Huawei and its 70 affiliates to the Entity List, banning U.S. companies from selling relevant technologies and components to Huawei. In June 2020, the U.S. Federal Communications Commission declared that Huawei posed a threat to U.S. national security, banning U.S. companies from using universal service funds to purchase Huawei products. Two months later, the U.S. Department of Commerce imposed even stricter sanctions, placing 38 of Huawei's subsidiaries on the Entity List and requiring any company using U.S. technology or components to manufacture chips to obtain a U.S. government license in order to supply products or provide OEM services to Huawei [34]. In response to these sanctions, Huawei rapidly promoted de-Americanization of its technology substitutes and worked to enhance the independence of its domestic industrial chain. Huawei also placed a strong emphasis on global talent recruitment programs targeting genius and top talents, increasing its competition with the United States for global talent [36].

Secondly, from a cost-benefit perspective, although high R&D investment may squeeze profit margins in the short term, in the long run, independent technology can

significantly reduce procurement costs, enhance pricing power, and improve customer loyalty, thereby achieving a positive economic feedback loop.

Huawei's high-intensity investment driving independent innovation strategy is an economically advantageous choice with structural advantages. From a business management perspective, this continuous investment in technology has enabled Huawei to accumulate significant patents and gain market competitiveness in the global communications technology field.

Ericsson's R&D strategy – steady investment supporting core business – reflects its approach as a century-old telecommunications company pursuing technological stability, cost efficiency, and commercial sustainability in the global telecom market (figure 2.6).

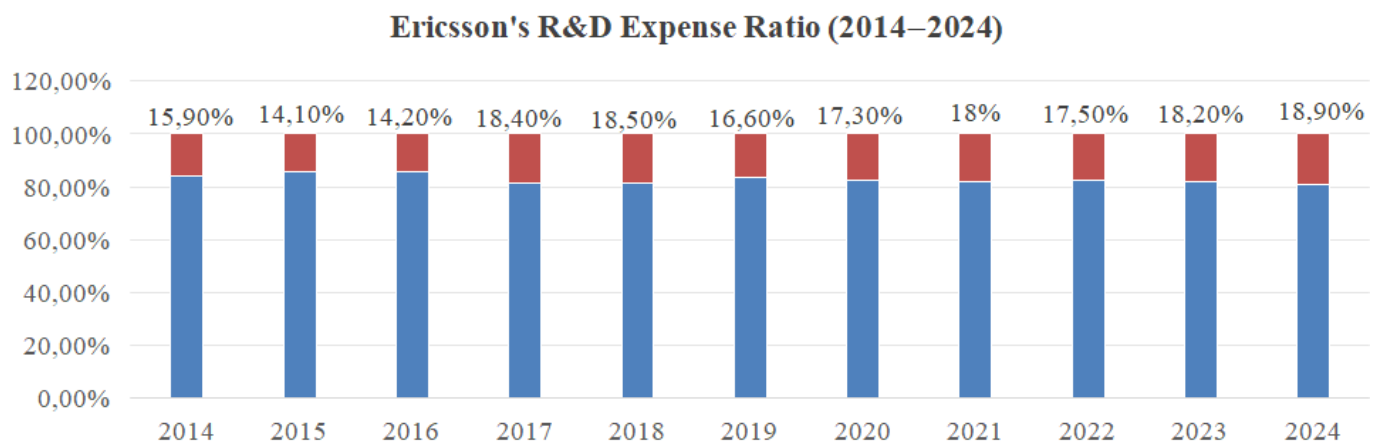


Figure 2.6 – Ericsson's R&D expense ratio (2014–2024) [10]

Unlike Huawei's strategy of high-intensity investment driving diversified independent innovation, Ericsson concentrates its R&D investment in core network technology areas, especially wireless access networks (RAN), 5G communication systems, cloud-native network architecture, and network management platforms. Ericsson emphasizes focusing on its main business and continuously optimizing R&D resource allocation to maintain its leadership in global communication infrastructure technology and profitability.

Ericsson's continuous innovation in areas such as 5G standardization, MIMO antennas, large-scale base stations, virtualized core networks, and network slicing has enabled it to maintain a dominant position in the global telecommunications operator

market, especially with a strong customer base in Europe, North America, and Scandinavia.

Ericsson's R&D layout is highly concentrated, emphasizing efficiency and collaboration. Ericsson has multiple R&D centers worldwide. In 2024, the total number of R&D employees at Ericsson globally was approximately 26,000, accounting for about 24 % of the company's total workforce, which is lower than Huawei's R&D personnel ratio.

However, this structure helps Ericsson achieve a good balance between cost control and R&D efficiency, especially when facing the long 5G development cycle, growing customer customization needs, and rapid technological updates. Ericsson emphasizes the profitable innovation strategy to avoid resource dispersion and redundant investment.

In terms of R&D direction, Ericsson insists on focusing on the sustainable evolution of the future network. 5G is the primary field of R&D resource investment. Ericsson is not only an important member of the 3GPP standard-setting organization but has also made advanced explorations in millimeter-wave communication, Open RAN (Open Radio Access Network), edge computing, and network automation. In recent years, the company has also increased investment in AI-driven network optimization, green energy-saving communication technologies, and 6G frontier research, aiming to enhance network energy efficiency, reduce carbon emissions, and improve network intelligence, thereby consolidating its technological moat for the next decade.

Ericsson's steady investment model stems from its business structure's high reliance on profit stability. The telecom equipment industry is capital-intensive and subject to strong cyclical fluctuations, requiring companies to balance technological investment with financial stability in different macroeconomic cycles. Especially in the context of global operators' capital expenditures becoming more conservative and project cycles lengthening, Ericsson has chosen to strengthen its technological leadership in existing strong markets rather than blindly expanding its R&D boundaries.

Its R&D investment logic is closer to the economic model of a quasi-public goods technology platform: with limited R&D resources, building industry entry barriers and customer stickiness in areas such as network standards, compatibility, and security.

Moreover, Ericsson also demonstrates its reliance on external collaboration mechanisms in its R&D resource allocation. The company often forms joint innovation alliances with European research institutions, universities, and customer enterprises to jointly promote key standards and application scenario testing, reducing the uncertainty of internal R&D. This strategy not only saves costs but also helps strengthen its leadership in international standard systems and increase its voice.

Ericsson's steady investment supporting core business R&D strategy emphasizes the economic logic of quality first and efficiency-driven. This strategy aligns with the market stability requirements of its global background and reflects the adaptive thinking of Western established telecom giants amid changing competitive landscapes. Although its total investment scale and R&D personnel scale are lower than Huawei's, its efficient R&D structure and focused technical investment path still give it strong industry influence and sustainable profitability. In the increasingly fierce technological competition and policy risk environment in the global telecommunications equipment industry, the economic benefits and risk management of R&D strategies have become core factors in measuring a company's global competitiveness. Huawei has implemented a high-intensity investment-driven independent innovation strategy, with its R&D expenditure remaining above 20 % of revenue in recent years (figure 2.7).

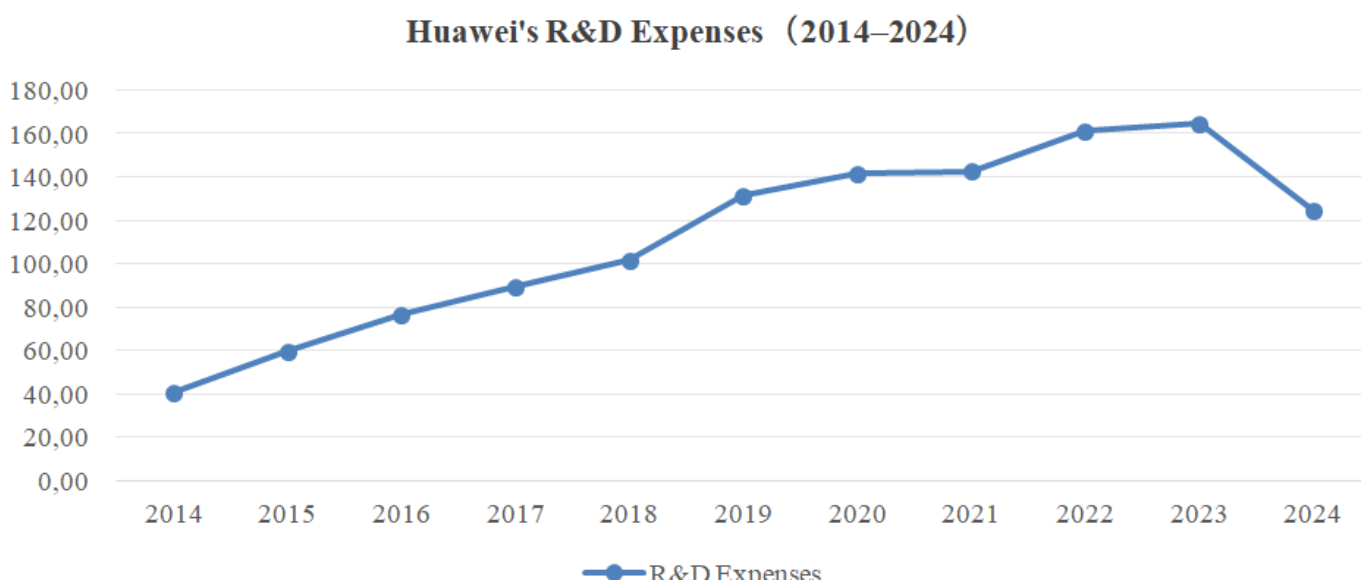


Figure 2.7 – Huawei's R&D expenses (2014–2024) [16]

While increasing R&D investment, companies also need to coordinate products, markets, production, and marketing to form a virtuous cycle of R&D innovation and industrial application [53].

This strategy has brought significant technological breakthroughs and patent accumulation, but also carries high economic risks. Huawei has invested heavily to build full-stack capabilities from chip design, communication protocols to system integration, forming a strong vertical integration system. For example, progress in key areas such as 5G, AI chips, and operating systems (such as HarmonyOS) has significantly enhanced its product value-added and bargaining power, allowing it to avoid homogenized competition with traditional Western manufacturers in emerging markets and secure higher profit margins.

However, this model also reveals systemic vulnerabilities when faced with external political risks and industry chain constraints. On one hand, the higher the R&D intensity, the greater the sunk costs and capital rigidity. When overseas markets are restricted and products fail to scale commercially, short-term returns decrease, putting pressure on cash flow. A company's R&D projects, from initiation to successful development, mass production, and profitability, require time. The relationship between R&D investment and business performance has also gone through a process of being insignificant, then significant, and back to insignificant [41]. When impacted by factors such as U.S. export controls and semiconductor supply disruptions, Huawei's high-intensity R&D model has shown a disconnection between investment and returns in certain areas. At the same time, much of Huawei's R&D is concentrated internally, with the costs and risks of its proprietary architecture borne entirely by the company. Furthermore, in the long term, if R&D investments are spread thinly, it may be difficult for the company to develop differentiated products with competitive advantages, leading to diminishing marginal returns on R&D investment [52]. Compared to Western peers, Huawei has lower externalized returns from its R&D outcomes, such as open standards cooperation and patent licensing mechanisms, which are not yet fully mature, resulting in a lack of diverse revenue sources at certain stages, thus exacerbating financial risks [16].

In contrast to Huawei's aggressive strategy, Ericsson adheres to a steady investment and core business-focused R&D model, with the core logic being the monetization of technical services and high capital efficiency. Its R&D investment scale is lower than Huawei's, but thanks to its concentrated strategy, the marginal output per unit of R&D investment is more controllable and predictable (figure 2.8).

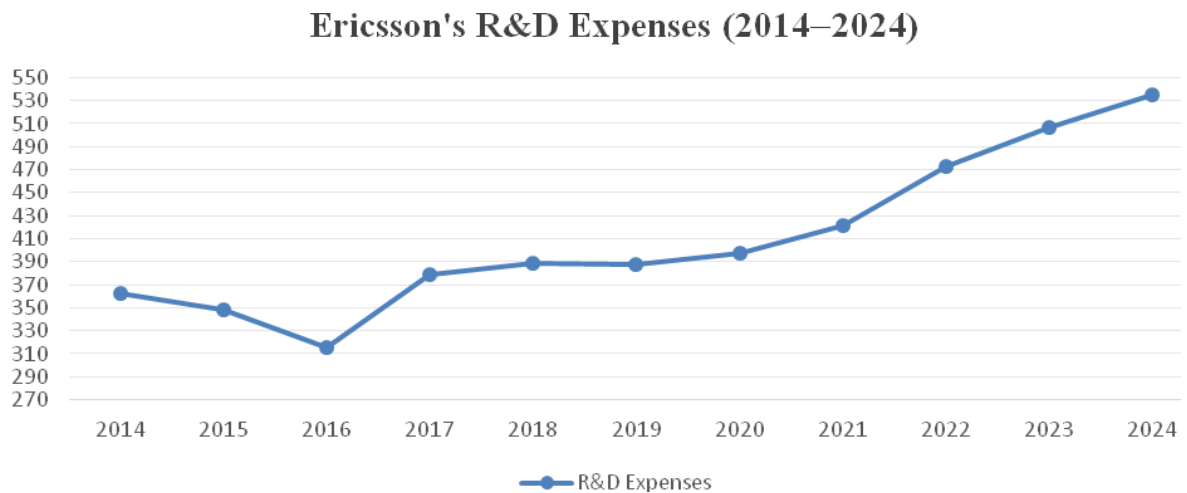


Figure 2.8 – Ericsson's R&D expenses (2014–2024) [31]

Ericsson's R&D focus is highly concentrated on core wireless network technologies, and its clients are primarily high-ARPU (average revenue per user) operators in regions like Europe and North America. As a result, its R&D outcomes are more easily converted into high-margin projects, such as 5G core network deployments, large-scale MIMO devices, and network management platforms. At the same time, Ericsson widely relies on external collaboration mechanisms. This model, while dispersing R&D risks, reducing internal R&D costs, and improving the capital return on technology investment, also avoids supply chain risks from large-scale vertical technology integration. For example, in fields like semiconductor chips and terminal products, Ericsson adopts outsourcing or collaboration strategies to avoid facing single-point technology blockages during technological transformations or geopolitical shocks. Furthermore, its R&D assets are distributed across multiple countries and regions, which enables it to better handle uncertainties arising from export controls, regulatory systems, or trade friction.

However, Ericsson's strategy also faces the issue of conservatism. Due to the concentration of R&D resources on traditional network architectures, its presence in emerging areas like software ecosystems, consumer terminals, and intelligent services has been relatively lagging, causing it to miss some technological dividends. For example, in emerging fields such as AI-driven edge computing, enterprise private networks, and 6G scenario simulation, Ericsson's technical reserves and commercialization processes have been relatively conservative, limiting potential new sources of revenue in the future [11].

R&D strategy has a direct impact on a company's choice of technological path and the quality of R&D outputs, and it directly or indirectly affects product pricing and market performance in product or service markets [28]. Overall, Huawei's R&D strategy embodies the typical characteristics of high investment, high control, and high risk, emphasizing achieving industrial autonomy and controllability through large-scale internal integration. This strategy has a significant economic multiplier effect during upward technology cycles and favorable external environments, but its vulnerability is also markedly increased amid global political turmoil or rising industry barriers. In contrast, Ericsson's R&D strategy emphasizes economic sustainability and risk minimization by focusing investment on key technological areas and leveraging external collaboration mechanisms to reduce marginal costs. Its R&D outcomes have strong profitability and controllable cycles. However, this path dependency limits the company's initiative in cross-domain integrated innovation, making it prone to missing disruptive opportunities during industry evolution.

Huawei tends toward a technology monopoly enterprise model, pursuing long-term barriers through large-scale R&D; Ericsson is closer to a platform innovation model, gaining market control through standards setting and cooperative win-win approaches. The two respectively represent typical paths of an autonomous growth strategy and a collaborative growth strategy, reflecting deep differences in corporate technological and economic strategies under different national and institutional environments.

Global Market Deployment.

Multinational corporations operate and allocate resources globally, leveraging the advantages of different countries and regions to significantly enhance their

competitiveness and profitability [55]. Huawei's global market strategy practices a broad coverage + localization oriented global penetration approach, reflecting a highly aggressive and systematic logic of market globalization. Its core lies in achieving economies of scale through wider geographic coverage and driving long-term stable revenue via deeper localized operations, thereby building resilience and competitive advantages across multiple layers of cross-regional markets (figure 2.9).

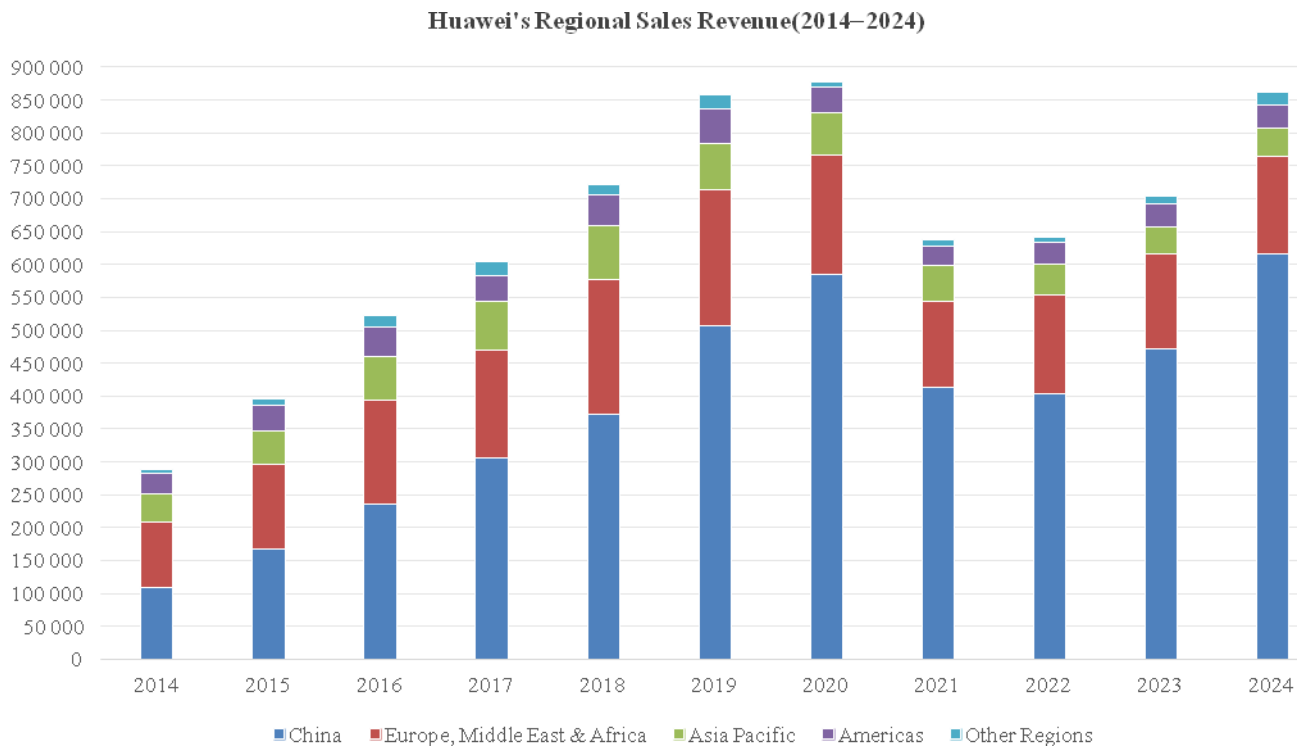


Figure 2.9 – Huawei's regional sales revenue (2014–2024) [17]

Huawei's global market expansion began in 1996 with its first entry into Russia, rapidly expanding to regions in Asia, Africa, and Latin America, and from the mid-to-late 2000s, striving to capture high-end markets in Europe and North America. Unlike many Western companies that tend to adopt a top-down centralized layout, Huawei employs a bottom-up penetration path – starting from mid-to-low-end and fringe markets, gradually entering mainstream markets, with expanding overall market control as the primary priority. Overall, Huawei's international business strategy can be characterized as a gradual strategy, or understood as a easy first, hard later approach, initially targeting emerging developing countries in Russia, Asia, Africa, and Latin America as entry points.

Success in these countries or regions, in terms of sales, capital, international reputation, and accumulated experience, paves the way for subsequent entry into developed country markets [5].

As of 2023, Huawei's business spans over 170 countries and regions, with more than 30 regional divisions and representative offices worldwide [47]. Huawei's share in the global telecommunications equipment market (including wireless access and core networks) surpasses competitors like Nokia and Ericsson. Huawei's choice to begin with high-potential, low-saturation emerging markets reflects its understanding of increasing marginal returns on market investment. Even if returns in individual markets are limited, a broad geographic layout can effectively diversify policy risks and exchange rate risks of single markets while achieving cross-regional revenue complementarity.

Taking the African market as an example, Huawei began actively expanding into the region in 2004 and has since deployed basic communication networks in over 40 African countries, including more than 70 % of the 4G base station infrastructure. Despite the relatively low revenue levels of African operators, the region's demographic dividend and infrastructure investment potential have enabled Huawei to secure substantial large-scale orders. Furthermore, this broad coverage has created a path dependency effect, whereby once a technology architecture is locked in, local governments and enterprises will remain reliant on Huawei's solutions for subsequent upgrades, maintenance, and expansion, forming a stable source of cash flow.

Huawei's overseas localization strategy involves deeply engaging in the industrial ecosystem of the host country through local manufacturing, research, talent training, and procurement of components. This allows the company to exchange stronger social integration for policy support and market loyalty. Huawei not only pursues the internationalization and localization of talent but also actively invests in local social welfare initiatives. According to Huawei's official data, the recruitment of local employees overseas has grown by more than 15 % annually, with nearly 60 % of Huawei's overseas employees being locals. The company has also hired several international telecommunications elites to help better expand its overseas market [56]. For example,

Huawei's Seeds for the Future program, launched in 2008, has trained over 30,000 local ICT talents in more than 130 countries worldwide (Huawei Annual CSR Report 2023).

Multinational companies often encounter cultural values and behavioral norms that are distinct from those of their home countries [31]. To achieve steady development in international operations, multinational corporations must fully consider the impact of cultural differences [62]. Localization is not just an adaptation to cultural aspects, but also an outcome of economic cost optimization and policy cooperation. In 1998, when Huawei began expanding into Latin America, it faced the worsening financial crisis in the region. Huawei adopted a strategy of leveraging national brand to boost corporate brand, incorporating national diplomatic policies into its development strategy, building business credibility, and expanding international influence [27].

Through localized operations, Huawei can effectively avoid trade barriers, import taxes, and country-specific procurement preferences while moving production, after-sales, and services to the target markets, thus gaining an advantage in terms of first-mover and trust. More importantly, this local embedding helps Huawei maintain on-the-ground presence in the face of geopolitical challenges, thus forming strong resilience to pressure.

In contrast, Ericsson employs a refined penetration strategy that focuses on high-value markets, representing a robust global market strategy centered on technological barriers, developed economies, and leveraging cooperative alliances. Unlike Huawei's broad coverage + localization strategy, Ericsson chooses the path of concentrating quality resources + deepening high-end customers, with the core focus on maintaining long-term technological cooperation relationships in high-value markets (mainly in Europe, North America, and some mature economies in the Asia-Pacific) to achieve sustainable growth with higher profit margins. This strategy emphasizes market quality over market quantity, balancing capital efficiency with controllable risks (figure 2.10, figure 2.11). It follows an internationalization business logic based on capital-intensive and relationship-network-driven models.

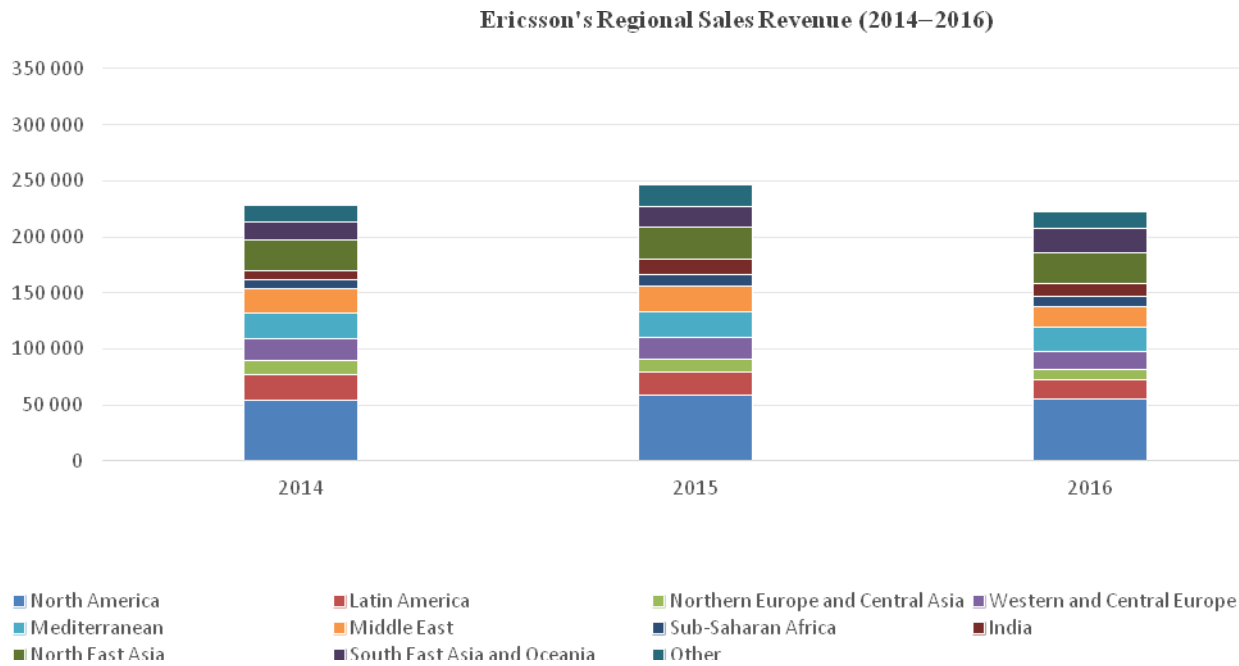


Figure 2.10 – Ericsson's regional sales revenue (2014–2016) [12]

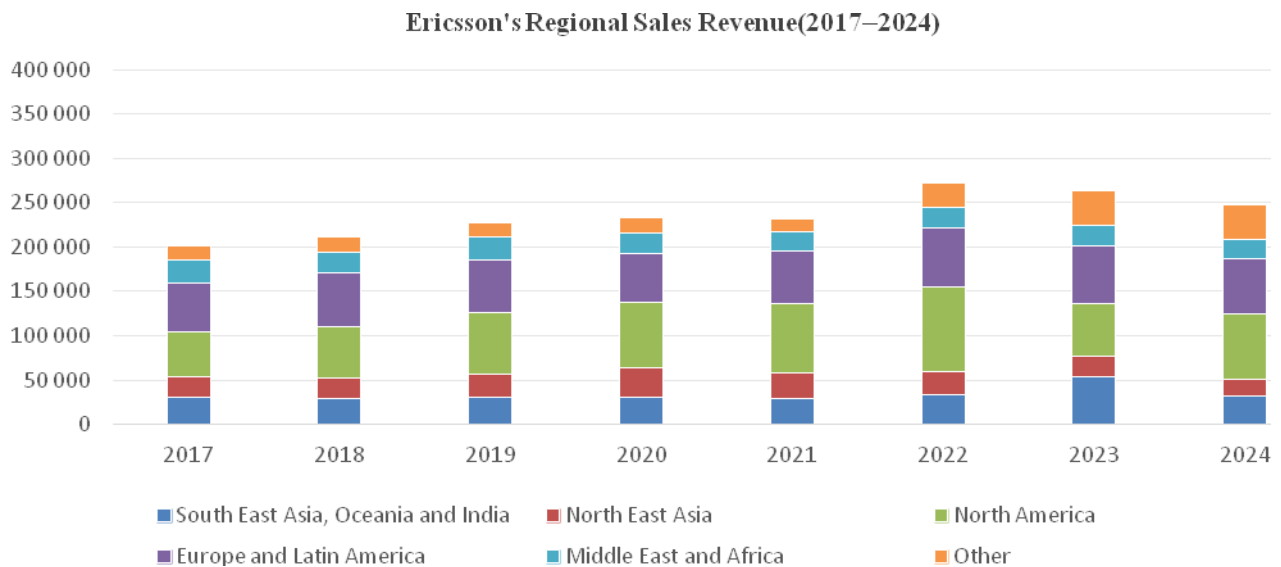


Figure 2.11 – Ericsson's regional sales revenue (2017–2024) [12]

In response to the institutional differences and political intervention risks in international markets, Huawei's global market expansion strategy demonstrates highly flexible and pragmatic adaptability. In the context of security reviews and bans in Western markets, Huawei swiftly adjusted its revenue structure, shifting its strategic focus from

Europe and North America to the Asia-Pacific, Middle East, Africa, and Latin America. It also heavily developed non-operator businesses such as cloud computing, enterprise ICT solutions, and smart terminal sales. After its market share in Europe and North America declined, Huawei compensated for the revenue gap by driving 5G deployment in the Middle East, telecom penetration in Africa, and smart city projects in Latin America. Its sales revenue in the Middle East grew by 15 % and by 11 % in Latin America in 2023. [24]. These markets place emphasis on accessibility and cost-effectiveness, providing Huawei with a sustainable institutional environment for development.

Ericsson's global business layout is highly concentrated in high-ARPU markets such as Europe and North America. As of 2023, around 60 % of Ericsson's revenue comes from Europe and North America, particularly in 5G network construction, where it holds a dominant position in countries like the United States, Canada, Germany, the United Kingdom, and France.

Compared to emerging markets, operators in these markets have stronger payment capabilities and higher demands for network quality and security, making them more willing to pay a premium for Ericsson's high-performance, high-security, and highly reliable network solutions. In addition, the relatively stable policy and legal environments in these markets help reduce revenue fluctuations and asset depreciation risks. The strategy of focusing on high-end markets reflects an emphasis on profit elasticity and long-term relationships, aiming to stabilize cash flow and maximize capital efficiency by locking in customers with high technological dependency.

Unlike Huawei's approach of large-scale channel construction and establishing local factories and sites, Ericsson prefers to bind customers through high-value-added technical products and long-term strategic partnerships, creating dual stickiness in both technology and relationships. Its penetration strategy relies more on setting industry standards, participating in cutting-edge technological research and development, and forming early-stage strategic alliances with large operators. Ericsson is one of the key members of 3GPP (Global Mobile Communications Standardization Organization) and holds a significant share of standard patents in the 5G standard-setting process, giving it a technological voice and positioning it as a technologically reliable supplier in global high-end markets. Its

long-term collaborations with operators like NTT Docomo (Japan), Telstra (Australia), Telefonica (Spain), and Deutsche Telekom (Germany) involve joint R&D in 5G, AI optimization, edge computing, and other areas, driving the implementation of its technology.

Ericsson widely adopts a high trust + high technology customer relationship maintenance system. For example, it establishes Ericsson Innovation Hubs joint laboratories, where it collaborates with operators to develop customized network solutions, strengthening customer loyalty. This approach allows it to achieve a good return on capital through longer lifecycle contracts and technology service revenues, despite higher customer acquisition costs (figure 2.12).

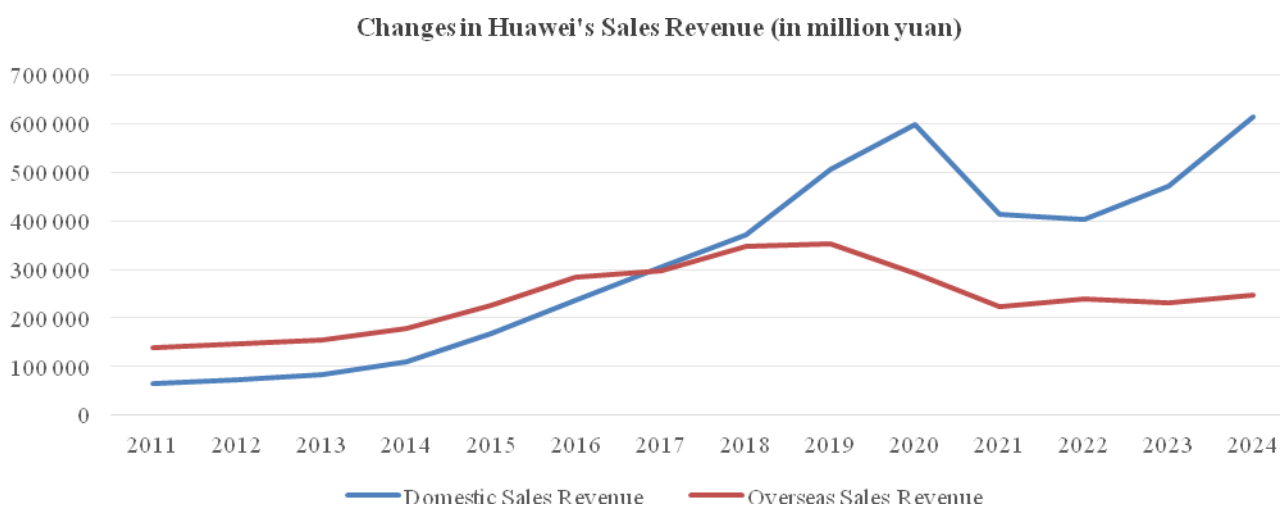


Figure 2.12 – Changes in Huawei's sales revenue (in million yuan) [18]

Unlike Huawei's deep penetration in emerging markets, Ericsson adopts a relatively cautious expansion strategy in these regions. Although it has a presence in markets such as Africa, Latin America, and Southeast Asia, its operations are mainly focused on service exports, contract construction, and indirect supply, without setting up many local heavy-asset institutions. This provides greater flexibility and an exit mechanism in situations such as global trade friction and geopolitical tensions. In the Indian market, Ericsson has long supplied goods through partnerships with local manufacturers, without establishing a large-scale local production system, in order to avoid investment risks arising from policy

changes. After 2022, Ericsson strengthened its collaboration and deployment in Southeast Asian markets like Vietnam and Malaysia, but mostly through regional service centers rather than large-scale localized production. This strategy helps control the size of its balance sheet and reduces the erosion of profitability caused by overseas political risks. It reflects Ericsson's high sensitivity to marginal risk costs, actively choosing to exit high-volatility, high-uncertainty markets, and focusing resources on stable-return markets to achieve manageable overall risk exposure. Ericsson's global market strategy is based on the logic of focusing on high-value markets and managing low-volatility risks, emphasizing the enhancement of long-term economic output per customer through highly concentrated resources, high technical barriers, and high customer trust. While this strategy does not have the market breadth of Huawei's, it is more prominent in terms of unit economic benefits, marginal capital efficiency, and risk hedging.

The trade-off between coverage breadth and capital efficiency is a core and distinctly contrasting aspect in the global market strategies of Huawei and Ericsson, directly reflecting the different orientations in economic resource allocation and risk management between the two companies, thereby determining their competitive paths and market performance.

Huawei's broad coverage strategy emphasizes rapid customer base and market share expansion through large-scale market penetration. This strategy results in high revenue growth rates but also comes with significant capital investment and operational risks. To support its broad market layout, Huawei has to establish local R&D centers, production bases, and sales networks in multiple countries, which increases capital expenditure and fixed-cost burdens. Meanwhile, the wide geographical coverage brings complex policy risks, legal compliance challenges, and operational management difficulties, especially when facing technological blockades and sanctions from Western countries, putting immense pressure on Huawei's global supply chain and market penetration. Moreover, this model pursues economies of scale, rapidly seizing market share through expansion to achieve both revenue and market share growth, but this inevitably leads to capital efficiency being under pressure in the short term, as the marginal returns of large-scale investment and market development tend to decline. Huawei thus assumes higher political

and institutional risks, which could affect the stability of future cash flows and capital returns.

Ericsson's strategy, on the other hand, focuses on high-value, high-paying developed markets such as Europe and North America, selecting a relatively limited market range for in-depth cultivation, and building competitive barriers through technological innovation and high-value-added services. According to Ericsson's 2023 financial report, its gross profit margin has remained above 42 %, with most profits coming from long-term cooperation contracts in developed markets. This strategy allows Ericsson to maintain a high capital return rate and profit margin, avoiding excessive resource allocation in the complex and volatile emerging markets. Ericsson is more cautious in capital allocation, avoiding blind expansion, and optimizing the efficiency of fund utilization and risk exposure through controlling balance sheet size and selective investments. Its strategy demonstrates high sensitivity to marginal capital returns, maximizing the reduction of the impact of institutional risks and market volatility while ensuring capital efficiency. By concentrating resources on technological leadership and high-end markets, Ericsson strengthens long-term customer relationships, improves customer lifetime value, and ensures that capital investment generates steady and sustainable economic returns (figure 2.13).

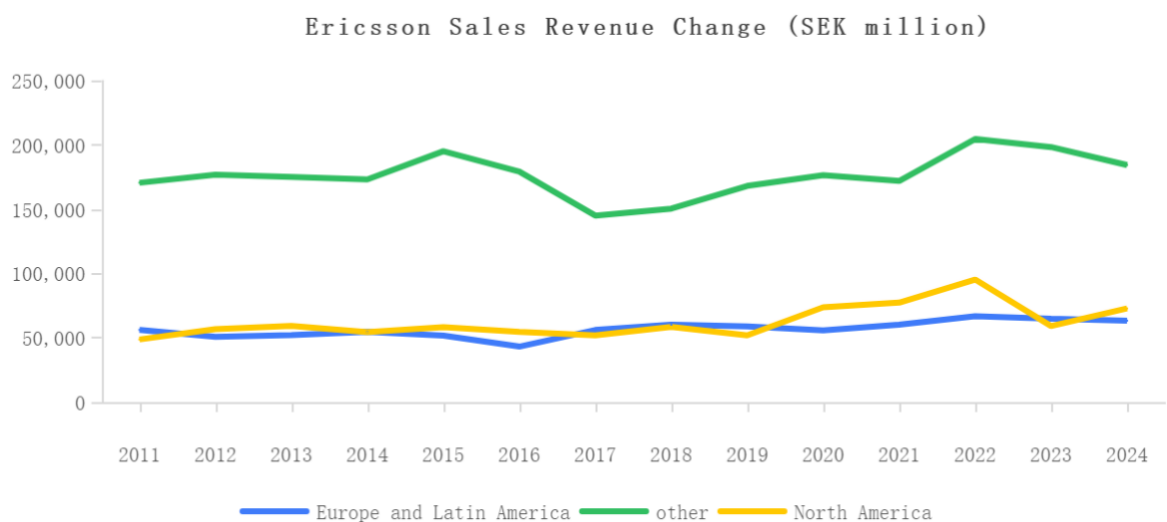


Figure 2.13 – Ericsson sales revenue change (SEK million) [12]

This capital efficiency-first strategy also limits Ericsson's market expansion speed and coverage, particularly in the competition within emerging markets, where it finds itself in a relatively passive position, struggling to quickly capture customer resources with huge growth potential. While Huawei invests more capital and assumes higher risks, its broader coverage provides greater market adaptability and scale advantages, enabling it to rapidly expand in the global telecommunications equipment market.

Customer Relationships and Business Model.

The cross-subsidization view argues that multinational companies should develop and manage large, differentiated product portfolios that cover different industries and markets (Hamel and Prahalad, 1985). When operating globally, multinational companies face differences in countries and markets, and in response, they should offer differentiated product portfolios [57].

In terms of cooperation models with operators, Huawei focuses on establishing close and long-term partnerships through highly customized services and full lifecycle management. This model is embedded in every stage, from product design and network planning to deployment, optimization, and later maintenance. For example, in its collaboration with China Mobile in the early 2020s, facing China Mobile's growing demand for 5G network construction, Huawei did not simply provide standardized equipment but instead conducted in-depth research on China Mobile's network coverage, user habits, and business development directions across different provinces and cities. Huawei customized network equipment and solutions accordingly. For instance, to meet the coverage needs of remote areas, Huawei developed low-power, easily deployable micro base stations and tailored software interfaces for China Mobile's network management system, greatly enhancing the network's flexibility and operational efficiency. More importantly, Huawei did not just deliver the equipment but also established a joint operation and maintenance team with China Mobile to jointly participate in daily network optimization and rapid fault response, forming a complete lifecycle service system.

Huawei adopted a similar strategy in overseas markets, such as its collaboration with African operator MTN Group. As one of the largest mobile communication operators

in Africa, MTN's network coverage is vast and diverse. Huawei offered different specifications and technical solutions based on MTN's network construction stages and user characteristics in various countries and regions, upgrading from basic 2G/3G to comprehensive 5G solutions. Huawei also assisted MTN in building a Joint Innovation Center, where both teams developed intelligent optimization tools tailored to the local network environment and used artificial intelligence to automate network fault detection and repair. This deep collaboration not only helped MTN improve network quality and customer satisfaction but also provided Huawei with continuous technical feedback and opportunities for improvement, creating a virtuous cycle. This highly customized and jointly innovative cooperation model effectively increased the lifecycle value of operator customers, as long-term dependence and high satisfaction with network construction and operation and maintenance led to continuous purchases of Huawei's products and services, thereby enhancing Huawei's stable income flow and profitability.

By closely integrating R&D with customer needs and continuously adjusting products and services, Huawei pushes innovative technologies to industry deployment and builds a customer-centered cooperation ecosystem. This not only helps Huawei maintain a competitive advantage in the intense global telecommunications market but also forms a positive feedback loop between its R&D investment and customer value.

In Ericsson's cooperation model with global operators, it also values the comprehensiveness of services but its core strategy is more focused on maintaining technological leadership and participating in industry standard-setting to build its competitive advantage. A typical case is Ericsson's collaboration with Swedish telecom giant Tele2. As early as 2018, the two parties launched a joint R&D project for 5G network architecture. Ericsson not only provided Tele2 with advanced 5G wireless access equipment but also actively participated in joint standard-setting for 5G network slicing and dedicated network technologies to ensure Tele2 could gain a competitive edge in emerging business areas. Ericsson's cooperation is not limited to equipment delivery but also involves long-term technological alliances and standardized cooperation, ensuring that products and services remain at the forefront of the industry and helping operators reduce the technical risks of future network upgrades. This model has closely bound both

parties in technological innovation and business model, enhancing the stability and long-term value of the cooperation.

Ericsson's resource allocation in core technology areas is concentrated in 5G core networks, edge computing, and IoT private networks. Compared to Huawei's highly customized solutions, Ericsson tends to offer standardized and modular solutions, which not only guarantee interoperability and easy upgrades of products but also significantly improve the economies of scale in production and services. For example, in its collaboration with Deutsche Telekom, Ericsson used a modular network architecture to deploy 5G networks of varying scales for both urban and rural areas, achieving lower unit costs and flexible network expansion capabilities.

In terms of lifecycle services, Ericsson provides end-to-end network design, deployment, and maintenance services, but the service content focuses more on process standardization and quality control, avoiding the complexity and high costs associated with excessive customization. Economically, Ericsson relies on long-term contracts with high-end global operators, covering years of equipment supply and service support, creating relatively stable and predictable revenue streams. By focusing on high-value customers and standardized technologies, Ericsson effectively diversifies market risks and avoids volatility from excessive reliance on a single market or customer. This model reflects higher capital efficiency and risk management levels, allowing Ericsson to maintain sustained profitability and stable growth in R&D investment.

Government relations and policy support constitute significant strategic differences in the customer relationships and business models of Huawei and Ericsson. Huawei deeply relies on China's multi-level policy benefits and capital support, which has significantly driven its global market expansion and technological R&D. Specifically, the Chinese government not only supports Huawei through direct industrial policies but also provides strong backing in R&D funding, export credit, and international diplomacy. The government's special funds and tax incentives have significantly reduced Huawei's capital costs, allowing the company to continuously maintain high levels of R&D spending and technological innovation, thereby boosting its international competitiveness. Furthermore, the Chinese government's Belt and Road Initiative has opened up extensive international

market access for Huawei. Through this initiative, Huawei successfully entered several developing countries in Africa, Southeast Asia, the Middle East, and Latin America, where there is a huge demand for digital transformation and communication network construction but a lack of mature communication infrastructure. Huawei leveraged government diplomatic resources in combination with local market demands to achieve a dual driving force of policy and market expansion, greatly enhancing its resilience to complex geopolitical risks and market adaptability.

In contrast, Ericsson's government relations are more reflected in its close cooperation with Nordic and EU member governments, as well as its participation in regional industry alliances and technology standard-setting. As a core enterprise in the European technological innovation system, Ericsson enjoys the support of EU and Nordic governments in frontier areas such as 5G pilot projects, smart manufacturing, industrial IoT, and digital transformation. For instance, Ericsson participates in several EU-funded 5G network pilot plans and digital infrastructure construction projects, which not only provide R&D funding subsidies but also offer it a first-mover advantage in the widespread application and standard-setting of its products and technologies in the European market. Unlike Huawei's reliance on large-scale direct capital support, Ericsson's government support emphasizes technological innovation and industrial upgrading, focusing on the stability and openness of the policy environment, and promoting the construction of industry ecosystems through multi-party cooperation. This cooperation model allows Ericsson to maintain technological leadership in high-value markets, gain trust from high-end customers, and achieve economies of scale through standardized and modular products.

Huawei has significantly reduced capital costs and market entry barriers through deep integration with national policy resources, enabling it to expand rapidly globally, especially gaining significant market share in emerging markets. However, this model also brings higher geopolitical risks, particularly when facing restrictions and sanctions from Western countries, requiring Huawei to invest more resources to manage risks and diversify markets. Ericsson's reliance on government cooperation environments is more stable, with lower policy risks but a lack of direct capital injection and market protection,

which makes its global expansion pace more cautious, mainly ensuring market competitiveness and sustained profitability through technological leadership and standard-setting. Overall, Huawei's policy-driven capital support strengthens its market momentum and risk-resilience, while Ericsson relies on a stable policy environment and technological cooperation to ensure the sustainable development of its high-end markets.

As the company grew, Huawei gradually expanded from a telecommunications equipment supplier to a comprehensive solutions provider, particularly with its strong penetration into the global consumer market. Initially entering the market as a telecom infrastructure supplier, Huawei focused on providing network equipment and technical solutions to global operators and large enterprise clients for many years. At the same time, the company actively extended its presence into consumer terminals, forming a complete industrial chain layout (figure 2.14). Huawei successfully entered the ranks of the world's top three smartphone manufacturers. This not only enhanced the international influence of the Huawei brand but also significantly enriched its revenue structure.

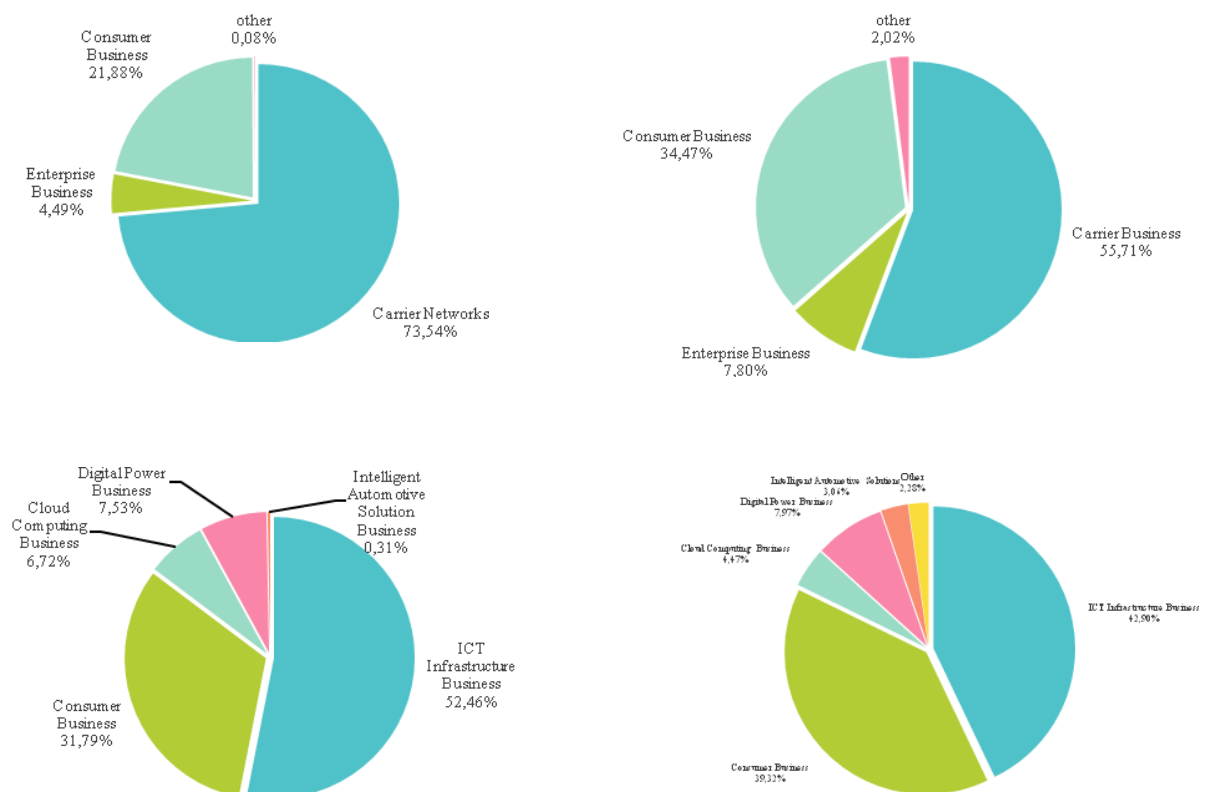


Figure 2.14 – Huawei sales split per segment (2012, 2016, 2020, 2024) [19]

In terms of business model expansion, Huawei has demonstrated a strong sense of diversification and aggressiveness. In its early stages of foreign direct investment, Huawei predominantly adopted greenfield investments, a traditional investment approach, where it established companies with partial or full ownership of assets in host countries. The company set up subsidiaries in technology-intensive regions such as Germany, Japan, and the United States, including wholly owned foreign companies like Huawei Technologies GmbH in Germany, Huawei Technologies Japan Co., Ltd., and Huawei Global Financial Ltd [42]. This strategy not only helped Huawei quickly capture key markets but also laid the foundation for its subsequent diversification efforts.

By integrating network equipment with terminal products, Huawei has achieved full coverage of the entire industry chain, from the underlying network construction to the user terminal experience. This has effectively enhanced the company's profitability and market control. Although in recent years, its smartphone business has experienced fluctuations in overseas market share due to the impact of international conditions and trade restrictions, Huawei has successfully mitigated the risks of relying on a single business line through its diversified business model, improving its overall risk resilience and economic performance. Particularly in China and certain emerging markets, Huawei's terminal business continues to maintain strong competitiveness, becoming an important pillar supporting the company's revenue.

As early as the early 2000s, Ericsson made the decision to divest its mobile terminal business, choosing instead to focus on its core strengths – network infrastructure and enterprise solutions. Based on a thorough analysis of the mobile terminal market, Ericsson concluded that the terminal business was not only highly competitive but also had relatively low profit margins. Additionally, frequent technological iterations and capital-intensive investments created significant pressure on resource allocation. As a result, Ericsson chose to concentrate its limited capital and R&D resources on high-value-added businesses such as 5G network construction, cloud service solutions, and industrial-specific networks. This focus strategy allowed Ericsson to maintain a high capital return rate and operational efficiency, while effectively avoiding the financial volatility risks brought by price wars in the terminal market. The strategic focus helped Ericsson maintain

its technological leadership in the global telecom equipment market and achieve relatively stable financial performance (figure 2.15). Furthermore, in 2024, Ericsson launched the 5G Advanced software, further consolidating its leadership in the programmable network field. This clear business focus not only ensured Ericsson's technological leadership in the global telecom equipment market but also contributed to its relatively stable financial performance, protecting it from revenue fluctuations caused by uncertainties in the terminal market.

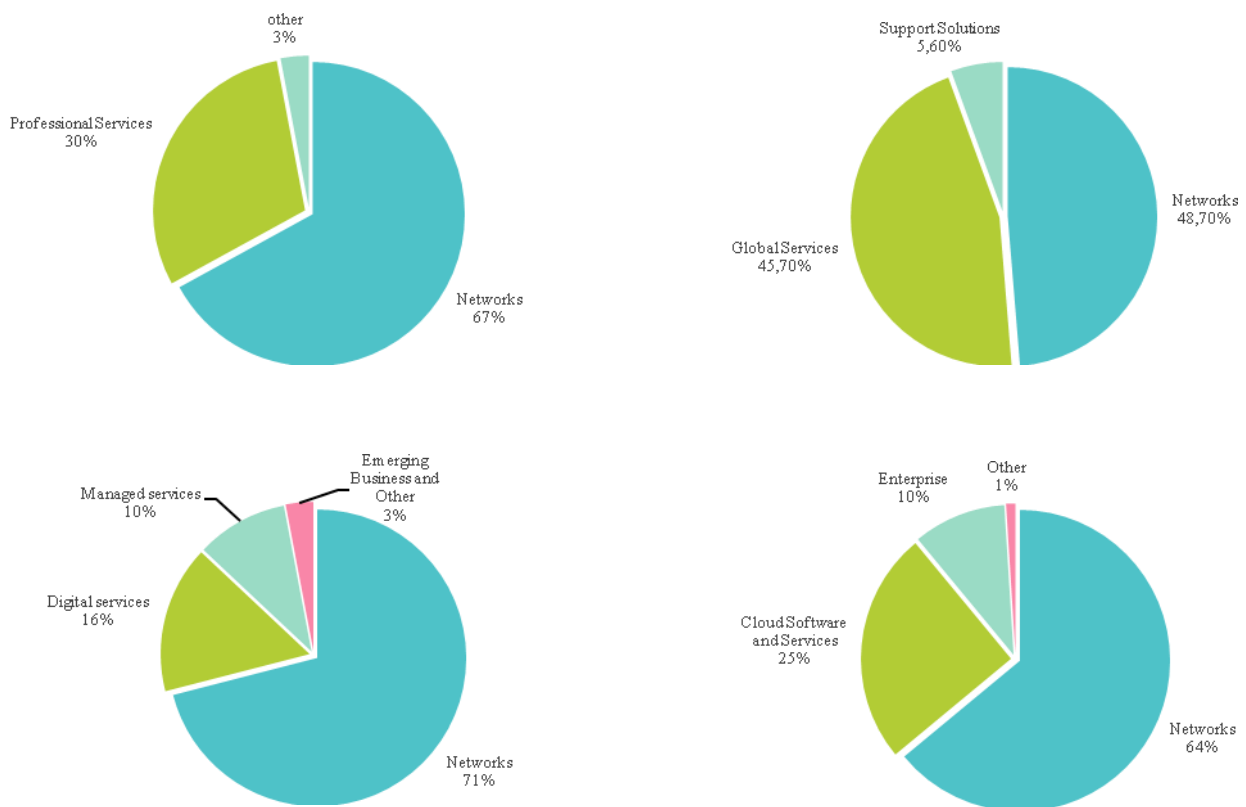


Figure 2.15 – Ericsson sales split per segment (2012, 2016, 2020, 2024) [12]

The diversified business model, by expanding market coverage and product line depth, enhances a company's bargaining power and profitability elasticity within the value chain, although it may introduce higher operational complexity and political risks in international markets. However, Huawei, backed by capital and policy support, has effectively balanced these risks, driving improvements in overall economic efficiency. On the other hand, Ericsson's strategy of focusing on core network equipment and enterprise

solutions helps optimize capital allocation, improve capital utilization efficiency, and enhances the stability of profits and risk management capabilities.

In customer relationship management, Huawei adopts a highly customized approach, focusing on providing flexible and targeted products and services to different regions and operators. This strategy not only strengthens customer loyalty but also promotes joint innovation with operators, fostering the deep integration of cutting-edge technologies such as 5G, cloud computing, and artificial intelligence. This has led to the creation of a continuous innovation ecosystem driven by customer needs. Meanwhile, Huawei heavily relies on the policy support from the Chinese government, including R&D subsidies, export credits, and market expansion support under the Belt and Road Initiative. These policy benefits significantly reduce capital costs, improve Huawei's competitiveness in international markets, and strengthen its risk management capacity. By vertically integrating along the industry chain and expanding its economic scale, Huawei has further enhanced its overall profitability and resilience to risks. Despite facing a complex international political environment and trade restrictions, Huawei, through its diversified business model, has maintained strong market adaptability and sustained growth potential.

Ericsson, on the other hand, has solidified its long-term partnerships with European and American governments and high-value operators by leveraging its technological leadership in 5G standard setting, network architecture optimization, and dedicated networks. The company's strategic focus is on building a high-quality and sustainable product and service system through technological advantages and standard cooperation, while emphasizing capital efficiency and risk control. Ericsson divested its mobile terminal business, which is capital-intensive and highly competitive, concentrating resources on core network equipment and enterprise-level solutions. This refined focus strategy has effectively improved operational efficiency and capital return rates, while reducing the risks brought by market volatility. With the support of a stable policy environment and high-end markets, Ericsson has achieved steady business development and financial predictability.

Supply Chain Management and Risk Mitigation.

The global economy today is highly interconnected, and multinational companies are facing multiple challenges such as geopolitical tensions, tightening trade policies, frequent natural disasters, and institutional uncertainties. Traditional, efficiency-oriented global supply chain systems are being forced to restructure towards more resilient and controllable models.

Since its establishment, Huawei has placed great emphasis on vertical integration of its supply chain, especially self-research capabilities in core technology areas. This is not only the cornerstone of the company's technological competitiveness, but also an important defense line when facing external uncertainties and risks. Taking HiSilicon, Huawei's semiconductor subsidiary, as an example, HiSilicon handles the majority of Huawei's chip design tasks, gradually forming a relatively complete self-research system for chips, covering key areas such as communication chips, smart terminal chips, and AI acceleration chips. This is a key initiative in Huawei's attempt to break through international technology blockades and achieve domestic substitution of core components.

In 2019, under the US's media and diplomatic offensive, Australia and the UK officially followed the US in excluding Huawei from their 5G network construction. Moreover, Huawei's business in international markets such as Japan, Vietnam, the EU, Singapore, Canada, France, Portugal, Italy, Belgium, Sweden, and Germany has been affected to varying degrees [29]. According to a research report, in 2019, Huawei's net profit growth rate declined by approximately 17 % year-on-year, marking the fastest decline in net profit growth in the past five years; in 2020, Huawei's cash flow reached the lowest level in nearly seven years. In addition, its revenue in the Asia-Pacific region (excluding China) dropped by about 8.7 %, and its revenue in Europe, the Middle East, and Africa fell by 12.2 % [54].

Against this backdrop, Huawei did not stop responding to external pressure, but quickly adopted a counter-strategy by using its self-developed HarmonyOS to address the challenge of being banned from using Google's Android operating system. The launch of HarmonyOS marked Huawei's active decoupling from dependence on US technology and provided stronger autonomy and innovation space for its smartphones and IoT devices. This strategy is not only a technological innovation but also a strategic adjustment in

response to the complex global market situation. At the same time, Huawei has continuously optimized its supply chain layout, reducing reliance on key technologies from countries such as the US and Japan by diversifying supply sources and strengthening internal technological innovation. This vertical integration strategy, from chip design to terminal operating systems, has strengthened Huawei's control over the entire supply chain and enhanced its competitiveness and risk resilience in the global market.

However, the high-intensity investment in self-research and alternative technologies has significantly increased R&D costs, far exceeding the industry average. Additionally, although HiSilicon has made progress in chip design, the chip manufacturing process still heavily relies on a few foreign advanced devices, including EUV lithography machines produced by Dutch companies such as ASML, which limits Huawei's full autonomy in high-end chip manufacturing. The ecosystem development of HarmonyOS and third-party application development is still in the growth phase, and compared to the mature Android system, it faces challenges in market acceptance and application ecosystem in the short term. These factors together bring technological update pressure and market risks. However, Huawei has effectively reduced the risk of supply chain disruption due to international political friction by enhancing supply chain autonomy, thus laying a solid foundation for the company's long-term stable development.

Ericsson, on the other hand, adopts a supply chain strategy focused on diversification and decentralization, emphasizing the establishment of a global network of partners to enhance the resilience and flexibility of the supply chain. The key to this model lies in relying on a diversified supplier base worldwide to avoid excessive dependence on a single supply chain node or country, thus maintaining relatively stable supply security in the face of fluctuations in the international political and economic environment. Compared to Huawei's highly vertically integrated self-research path, Ericsson prefers to utilize mature technological products already available globally, especially in key areas such as high-performance chips and operating systems, relying on leading external suppliers. For example, Ericsson's mobile network devices generally use processors from international chip manufacturers like Qualcomm and Intel, while its software platforms are based on Google Android, Microsoft, and other third-party systems. This choice significantly

reduces the company's investment and risks in chip and software platform development, allowing its R&D resources to focus more on innovations in network architecture and system integration.

Geopolitical risks have, to some extent, promoted companies to continuously adjust their response measures, thereby enhancing their competitiveness. In response to global geopolitical risks, Ericsson has set up supply bases in multiple regions such as Europe, the Americas, and Asia-Pacific, achieving geographic diversification of its supply chain. For example, it has manufacturing and assembly plants in Sweden, the US, and China, and maintains long-term cooperation with several suppliers from Japan, South Korea, and Europe. This multi-point layout not only reduces the impact of policy changes in a single region on the supply chain but also enhances its ability to quickly respond to market demand changes.

This strategy, which highly relies on external suppliers, also has obvious limitations. While leveraging mature technologies from global leading manufacturers allows Ericsson to save a significant amount of R&D investment and avoid some technological risks, its supply chain can be easily constrained and bottlenecked when facing sudden international trade restrictions or technology export controls. For instance, during the escalation of the US-China trade friction in the early 2020s, some critical chip supplies to Ericsson were delayed due to US export control measures, exposing the company's lack of independence in key components. This dependence on external suppliers reduces Ericsson's capital expenditure pressure and R&D costs, helping maintain a high capital return rate and profit margin, but it also creates potential vulnerabilities in terms of supply chain security and technological autonomy, which could impact its stability and long-term competitiveness in the highly competitive and policy-sensitive global telecom equipment market.

Since its establishment, Huawei has adhered to a strategy of high vertical integration and independent innovation, especially investing heavily in chip design and operating system development, to enhance control over its supply chain and improve its risk resilience. By establishing HiSilicon Semiconductor to specialize in chip business and R&D, this strategy, although significantly increasing short-term R&D and capital costs, has strengthened Huawei's independence and competitiveness in global supply chain

fluctuations and international technology blockades in the long run. Its self-developed HarmonyOS is gradually being promoted in its smartphones and IoT devices, which not only reduces the risk of being constrained by software ecosystems but also provides technical guarantees for the company's sustainable development in international markets. Huawei's vertical integration strategy gives it strong initiative in supply chain management, which helps ensure production stability and enhance product differentiation competitiveness. However, this also brings higher fixed investment and technological update pressures, especially in the high-end chip manufacturing process, which still relies on a few foreign advanced devices.

Ericsson, on the other hand, emphasizes risk diversification through a global partner network, reducing dependence on a single supply source or region. This strategy allows Ericsson to maintain high efficiency in capital expenditure and operational costs, in line with its business philosophy of emphasizing capital return and a solid financial structure. Ericsson has manufacturing and supply bases in Europe, North America, and Asia-Pacific and maintains strategic partnerships with several chip and software suppliers, thus enhancing its ability to resist risks from policy and market fluctuations. However, while reliance on external mature technologies reduces R&D risks and costs, it also limits Ericsson's progress in achieving independence in core technologies.

Both vertical integration and independent innovation strategies significantly increase capital and R&D spending in the short term. However, by reducing dependence on key external technologies, they greatly enhance a company's resilience to international political and economic uncertainties and its ongoing competitiveness, helping stabilize and expand its global market share. Ericsson's supply chain diversification and cooperative alliances have achieved risk diversification, ensuring efficient capital use and stable operations, performing well in relatively stable policy environments such as Europe and the US. However, its adaptability to extreme geopolitical shocks remains relatively limited.

Digital Transformation and New Business.

Since launching Huawei Cloud in 2011, Huawei has gradually built a comprehensive ecosystem that covers cloud computing, artificial intelligence (AI), the

Internet of Things (IoT), and enterprise digital services. It also introduced the Pangu large model in the AI field, which has been widely applied across multiple industries, including public services, finance, manufacturing, mining, and meteorology. These developments not only strengthen Huawei's competitiveness in the enterprise market but also provide it with a stronger risk resilience when facing geopolitical risks. Despite the high R&D costs associated with this diversification strategy, Huawei continues to invest in AI, cloud computing, and IoT, gradually constructing a highly autonomous and controllable digital ecosystem, laying a solid foundation for its long-term competitiveness.

Additionally, Huawei's automotive business has become profitable for the first time, benefiting from Chinese government support for electric vehicles, further enriching its emerging business portfolio. Huawei plans to increase its investment in digitalization and advanced AI technology development in 2024 to solidify its leading position in emerging fields. These strategic moves not only enhance Huawei's market competitiveness but also strengthen its ability to withstand international sanctions and technological blockades.

In contrast to Huawei's broad expansion into emerging business areas, Ericsson's approach to digital transformation has been more focused and conservative, mainly extending its core strengths and emphasizing cost control, efficiency improvement, and the synergy of its global layout.

From a corporate strategy perspective, Ericsson has not made large-scale expansions into emerging industries such as AI, automotive, or cloud computing. Instead, it has chosen to focus on deepening its digital transformation within its existing markets. For example, in recent years, it has accelerated the digital reconstruction of its operational systems to improve automation, reduce unit costs, and enhance service delivery flexibility. The core logic of this strategy is to maintain financial stability and profit margins in industry competition by improving operational efficiency and asset return rates. Ericsson has not made large-scale R&D investments for cross-industry expansion. Its R&D spending is mainly focused on the digital upgrading of existing product lines and the development of certain software platforms. This R&D investment structure indicates that it prioritizes incremental innovation – improving customer loyalty and product added value without deviating from its core capabilities. Ericsson also optimizes its asset portfolio

through acquisitions. For instance, its 2022 acquisition of the U.S. cloud communications company Vonage was not aimed at directly entering the consumer market but rather at leveraging Vonage's API platform technology to create additional revenue sources for enterprise-level communication services, seeking marginal synergy benefits and diversifying its revenue structure at a lower marginal cost.

Huawei has driven its transformation from a traditional telecom equipment manufacturer to a comprehensive digital service provider through substantial R&D investment and broad market exploration. It has made significant strides in emerging business areas such as AI, cloud computing, enterprise digital services, and IoT, gradually building a system ecosystem represented by Huawei Cloud. In 2023, Huawei's cloud business revenue reached 55.3 billion RMB, a year-on-year growth of approximately 21.9 %. In the context of rising global economic uncertainty, Huawei's strategy of broad horizontal expansion into emerging fields, although increasing capital expenditures and operational risks in the short term, helps to diversify its reliance on the traditional telecom market, thereby forming a diversified revenue structure. This is a typical scale-oriented growth logic, which seeks long-term competitive advantages and the potential for marginal returns by continuously expanding the business radius.

Ericsson, in its digital transformation, demonstrates a more rational focus on advantages and risk control approach. It mainly improves operational efficiency through refined operations, internal automation reforms, and moderate acquisitions, rather than large-scale entry into unfamiliar industries. In terms of R&D spending, Ericsson mainly concentrates resources on the digital upgrading of existing products, rather than exploring across industries. Its goal is to maintain high capital return rates and stable cash flows to withstand global market fluctuations.

The core difference between Huawei and Ericsson lies in their judgment of marginal cost of growth and risk-reward balance. Huawei, in pursuit of rapid growth, also takes on higher R&D costs and market volatility. This high investment brings potential dominance in future technology standards and first-mover advantages in new markets, but it also places high demands on its internal financial management. Ericsson, on the other hand, follows a higher capital efficiency path, with steady free cash flow and stable dividend

payouts, aligning more with the traditional shareholder value-maximizing economic model.

The two companies also have differing expectations regarding the risks of digital new businesses. Huawei's multi-business matrix provides it with growth resilience even when a single market is constrained, while Ericsson's higher concentration in digital revenue increases its vulnerability to performance declines in the European and American markets. This strategic comparison reveals their different understandings of hedging mechanisms under macroeconomic uncertainty: Huawei reduces systemic risk through business diversification, while Ericsson responds to cyclical shocks through cost control and core focus.

Public Opinion Environment and Risk Management.

As one of China's most globally influential tech companies, Huawei has faced ongoing public opinion pressure and compliance risks in several countries in recent years. This is particularly true in developed economies such as the United States and Europe, where the company has become the focal point of geopolitical and economic battles. Countries like the U.S., the UK, and Canada have repeatedly expressed security concerns regarding its network equipment products, citing Huawei's close relationship with the Chinese government. This public sentiment directly impacts Huawei's brand reputation, customer trust, and business expansion strategies in global markets.

In March 2025, the Belgian Federal Prosecutor initiated an investigation into Huawei for allegedly engaging in illegal lobbying and bribery activities within the European Parliament. This event sparked widespread debate in the EU, becoming a typical case in the European political discourse regarding the transparency of tech companies' influence. Additionally, reports of Huawei's involvement in surveillance projects in China's Xinjiang region were widely cited by international human rights organizations and Western media, further escalating its international reputation risks in terms of ethics and morality. These public opinion incidents not only hinder Huawei's business but also have a long-term potential impact on its market valuation and financing capabilities in the capital markets.

In response to the ongoing public controversies and sanctions environment, Huawei has gradually strengthened its corporate compliance and governance system. According to information on its official website, Huawei has established a Chief Compliance Officer (CCO) position and created a compliance management network that spans the group's headquarters and its subsidiaries, ensuring that compliance responsibilities are thoroughly implemented. At the same time, Huawei has emphasized end-to-end compliance in its supply chain management, requiring global partners and suppliers to adhere to local regulations and international trade rules in order to mitigate secondary risks arising from compliance flaws.

This strengthening of compliance mechanisms has undoubtedly raised operational costs. According to CICC analysis, after the U.S. placed Huawei on its Entity List in 2019, the disruption of its global supply chain led to the inability to procure core components, directly affecting its export capabilities for smartphones and certain communications equipment. To address the losses caused by the supply chain disruption, Huawei was forced to increase R&D investment in core components, semiconductor design, and alternative operating systems. By building a compliance loop and an independent supply chain system, Huawei seeks to find an internal circulation path to sustainable economic development in the context of institutional barriers and global trade conflicts. Although this model is limited by technology catch-up cycles and the rebuilding of trust in international markets, it also demonstrates the strategic and structural adaptability of emerging economy enterprises within the global rule system.

Internally, the employee stock ownership system, while long regarded as an effective incentive, has low transparency and still faces criticisms in international markets related to governance accountability, dispersed shareholding, and unclear decision-making mechanisms for major business matters. Additionally, although Huawei has established its own compliance system, it has not yet fully met the standards for transparent governance and anti-corruption mechanisms under international frameworks like those of the OECD. This could create institutional barriers when expanding into developed markets.

In 2019, the U.S. Department of Justice and the Securities and Exchange Commission jointly initiated an anti-corruption investigation against Ericsson, determining

that the company had systematically bribed third-party intermediaries in countries such as Djibouti, China, Vietnam, and Indonesia to secure contracts and market access. Ultimately, Ericsson agreed to pay a fine and settlement fee totaling 1.06 billion dollars, making it one of the largest settlements in the history of the U.S. Foreign Corrupt Practices Act (FCPA) at the time.

More destructively, in 2022, the International Consortium of Investigative Journalists (ICIJ) revealed an internal document showing that Ericsson had allegedly paid bribes to terrorist organizations such as the Islamic State in Iraq to ensure the security of its local communications equipment operations (ICIJ, Ericsson List, 2022). This event severely damaged Ericsson's moral reputation and brand image, leading to a more than 12 % drop in its stock price in the short term, and triggering widespread concerns among global investors about its corporate governance mechanisms.

Against this backdrop, Ericsson launched a comprehensive compliance and governance reform to rebuild market trust and control potential future legal and economic risks. Under the business-critical transformation plan, the company focused on strengthening internal controls, audit processes, and cross-departmental risk identification mechanisms, particularly increasing review density in high-risk markets. One of the most notable reforms was integrating compliance performance directly into the executive performance evaluation system. Executive compensation is now tied not only to financial performance but also to the team's execution in areas such as anti-corruption, business ethics, and internal whistleblower responses. This has significantly increased senior management's sensitivity to compliance issues and their sense of responsibility.

Additionally, Ericsson set up a Group Business Risk Committee, jointly led by the Chief Financial Officer and Chief Legal Officer, which regularly reviews high-risk project areas, compliance audit results, and internal whistleblower trends, and integrates risk assessment suggestions from external compliance consultants into decision-making. This multi-dimensional compliance collaboration mechanism marks Ericsson's shift in its governance system from a reactive to a preventive control model.

The compliance crisis has brought not only one-time financial losses but also a long-term rise in operating costs for Ericsson. According to Ericsson's financial reports from

2020 to 2023, its legal, compliance, and auditing expenses increased by an average of 13 % annually, far exceeding the average growth rate of its R&D expenses. At the same time, some overseas market projects were halted or cautiously advanced, meaning that the loss of credibility due to compliance failures resulted not only in reputational damage but also translated into tangible market contraction and revenue risks.

Overall, Ericsson's governance transformation demonstrates a typical path for European and American multinational companies to transition from a legal reaction to a strategic integration governance model after facing a major compliance crisis. In the short term, this reform has led to increased operating costs, market volatility, and strategic contraction, but it has also laid the institutional foundation for rebuilding brand reputation and constructing a framework for long-term sustainable growth.

The governance model differences behind the compliance strategies of the two companies. As a privately held company, Huawei's governance structure is led by an employee stock ownership association and its founder, which gives it stronger strategic coherence and centralized decision-making efficiency. Under compliance pressure, Huawei can quickly adjust its strategic direction and restructure its supply chain system, demonstrating high organizational resilience. In contrast, Ericsson, constrained by public shareholding and multi-national legal regulation, must take a more institutionalized and transparent reform path to respond to external governance structure requirements. This difference determines that the two companies have different abilities to mobilize resources and bear risks in their compliance responses, resulting in different trade-offs in economic outcomes.

In conclusion, the paths chosen by Huawei and Ericsson in compliance risk management reflect their differing understandings and preferences regarding short-term economic gains and long-term strategic security. The former emphasizes achieving structural risk resistance through technological autonomy and supply chain reconstruction, while the latter seeks long-term stable growth through regulatory governance and external trust rebuilding. This difference not only shapes the companies' strategies for adapting to external environmental changes but also provides important comparative insights into how modern enterprises maximize value under globalization uncertainties. In a context of

increasingly stringent regulation and rising de-globalization trends, the company that can build a more efficient dynamic balance between legal compliance and strategic flexibility may determine its future performance potential.

2.3 Economic benefits and risk analysis under different development models

The comparison across multiple dimensions reveals that Huawei and Ericsson, as the two major representatives in the global telecom equipment industry, have adopted distinct strategic paths in response to global market changes, technological innovation pressures, and increasing regulatory compliance. These strategies not only reflect differences in ownership structures, market dependencies, and institutional constraints but also highlight their varying understandings of resource allocation, growth logic, and risk management.

Firstly, in terms of growth models, Huawei exhibits a structural strategic orientation centered on organic expansion + vertical integration. Its focus is not on external acquisitions or market opportunistic growth but on leveraging long-accumulated R&D capabilities, product system extensions, and synergistic layouts in emerging fields like cloud computing, smart manufacturing, and electric vehicle electronics. This approach emphasizes internal consistency between technological routes and resource allocation, striving to create a closed-loop effect in knowledge flow, technology sharing, and system integration across different business modules. At the same time, Huawei maintains high R&D investment in core areas, consolidating its position in both upstream critical processes and downstream market scenarios, reinforcing its supply chain depth and technological ecosystem dominance. Although this model puts significant pressure on capital formation and operational efficiency in the short term – especially under long R&D cycles and high market uncertainties, which can lead to tight cash flows and financial leverage fluctuations – it represents a counter-cyclical investment logic aimed at strategic security. In a volatile international environment, Huawei opts for high investment in exchange for high autonomy, reflecting a strategic bet on the core value of control over efficiency.

In contrast, Ericsson leans toward an external growth + asset-light development model. This model focuses on strategic acquisitions, platform integration, and outsourcing services to achieve marginal expansion, with more focused resource input and a more flexible capital structure. After experiencing compliance crises, Ericsson proactively adjusted its development focus, reduced its reliance on capital-intensive businesses, and optimized its organization by divesting non-core assets and focusing on technical service output to improve overall capital efficiency. Ericsson's growth strategy is more reliant on reallocating existing capabilities and market resources, rather than constructing a full-process closed-loop system. This model has advantages in terms of short-term returns and risk control, aiding financial health and strategic flexibility in tightening financing conditions, high inflation, and policy contraction. In its acquisition of Vonage, for example, Ericsson aims to build a new growth pillar centered on service + platform + API, realizing high-value monetization under asset-light operations. Overall, its growth model emphasizes agility and external collaboration, aiming for operational efficiency through leveraging limited input for scalable benefits, rather than focusing on self-constructed systematic capabilities.

The fundamental difference in growth logic between the two companies essentially reflects different trade-offs between control, security boundaries, and market flexibility: Huawei emphasizes countering external political and market uncertainties through technological monopolies and system dominance, while Ericsson focuses on building a low-risk, easily adjustable development track through institutional contracts and market rules. This divergence offers two representative paths for studying corporate strategic responses to complex global environments in an era of intensifying technological competition and geopolitical interference.

Secondly, in emerging business transformation, both Huawei and Ericsson have deployed in high-growth fields such as cloud computing, AI, and IoT, but their strategic paths and resource allocation show marked differences. Huawei leverages its long-standing advantages in ICT hardware to build an end-edge-cloud-pipe-chip integrated architecture that covers everything from terminal devices, edge computing nodes, cloud platforms, to network transmission and chip design. This bottom-up system integration

allows it to diversify while maintaining deep control over key technological processes, creating a self-controlled closed-loop ecosystem. Under this framework, Huawei not only emphasizes the autonomy of underlying technologies but also improves platform operation capabilities and customer stickiness through software-hardware collaboration and scenario integration, gradually transforming from a device manufacturer into a comprehensive solution provider centered on cloud services and AI capabilities.

This ecosystem strategy enhances business interconnectivity. For example, in smart cities, industrial IoT, and intelligent vehicles, Huawei can offer complete packaged solutions from device deployment to cloud management and AI algorithm support, achieving high-value conversion. This integration not only increases customer lifetime value but also strengthens its bargaining power in enterprise and government markets.

In contrast, Ericsson's transformation in emerging businesses is more focused and lightweight. Its core strategy is not to build a complete technological closed-loop, but rather to drive entry into B2B vertical industries based on existing network communication capabilities, driven by platformization and the API economy. With its acquisition of Vonage, Ericsson seeks to create a more open and adaptable enterprise communication platform, with a business model based on connectivity as a service, connecting businesses, developers, and end-users through communication interfaces to build a replicable and scalable service network. This model emphasizes developer ecosystems, scenario adaptation, and high-frequency, low-barrier user experiences, aiming to leverage a broad range of industrial customers and SMEs without significantly increasing capital expenditure.

This divergence is also reflected in their technical strategies and organizational structures. Huawei leans towards vertical integration, reducing external dependency by strengthening self-developed and underlying resource control, with its platform being a closed ecosystem emphasizing self-leadership and value chain control. In contrast, Ericsson adopts a horizontal collaboration strategy, focusing on service output and interface capabilities, building a connection-driven collaborative network that depends more on partnerships and the co-creation of open standard ecosystems.

Both companies, although traditional telecom equipment giants, have carved out distinct evolutionary paths in the emerging technology wave. Huawei focuses on building technological autonomy and system control, forming a deep ecological advantage, while Ericsson centers around platform connectivity and service flexibility, exploring more lightweight and open commercial extensions. This fundamental distinction in transformation logic reflects their differing views on future industry leadership: one leans towards controlling the entire value chain, while the other focuses on activating node value.

In terms of compliance risk management and governance mechanisms, Huawei and Ericsson have adopted different paths, reflecting deep differences in their strategic orientations and organizational resilience when facing global uncertainties and regulatory pressures. Huawei's compliance challenges stem less from internal governance flaws but more from complex international political games and security review mechanisms. In response to external constraints, Huawei chooses to accelerate technological substitution and adjust its market strategy, reconstructing markets in high-risk regions and promoting self-developed alternatives in key technological areas, reducing reliance on sensitive supply chains. This external pressure and internal response governance mechanism improves compliance while enhancing its influence in underlying technologies such as operating systems, communication protocols, and hardware architecture.

This approach inevitably incurs additional system-building costs, such as localization R&D, compatibility design, and supply chain restructuring, but it also enhances Huawei's technical resilience to complex international environments, protecting against external interference and policy risks. This capability is not a short-term, quantifiable return but a strategic redundancy and survival guarantee, reflected more in stability premium rather than profitability itself.

In contrast, Ericsson's compliance crises primarily stem from internal governance imbalances and institutional loopholes, leading to business ethics risks. After encountering multiple compliance issues, Ericsson took a series of reform measures focused on institutional repair, attempting to rebuild the company's legitimacy and market trust through organizational adjustments and process transparency. Specifically, Ericsson

strengthened the audit coverage of global businesses, set up more independent compliance departments, improved the review and accountability mechanisms for third-party partners, and integrated compliance culture into senior executive incentives and company strategy.

This governance model demonstrates typical institutional resilience, relying on the completeness of rule systems, verifiability of organizational processes, and cross-level supervision mechanisms to prevent systemic risks. While this approach is more suitable for regions with high institutional transparency requirements, such as Europe and the U.S., it also means that compliance building will incur long-term rigid costs, which are hard to resolve through one-time investments, and will require continuous adaptation and updates in cross-cultural regulatory environments.

In essence, the differences between Huawei and Ericsson are not just about their responses but reflect their fundamental division in constructing corporate resilience: the former focuses on technical sovereignty while the latter emphasizes institutional trust. This dual path of technical coherence and institutional coherence mirrors two typical survival paradigms available to global enterprises in complex regulatory and geopolitical environments.

The evolution of their globalization strategies reflects the divergence between order-driven globalization and resilience-driven globalization: Huawei focuses on risk dispersion and ecosystem embedding to enhance its survival capacity in uncertainty, while Ericsson relies on normative systems and existing rules to maintain its traditional advantages in mature markets. This difference is not only a commercial choice but also a differing bet on the evolution logic of the global order.

Chapter 3 Future development directions of transnational corporations

3.1 Digital transformation and empowerment through intelligent technologies

The digital economy is a new economic model emerging from the rapid advancement of information technology. It takes digital knowledge and information as key production factors and relies on information networks as carriers to enhance operational efficiency and optimize the existing economic structure through the innovative application of various information and communication technologies. Digital transformation, which builds upon the foundation of the digital economy, has become a new strategic development choice for enterprises in response to the evolving environment of the digital era [37].

Today, the cross-border flow of data, knowledge, goods, capital, and services is becoming increasingly seamless, enabling multinational corporations to create, transmit, and distribute value without the constraints of geographical boundaries [45]. As the demand for flexibility and efficiency in global operations continues to rise, digital technologies have become essential tools for breaking down boundaries and restructuring value chains. Consequently, digital transformation has not only become a necessary response to global competition but is also evolving into a key force driving a paradigm shift in scientific research.

Enterprise digital transformation is part of a broader trend toward a new research paradigm. With the rapid progress of a new wave of technological and industrial revolutions, digitalization, intelligence, and sustainability have emerged as dominant trends, bringing fundamental changes to the scientific research paradigm itself. Based on artificial intelligence and big data, data-intensive, application-oriented, and scenario-driven models are providing new directions for scientific discovery and technological innovation [6]. At the same time, enterprise digital transformation breaks traditional mindsets and industry barriers, continuously fueling innovation and embedding it across all stages of development, including R&D, production, and marketing.

In the R&D phase, digital technologies enable the precise identification of nuanced market demands, accelerating the incubation of innovative products. In production, they optimize operations across the entire process and facilitate iterative improvements to manufacturing techniques. In marketing, digital tools allow for personalized recommendations to target audiences, enhancing brand value [46].

Amid the global wave of digitalization, multinational corporations are driving digital transformation with unprecedented intensity. This shift is no longer merely a matter of technological upgrading – it represents a strategic decision critical to the future survival and development of the enterprise. Currently, the vast majority of companies consider digital transformation a core strategic priority, a trend that is reshaping the global competitive landscape.

The development and application of digital technologies are catalyzing changes in traditional product functionalities and service offerings. According to data from the McKinsey Global Institute, electric vehicles are projected to account for 17 % of global automobile sales by 2030, up 16 percentage points from 2017. This shift will reduce trade volumes of automotive components by 10 % and lower dependence on oil, significantly impacting the import and export trade and supply chains of related industries and countries [30].

Developed countries began laying the groundwork for the digital economy as early as the 1990s. The United States took the lead with its Information Superhighway Strategy, setting the pace for digital economic development. Subsequently, countries such as Japan and the United Kingdom also launched various digital economy policies to guide their digitalization efforts, achieving structured progress through the phases of informatization, networking, and intelligentization. In contrast, digital strategies in developing countries only began to emerge in recent years – for example, India launched the Digital India initiative in 2015, Brazil issued the National Strategy for Science, Technology and Innovation (2016–2019) in 2016, and Russia completed its Digital Economy Program in 2017. Although developing countries started their digitalization efforts later, their digital economy growth rates have outpaced those of developed countries (see chart). In 2020, while developed countries maintained a higher overall digital economy size and a greater

share of GDP derived from digital activities, their growth rate was just 2.99 %, compared to 3.08 % for developing countries (figure 3.1).

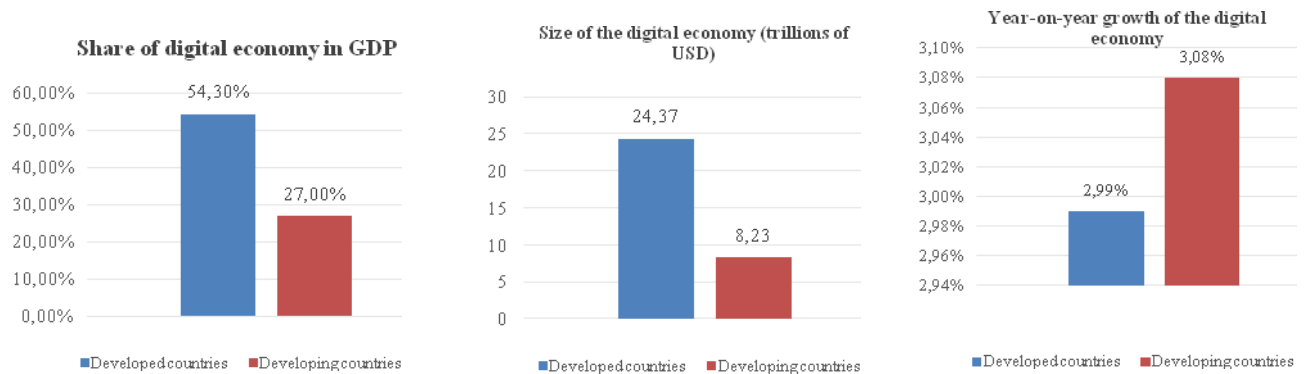


Figure 3.1 – Analysis of digital economy growth rate [61]

As of now, global investment in digital transformation has surpassed the trillion-dollar mark and continues to grow at a double-digit rate annually. This rapid expansion is propelled by a triad of forces: technology advancement, market demand, and policy support.

On the technological front, the maturation of key enabling technologies – such as 5G, artificial intelligence (AI), and cloud computing – has laid a solid foundation for transformative change. From a market perspective, the rising expectations of consumers for seamless, intelligent digital services are compelling enterprises to accelerate their transformation agendas. On the policy level, governments worldwide are rolling out supportive frameworks and incentive mechanisms that foster a favorable environment for digital advancement.

Huawei exemplifies this strategic pivot by placing digital transformation at the heart of its corporate agenda. Through sustained technological innovation and comprehensive organizational restructuring, the company has successfully evolved from a traditional telecommunications equipment provider into a full-spectrum digital solutions vendor.

A successful digital transformation requires the establishment of a holistic and robust technological architecture. Huawei has constructed a comprehensive framework composed of intelligent connectivity, centralized digital hubs, and industry-specific smart applications, enabling it to offer integrated digital services across sectors. Its connectivity

solutions facilitate ubiquitous interconnectivity; its intelligent hubs support advanced data processing and decision-making; and its suite of applications addresses diverse industry needs. Real-world collaborations with leading firms across manufacturing, retail, and finance further underscore the tangible value derived from digital transformation.

However, the path toward transformation is fraught with challenges. The complexity of technology integration, shortage of digital talent, and emerging data security risks represent major obstacles. Addressing these challenges requires a systemic strategy encompassing continuous investment in technology, deep organizational reform, and a collaborative digital ecosystem.

Empirical evidence from global frontrunners in digital transformation suggests that success hinges not merely on technological implementation but on enterprise-wide strategic realignment – from vision to execution. Organizations that lead in this domain tend to establish clear roadmaps, maintain strategic consistency, and mobilize top-level commitment. These cases reveal that digital transformation is not a one-off project, but a long-term endeavor necessitating persistent innovation and investment.

The international community is also recognizing the strategic imperative of inclusive digital development. Initiatives such as the World Bank’s Digital Development Partnership (DDP) play a vital role in helping low- and middle-income countries build foundational digital infrastructure. As of June 30, 2024, DDP has launched initiatives in 27 countries, covering broadband expansion, data center development, and digital payment ecosystems. According to the World Bank’s July 2024 progress report, these programs are yielding measurable results across digital capacity-building domains.

Despite increased global spending on digital technologies, returns on investment (ROI) vary significantly. Deloitte’s 2023 Global Digital Transformation Survey found that while 51 % of executives see digital integration as vital to business reinvention, only 32 % believe their efforts have substantially improved enterprise value. This discrepancy reflects a central challenge: a misalignment between technology investments and real-world value creation.

In-depth studies, such as McKinsey’s 2023 analysis, highlight three shared characteristics among successful transformers: a clearly defined digital roadmap,

unwavering executive support, and strong organizational capability-building. In contrast, underperforming enterprises often suffer from vague strategies, executional inertia, or disconnects between technology and business needs.

Looking forward, the ROI of digital initiatives is expected to improve alongside increasing technological maturity. However, realizing this potential requires organizations to align digital investment with core business strategies, embed transformation within organizational culture, and adopt scientific value-assessment mechanisms to monitor performance and guide iteration.

As the digital economy evolves, multinational corporations (MNCs) are shifting toward a more systematic and deeply integrated model of digital transformation. This shift goes beyond the surface level of deploying new tools; it entails embedding digital technologies into every aspect of strategic planning and operational execution.

In particular, enterprises will intensify efforts in technology integration. AI, cloud computing, and big data analytics are moving from peripheral support functions to the very core of business operations. Use cases such as intelligent supply chain optimization, predictive analytics for market trends, and enhanced cross-functional collaboration via cloud platforms are becoming standard practice. Digital technologies are no longer confined to the IT department; they are now integral to strategic decision-making processes across all business units.

Simultaneously, global digital collaboration will deepen. MNCs are recognizing that standalone capabilities are insufficient to navigate the complexities of infrastructure development and regulatory fragmentation. To this end, they are increasingly seeking partnerships with international organizations, regional alliances, and local governments to foster cross-border digital infrastructure interconnectivity. These collaborations not only enhance network scalability but also promote the harmonization of global technology standards, thereby reducing institutional barriers to multinational operations.

On the organizational level, companies must prioritize workforce upskilling and build agile, responsive organizational structures that can adapt to rapid technological shifts. This implies a reconfiguration of traditional job roles and management hierarchies. Talent strategies will transition from job-based recruitment to competency-based

development, ensuring that employees are equipped with the technological fluency and innovative mindset necessary for sustained transformation. Cultivating a robust digital culture will also be key to maintaining enterprise-wide engagement.

Moreover, as data becomes the central asset in digital operations, data privacy and cybersecurity emerge as non-negotiable imperatives. The expanding scope of digital applications has heightened public sensitivity around data use. Enterprises must establish rigorous data governance mechanisms to safeguard against breaches and misuse, while simultaneously adhering to the diverse legal and ethical standards across jurisdictions. Transparent, compliant, and accountable data practices will become pivotal in earning and maintaining stakeholder trust.

In essence, the digital transformation of multinational enterprises is no longer a linear technological shift – it is a multi-dimensional strategic evolution involving infrastructure, governance, human capital, and ethical responsibility. Only through systematic planning, sustained investment, and cross-sector collaboration can companies fully unlock the opportunities of the digital era. Successful transformation will not only enhance internal efficiency and innovation capacity but will also redefine the contours of global digital competition, enabling enterprises to thrive in an increasingly interconnected world.

3.2 Deepening global localization

Localized marketing, also known as marketing localization, emerged as an extension and refinement of global marketing strategies during the 1990s. It refers to the practice of designing marketing plans and marketing mix strategies that are tailored to the distinct demands of individual target markets across different countries. This approach enables companies to better accommodate the unique consumer preferences and cultural expectations of each local market [26].

Localization as a broader business strategy has become a pivotal tool for multinational corporations (MNCs) in addressing variations in consumer purchasing habits, behavioral norms, and cultural differences across countries and regions. By

formulating country-specific localization strategies, multinational firms can deliver consistent quality experiences akin to those expected from local businesses, thereby enhancing customer satisfaction and brand acceptance [2].

A core value of localized R&D lies in its capacity to break the spatial constraints traditionally associated with innovation resources. Europe's high-quality research infrastructure has proven especially attractive to MNCs, prompting deeper strategic engagement. Through collaborations with local research institutions, companies not only gain access to cutting-edge technologies but also reinforce the synergistic potential of their global R&D networks via mechanisms such as cross-licensing of patents.

Thus, the geographic embedding of R&D in localization strategies is not merely a passive response to market heterogeneity; it serves as a proactive path through which companies construct global innovation networks and enhance their technological leadership. Deep local R&D deployments allow firms to integrate with high-value innovation ecosystems worldwide, and this strategic choice has elevated the role of patents as critical instruments in global competition. Consequently, a highly interdependent relationship has emerged between localized R&D and global patent strategies, further underscoring the centrality of intellectual property rights in the internationalization processes of multinational firms.

To participate effectively in global competition and pursue international operations, firms adopt strategic global patent portfolios based on technological development trends, resource allocation requirements, and market expansion goals. For instance, Huawei has pursued international patent filings with notable frequency. According to data from PatSnap, over 95 % of Huawei's patents are filed in the U.S., Europe, China, and Japan, with the proportion of foreign patents increasing from just 4 % in 2010 to 41 % in 2019. To secure its influence in industry standards, Huawei has taken a leading role in patenting and contributing to international technical norms. As reported by IPlytics in Germany, Huawei holds 3,325 declared standard-essential patent (SEP) families for 5G technology, accounting for 16 % of the global total [43].

Amid intensifying global technological rivalry and increasingly complex trade regulations, patents serve not only as legal safeguards for innovation but also as strategic

resources for securing leverage in international markets. Through comprehensive international patent portfolios, firms enhance their ability to allocate resources globally and assert influence over the formulation of global technology standards. Additionally, intellectual property rights mitigate imperfections in the technology market. First, patents protect innovations from imitation, thereby reducing transaction costs. The stronger the protection afforded by patents, the more likely market actors are to engage in transactions involving new technologies [33].

Huawei exemplifies this strategy through its dense and systematic patent deployment across key markets such as Europe, the U.S., China, and Japan. This reflects the company's intent to build a robust global intellectual property defense network. In strategic emerging sectors like 5G, Huawei's extensive SEP portfolio not only secures its technological leadership but also enhances its role in setting industry rules and its bargaining power within global value chains. This patent-centric global positioning forms the institutional and market trust foundation necessary for implementing differentiated localization strategies across nations.

Under the strategic framework established by patent leadership and standard-setting, Huawei has pursued highly adaptive localization pathways in entering various markets. In response to Europe's stringent data privacy regulations, for instance, Huawei adopted a proactive compliance strategy. In 2019, it invested 200 million euro to build an independent data center in Munich, Germany, ensuring that all European user data would be stored within the EU. This move not only satisfied the requirements of the General Data Protection Regulation (GDPR) but also secured unified data security certification across the 28 EU member states. The data center created numerous local jobs and helped Huawei avoid GDPR violation fines that could reach up to 4 % of global revenue. This «In Europe, For Europe» localization strategy effectively mitigated geopolitical pressures related to market access.

Huawei's European strategy exemplifies the «Eclectic Paradigm» of international investment theory, which emphasizes the integration of ownership advantages (e.g., core 5G technologies), location advantages (e.g., the EU's unified market), and internalization

advantages (e.g., vertically integrated R&D systems) to strike a dynamic balance between globalization and localization.

Huawei's Mathematics Research Institute in France serves as a hub for fundamental research in Europe, bringing together mathematicians from prestigious institutions such as École Polytechnique. This deep localization of talent has enabled Huawei to embed itself within France's innovation ecosystem and secure funding through the French government's «Future Investment Program». The institute's research outputs, returned to Huawei's headquarters via patent licensing, demonstrate a reverse flow of technological inputs.

Huawei's R&D center in India showcases the strategic value of labor arbitrage. Leveraging India's abundant software engineering talent, its Bangalore center employs over 3,000 local engineers, with labor costs approximately 40 % lower than those at its Shenzhen headquarters. This cost advantage has turned the center into a key hub for Huawei's global software development operations. From the perspective of international production theory, this model capitalizes on host-country location advantages (i.e., low-cost labor) while ensuring quality control through the firm's ownership advantages (i.e., centralized management systems).

In sum, Huawei's success in localized R&D can be attributed to its distinctive global collaborative innovation mechanism. The company has established a standardized R&D management platform that enables real-time sharing of technical documents and experimental data across its R&D centers in 16 countries. Data indicates that this system has improved cross-regional collaboration efficiency by 27 % and shortened product development cycles by 19 %. These technological gains have translated into market advantages, granting Huawei a head start in shaping 5G network standards in Europe.

Huawei's strategy of localized supply chains is not only a response to rising protectionism in global trade but also aligns with the trend of regional economic integration. By building regional supply chain systems in Southeast Asia and Europe, Huawei has shifted from a traditional global production model toward a regionalized layout. This adjustment has enabled Huawei to circumvent certain trade barriers – such as Indian import tariffs – through local production, thereby enhancing price competitiveness.

Such regionalized layouts significantly enhance Huawei's risk resilience. In the face of restricted chip supplies, the company strengthened partnerships with European suppliers like STMicroelectronics, raising the share of regionally sourced critical components to 40 %, thus substantially reducing supply chain disruption risks. This diversified supply strategy has not only safeguarded operational continuity but also granted Huawei strategic flexibility in an increasingly uncertain global trade environment.

Huawei's localized supply chain strategy is not simply about shifting production or cutting costs; it represents a global transformation logic wherein the firm embeds itself into local industrial ecosystems to form regional value networks. At its core, this model departs from the traditional center-periphery structure of global resource allocation and instead aims to embed key segments of the value chain within target markets, forming a multi-centric, embedded cross-regional collaborative framework. This approach not only enhances responsiveness to local conditions and policy adaptability but also stimulates regional innovation through partnerships with local businesses, universities, and research institutes, reshaping the structural relationship between the enterprise and its markets.

In this context, Huawei's R&D localization in Europe has not only expanded the channels through which it acquires cutting-edge knowledge but also significantly bolstered its influence over the formulation of international technology standards. For example, in 2010, Huawei established a cybersecurity evaluation center in the United Kingdom to improve the market recognition of its products. That same year, it joined the United Nations Broadband Commission for Sustainable Development, strengthening its international voice [44]. This highlights that R&D localization is not merely about reconfiguring human capital; it also functions as a strategic mechanism for asserting technological discourse power, reflecting the proactive and systematic nature of Huawei's global innovation deployment.

Huawei's practices reveal the core strategic logic adopted by contemporary multinationals amid rising global uncertainty. On the one hand, localized supply chains enable firms to navigate regional trade rules, rules of origin, and non-tariff barriers, thus ensuring market access and regulatory certainty. On the other hand, localized R&D links companies to local knowledge networks and high-end talent ecosystems, facilitating the

efficient integration and long-term accumulation of innovation resources. This dual-track strategy not only strengthens corporate resilience but also expands operational capacity boundaries under rising techno-nationalism and protectionist pressures.

Nevertheless, deep localization is not without cost. From an economic standpoint, as localization deepens, firms face increasing complexity in resource allocation, cross-cultural management, and institutional coordination. In Huawei's case, while localized R&D has generated significant knowledge spillovers and technological accumulation, the marginal returns on innovation have shown signs of diminishing. This reflects rising coordination and managerial overheads. Over-reliance on regional R&D hubs may also exacerbate integration challenges, reducing the flexibility and centralization of the overall R&D system.

Therefore, multinational firms must strike a dynamic balance between local embeddedness and operational efficiency when constructing global-local systems. For emerging-market MNCs, deep localization helps mitigate liability of foreignness, earn institutional trust, and win consumer acceptance. However, excessive embeddedness risks undermining strategic coherence. Huawei's experience provides valuable insights: localization is not a one-way linear process, but a systemic game of dynamically reallocating resources, aligning with institutions, and redefining capability boundaries within a global network.

3.3 Hedging geopolitical risks

In the context of the profound restructuring of global trade patterns, intensifying technological blockades, and the rising trend of supply chain "decoupling," multinational corporations are facing a significant increase in geopolitical uncertainty. This uncertainty, coupled with global risk events, is driving companies to diversify the layout of their overseas subsidiaries and build more resilient, multi-layered global networks. A diversified global network follows the principle of not putting all eggs in one basket, which helps firms mitigate internationalization risks and ensures the resilience and security of their supply chains (figure 3.2).

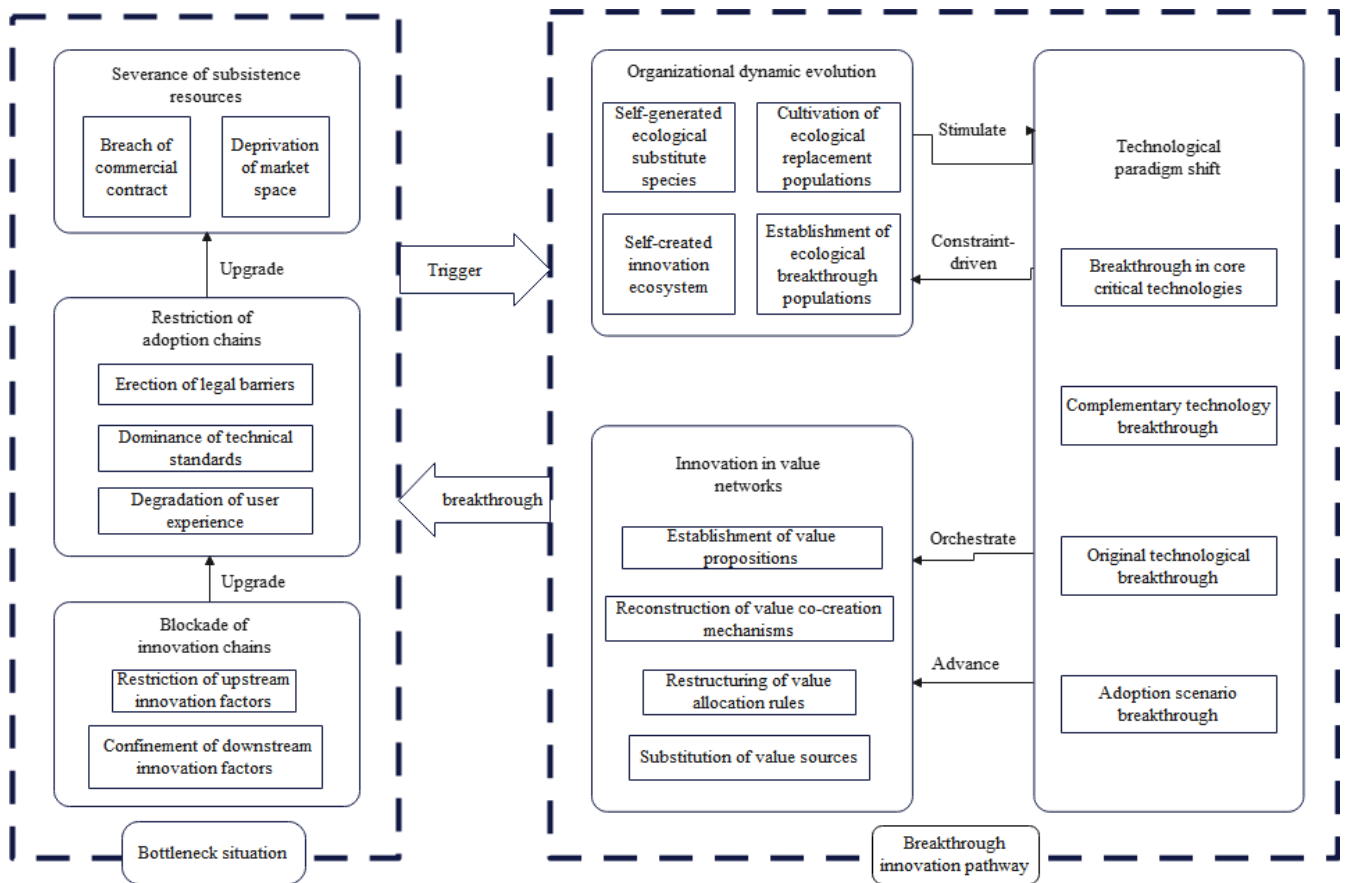


Figure 3.2 – Corporate response strategies to risks of technology blockades

In traditional internationalization models, companies were more inclined to opt for a centralized configuration of their global networks. However, with the growing uncertainty in geopolitical landscapes and the frequent occurrence of global risk events, such factors are now threatening the continuity of multinational corporations' global supply chains. These disruptions – whether through delays, interruptions, or increased costs – can directly impact business performance and market competitiveness. Therefore, the shift towards more diversified global networks has become a key strategy for mitigating risks associated with global operations and securing long-term sustainability [3].

By analyzing the table below, it is evident that multinational companies face various types of risks in the global market. For instance, political risks are relatively high in many countries and have a significant impact on business operations. This requires companies to carefully assess the political stability and policy environment when entering or expanding into new markets. Additionally, while the probability of technological change risks may

not be the highest, their impact on businesses is the greatest. This highlights the need for multinational companies to stay attuned to technological development trends to avoid losing market competitiveness due to technological obsolescence. Therefore, it is clear that multinational companies must conduct a comprehensive risk assessment to determine which risks could have a significant impact on their business. Based on these assessments, companies can develop corresponding risk management strategies, such as diversifying investments to reduce dependence on a single market or currency, and strengthening compliance and legal advisory to address challenges posed by changes in laws and regulations (table 3.1).

Table 3.1 – Major risk types faced by multinational corporations and impact assessment [40]

Risk Type	Probability of Occurrence (%)	Impact Severity (1–5)	Risk Management Difficulty (1–5)	Operational Impact (%)
Political Risk	30	4	4	60
Economic Volatility	40	3	3	50
Exchange Rate Fluctuation	35	3	4	45
Legal/Regulatory Changes	25	4	5	55
Technological Disruption Risk	20	5	4	65

Huawei, as one of the most representative Chinese multinational corporations, has adopted geopolitical risk hedging strategies under this context that offer practical lessons for other companies facing fluctuations in international relations. From the perspectives of international trade and global business strategy theories, Huawei’s measures demonstrate a typical multi-layered and systematic strategic adaptation mechanism, reflecting the resilience-building logic of multinational enterprises in the new geopolitical economic environment.

Huawei's market diversification practice exhibits three notable characteristics. First, it breaks the traditional center-periphery market layout of multinational companies by establishing complete value chains in emerging markets, achieving true decentralized development. Second, this diversification is not a mere market substitution but a strategic layout based on the comparative advantages of different regions – for example, digitalization of energy in the Middle East, mobile payments in Africa, and smart agriculture in Latin America have all become key growth drivers. Third, the synergy between diversified business structures and geographic diversification is evident, with new growth areas such as enterprise services and cloud computing generally showing stronger political neutrality and less susceptibility to geopolitical factors.

In terms of implementation effects, this strategy has enabled Huawei to maintain overall revenue stability despite business contractions in the European and American markets. By building stable market networks and supply chain systems across Asia-Pacific, Europe, the Middle East, Africa, and Latin America, Huawei has essentially created a distributed risk mitigation mechanism across different countries. For example, in 2021 Huawei announced investments in R&D centers in France, Germany, Italy, and continued to expand its manufacturing base in Hungary. This global multi-node embedded strategy not only disperses market dependence but also avoids excessive exposure to any single institutional environment.

Furthermore, compliance and local embedding strategies in varying institutional environments are key to achieving institutional legitimacy and operational continuity. In response to policy restrictions in Europe and the U.S., Huawei has strengthened dialogue mechanisms with local governments and enhanced institutional embedding through local partnerships, such as collaborative research projects with Germany's Leibniz Institute and the University of Cambridge in the UK. These strategies comply with local regulatory requirements while improving the company's political neutrality and public image, thus seeking survival space amid institutional heterogeneity.

Geopolitical risks essentially constitute external threats to the disruption or restructuring of value chain systems. Huawei's decentralized reshaping of critical segments, particularly through promoting self-reliance in high-tech areas like chips and

operating systems, reflects its systematic reconstruction of node dependency risks within the chain. When facing policy uncertainties, companies often need to balance efficiency and control. Moreover, emerging markets tend to have relatively weaker political and economic stability; Huawei has encountered contract renegotiations following regime changes in some African countries. Additionally, significant differences in compliance requirements across markets have notably increased management costs. These factors, while driving substantial revenue growth in emerging markets, have also exerted pressure on overall net profit margins.

Huawei's establishment of redundant supply chains and R&D nodes across multiple locations enhances flexibility and resilience but also leads to some resource duplication and increased management complexity, raising operating costs and coordination challenges. This resilience-first strategic layout reflects how Huawei has integrated political risk as a core variable within its corporate strategy.

Huawei's geopolitical risk hedging strategy reflects its systematic strategic adjustment amid the fragmentation of global governance and intensifying institutional friction. Market diversification is no longer merely a tool for business expansion but has become a strategic necessity for enterprises to guard against systemic risks. This diversification must be deeply integrated with localization strategies to reduce geopolitical sensitivity by building regional value networks. At the same time, diversification of business structure and geographic diversification must be advanced in synergy to achieve genuine risk dispersion. This multidimensional hedging model combines portfolio diversification, institutional adaptability, and value chain restructuring, offering an operational paradigm for multinational enterprises in emerging markets to seek strategic safety boundaries amid a turbulent international environment. In the future evolution of global economic governance, such strategic approaches will serve as crucial reference points for the sustainable development of multinational corporations.

Conclusion

Amid the ongoing restructuring of the global economic system, escalating geopolitical tensions, and rapid evolution of technological paradigms, multinational corporations (MNCs) stand at a historic crossroads, compelled to reexamine their global layouts and strategic trajectories. Taking Huawei and Ericsson as representative cases, this paper employs comparative analysis to reveal the diverse strategies and adaptive logics MNCs deploy in different institutional environments to confront global competition. It further highlights that, beyond the traditional foundation of competitive advantage based on efficiency and technological innovation, risk management capabilities are progressively evolving into a critical factor for sustainable multinational development. This shift reflects not only an individual corporate strategic transformation but also a deeper reorientation of global business logic towards systemic security.

Huawei's practical experience exemplifies the forefront of this trend. Its strategic restructuring is not an isolated maneuver but a systemic response to significant changes in the external environment. Under the traditional globalization paradigm, firms generally pursued optimal capacity utilization, cost minimization, and globally distributed value chains. However, in the current reality marked by emerging risk dimensions, this model has revealed inherent vulnerabilities. Confronted with US technology bans and international market trust crises, Huawei has begun constructing a resilient strategic system centered on independent technology + diversified markets + compliant localization. It no longer simplifies global expansion as mere market penetration or efficiency optimization but views it as a comprehensive process involving institutional adaptation, risk mitigation, and value co-creation.

At its core, this logic represents a strategic paradigm upgrade for MNCs from opportunity-driven to risk-sensitive. While efficiency remains important, in a global political-economic environment where supply chains may fracture, technology chains face blockade, and institutional frictions increase, firms must simultaneously possess the ability to identify, anticipate, and respond to systemic risks to ensure sustainable multinational operations. Huawei's strategic transformation illustrates that it has not abandoned

globalization but reconstructed the path dependence and implementation logic of globalization: no longer relying solely on cost advantages or scale effects in a single market, but emphasizing diversified market structures and geographical risk segregation; no longer pursuing global resource allocation at the lowest cost, but prioritizing autonomy and responsiveness in key segments; no longer centralizing resource planning at headquarters, but shifting toward a regionally distributed strategy of local embedding – global coordination.

The key to this strategic shift lies in integrating geopolitical risk into the firm's routine strategic analysis framework. Traditional management theory often regards risk as an externality, that is, a sporadic impact of the external environment on firm operations. In today's context, however, risk increasingly becomes an endogenous variable influencing organizational structure, strategic configuration, and even technological development pathways. MNCs must incorporate systemic risk considerations early in strategy formulation as critical constraints on value chain management, rather than as reactive adjustments. Huawei's systemic approach demonstrates a forward-looking perspective of embedding risk as a structural variable in corporate development trajectories.

This transformation carries profound implications for the future direction of MNCs. The conventional globalization logic was based on the assumption of global convergence, encouraging standardized operational processes, unified management models, and a holistic global market layout. Reality, however, shows the world economy is fragmenting into multiple rule systems and institutional blocs. Firms face not a single unified and controllable global market, but rather multiple regionally heterogeneous institutional markets. This de-globalization trend demands MNCs develop regional strategic diversification capabilities rather than simple global expansion capacities. Against this backdrop, Huawei's dual-layer structure of regional localization + global platform coordination offers a new paradigm for the future global operation model of multinational enterprises.

A comparative study of Huawei and Ericsson further elucidates this transition. Influenced by both institutional contexts and corporate capabilities, the divergence in their internationalization paths reflects not only national-level industrial policy differences but

also distinct corporate understandings of balancing risk and resources. Ericsson exemplifies the steady pace and professionalism of European MNCs developed in mature market institutions, emphasizing technological standards, industry influence, and niche market control. Huawei, by contrast, represents a rapid response – technology independence – deep local embedding path forged under stronger institutional constraints and higher external uncertainties. In today’s increasingly uncertain global environment, Huawei’s demonstrated risk adaptive capability is gaining wider recognition and emulation, especially as technology standards fragment and geopolitical impacts on market access intensify, making its model highly relevant.

Underlying this trend is a global business logic shift from value maximization to risk minimization combined with system stability. Risk management ceases to be a supplementary operational mechanism and becomes a core element of corporate strategy. Market diversification is no longer driven solely by revenue growth but by the need to disperse geopolitical dependencies and institutional risks; technological autonomy is pursued not just for breakthroughs but to build alternative capabilities amid embargoes and exclusions; compliant localization transcends political correctness or public relations, becoming essential for legitimacy and survival. This systemic defensive architecture determines whether firms can sustain their presence in global markets and navigate cycles of uncertainty.

Therefore, we can foresee the following profound trends in the future development of multinational corporations: First, risk internalization – strategic decisions will increasingly incorporate multi-dimensional risks (political, technological, ecological) as prerequisites, favoring robust and controllable suboptimal global layouts over theoretically optimal but fragile solutions. Second, structural regionalization – constructing relatively independent value micro-ecosystems centered on regional nodes to simultaneously enhance disturbance resistance and autonomous operation. Third, capability autonomy – strengthening control over key technologies, core resources, and institutional interfaces to avoid choke-point vulnerabilities. Fourth, organizational distribution – evolving headquarters-branch relations from linear control to networked governance and localized decision-making to improve adaptability.

Huawei's case is valuable not only as an individual example but as a demonstration of Chinese enterprises' strategic innovation amid global economic restructuring. For emerging MNCs from developing countries, the fundamental question of survival is how to build their operational logic amid institutional asymmetries, resource disadvantages, and market biases. Huawei's multi-level risk hedging framework represents a strategic leap from passive response to proactive construction, transcending traditional internationalization pathways and responding practically to the liability of foreignness theory.

Naturally, this strategy is not without costs. Deep localization increases organizational complexity, reduces managerial efficiency, and raises cost pressures; technological independence entails long R&D cycles and uncertainty risks. Yet, as economic theory emphasizes, resilience is a long-term survival capability rather than short-term profit maximization. In the context of globalization reversal and fragmentation trends intensifying, MNCs need resilience and security as fundamental variables of development rather than ancillary considerations.

In sum, through a comparative case study of Huawei and Ericsson, this paper reveals the diversified strategic choices MNCs exhibit in navigating complex and volatile global political-economic environments. Particularly amid heightened risk and institutional fragmentation, Huawei exemplifies a global expansion path based on security, supported by innovation, and enabled by localization. This case offers strong empirical support for understanding future MNC strategic directions and provides an instructive model for emerging market firms' internationalization. Ultimately, only those enterprises capable of dynamically balancing efficiency, security, and risk will remain invincible in the new global economic order.

References

- 1 Bai C. H., Liu, C. H. A similarity comparative study on internationalization strategies of Haier and Huawei based on grounded theory // Science Research Management. 2025. № 3. P. 99–107.
- 2 Bi Y. R. Analysis of multinational corporations' localization strategies // China Circulation Economy. 2022. №. 10. P. 16–19.
- 3 Chen Z. Q., Li D. Q. The impact of digital transformation on multinational enterprises' global networks: A research perspective based on the new OLI paradigm. // The Economist. 2025. №. 1. P. 75–85.
- 4 Cross-border Payments for the Use of Intellectual Property (IP) surpass 1 trillion US Dollars in 2022, a record high. URL: https://www.wipo.int/en/web/global-innovation-index/w/blogs/2024/cross-border-payments-ip?utm_source=chatgpt.com (access date: 18.04.2025).
- 5 Dai Q., & Quan M. Research on international operations of transnational private enterprises: A case study of Huawei // Investment and Entrepreneurship. 2021. № 16. P. 41–43.
- 6 Ding M. L. The strategic significance of digital transformation for leading technology enterprises // National Governance. 2021. №. 4. P. 31–33.
- 7 Ericsson Company Profile. URL: <https://www.ericsson.com/en/about-us/company-facts> (access date: 02.05.2025).
- 8 Ericsson's Annual Report 2024. URL: <https://www.ericsson.com/49317f/assets/local/investors/documents/2024/annual-report-2024-en.pdf> (access date: 02.05.2025).
- 9 Ericsson's Annual Report 2023. URL: <https://www.ericsson.com/49317f/assets/local/investors/documents/2024/annual-report-2024-en.pdf> (access date: 02.05.2025).
- 10 Ericsson's annual reports 2022. URL: <https://www.ericsson.com/en/about-us/history/sources/annual-reports> (access date: 02.05.2025).
- 11 Ericsson's annual reports 2021. URL: <https://www.ericsson.com/en/about-us/history/sources/annual-reports> (access date: 02.05.2025).
- 12 Ericsson's annual reports 2020. URL: <https://www.ericsson.com/en/about-us/history/sources/annual-reports> (access date: 02.05.2025).

us/history/ sources/annual-reports (access date: 02.05.2025).

13 Gao Z. X. Analysis of enterprise internationalization strategy selection and effectiveness under economic globalization // China Circulation Economy. 2025. № 6. P. 29–33.

14 Geng P. F. Huawei faces consecutive malicious containment: Ren Zhengfei points out the key to breakthrough // Communications World. 2019. № 3. P. 11–12.

15 Han S., Tian Y. L. Pathways for multinational corporations to participate in global economic governance under new circumstances // Practice in Foreign Economic Relations and Trade. 2023. №. 7. P. 10–15.

16 Huawei Annual Report 2024. URL: <https://www.huawei.com/cn/annual-report> (access date: 01.05.2025).

17 Huawei Annual Report 2023. URL: <https://www.huawei.com/cn/annual-report> (access date: 02.05.2025).

18 Huawei Annual Report 2022. URL: <https://www.huawei.com/cn/annual-report> (access date: 02.05.2025).

19 Huawei Annual Report 2021. URL: <https://www.huawei.com/cn/annual-report> (access date: 02.05.2025).

20 Huawei Annual Report 2020. URL: <https://www.huawei.com/cn/annual-report> (access date: 02.05.2025).

21 Huawei Investment & Holding Co., Ltd. 2024 Annual Report. URL: <https://www.huawei.com/cn/annual-report/2024> (access date: 02.05.2025).

22 Huawei Investment & Holding Co., Ltd. 2023 Annual Report. URL: <https://www.huawei.com/cn/annual-report/2023> (access date: 02.05.2025).

23 Huawei Investment & Holding Co., Ltd. 2022 Annual Report. URL: <https://www.huawei.com/cn/annual-report/2022> (access date: 02.05.2025).

24 Huawei Investment & Holding Co., Ltd. 2024 Annual Report URL: https://www-file.huawei.com/minisite/media/annual_report/annual_report_2024_cn.pdf (access date: 04.05.2025).

25 Huo Y., & Wu J. L. Research on breakthrough technological innovation paths of leading science and technology enterprises under chokepoint constraints: An innovation

ecosystem perspective // Science of Science and Management of S.& T. 2024. № 45. P. 163–183.

26 Jiang A. Q. Analysis of localization strategies in Chinese enterprises' international marketing: Based on the practices of multinational corporations in China. In Proceedings of 2012 International Academic Conference of Art Engineering and Creative Industry // Information Engineering Research Institute, USA. 2012. № 10. P. 212–215.

27 Li H. Y. Research on the internationalization development of Huawei Group. // International Business Accounting. 2022. № 8. P. 69–71.

28 Li M., Sun C. S., Liu Y. L., Chen X. D. Research on enterprise R&D strategy based on invention patent theme analysis: A case study of Huawei // Soft Science. 2022. № 10. P. 32–39.

29 Li W., Li Y. Y. Deciphering America's war against Huawei: The political economy of global supply chains // Journal of Contemporary Asia-Pacific Studies. 2021. № 1. P. 4–45.

30 Lin M., Lu H. Y., Sun J. Y., Li X. X. Multinational corporations in China: Re-selection in global supply chain restructuring // Journal of International Economic Cooperation. 2022. № 4. P. 55–66.

31 Liu S. Q. Cross-cultural management challenges and coping strategies for multinational corporations: A case study of Samsung Mexico // Journal of Business and Management. 2025. № 5. P. 165–171.

32 Liu X. The internationalization strategy and implementation path of Huawei's self-owned brand products entering global markets // Practice in Foreign Economic Relations and Trade. 2016. № 3. P. 23–26.

33 Lu N. Technological innovation, R&D investment, firm size and enterprise technological regime // China Market. 2023. № 34. P. 126–129.

34 Ma S. From Germany's Huawei 5G policy to the evolution of China-EU economic and trade relations // Foreign Affairs Review (Journal of China Foreign Affairs University). 2021. № 4. P. 52–84.

35 Multinational enterprises and global value chains: New Insights on the trade investment. URL: <https://www.oecd.org/content/dam/oecd/en/publications/reports/>

2018/03/multinational-enterprises-and-global-value-chains_dc07679d/194ddb63-en.pdf?utm_source=chatgpt.com (access date: 17.04.2025).

36 Qi K., Zhu S. S. Great power technology competition from a national security perspective: A case study of U.S. policy toward Huawei // Foreign Affairs Review (Journal of China Foreign Affairs University). 2021. № 6. P. 100–131.

37 Qi Y. Y. Impact analysis of digital transformation on corporate economic competitiveness // China Circulation Economy. 2025. № 9. P. 153–156.

38 Research Group of Chinese Academy of International Trade and Economic Cooperation. New Roles, New Spaces and New Opportunities for Multinational Corporations Under the New Development Paradigm // International Economic Cooperation. 2021. № 4. P. 3–13.

39 Shu K. Strategic Management Analysis of Multinational Corporations in Global Markets // Business Observation. 2024. № 11. P. 71–80.

40 Shu K. J. Strategic management analysis of multinational corporations in global markets // Business Observation. 2024. № 12. P. 73–76.

41 Wang H. M., Chen Y. R. Research on the impact of R&D investment on business performance of high-tech enterprises // China Market. 2024. № 13. P. 151–154.

42 Wang H. Y., Fan Y. X. Motivation and strategy analysis of Chinese enterprises' outward foreign direct investment: A case study of Huawei // Market Modernization. 2020. № 14. P. 64–66.

43 Wang S. S., Zhou H. Y. Behavioral characteristics and implications of enterprise patent internationalization // Studies in Science of Science. 2021. № 4. P. 662–672.

44 Wang X. W. Research on Huawei's international R&D strategy. China Doctoral Dissertations Full-text Database. 2021. 81 p.

45 Wang Y. N., Cui S. S., Wan M. Y. Overseas investment, technological breakthroughs and the global development of Chinese digital multinational corporations. // International Economic Cooperation. 2024. № 5. P. 79–90.

46 Wei J. Impact effects and mechanisms of digital transformation on breakthrough innovation in high-tech enterprises // Statistics and Management. 2025. № 5. P. 105–117.

47 Who is Huawei. URL: <https://www.huawei.com/en/corporate-information>

(access date: 02.05.2025).

48 World Investment Report 2021. URL: https://unctad.org/system/files/official-document/wir2021_en.pdf (access date: 17.04.2025).

49 World Investment Report 2023. URL: https://unctad.org/system/files/official-document/wir2023_en.pdf?utm_source=chatgpt.com (access date: 18.04.2025).

50 World Investment Report 2022. URL: https://unctad.org/system/files/official-document/wir2022_en.pdf?utm_source=chatgpt.com (access date: 18.04.2025).

51 World Investment Report 2024. URL: <https://unctad.org/publication/world-investment-report-2024> (access date: 17.04.2025).

52 Xie B. S. Research on supply chain cost management of consumer goods enterprises under digital transformation. Jiangxi : Jiangxi Normal University, 2024. 62 p.

53 Xie S. Research on the correlation between R&D investment and financial performance of high-tech enterprises // Modern Business Research. 2024. № 13. P. 110–112.

54 Yang Y. W. Impact of Sino-US trade friction on high-tech enterprises and response strategies: A case study of Huawei // Modern Business. 2024. № 8. P. 135–138.

55 Yao S. Y. Strategic management of multinational corporations in the globalized economy // Investment and Entrepreneurship. 2024. № 22. P. 23–25.

56 Yu X. Y., Zhang Y. N., Pan J. Y., Li Z. M., Zhang C. C., Xu J. S. Research on localization strategies of Chinese enterprises' going global: A case study of Huawei Technologies Co., Ltd // Technology Vision. 2019. № 36. P. 45–46.

57 Zhang J. Globalization and the transformation of multinational corporations. // China Economic Report. 2019. № 6. P. 54–70.

58 Zhang M. T. The impact of R&D investment on corporate performance in high-tech enterprises // China Market. 2024. № 29. P. 67–70.

59 Zhang N. Influencing factors of R&D internationalization in Chinese enterprises. Jilin : Jilin University, 2020. 73 p.

60 Zhang Z. G., Zhang A. K., Luo T. Y. Regional expansion patterns of overseas R&D institutions in Chinese manufacturing enterprises: A case study of Huawei based on

centralization-decentralization theory // Modernization of Management. 2021. № 1. P. 48–53.

61 Zhao W. L. Research on the differential impact of enterprise digital capabilities on internationalization performance. Doctoral dissertation. Guang Dong : South China University of Technology, 2022. 174 p.

62 Zhu J. Z. Research on cross-cultural management strategies of multinational corporations // Chinese and Foreign Corporate Culture. 2024. № 1. P. 61–63.