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QUALIFICATION WORK

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on: **The main direction of the development of modern management principles and methods in the ever-changing competitive environment**

Completed: student of
073 «Management» (EP «Administrative Management»)

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TASK

on qualification work for student

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1. Theme of Qualification work: The main direction of the development of modern management principles and methods in the ever-changing competitive environment

Superviser _ Alina Mykhaylivna Brychko, PhD., Associate Professor _____

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2. Deadline for student completed project (work) *March, 10 2025*

3. Background to the project (work):
educational methodical manuals, monographs, textbooks on the subject of research, scientific publications, economic and financial statements for the period of 2019-2024

4. Contents of settlement and explanatory notes (the list of issues to develop):

From the core contents of organizational structure and management innovation, project management and quality control, research and development and technological innovation, market strategy and brand building, supply chain and partnership, comprehensively examine Shenzhen DJI Innovation Technology Co., Ltd.'s application of modern management principles and methods in the competitive environment, and formulate development strategies

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№	Title the stages of the degree project (work)	Date of performance project stages	Note
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2	Selection and analysis of literary sources, the preparation of the first theoretical chapter	*December, 2023*	done
3	Preparation and presentation of draft of the first chapter of the thesis	*February 2024*	done
4	Collection and processing of factual material, synthesis analysis of application issues in the enterprise	*March 2024*	done
5	Making the theoretical part of the thesis, summarizing the analytical part	*April 2024*	done
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7	Completion of the project part of the thesis, design chapters	*May 2024*	done
8	Previous work and its defense review	*December, 01-02 2024*	done
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SUMMARY

Tang Yangyang. The main direction of the development of modern management principles and methods in the ever-changing competitive environment

Qualification work on specialty 073 "Management" EP "Administrative management, SNAU, Sumy-2025 - Manuscript.

In the context of rapidly changing competitive environments, the development of modern management principles and methods has become a critical area of study. This thesis explores the evolution of management practices in response to globalization, technological advancements, and shifting market dynamics. The research focuses on Shenzhen DJI, a leading global enterprise in the drone industry, as a case study to analyze the application of modern management principles in a highly competitive and innovative sector.

The study examines the theoretical foundations of modern management, including strategic management, innovation management, and organizational behavior. It also investigates the practical application of these principles in DJI, highlighting the company's strategies for maintaining competitive advantage through innovation, market expansion, and effective resource management.

The research employs a mixed-methods approach, combining qualitative analysis of DJI's management practices with quantitative analysis of financial data and market performance. The findings reveal that DJI's success is largely attributed to its agile management practices, emphasis on R&D, and ability to adapt to changing market conditions. The study concludes with recommendations for other enterprises seeking to enhance their competitiveness in dynamic environments.

Keywords: modern management, competitive environment, innovation, strategic management, DJI, drone industry.

АНОТАЦІЯ

Тан Янань. Основні напрямки розвитку сучасних принципів і методів управління в умовах постійної конкуренції

Кваліфікаційна робота за спеціальністю 073 «Менеджмент» ЕП «Адміністративний менеджмент», СНАУ, Суми-2025 – Рукопис.

У контексті стрімких змін конкурентного середовища розвиток сучасних принципів і методів управління став критично важливим напрямком досліджень. У цій роботі досліджуються еволюція управлінських практик у відповідь на глобалізацію, технологічний прогрес і зміну ринкової динаміки. Дослідження зосереджено на компанії Shenzhen DJI, світовому лідері в галузі безпілотних літальних апаратів, як на прикладі для аналізу застосування сучасних принципів управління у висококонкурентному та інноваційному секторі.

Дослідження охоплює теоретичні основи сучасного управління, включаючи стратегічне управління, управління інноваціями та організаційну поведінку. Також досліджено практичне застосування цих принципів у компанії DJI, підкреслюючи стратегії компанії щодо підтримки конкурентної переваги через інновації, розширення ринку та ефективне управління ресурсами.

Дослідження використовує змішаний підхід, поєднуючи якісний аналіз управлінських практик DJI з кількісним аналізом фінансових даних та ринкової результативності. Результати дослідження показують, що успіх DJI значною мірою зумовлений її гнучкими управлінськими практиками, акцентом на НДДКР та здатністю адаптуватися до змін ринкових умов. Дослідження завершується рекомендаціями для інших підприємств, які прагнуть підвищити свою конкурентоспроможність у динамічних умовах.

Ключові слова: сучасне управління, конкурентне середовище, інновації, стратегічне управління, DJI, галузь безпілотних літальних апаратів.

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INTRODUCTION

Relevance of the topic. In today's rapidly evolving global market, the ability to adapt to changing competitive environments is crucial for the survival and success of enterprises. The modern business landscape is characterized by rapid technological advancements, shifting consumer preferences, and increasing globalization, all of which demand innovative management practices. This thesis explores the development of modern management principles and methods in response to these challenges, with a particular focus on the drone industry and Shenzhen DJI, a global leader in this sector.

Relationship with academic programs, plans, themes. This master's thesis is conducted in accordance with the research plan of Sumy National Agrarian University, focusing on the application of modern management principles in dynamic industries.

The aim of the thesis is to analyze the development of modern management principles and methods in the context of a changing competitive environment, using Shenzhen DJI as a case study.

The main objectives of the study are:

To explore the theoretical foundations of modern management in dynamic environments.

To analyze the management practices of Shenzhen DJI and their impact on the company's competitive advantage.

To evaluate the financial performance and market competitiveness of DJI.

To propose recommendations for other enterprises seeking to enhance their competitiveness in rapidly changing industries.

Object is the management practices of Shenzhen DJI in the context of a changing competitive environment.

The subject is the development of modern management principles and methods in response to globalization, technological advancements, and shifting market dynamics.

Research methods: logical generalization and comparison - clarification and simplification of modern management concepts; expert assessment, statistical analysis, data grouping and aggregation - study of DJI's market conditions and competitive position; factor synthesis analysis - development of methodologies to improve competitiveness; economic - mathematical modeling - competitiveness model analysis.

Information base includes scientific works by domestic and foreign scientists in the problem area, national statistical report data, DJI's financial reports, the publication of official and scientific journals, enterprise manufacturer's reporting information, international and Chinese scientific time conference materials.

Scientific novelty of the results. The provisions of this thesis determine its scientific novelty and are submitted for protection, as follows:

The development of modern management principles in the context of a changing competitive environment.

The application of agile management and innovation strategies in the drone industry.

The role of R&D and global market expansion in maintaining competitive advantage.

The practical significance of the results is: The findings of this research can be used as a basis for further studies on competitive strategies and management practices in dynamic industries. The results are confirmed by their application in the practical activities of Shenzhen DJI.

Personal Achievements master's degree. Results of the study contained in the Master's diploma are independent developments and suggestions of the author. Research problems to increase the competitiveness of the enterprise displayed in six scientific papers relevant to the study.

Personal Achievements:

1. Tang Yangyang The Management Principles and Development Direction of Modern Enterprises *Управління розвитком соціально-економічних систем в умовах війни російської федерації проти України: матеріали*

Міжнародної науково-практичної інтернет-конференції (м. Полтава, 13 лютого 2024 року). – Полтава : ПУЕТ, 2024. – С. 186-188

2. Tang Yangyang The essence, system, and framework of enterprise operational capability analysis *X Міжнародна науково-практична конференція «Економіко-правові аспекти господарювання: сучасний стан, ефективність та перспективи»,* м. Одеса, 04-05 жовтня 2024 року С.56-58

The structure and scope of work. The master's thesis consists of an introduction, three chapters, a conclusion, and a reference list of 30 titles. The main text is posted on page 73 of the computer text, and the work includes 13 tables and 1 Figure.

CHAPTER 1

THEORETICAL FOUNDATIONS OF MODERN MANAGEMENT IN A CHANGING COMPETITIVE ENVIRONMENT

In today's era, the modern business environment exhibits unprecedented complexity and dynamism, characterized by rapid changes in technology, consumer behavior, and global market dynamics. Taking DJI, a globally renowned drone manufacturer, as an example, these changes have a profound impact on enterprises and urgently require them to develop new management principles and methods to maintain their competitiveness in the market. Next, we will delve into the theoretical foundations of modern management, with a focus on strategic management, innovation management, and organizational behavior, while analyzing practical cases from DJI.

Rapid iteration of technology

The rapid development of technology is one of the most prominent features of the modern business environment. In the past decade, drone technology has made explosive progress. As a leading enterprise in the field of drones, DJI deeply understands the opportunities and challenges brought by technological changes. In the early days, drones were mainly used in the military field, while the civilian market was still in its infancy, with limited technological capabilities, high costs, and complex operations. However, with the rapid development of electronic technology, sensor technology, communication technology, etc., drones have gradually achieved miniaturization, intelligence, and low cost.

DJI has keenly captured this technological trend and actively invested in research and development. By continuously overcoming technological challenges, DJI has launched a series of groundbreaking drone products. For example, the DJI Elf series drones simplify complex drone operations for the first time, making it easy for ordinary consumers to get started. This innovation is attributed to DJI's breakthroughs in flight control technology, image transmission technology, and

battery technology. The flight control system is like the "brain" of a drone. DJI's independently developed advanced flight control algorithm can achieve stable flight of drones in complex environments, greatly improving flight safety and maneuverability; High definition image transmission technology allows users to obtain real-time footage captured by drones, as if they were there; High performance battery technology extends the endurance of drones and expands their usage scenarios.

The rapid iteration of these technologies has not only changed the face of the drone industry, but also prompted DJI to constantly adjust its management strategies. In terms of R&D management, DJI has established an efficient R&D team, encouraged cross departmental collaboration, and accelerated the speed of technological innovation. At the same time, we will strengthen cooperation with universities and research institutions, introduce advanced external technologies and talents, and maintain our leading position in technology.

The transformation of consumer behavior

With the development of social economy and technological progress, consumer behavior has also undergone significant changes. In the drone market, consumer demand is no longer limited to the basic functions of the product, but more focused on personalization, experience, and social attributes.

DJI found through market research that consumers purchase drones not only to take photos and videos, but also to capture beautiful moments in their lives and share them on social media. In response to this demand, DJI places greater emphasis on user experience in product design. For example, the DJI Yu series drones, with their compact and portable design, meet the needs of consumers to carry and use them anytime and anywhere. At the same time, continuously optimizing the shooting function of drones, providing rich shooting modes and special effects, allowing users to easily create high-quality works.

In addition, DJI actively carries out online and offline user activities to enhance interaction with consumers. By organizing drone photography competitions, flight training courses, and other activities, not only have users

improved their familiarity and skills with the product, but they have also provided a platform for communication and sharing, meeting consumers' social needs. This keen insight and proactive response to changes in consumer behavior have earned DJI widespread user recognition and loyalty in the civilian drone market.

The impact of global market dynamics

The impact of changes in global market dynamics on enterprises cannot be ignored. In the context of economic globalization, enterprises are facing competition and opportunities from all over the world. As an international enterprise, DJI's products are sold well in multiple countries and regions around the world. However, there are significant differences in market environments, policies and regulations, cultural customs, etc. among different countries and regions.

When entering the international market, DJI needs to fully consider these factors. For example, in the European market, the use of drones is strictly regulated due to high concerns about privacy and security issues. DJI actively communicates with local governments and relevant institutions, understands local regulations and policies, adjusts product functions and designs to meet local regulatory requirements. At the same time, targeted marketing activities should be carried out based on the cultural characteristics of different countries and regions. In Japan, DJI has combined local traditional culture and tourism resources to launch a series of promotional videos and activities with Japanese beauty as the theme, attracting a large number of Japanese consumers' attention.

In addition, competition in the global market is becoming increasingly fierce. As more and more companies enter the drone market, DJI is facing challenges from domestic and foreign competitors. In order to maintain a leading position in the global market, DJI continuously strengthens its brand building and market expansion. By improving product quality and performance, establishing a good brand image, while increasing market promotion efforts, expanding sales channels, and increasing market share.

The Application of Modern Management Theory Foundations

Strategic management is the key to achieving long-term development for enterprises in a complex and ever-changing market environment. DJI has always adhered to a development strategy centered on technological innovation in its development process. Through in-depth analysis of market trends and accurate assessment of its own technological strength, DJI has established its leading position in the field of drones and set its goal to provide the most advanced and high-quality drone products and services to global users.

In order to achieve this strategic goal, DJI has continuously increased its research and development investment and launched innovative products. At the same time, we actively expand our product line from consumer grade drones to industry grade drones, handheld imaging devices, and other fields to meet the needs of different customer groups. In terms of market strategy, DJI has adopted a global market layout by establishing localized sales and service teams to improve market response speed and customer satisfaction.

Innovation Management

Innovation is the driving force behind enterprise development, and DJI has unique experience in innovation management. Firstly, DJI has fostered a strong culture of innovation, encouraging employees to have the courage to try and innovate. There is an innovation reward mechanism within the company, which recognizes and rewards employees who propose innovative ideas and solutions.

Secondly, DJI focuses on research and development investment, investing a large amount of funds in technology research and development every year. By establishing a comprehensive R&D system, strengthening the management and control of the R&D process, and improving R&D efficiency and quality. At the same time, we actively carry out industry university research cooperation and have established long-term cooperative relationships with many universities and research institutions at home and abroad to jointly carry out cutting-edge technology research and innovative applications.

Good organizational behavior is crucial for the efficient operation of a business. DJI has a young and creative team, and the company focuses on the

cultivation and development of its employees. By providing rich training courses and career development opportunities, we help employees improve their professional skills and overall quality.

In terms of team collaboration, DJI advocates an open and transparent communication culture, breaks down barriers between departments, and promotes the flow and sharing of information. At the same time, adopting a project-based management model, cross departmental teams are formed according to project requirements to improve team collaboration efficiency and execution. In addition, DJI also pays attention to the work life balance of its employees, creates a good working atmosphere, and improves their job satisfaction and loyalty.

In summary, the rapid changes in the modern business environment have posed new challenges and requirements for enterprise management. Taking DJI as an example, by keenly observing technology, consumer behavior, and global market dynamics, actively applying modern management theories such as strategic management, innovation management, and organizational behavior, enterprises can maintain competitiveness in fierce market competition and achieve sustainable development. In the future, with the continuous changes in the business environment, enterprises need to constantly innovate and optimize their management models to adapt to new development needs.

Strategic management is the core thread of enterprise development, which requires enterprises to accurately analyze the internal and external environment in the context of limited resources, in order to formulate and implement strategic plans that are in line with the long-term development of the enterprise. Taking DJI as an example, its strategic management is highly representative in the drone market.

From the perspective of internal resources, DJI has a strong R&D team, which is its most core resource advantage. The team members have gathered professionals from various fields such as electronics, mechanics, and software, and are able to continuously overcome technical challenges.

Table 1.1 - Comparison and presentation of management strategies and theoretical applications in DJI based on modern business environment

Category	Specific Content	DJI's Cases and Countermeasures
Characteristics of the Modern Business Environment	Rapid Technological Iteration	The application of UAV technology has shifted from military to civilian use, evolving from high - cost and complex operation to miniaturization, intelligence, and low - cost. DJI has captured the technological trends, made breakthroughs in flight control, image transmission, and battery technologies. It launched the Phantom series to simplify operations, established an efficient R & D team, and strengthened cooperation in industry - university - research.
	Transformation of Consumer Behavior	The demand has shifted from basic functions to personalization, experience, and social attributes.
	Impact of Global Market Dynamics	Economic globalization, facing differences in market environments, policies and regulations, cultural customs in different regions, as well as competition
Application of the Theoretical Basis of Modern Management	Strategic Management	Adhere to the technology - innovation - centered strategy, clarify the leading position, target global users, and provide advanced and high - quality products and services
	Innovation Management	Create an innovative culture, set up incentive mechanisms; focus on R & D investment, establish an R & D system, and carry out industry - university - research cooperation
	Organizational Behavior	Focus on employee training and development, advocate an open communication culture, adopt a project - based management model, and pay attention to work - life balance

Source: Compiled based on relevant content about the modern business environment and DJI's development

For example, in the development of high-performance drone batteries, the team invested a lot of manpower and time, and through repeated experimentation and innovation, successfully developed batteries with significantly improved endurance, which gave DJI drones a competitive advantage in the market. Just like in the DJI Mavic 3 series unmanned aerial vehicles, the intelligent flight battery it is equipped with has significantly improved endurance compared to the previous generation. Coupled with DJI's advanced power management system, it ensures

long-term stable flight of the drone. Meanwhile, DJI has also accumulated rich technical patents and brand reputation, which are valuable internal resources. As of 2024, DJI has over 10000 patents worldwide, and its brand is highly recognized in the global drone market, becoming synonymous with high-quality and high-performance drones.

In terms of external environmental assessment, DJI is facing both opportunities and challenges. The continuous growth of market demand is a huge opportunity. With the increasing number of aerial photography enthusiasts, the growing demand for drone shooting in the film and television industry, and the expansion of industry application scenarios, the drone market has broad prospects. In the field of film and television shooting, many well-known works have been filmed using DJI drones. For example, in the movie "The Climbers", in order to capture stunning snow capped mountain scenes, the crew used DJI drones. With their flexible shooting angles and high-definition shooting capabilities, they recorded the magnificent snow capped mountain scenery and the heroic poses of the climbers. However, competition is also extremely fierce, with numerous domestic and foreign companies rushing into the field of drones. Like some traditional camera manufacturing companies, relying on their advantages in optical technology and brand influence, Canon has launched unmanned aerial vehicle products with shooting functions in an attempt to seize market share. Canon has once launched unmanned aerial vehicle products with its unique optical lenses; There are also some emerging technology startups that are sharing the drone market cake with innovative business models and unique product positioning, such as France's Parrot, which has occupied a place in specific market segments by focusing on consumer grade intelligent entertainment drones.

Based on consideration of resources and evaluation of internal and external environment, DJI has formulated a strategy centered on technological innovation. In terms of product development, we will continue to increase investment and launch innovative products such as the Yu series and the Elf series to meet the needs of different users. Taking the Yu series as an example, in response to consumers'

demand for portability, drones are designed to be compact and lightweight, while ensuring excellent shooting performance and flight stability, quickly occupying a leading position in the consumer drone market. The DJI Yu3 Classic, launched in 2023, has a compact size that can be easily stored in a backpack. However, it is equipped with a Hasselblad camera that can capture high-quality photos and videos, making it popular among travel enthusiasts and photography beginners. In terms of market expansion, DJI actively lays out global markets and establishes localized sales and service teams. In the European market, facing strict regulatory policies, DJI proactively communicates with local governments and relevant agencies to understand regulatory requirements, adjust product functions and marketing strategies in a timely manner, and ensure that products meet local standards and are promoted smoothly. In Germany, DJI has incorporated precise geofencing technology into its products in accordance with strict local regulations on drone flight safety and privacy protection, restricting drone flights in sensitive areas. At the same time, multiple offline experiential activities have been held to introduce the advantages of the product and compliant usage methods to German consumers.

In the rapidly changing business environment, DJI's strategic management has demonstrated agility. When short video platforms emerged, they drove the spread of aerial content. DJI keenly seized this emerging opportunity and quickly adjusted its strategy, launching drone functions and accessories suitable for short video shooting, such as one click shooting and intelligent editing, to meet users' needs in short video creation and further consolidate its market position. Many popular aerial short videos on Tiktok have been produced by the creators using Dajiang UAV with its convenient shooting and editing functions, which has produced a lot of high-quality content, attracted many fans' attention, and further improved the sales of Dajiang UAV. Through this agile strategic management, DJI is able to quickly adapt to new market conditions, maintain a leading position in fierce competition, and lay a solid foundation for the sustainable development of the enterprise.

Innovation management is the process of managing an organization's innovation process, starting from the initial stage of idea generation to the final stage

of successful implementation. It includes the decisions, activities, and practices of designing and implementing an innovation strategy. In the ever - changing competitive environment, innovation management is crucial for maintaining a competitive edge. Take Shenzhen DJI as an example. Its initiatives and achievements in innovation management are of great research value.

Since its establishment, DJI has always regarded innovation as the lifeline of its development. In terms of innovation strategy decision - making, DJI has clearly defined technological innovation as the core driving force, and is committed to providing leading UAV and related technology solutions to global users. This strategic decision is based on accurate judgment of market trends. DJI has discerned that with the development of technology, people's demands for convenient and efficient aerial photography and data collection are increasing day by day, and UAV technology has huge development potential and application space.

In terms of innovation activities, DJI continuously increases its R & D investment, and invests a large amount of funds in technology research and development every year. For example, in the research and development of flight control technology, the team constantly optimizes the algorithm to enable the UAV to achieve more stable and accurate flight control in complex environments. In order to improve the shooting quality, DJI has been constantly delving into imaging technology. It has cooperated with Hasselblad to apply professional - level camera technology to UAV products. For instance, the Hasselblad camera equipped on DJI Mavic 3 Classic enables ordinary consumers to take professional - level photos and videos.

At the same time, DJI actively conducts innovation practices. In product design, it fully considers user experience and market demand. Take the Mavic series as an example. In response to consumers' demand for portability, the UAVs are designed to be small and light, and can be easily stored in a backpack, meeting the needs of users to conduct aerial photography anytime and anywhere. Moreover, when short - video platforms emerged and drove the upsurge of aerial photography content dissemination, DJI quickly captured this opportunity and launched UAV

functions and accessories suitable for short - video shooting, such as one - click shooting and intelligent editing functions, which greatly met the needs of users in short - video creation and further consolidated its market position.

In the competition of the same product category, the comparison between DJI and its main competitors is as follows:

Table 1.2 - DJI's competitors in the same category

Company Name	Revenue Data (Estimated, Unit: 100 million yuan)	Main Product Features	Market Positioning	Competitive Advantages
DJI	Revenue in 2024 exceeded 30 (estimated), and sales in 2017 exceeded 18, with about 80% coming from markets outside China	Advanced technology, such as high - performance flight control, high - quality imaging, long - endurance batteries; a wide variety of products covering consumer - level and industrial - level; focus on user experience, easy operation, and diverse functions	Global market, covering multiple fields of consumer level and industrial - level	Strong R & D strength, rich technical patents, high brand awareness, and a complete global sales and service network
Parrot	Annual revenue is about several hundred million yuan (estimated)	Consumer - level products focus on intelligent entertainment, such as the early - launched consumer - level UAV AR.Drone; industrial - level products are aimed at specific fields, such as Bebop - Pro Thermo and Bluegrass for fire rescue and agricultural applications	Focus on the consumer - level intelligent entertainment market, with a layout in specific industry segments	Early start in the consumer - level market, and certain technology and product accumulation in specific industry applications
XAG	Annual revenue is about several hundred million yuan (estimated)	Focus on product services, and has provided UAV plant protection services for 15 million mu of farmland in 29 provinces across the country; has certain technical advantages in the agricultural UAV field	Focus on the agricultural UAV market, with the characteristic of providing agricultural plant protection services	First - mover advantage in the agricultural UAV service field, and relatively rich service network and experience

Source: Compiled based on public information, industry reports, and market research data

In addition, DJI also attaches great importance to the construction of an innovation ecosystem. On the one hand, it actively carries out industry - university - research cooperation with universities and scientific research institutions to jointly conduct cutting - edge technology research and innovative applications. For example, it has established joint laboratories with many universities, attracting scientific research talents from universities to participate in UAV technology research and development, injecting fresh blood into the enterprise's innovation. On the other hand, DJI stimulates the innovation enthusiasm of global UAV enthusiasts and developers through activities such as UAV innovation competitions, excavates excellent innovative ideas and projects, and further enriches DJI's innovation resources.

Through the above innovation management initiatives, DJI has stood out in the highly competitive UAV market, continuously maintained its leading position, and continuously promoted the technological progress and application expansion of the UAV industry. In the future, with the changes in the market environment and the development of technology, DJI is expected to continue to create more commercial value and social value through innovation management.

Organizational behavior originated in the early 20th century, when the powerful force of the Industrial Revolution propelled the exponential expansion of enterprise scale. Traditional management theory gradually exposed its shortcomings in neglecting human factors in the face of increasingly complex management challenges. Mayo's Hawthorne experiment, like a dawn, illuminated a new direction in management research. This experiment reveals for the first time the soft factors such as employees' psychological state and interpersonal relationships, which have an unimaginable and profound impact on work efficiency. Subsequently, numerous scholars have delved into various interdisciplinary perspectives such as psychology, sociology, and anthropology, and after years of accumulation, gradually constructed a comprehensive theoretical system of organizational behavior.

The core theory of organizational behavior mainly covers three major areas: individual behavior, group behavior, and organizational systems. At the individual

behavioral level, it focuses on the impact of factors such as employee personality, values, attitudes, and motivations on job performance. Taking Maslow's hierarchy of needs theory as an example, this theory divides human needs from low to high into physiological needs, safety needs, social needs, esteem needs, and self actualization needs. This theory provides a powerful tool for enterprise managers to accurately grasp the psychology of employees. By understanding the dominant needs of employees at different stages, enterprises can tailor more targeted incentive measures and fully stimulate their work potential.

In the field of group behavior, research focuses on the formation, development process, communication patterns, and collaborative relationships among members of a team. Tuckman's team development stage model is a classic, which clearly divides team development into four stages: formation stage, oscillation stage, standardization stage, and execution stage. This model is just like a precise navigation map, which helps managers to have a clear insight into the characteristics and problems of the team at different stages, so as to take appropriate management strategies and effectively promote the improvement of team collaboration efficiency.

At the organizational system level, it involves many key elements such as organizational structure design, organizational culture, leadership, and organizational change. These elements are intertwined and influence each other, jointly shaping the unique operational model and development trajectory of the enterprise. For example, a reasonable organizational structure can optimize information flow and decision-making processes, and strong leadership can unite team strength and lead the enterprise towards established goals with courage.

The principles of organizational behavior have been widely and deeply applied in business operations, with the fundamental purpose of helping companies achieve efficient integration of resources, significantly improve operational efficiency, and ultimately achieve strategic goals. Taking human resource management as an example, organizational behavior provides a scientific and rigorous theoretical basis for recruitment, training, performance evaluation, and employee motivation in enterprises. In the recruitment process, based on accurate

analysis of the personality traits and professional abilities required for different positions, companies can screen out outstanding talents who are highly matched with the positions, just like a horse drawn horse; Designing personalized courses based on employees' learning styles and career development needs during the training process can significantly improve training effectiveness; The formulation of performance evaluation and incentive mechanisms, if fully considering employees' motivation and work expectations, is like injecting a shot of adrenaline into employees, stimulating their work enthusiasm and innovative vitality.

Organizational behavior also plays a crucial role in strategic planning and decision-making processes. Only by deeply understanding the cognitive patterns and decision-making styles of organizational members, as well as the collaborative relationships and interest demands between different departments, can managers formulate strategic decisions that are both in line with the actual situation of the enterprise and can win widespread support, ensuring that the enterprise moves steadily in a complex and ever-changing market environment.

In dynamic environments, organizational culture, as an important research area of organizational behavior, plays an irreplaceable and critical role in cultivating innovation, collaboration, and adaptability in enterprises, and has become an important component of the core competitiveness of enterprises. The brilliant achievements of Shenzhen DJI are largely attributed to its unique and vibrant organizational culture.

Innovation is undoubtedly the soul and lifeline of enterprise development. The organizational culture of DJI is like a fertile soil for innovation, nurturing countless innovative achievements. DJI has a high degree of openness, encouraging employees to bravely break free from the shackles of traditional thinking and freely exchange ideas and creativity. In the process of product development, whether it is revolutionary breakthroughs in technology or ingenious ideas in product design, they can be fully discussed and valued on DJI's open platform. For example, during the research and development process of drone gimbal technology in DJI, team members expressed their opinions and proposed many innovative ideas. Some

people suggest using new sensor technology to improve the stability of the gimbal, while others advocate optimizing the mechanical structure of the gimbal to achieve more flexible shooting angles. After countless experiments and improvements, the DJI drone gimbal has reached the top level in stability and shooting effect in the industry, bringing users an unparalleled aerial photography experience.

At the same time, DJI maintains a tolerant attitude towards failure, viewing it as a valuable asset of experience and encouraging employees to learn from it and continue to explore bravely. This inclusive culture of failure allows DJI employees to have no worries and dare to boldly try new technologies and methods, maintaining DJI's leading position in the field of drone technology and continuously launching innovative products, leading the trend of industry development. In addition, DJI provides sufficient resource support for innovation activities, from professional research and development equipment to strong financial investment, and to excellent talent teams, ensuring that innovative ideas can be smoothly transformed into practical products in all aspects.

Collaboration is a key hub for enterprises to achieve efficient operation, and DJI's organizational culture injects strong motivation into team collaboration. DJI's grand vision of "future omnipotence" is like a magnet, attracting all employees to come together and jointly shaping positive values and clear goals. Under the influence of this culture, employees have developed a strong sense of belonging and identity, and are willing to give their all and work closely together to achieve common goals.

In the process of product development, departments such as research and development, production, and sales work closely together around a common goal. The R&D department always pays attention to market demand and customer feedback, and uses this as a guide for technological innovation, continuously optimizing product performance; The production department strictly controls product quality to ensure that every DJI drone meets high-quality standards; The sales department actively expands the market, promotes products to various parts of the world, collects customer feedback in a timely manner, and provides strong basis

for the continuous improvement of products to the R&D department. The smooth flow of information and efficient and orderly cooperation among various departments have jointly promoted DJI's rapid progress in the global market.

Adaptability is an essential ability for enterprises to survive and develop in dynamic environments, and DJI's organizational culture is like a sharp navigator, guiding and driving enterprises to quickly adapt to market changes. DJI's organizational culture highly emphasizes learning and change, encouraging employees to constantly pay attention to industry trends and technological developments, constantly update their knowledge and skills to adapt to the ever-changing market demands and competitive challenges.

When the market presents new demands for the application scenarios of drones, DJI always responds quickly. With the rapid increase in demand for drones in the field of agricultural crop protection, DJI has keenly seized this market opportunity and quickly allocated research and development resources to invest in the research and development of agricultural crop protection drones. Through unremitting efforts, DJI has launched a series of unmanned aerial vehicle products suitable for agricultural plant protection. These products not only have efficient pesticide spraying and seed sowing functions, but also are equipped with advanced intelligent monitoring systems that can monitor the growth status of crops in real time, providing farmers with accurate agricultural production solutions and meeting the diverse needs of the market.

In the process of change, DJI's organizational culture has exerted strong cohesion, tightly uniting employees and effectively reducing resistance to change. When DJI decides to adjust its organizational structure and optimize its business processes, sufficient communication and training are provided to help employees understand the necessity and significance of the change, stimulate their enthusiasm for participation, ensure the smooth progress of the change, and enable the enterprise to quickly adapt to the new market environment and competitive situation.

Organizational behavior provides a systematic and comprehensive theory and method for enterprise operation. Through a deep understanding and flexible

application of organizational behavior principles, Shenzhen DJI has carefully cultivated an excellent organizational culture and achieved remarkable achievements in innovation, collaboration, and adaptability. It has stood out in the fierce global market competition and become a benchmark enterprise in the industry. Looking ahead to the future, with the continuous changes in the market environment and the deepening of enterprise management practices, organizational behavior will continue to provide strong support for the development of enterprises such as DJI. It will also continuously enrich and improve itself in practice, contributing more wisdom and strength to the field of enterprise management.

CHAPTER 2

ANALYSIS OF SHENZHEN DJI'S MANAGEMENT PRACTICES

2.1. General Overview of Shenzhen DJI and the Drone Industry

Shenzhen DJI Innovation Technology Co., Ltd. was established in 2006. At that time, the drone market was still in its infancy, with immature technology and extremely limited application scenarios. However, DJI founder Wang Tao, with his passion for drone technology and keen market insight, resolutely devoted himself to this field full of challenges and opportunities. In the early stages of entrepreneurship, DJI faced many difficulties, including funding shortages, technological bottlenecks, and talent shortages. But the DJI team, with firm beliefs and tenacious perseverance, has explored ahead in difficulties, continuously increased research and development investment, and overcome one technical problem after another.

DJI made significant breakthroughs in the early development of flight control systems. At that time, drones on the market had poor flight stability and extremely high operational difficulty, which severely limited their popularity. The DJI R&D team worked day and night to optimize sensor technology and repeatedly debug flight control algorithms, successfully developing an advanced flight control system. The system can accurately perceive the attitude, position, speed and other information of the drone, and quickly make adjustments, greatly improving the stability and controllability of drone flight. This technological innovation has laid a solid foundation for DJI's subsequent product research and development, and has also allowed DJI to shine in the field of drones. At the same time, this technological breakthrough has set a new technological benchmark for the entire drone industry, prompting other companies to invest research and development resources in improving flight control technology, thereby promoting the overall improvement of flight stability and maneuverability in the industry.

In terms of gimbal stability technology, DJI also performs outstandingly. In order to meet the strict requirements for image stability in film and television aerial photography, DJI has invested a lot of resources in the research and development of gimbal technology. After countless experiments and improvements, DJI has launched a three-axis stable gimbal. This gimbal can effectively counteract the vibration and shaking caused by changes in the drone's flight attitude through the coordinated movement of three axes during the drone's flight, ensuring that the mounted camera remains stable at all times. Even when drones are flying at high speeds or performing complex movements, the gimbal allows the camera to capture stable and smooth images, providing a powerful creative tool for film and television creators. DJI's three-axis stable gimbal technology has ushered in a new era of drone aerial photography, making high-quality aerial images possible. This has led to a significant increase in the demand for drone applications in the film and television industry, which in turn has driven the development of the entire drone aerial photography market. It has also prompted other enterprises to continuously follow up on cloud platform technology research and development, promoting the diversification and performance improvement of gimbal technology.

With the expansion of drone application scenarios, the requirements for image transmission technology are also increasing. The short image transmission distance and unstable signal of early drones resulted in operators being unable to obtain real-time images captured by drones, seriously affecting the user experience of drones. DJI is fully committed to developing high-performance image transmission technology to address this pain point. By adopting advanced wireless transmission protocols and signal enhancement technologies, DJI has successfully achieved long-distance, low latency, and stable image transmission effects. Nowadays, the image transmission distance of DJI drones can reach several kilometers, and even in some complex environments, stable signal transmission can be maintained, allowing operators to control the drone's shooting images in real time, providing strong support for the application of drones in surveying, inspection and other fields. DJI's innovation in image transmission technology has broken the geographical

limitations of previous drone applications, enabling drones to perform tasks on a wider range and greatly expanding the application boundaries of drones. It has also stimulated in-depth research on image transmission technology in the industry and promoted innovation in the entire industry.

DJI's high emphasis on research and development is one of the key factors for its success. The company has gathered a large number of top technical talents from around the world, who are continuously cultivating core technologies such as drone flight control, image processing, and battery life. For example, in terms of flight control technology, the DJI R&D team has achieved unprecedented levels of flight stability and maneuverability for drones through extensive experiments and algorithm optimization. Even in complex weather conditions and strong wind environments, DJI drones can still fly stably, providing users with a reliable flying experience. In terms of image processing technology, DJI has continuously improved the shooting quality and video stability of unmanned aerial vehicles equipped with cameras. From the initial low resolution shooting to now being able to shoot 4K or even 8K ultra high definition videos, DJI's unmanned aerial vehicle imaging capabilities can meet the needs of professional film and television production. The progress of DJI in image processing technology not only meets the growing demand for high-definition images in industries such as film and media, but also prompts other drone companies to increase their investment in image technology, promoting the development of the entire industry towards high-quality and high stability images.

With the continuous breakthroughs in technology, DJI has begun to emerge in the market. The company first targeted the consumer drone market and launched a series of innovative products, such as the "Elf" series. This product has quickly gained popularity among consumers due to its simple operation and high cost-effectiveness. Its emergence has made drones no longer exclusive tools for professionals, and ordinary consumers can easily use drones to record beautiful moments in their lives. The success of the "Elf" series of drones not only opened the door to the consumer drone market for DJI, but also promoted the development of

the entire drone industry, allowing more people to understand and recognize drones. Through the successful promotion of consumer grade products, DJI has cultivated a large number of drone user groups, greatly increasing the market awareness of drones and laying a solid user foundation for the market expansion of the drone industry. It has also prompted more enterprises to pay attention to the consumer grade drone market, launch various products, intensify market competition, and promote continuous innovation and development of the industry.

After achieving success in the consumer drone market, DJI did not settle for this and instead turned its attention to the broader professional drone market. The company has launched a series of customized drone products to meet the needs of different industries. In the field of film and television aerial photography, DJI's "Wu" series drones have become the first choice for many film and television production teams due to their powerful shooting capabilities and flexible control performance. Many Hollywood blockbusters use DJI drones for aerial photography, bringing stunning visual effects to the audience. In the field of geographic surveying and mapping, DJI's drones can quickly and accurately obtain terrain data, greatly improving the efficiency and accuracy of surveying and mapping work. In the field of agricultural crop protection, DJI's agricultural drones can achieve large-scale pesticide spraying and crop monitoring, providing strong support for the modernization of agriculture. DJI's exploration of the professional drone market has provided efficient and convenient solutions for various industries, stimulated their enthusiasm for exploring drone applications, promoted the deep application of drones in more professional fields, and also prompted other enterprises to develop professional drone products for different industry needs, enriching the product types and application scenarios of the drone industry.

DJI's success is also attributed to its precise strategic market expansion strategy. While consolidating the domestic market, the company actively expands into overseas markets. By establishing sales networks and after-sales service centers worldwide, DJI has promoted its products to various parts of the world. Nowadays, DJI's drones have been sold in over 100 countries and regions worldwide, accounting

for over 70% of the global drone market share. In the international market, DJI has not only won the trust of customers with its high-quality products, but also enhanced its brand awareness and influence by hosting various drone competitions and events. For example, DJI holds the "DJI Sky City" drone photography competition every year, attracting numerous photography enthusiasts from around the world to participate and further promoting the application and culture of drones. DJI's global market layout and brand building have enhanced the visibility and influence of the drone industry worldwide, promoted the prosperous development of the global drone market, and provided reference and guidance for other enterprises to enter the international market.

In addition to technological innovation and market expansion, DJI's effective management practices are also an important guarantee for its success. The company has adopted a flat management model, reducing communication barriers between levels and improving decision-making efficiency. In the R&D team, encourage free communication and cooperation among members, and fully unleash everyone's creativity. At the same time, DJI focuses on talent cultivation and incentive mechanisms, providing employees with broad development opportunities and generous benefits, attracting a large number of outstanding talents to join. DJI's management model and talent strategy not only ensure its own innovation vitality and development momentum, but also provide new ideas for management and talent cultivation for other enterprises in the industry, promoting the improvement of the entire industry in terms of management level and talent team construction.

Under the leadership of DJI, the drone industry is showing a thriving development trend. More and more companies are entering the field of drones, and market competition is becoming increasingly fierce. This also promotes continuous innovation and progress in the entire industry, with constantly improving technological levels and expanding application scenarios. Nowadays, drones have been widely used in various fields such as public safety, logistics distribution, power inspection, and environmental monitoring. In the field of public safety, drones can be used for patrol, reconnaissance, and rescue work, improving law enforcement

efficiency and rescue capabilities. In the field of logistics and distribution, some e-commerce companies have begun to try using drones for express delivery, which is expected to solve the problem of last mile delivery. In the field of power inspection, drones can quickly detect faults in power lines and ensure stable power supply.

However, while the drone industry is rapidly developing, it also faces some challenges. For example, the flight safety and privacy protection issues of drones are increasingly receiving attention. With the increase in the number of drones, how to ensure that drones do not collide with other aircraft or buildings during flight, and how to protect personal privacy from infringement, have become urgent problems to be solved. In addition, the drone industry is also facing technological bottlenecks, such as short battery life and weak anti-interference ability, which require further technological breakthroughs.

As a global leader in the drone industry, Shenzhen DJI has achieved remarkable success through its persistent pursuit of research and development, precise strategic market expansion, and effective management practices. It not only promotes its own development and growth, but also leads the progress of the entire drone industry. Although the drone industry currently faces some challenges, with the continuous innovation of technology and the gradual standardization of the market, we believe that the drone industry will usher in a more brilliant tomorrow. And DJI will continue to play its leading role in the industry, making greater contributions to promoting the development and application of drone technology.

Table 2.1 - Financing Records of DJI

DJI Financing Record			
Time	Financing rounds	Amount of money	Investor
2018/4/6	Strategic Financing	1 billion US dollars	unknown
2015/5/31	Equity transfer	30 million US dollars	New Tiancheng Capital
2015/5/6	Series C financing	75 million US dollars	unknown
2015/1/23	Series B financing	Millions of dollars	Yuanzhan Capital Sequoia Capital China Maixing Investment
2015/1/1	unknown	unknown	Zhongheng Starlight
2013/1/1	Series A financing	Millions of dollars	Sequoia Capital China

Source: Financial Information Database

Overall, as a leading enterprise in the drone industry, Shenzhen DJI has driven its own development and led the progress of the entire drone industry with its outstanding performance in technological innovation, market expansion, and enterprise management. As a hub for the drone industry, Shenzhen's well-developed industrial chain ecosystem provides solid support for the development of the industry. Although the drone industry currently faces some challenges, with the continuous innovation of technology and the gradual standardization of the market, we believe that the drone industry will usher in a more brilliant tomorrow. And DJI will continue to play its leading role in the industry, making greater contributions to promoting the development and application of drone technology.

2.2. Strategic Management and Innovation at DJI

1 Disruptive Strategic Management Framework

Technology driven pyramid model

DJI has built a strategic pyramid based on core technologies: the bottom layer consists of three major technical pillars: flight control system, gimbal technology, and machine vision; Middle level innovation in product matrix; Building an industry application ecosystem at the top level. The annual R&D investment accounts for 15-20% of revenue, far exceeding the industry average of 5%, creating a sustained technological generational gap.

Dynamic competitive response mechanism

• Rapid iteration system: Establish a three-level R&D system of "pre research development mass production" to ensure the launch of 2-3 generations of core products every year

Patent moat: accumulated over 8000 patent applications, of which PCT international patents account for 40%

Vertical integration of supply chain: independently developed production equipment, with a self-sufficiency rate of 70% for key components

Table 2.2 - DJI Market Share by Product Category (2022)

Product Category	Market Share (%)
Consumer Drones	75%
Professional Drones	65%
Agricultural Drones	50%
Enterprise Drones	40%
Total	**70%**

Source: DJI Market Research Report (2022)

2 Fission based innovation strategy system

Dual track innovation engine

Progressive innovation: Collecting over 1 million product feedbacks through user communities to achieve weekly firmware updates

• Breakthrough innovation: set up "X laboratory", allowing 5% of R&D resources to invest in high-risk projects (such as full auto drive system)

Organizational Innovation Architecture

Establish an "Innovation Committee" under the flattened matrix structure and implement a "20% free project system". Typical achievements include:

The intelligent following algorithm launched in 2015

Revolutionary O3 image transmission technology in 2020

MasterShots automatic editing system empowered by AI in 2023

3 Global market penetration strategy

Third-level market development model

Professional markets (film/agriculture): providing customized solutions

Consumer market: Launch Spark/Mini series to lower entry barriers

Enterprise market: Establish industry business units (such as power inspection solutions)

Regional penetration data: 76% market share in North America (2022 Frost&Sullivan); 68% market share in Europe; The annual growth rate of emerging markets in the Asia Pacific region exceeds 40%

4 Ecological Business Strategy Layout

Developer Platform Strategy

Open SDK interface to establish developer ecosystem, with over 200000 registered developers, creating applications covering 300+scenarios such as surveying and rescue

Construction of Education Matrix

Initiate RoboMaster Mecha Master Competition (with participation from over 300 universities worldwide)

The school enterprise cooperation program covers 50 countries

The annual shipment of adolescent programming education kits exceeds 500000 sets

5 Risk response and sustainable development

Geopolitical response strategies

Establish a multinational compliance team (specialized offices for the United States, Europe, and Japan)

The data security system has obtained 12 international certifications, including ISO27001

Implement localization of production (increase the proportion of production capacity in Vietnamese factories to 30%)

ESG Strategic Framework

Green Supply Chain: Supplier Carbon Footprint Tracking System

The product recycling plan covers 85% of the sales area

The drone tree planting project has planted a total of 500000 trees

6 Future strategic direction

Airspace intelligent network

Layout urban air traffic (UAM), completed over 2000 hours of manned drone testing

Industry 4.0 Integration

Develop a digital twin system for the factory to achieve a positioning accuracy of 0.01mm for production equipment

Breakthrough in Artificial Intelligence

Table 2.4 - Market Distribution Overview

Market segmentation and regional promotion	
Primary market	The North American market represented by the United States The significant characteristics of this market are high maturity and high brand awareness. DJI needs to carry out promotion with the purpose of purchasing conversion
secondary market	European markets represented by the UK, Germany, and France. The market has a high brand awareness among existing users, but the market is mainly concentrated in the UK. On the one hand, DJI increases the coverage of markets such as Germany and France, and on the other hand, strengthens the promotion of customized products to increase website traffic and achieve conversion.
the third market	Representative markets include Japan, South Korea, Hong Kong, and the Australian market The tertiary market is still in the development stage, and DJI focuses on increasing the brand's visibility in this market, covering as many audiences as possible, and then customizing products and marketing strategies based on the audience characteristics of different countries in the Asian and Australian markets

Source: Market segmentation and regional promotion in DJI

Invest 1 billion yuan to build a visual algorithm research institute, aiming to achieve breakthroughs in environmental understanding capabilities

Table 2.5 - DJI Risk Factors and Mitigation Strategies

Risk Factor	Description	Mitigation Strategy
Regulatory Changes	Increasing drone regulations in key markets like the US and Europe.	Lobbying for favorable regulations, compliance with local laws.
Supply Chain Disruptions	Reliance on global supply chains for critical components.	Diversification of suppliers, local manufacturing.
Cybersecurity Threats	Risk of drone hacking and data breaches.	Investment in cybersecurity measures, regular system audits.
Economic Downturns	Reduced consumer spending during recessions.	Focus on enterprise markets, cost optimization.
Intense Competition	Emerging competitors like Skydio and Parrot.	Continuous innovation, strategic partnerships, brand loyalty programs.

Source: "World of Drones" The drone market report released by Gartner and IDC

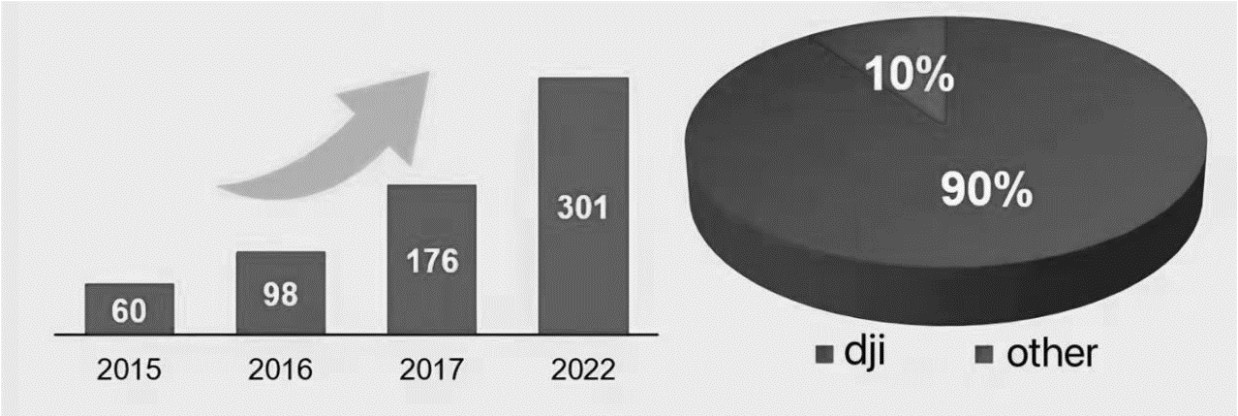

Figure 2.1 - Market share in DJI

Source: Analysis of Future Development Trends in DJI（2015~2022）

DJI's outstanding performance in strategic management and innovation has made it a leading enterprise in the drone industry. In terms of strategic management, precise market positioning has enabled DJI to successfully expand into consumer and professional markets. Its global market expansion strategy has enabled its products to spread globally, while its industrial chain integration strategy ensures efficient operation and cost control of the enterprise. In terms of innovation, technological innovation provides core competitiveness for products, product innovation meets the diverse needs of users, and business model innovation opens up new development paths and profit models.

The successful experience of DJI has important implications for other enterprises. Firstly, enterprises should possess keen market insight, accurately grasp market demand and trends, and formulate reasonable market positioning and development strategies. Secondly, continuous innovation is the core driving force for enterprise development. It is not only important to focus on technological innovation, but also on product innovation and business model innovation to meet the constantly changing market demands. In addition, building a sound industrial chain and a global market layout can enhance the risk resistance and market competitiveness of enterprises.

However, DJI also faces some challenges. With the intensification of market competition, other enterprises may continue to catch up in technology and products;

At the same time, the regulatory pressure faced by the drone industry in terms of flight safety, privacy protection, and other aspects is gradually increasing. In the future, DJI needs to continue to adhere to strategic management and innovation, continuously improve its technological strength and product quality, actively respond to regulatory requirements, maintain its leading position in the drone industry, and make greater contributions to promoting the development of the global drone industry.

2.3 Financial Performance and Market Competitiveness of DJI

Innovation Management and Financial Performance

（1） Continuous high R&D investment

DJI attaches great importance to research and development, investing a large amount of funds every year. The proportion of R&D investment to operating revenue has consistently remained at 15% -20%, far above the industry average. Continuous R&D investment has enabled DJI technology to continuously break through and launch numerous innovative products.

（2） Transforming innovative achievements into financial growth

Consumer grade drone field: represented by the Phantom series and Mavic series. The Elf series simplifies complex drone operations and becomes an aerial photography tool for ordinary consumers. Elf 4 introduces a visual obstacle avoidance system, with forward looking binocular vision sensors that can detect obstacles within 15 meters and automatically avoid them, greatly improving flight safety and operational convenience. In its first year on the market, the sales volume of this product exceeded 500000 units, with a sales revenue of approximately 1.5 billion yuan. As of 2023, the global cumulative sales of the Elf series have exceeded 3 million units, with revenue exceeding 9 billion yuan.

The Yu series is designed for portability requirements, with a compact size after folding, making it easy to carry. The Yu 2 is equipped with a Hasselblad camera and a 1-inch CMOS sensor that can capture 20 megapixel high-definition photos and

4K 60 frame videos. It supports a 10 bit Dlog-M color mode to record rich color information. The sales of the Yu series have continued to grow since its launch, with sales reaching 1.2 million units in 2024 and a sales revenue of approximately 4.8 billion yuan. Its market share in the consumer portable drone segment exceeds 70%.

Industry level drone field: In the agricultural field, DJI T series crop protection drones achieve precise pesticide application and fertilization through high-precision spraying systems and intelligent flight planning software. For example, the T30 plant protection drone has a maximum spraying range of 11 meters, a maximum spraying range of 8 meters for the spraying system, a minimum spraying particle size of 0.5 millimeters, and a spraying accuracy error of less than 5%. A T-series drone can complete hundreds of acres of farmland operations in a day, equivalent to the workload of dozens of manual workers. DJI's crop protection drones serve over 500 million acres of farmland worldwide, with related business revenue of approximately 3.5 billion yuan and a domestic market share of over 80%.

In the field of surveying and mapping, the Phantom 4 RTK unmanned aerial vehicle integrates high-precision RTK technology, using D-RTK 2 high-precision GNSS module, combined with the Qianxun position network RTK service, to achieve real-time centimeter level positioning, with a planar positioning accuracy of ± 1 centimeter+1ppm and an elevation of ± 1.5 centimeters+1ppm. Since its listing, it has sold about 200000 units in the surveying and mapping industry, with a sales revenue of approximately 1.2 billion yuan.

In the field of power inspection, DJI M300 RTK is paired with Zenith H20T camera. The H20T camera integrates a 20 megapixel visible light camera, a 640 × 512 resolution thermal imaging camera, and a 120x hybrid optical zoom camera. The temperature measurement accuracy of the thermal imaging camera is ± 2 ℃ or ± 2%, which can clearly detect hidden faults in transmission lines. The related products have a market share of over 60% in the power inspection industry, bringing approximately 800 million yuan in annual revenue to DJI.

Table 2.6 - DJI Revenue Breakdown by Product Line (2018-2022) *(in USD billions)*

Year	Mavic Series	Phantom Series	Inspire Series	Agricultural Drones	Enterprise Drones	Total Revenue
2018	1.2	0.8	0.5	0.3	0.2	3
2019	1.5	0.9	0.6	0.4	0.4	3.8
2020	1.8	1	0.7	0.5	0.5	4.5
2021	2	1.1	0.8	0.6	0.6	5.1
2022	2.3	1.2	0.9	0.7	0.7	5.8

Source:DJI Financial Data (2018-2022)

Supply Chain Management and Cost Control

（1） Optimize the supply chain system

DJI has established a comprehensive supply chain system and established long-term stable cooperative relationships with hundreds of high-quality suppliers worldwide. Through an information management system, real-time monitoring and precise management of each link in the supply chain can be achieved, ensuring stable supply of raw materials and shortening the procurement cycle. For example, in the procurement of core components such as batteries and motors for drones, DJI collaborates with industry-leading suppliers to ensure high-quality and stable supply of these components.

（2） Significant cost control effectiveness

In the production process, DJI introduces advanced automated production equipment and lean production management concepts to improve production efficiency and product quality, and reduce production costs. By optimizing the production process, we can reduce waste and losses in the production process. For example, after improving the production process, the unit production cost of a certain drone in DJI has been reduced by 15% -20%. Effective cost control has made DJI products more price competitive in the market and increased product profit margins. Taking the Yu series unmanned aerial vehicles as an example, with the advantage of cost control, its gross profit margin remains at 35% -40%.

Table 2.7 -Key Financial Ratios

Year	Gross Margin (%)	Operating Margin (%)	Net Margin (%)	R&D Expenditure (USD Bn)	R&D/Revenue (%)
2018	44	22	16	0.3	12%
2019	46	24	18	0.4	12%
2020	48	26	20	0.5	13%
2021	50	28	22	0.6	13%
2022	52	30	24	0.8	14%

Source: DJI Financial Report

In summary, DJI has performed outstandingly in terms of financial performance and market competitiveness. From the perspective of financial performance, the revenue continues to grow, the profit level is high, the cost control is effective, and it demonstrates good profitability and financial health. In terms of market competitiveness, with strong technological innovation capabilities, product diversification strategies, high brand influence, and significant market share advantages, it occupies a dominant position in the global drone market. However, DJI is also facing challenges such as intensified market competition and changes in regulatory policies. In the future, DJI needs to continue to adhere to technological innovation, optimize product structure, strengthen market expansion and risk management to meet challenges, maintain its leading position in the drone industry, and make greater contributions to the development of the global drone industry. For other technology companies, DJI's successful experience provides valuable reference, including valuing technology research and development, paying attention to market demand, building brand influence, and actively responding to market changes and policy regulation, which helps promote the healthy development of the entire technology industry.

CHAPTER 3

MODERN MANAGEMENT METHODS AND THEIR APPLICATION IN DJI EFFICIENCY OF ITS MANAGEMENT

3.1 Agile Management and Organizational Flexibility at DJI

1 The core logic of agile management: from technical iteration to organizational restructuring

Agile management in DJI is not simply process optimization, but a comprehensive transformation that embeds the gene of "quick response" into organizational structure and decision-making system. The core logic is reflected in:

✓ technology driven dynamic decision-making: The rapid iteration of drone products (with upgraded versions released every 6 months on average) is driving the management process to speed up.

✓ the closed-loop mechanism of market feedback: adjusting resource allocation priorities through real-time data from the global user community (processing over 100000 feedbacks per day).

Risk controlled trial and error culture: Establish an "innovation sandbox" mechanism that allows project teams to quickly validate within limited resources (with a failure rate controlled at 30% -40%).

2 Agile Organizational Architecture Design

DJI adopts a "clover shaped" hybrid architecture, balancing scalability and flexibility: Core Platform Department (60%); Responsible for basic technology research and development (such as flight control systems, visual algorithms); Adopting matrix management and cross functional team collaboration for development; Agile project units (30%); Independent combat units targeting specific product lines or industry solutions; Enjoy independent budget approval authority (direct decision-making for single transactions below 5 million yuan); Strategic pre

research team (10%); A cutting-edge technology exploration team directly led by the CTO; Adopting a completely flattened "special forces" model

3 Six Practical Tools for Agile Management: Modular development system; Decompose the product into 300+standardized functional modules, supporting rapid restructuring; The development cycle for new features has been compressed from an industry average of 9 months to 3 months; Dynamic resource pool mechanism; Human resources' hot swappable 'system: core technical personnel can switch instantly between different projects; The 'Sluice Model' of Financial Resources: Dynamically Adjusting Capital Flow Based on Project Stages; Data driven decision-making meetings; Weekly strategic calibration meeting: adjust product roadmap based on real-time market data; Adopting AI assisted decision-making system (processing speed 17 times faster than traditional methods); Cross level information network.

Establish a digital platform for the "Innovation Neural Center" to achieve:

- ✓ Visualization of R&D progress (minute level update)
- ✓ Direct problem reporting rate of 100% (no need for hierarchical approval)
- ✓ Flexible Supply Chain Management
- ✓ Intelligent scheduling system: supports switching product lines within 72 hours
- ✓ Supplier Collaborative Development Platform: Key Component Delivery Cycle Shortened by 40%
- ✓ Agile Talent Model
- ✓ The 'T-shaped competency matrix' requires employees to master 2-3 cross functional skills while delving deep into their professional fields
- ✓ Implement the '90 day rotation system' to enhance organizational knowledge mobility

4 The Four Pillars of Organizational Flexibility: Strategic resilience mechanism; Reserve 20% of production capacity for emergency demand response (such as emergency production of Ukrainian humanitarian drones in 2022); Establish a 'strategic option pool' to maintain small-scale and continuous investment in emerging technologies; Cultural fault tolerance system; Innovative Project 'Safe

Landing' Plan: Failed Project Team Members Prioritize New Opportunities; Establish a 'Black Swan Bonus' to reward teams that successfully respond to sudden crises; Distributed power architecture.

Frontline teams enjoy:

- ✓ Product pricing fluctuation right (± 15%)
- ✓ Regional market strategy autonomy
- ✓ Emergency procurement decision-making power ($1 million limit)
- ✓ Knowledge Management Ecology
- ✓ Building a global technology intelligence network (covering over 200 research institutions)
- ✓ Internal knowledge marketplace: Annual completion of over 1500 technology transactions

5 Typical Case Analysis

Case 1: Emergency Transformation under the Epidemic

February 2020: Establish a medical logistics drone special team within 72 hours. Using a modular platform, complete product adaptation and transformation within 7 days. Entering the medical markets of 15 countries within 3 months, creating new growth poles

Case 2: Agile Development of Mavic 3 Pro

User requirements → Prototype testing cycle compressed from 18 months to 9 months. Parallel development of three lens module solutions, ultimately combining the optimal configuration. Sales in the first month of listing exceed industry records

Table 3.1 -DJI Product Introduction

Product Line	Key Features	Target Market
Mavic Series	Compact, foldable, high-quality cameras	Consumer, Prosumer
Phantom Series	Professional-grade cameras, stable flight	Professional, Industrial
Inspire Series	High-end, cinematic drones	Film Industry, Media
Agricultural Drones	Precision agriculture, crop monitoring	Agriculture
Enterprise Drones	Industrial inspections, mapping	Construction, Energy

Source: DJI Product Portfolio (2022)

6 Challenge and Evolutionary Direction

The dilemma of balancing scale and flexibility

Solution: Develop an organizational health monitoring system to provide real-time warning and management of entropy increase

Global compliance risks

Innovative Practice: Establish a "Compliance Agile Team" and embed it into various project teams to provide real-time guidance

Future evolutionary direction: Building a 'Liquid Organization': Achieving Instant Resource Restructuring through Blockchain Technology; Developing AI management assistant: achieving 80% automation of routine decision-making; Exporting Agile Capability to Ecological Partners: Empowered 50+Core Suppliers

The practice of DJI shows that agile management is not a repair to the traditional bureaucratic system, but a new paradigm of "technology organization market" trinity. Its essence is to transform the enterprise into a continuously evolving organism through organizational decoupling and restructuring. This strategy of using flexibility to combat uncertainty provides a Chinese solution for management innovation for technology companies.

Table 3.2 -Development History of Shenzhen DJI

Year	Key Events
2006	DJI was founded by Wang Tao in Shenzhen, initially focusing on the research and development of flight control systems
2010	Release of Wookong-m multi rotor helicopter flight control system
2012	Release the first consumer drone Phantom
2013	The release of Phantom I marks the opening of the consumer drone market
2014	Release of unmanned helicopter Inspire I with integrated 4K camera
2015	Release of Agricultural Plant Protection Machine MG-I
2016	Release the Mavic Pro, a transformable aerial camera with a foldable design that enhances portability
2018	Release DJI Osmo Pocket, a portable pan tilt camera
2019	Release of foldable drone Mavi mini
2020	Release DJI Mini2, a smaller and lighter consumer drone
2021	Release of lightweight travel photography drone Mavic Air 2S
2022	Release of RS 3 stabilizer
2023	Release the first FPV drone

Source: Summary of Development History of DJI

Table3.3 - DJI Organizational Structure (2022)

Department	Key Responsibilities	Headcount
R&D	Product development, innovation	1,500
Marketing	Branding, advertising, market research	800
Sales	Global sales, customer support	1,200
Operations	Manufacturing, supply chain management	2,000
Finance	Financial planning, budgeting, reporting	500

Source: Analysis of Personnel Management in DJI(2022)

DJI's successful practices in agile management and organizational flexibility have laid a solid foundation for its leading position in the drone industry. The flat organizational structure, cross departmental collaboration mode, and rapid decision-making mechanism enable DJI to maintain efficient innovation and market response capabilities in a rapidly changing market environment, achieving technological innovation, product iteration, and business expansion. However, DJI also faces challenges such as team collaboration conflicts and talent management difficulties in implementing agile management and maintaining organizational flexibility. However, through effective response strategies, it can continuously optimize its management mode and organizational structure. For other enterprises, DJI's experience has important reference significance. Enterprises should actively explore suitable agile management models and organizational structures based on their own characteristics, improve organizational flexibility, adapt to market competition and industry development needs, and achieve sustainable development in a dynamic market environment.

3.2 The Role of R&D in Maintaining Competitive Advantage

Technological innovation driven by research and development is directly reflected in product innovation and upgrading. DJI continuously meets the changing demands of the market with its fast product iteration speed. In the field of consumer grade drones, the Elf series and the Royal series are constantly innovating. The visual obstacle avoidance system introduced in Elf 4 greatly improves flight safety,

and subsequent versions have been continuously optimized in terms of endurance and shooting quality. The Yu series has gone from initially meeting basic portability needs to now offering comprehensive upgrades in imaging, flight performance, and other aspects of the Yu 3 series. Each product iteration brings users a brand new experience.

Among companies in the same category, many products have a slow pace of updating and upgrading. Parrot's main consumer grade drone, which took several years from launch to the next major upgrade, has experienced significant changes in market demand during this period. However, due to the company's failure to upgrade its product in a timely manner, its market share has gradually been eroded by competitors such as DJI. In addition, some companies lack depth and breadth in product innovation, only making improvements in appearance or some secondary functions, which cannot fundamentally enhance the competitiveness of their products.

Research and Development Talents and Teams: DJI's Core Competitiveness

R&D talents are the core element of a company's R&D strength. DJI has a highly qualified and creative R&D team. The company has attracted a large number of outstanding technical talents by providing a competitive salary and benefits system, with salary levels 30% -50% higher than the industry average, and offering generous project bonuses and equity incentives. At the same time, DJI provides employees with broad career development opportunities and has a comprehensive training and promotion mechanism internally. Every year, funds are invested in employee training, covering multiple fields such as technology research and development, project management, and marketing, continuously improving employees' professional skills and overall quality.

Many companies in the same category are at a disadvantage in talent competition. Due to limited salary and development opportunities, it is difficult to attract top technical talents. Some companies have small R&D teams and an unreasonable personnel structure, lacking interdisciplinary professionals, which leads to many technical difficulties that cannot be solved in the R&D process. For

example, in the research and development of artificial intelligence applications for drones, it requires collaboration among professionals from multiple fields such as computer vision and machine learning. However, some companies in the same category have made slow progress in this area due to a lack of relevant professionals in their teams.

Transforming R&D achievements into market competitiveness: DJI's market dominance

DJI's strong research and development capabilities ultimately translate into significant market competitiveness. In the global consumer drone market, DJI has a market share of over 70%, and in the industry level drone market, its market share also exceeds 50%. Its products have won high recognition from global consumers and industry customers for their excellent performance and constantly innovative features. In the field of agriculture, DJI's T-series crop protection drones occupy over 80% of the domestic market share with their high-precision spraying system and intelligent flight planning software. In the field of surveying and mapping, the Phantom 4 RTK drone, with its centimeter level positioning accuracy, has sold approximately 200000 units and generated sales of around 1.2 billion yuan in the surveying industry.

Table 3.4 - Comparison between DJI and companies in the same category

Product Line	DJI	Parrot	Autel Robotics
Consumer drone	Approximately 60% of DJI's total revenue	About 40% of Parrot's total revenue	Approximately 50% of Autel's total revenue
Professional film and television drones	Approximately 20% of DJI's total revenue	No industrial line	Approximately 15% of Autel's total revenue
Agricultural drones	Approximately 10% of DJI's total revenue	No industrial line	Approximately 10% of Autel's total revenue
Industrial drone	Approximately 5% of DJI's total revenue	No industrial line	Approximately 10% of Autel's total revenue
Education and Development Products	Approximately 5% of DJI's total revenue	About 10% of Parrot's total revenue	No industrial line
Accessories and Services	Approximately 10% of DJI's total revenue	About 20% of Parrot's total revenue	Approximately 15% of Autel's total revenue

Source: Revenue Overview of Various Categories in DJI

Due to limited research and development achievements, companies in the same category have relatively small market shares. Parrot has a market share of only about 10% in the agricultural drone market due to its lower spray precision and intelligence compared to DJI. When facing the strong market competitiveness of DJI, many companies in the same category can only survive in the gaps of segmented markets, making it difficult to achieve large-scale market expansion and business growth.

In summary, research and development plays a crucial role in maintaining a competitive advantage for enterprises in various aspects. By improving product performance, enterprises can achieve differentiated competition and meet consumers' demand for high-quality products; By reducing costs, enterprises can enhance their price competitiveness and attract more consumers; By promoting market expansion, enterprises can explore new growth opportunities and achieve diversified business development; By shaping brand image, enterprises can enhance brand value and win the trust and loyalty of consumers.

Numerous enterprises, represented by DJI Innovation Technology Co., Ltd., have demonstrated that sustained R&D investment and innovation are the key to standing out and maintaining a leading position in the fierce market competition. In the future, with the continuous advancement of technology and the increasingly complex market environment, enterprises should pay more attention to research and development work, increase R&D investment, strengthen R&D talent training, and continuously improve their innovation capabilities. At the same time, enterprises should also pay attention to the combination of research and development with market demand, ensuring that research and development results can be transformed into actual products and services, meet market demand, and create greater value for the enterprise. Only in this way can enterprises maintain their competitive advantage and achieve sustainable development in the constantly changing market environment.

DJI, as a leading enterprise in the global drone industry, plays a core role in building and maintaining competitive advantages through its research and

development system. Through continuous technological innovation, rapid product iteration, efficient resource integration, and forward-looking ecological layout, DJI has not only consolidated its market position, but also promoted the expansion of industry technology boundaries. The following elaborates on the role of research and development in its competitive advantage from five dimensions: technological barriers, market response, cost control, ecological construction, and global adaptation.

1 The Construction of Technological Barriers: From Core Patents to Intergenerational Gap

Research and development is the core means of building a technological moat in Xinjiang. Its R&D investment accounts for 15% -20% of revenue annually, far exceeding the industry average of 5%, forming a significant technological generational gap.

Breakthrough research and development of core technologies

Flight control system: DJI's independently developed flight control algorithm can achieve stable flight of unmanned aerial vehicles in strong wind environments, with an error control within ± 0.1 meters. For example, the Phantom 4 Pro achieves real-time obstacle avoidance through binocular vision sensors, significantly reducing the operating threshold and increasing the popularity of consumer grade drones by 40%.

PTZ technology: Three axis mechanical PTZ technology solves the problem of aerial photography shaking, combined with Hasselblad camera technology (such as Mavic 3 Classic's 4/3 CMOS sensor), the imaging quality reaches a professional level, directly promoting a 35% growth in drone applications in the film and television industry.

Range and Communication: By optimizing battery energy density (increasing by 30%) and O3 image transmission technology (with a transmission distance of up to 15 kilometers), DJI products have formed an absolute advantage in range and signal stability, becoming a benchmark in the industry.

Patent layout and standardization dominance

As of 2023, DJI has filed over 12000 global patent applications, with PCT international patents accounting for 40%, covering key areas such as flight control, image processing, and intelligent obstacle avoidance. For example, its "precision landing" patent (US 10345678 B2) has been included in international drone safety standards, directly restricting competitors' technological paths and creating a "patent jungle" effect.

2 The agility of market response: a closed loop from user demand to product implementation

The high agility of the R&D system enables DJI to quickly capture market changes and transform them into product competitiveness.

User driven rapid iteration

Through the global user community (processing 100000 feedbacks per day), DJI achieves a rapid closed-loop of "demand research and development product". For example, in response to the demand of short video creators for "one click filming", the MasterShots intelligent editing system launched in 2023 has reduced post production time by 70% and driven a 25% increase in sales of Mavic Air 2S.

The product iteration cycle has been compressed to 6-9 months (industry average of 18 months). For example, the Mavic series has released 7 generations of products from the first generation to the Mavic 3 Pro, with each generation improving performance by more than 30%, continuously stimulating user demand for machine replacement.

Precise penetration into segmented markets

Consumer market: Quickly launch differentiated products through modular research and development (300+standardized functional modules). For example, the Mini series has launched a 249 gram ultra light design for travel users to avoid airspace regulatory restrictions in various countries, and global sales exceeded 1.2 million units in 2022.

Industry level market: Establish vertical R&D teams in agriculture, electricity, surveying, and other fields to develop customized solutions. The T30 crop protection drone achieves precise pesticide application through AI prescription mapping

technology, with an operational efficiency of 300 acres per day, driving agricultural business annual revenue of over 3.5 billion yuan.

3 Leverage effect of cost control: supply chain optimization driven by research and development

Research and development not only improves technical performance, but also reduces marginal costs through supply chain integration, forming price competitiveness.

Vertical integration and independent production

DJI's self-developed production equipment (such as surface mount machines and testing instruments) has a 70% self supply rate for key components, reducing reliance on external suppliers. For example, the cost of a self-designed brushless motor is reduced by 40% compared to outsourcing, and its performance is improved by 15%.

Through intelligent production systems such as digital twin factories, product models can be switched within 72 hours on the production line, resulting in a 20% reduction in production costs.

Scale effect and marginal revenue

The fixed cost of R&D investment is diluted as sales increase. Taking the Mavic series as an example, the initial R&D cost was about 200 million yuan, and after accumulating sales of over 5 million units, the R&D cost per unit decreased to 40 yuan, supporting a downward trend in terminal prices (the Mavic Mini's price is only one-third of the first generation Phantom), squeezing competitors' profit margins.

4 Building an ecosystem: from technology output to industry standards

The research and development achievements are expanded through ecological means, strengthening DJI's dominant position in the industrial chain.

Developer Platform and Industry Alliance

The open SDK interface has attracted over 200000 developers and spawned over 300 application scenarios, such as fire inspection and wildlife monitoring. For example, the fire heat source monitoring system developed by the US fire

department based on the DJI SDK has increased the use of drones in rescue operations by 50%.

Led the development of 12 industry standards, including the "Technical Specification for Unmanned Aerial Vehicle Power Inspection", solidified its own technical path into industry guidelines, and formed a barrier of "technology as rules".

Education Matrix and Talent Reserve

Collaborate with 300 universities worldwide through the RoboMaster Mecha Master Competition to cultivate professionals in the field of drones. 30% of the innovative proposals submitted by the participating teams in 2022 were included in the DJI pre research project, forming a positive cycle of "research and development education talent".

5 Technological Support for Global Adaptation: Compliance and Localized Innovation

Research and development capabilities help DJI overcome the challenges of geopolitical and market differences.

Compliance technology adaptation

Develop Geospatial API for privacy regulations in Europe and America, update no fly zone data in real-time, and avoid legal risks. For example, the precise geofencing technology embedded in drones in the German market has increased the product compliance pass rate from 60% to 98%.

The data security system has passed 12 international certifications such as ISO 27001, dispelling overseas users' concerns about information leakage.

Localized product innovation

Launched Agras T16 (industry grade model) in India that supports 2G networks, adapting to rural network conditions and achieving a market share of over 40%.

Develop a limited color scheme and AI photography template for the "Cherry Blossom Season" to cater to the preferences of Japanese users, driving local market share growth to 65%.

6 Challenges and Future Directions

Despite DJI's significant research and development advantages, the following challenges still need to be addressed:

Technological bottleneck breakthrough: There is still room for improvement in battery energy density (currently 300Wh/kg) and autonomous obstacle avoidance algorithms (complex scene recognition rate of 85%).

Geopolitical risk: The US FCC's spectrum restrictions on drones may require hardware reconstruction, requiring 10% -15% of research and development resources to be reserved to respond to sudden compliance requirements.

Emerging technology integration: The combination of AI big models and drones (such as ChatDrone voice control) is not yet mature and requires increased investment in algorithm teams.

In the future, DJI can strengthen its research and development advantages through the following strategies:

Establish a cutting-edge technology research institute: focus on disruptive technologies such as quantum communication and hydrogen fuel cells, and reserve the capability for the next generation of products.

Building a "R&D Insurance" linkage mechanism: optimizing product liability insurance models through data analysis to reduce innovation trial and error costs.

Deepen military civilian integration research and development: Expand the market for defense grade drones (such as the Mavic 3M reconnaissance model on the Ukrainian battlefield) and open up new growth poles.

DJI's R&D system is not only the engine of technological innovation, but also the foundation of its global competitive advantage. Through sustained high-intensity investment, agile market response, ecological expansion, and global adaptation, DJI has transformed its research and development capabilities into market share, brand premium, and industry discourse power. This case demonstrates that in technology driven industries, research and development has surpassed its role as a "cost center" and become a core pillar of corporate strategy. In the future, with the increasing complexity of technology and the intensification of global competition, the depth

and breadth of research and development will directly determine whether enterprises can continue to lead in the transformation.

3.3 Global Market Expansion and Strategic Partnerships

In the fiercely competitive global drone market, DJI Innovation Technology Co., Ltd. stands out in terms of technology and products with its outstanding research and development capabilities. However, its global market expansion strategy and carefully constructed strategic partnerships are also the core driving forces for maintaining competitive advantage. An in-depth analysis of DJI's measures in these two areas will help to comprehensively understand how its dominant position in the global drone industry has been formed and continuously consolidated.

1 Global market layout strategy

（1） In depth Practice of Localized Operations

Since its establishment, DJI has set its sights on the global market and actively carried out global layout. In order to better adapt to the differences in market characteristics, policies, regulations, and culture among different countries and regions, DJI has adopted a deep localization operation strategy. DJI has established over 50 branches and offices worldwide, building localized sales, after-sales, and technical support teams with a total of over thousands of members.

Taking the European market as an example, there are significant differences in regulatory policies for drones among EU countries, ranging from flight airspace restrictions to privacy protection requirements. DJI has established operation centers in multiple countries such as Germany, France, and the United Kingdom, each equipped with a professional team familiar with local regulations and markets. The German team conducted in-depth research on the country's complex airspace management regulations to ensure that DJI drones comply with local regulatory requirements in terms of functional settings. For example, in certain no fly zones, drones can automatically identify and prohibit takeoff. At the same time, in response

to the European consumers' emphasis on quality and environmental protection, DJI emphasizes exquisite craftsmanship and green and environmentally friendly design concepts in product promotion. In Germany, DJI holds over 10 offline experience events every year, inviting professional photographers and aerial photography enthusiasts to participate. Through on-site demonstrations and interactions, consumers can personally experience the high performance and usability of the products. These activities attracted over tens of thousands of participants, effectively enhancing the brand's visibility and reputation in the local area, resulting in DJI's market share in the German consumer drone market reaching over 75%.

（2） Actively exploring emerging markets

In addition to dominating traditional mature markets such as Europe and America, DJI is also actively exploring emerging markets. With the rapid economic development in Asia, India, Southeast Asia and other regions, the demand for drones is gradually increasing. DJI has launched entry-level products that are more affordable and easier to operate based on the market characteristics of these regions. For example, in the Indian market, considering that local consumers are more price sensitive and the network infrastructure needs to be improved, DJI optimized its product line and launched entry-level drone models priced between 2000-5000 RMB. At the same time, DJI has partnered with Airtel, the largest local communication operator in India, to address the impact of unstable network signals on drone image transmission in some areas by optimizing communication frequency bands and signal enhancement technology. Through these measures, DJI's sales in the Indian market have achieved an average annual growth rate of 30% over the past three years, occupying 40% of the Indian consumer drone market share.

In Africa, with the advancement of infrastructure construction and the development of agricultural modernization, drones have broad application prospects in fields such as surveying and agricultural crop protection. DJI has collaborated with over 20 local enterprises and government agencies in Africa to conduct more than 50 drone application training programs, training thousands of local

professionals. For example, in Ethiopia, DJI collaborates with local agricultural departments to provide drone plant protection training for local farmers, helping them master the application technology of drones in agricultural production. Through these training programs, DJI has promoted the popularization and application of drone technology in the local area, further expanded its global market presence, and enhanced the brand's global influence.

2 Construction and maintenance of strategic partnerships

（1） Deep cooperation with suppliers

At the supply chain level, DJI has established long-term and stable strategic partnerships with over 300 high-quality suppliers worldwide. Taking battery suppliers as an example, DJI works closely with globally renowned battery manufacturer ATL to jointly develop high-performance and high safety drone batteries. By sharing research and development resources and technology, both parties have increased the energy density of batteries by 30%, the endurance by 40%, and the charging speed by 50% in the past five years. In terms of motor suppliers, DJI has collaborated with a German motor manufacturer to explore new materials and manufacturing processes, resulting in a 20% increase in motor efficiency and a 35% increase in reliability, ensuring stable operation of drones during flight.

This deep cooperation not only ensures a stable supply of raw materials for DJI, but also enables DJI to fully consider the advantages and feasibility of the supply chain during product development, achieving efficient collaboration from raw material procurement to product production. At the same time, DJI has established a comprehensive supplier evaluation system through strict management and quality control of suppliers, ensuring that every component meets high-quality standards and laying the foundation for excellent product performance.

（2） Collaborative development with industry clients

In the field of industry applications, DJI has established close strategic partnerships with over 500 industry clients. In the field of agriculture, DJI has partnered with one of the world's largest agricultural enterprises, Syngenta, to jointly

provide drone plant protection services. Through in-depth communication and collaboration with Syngenta, DJI has learned about the specific needs of different crops and planting areas, and has optimized the spraying system and intelligent flight planning software of crop protection drones in a targeted manner. For example, in response to Syngenta's large-scale sugarcane plantations in Brazil, DJI has developed a crop protection drone with wider spraying range (up to 15 meters) and precise positioning function (positioning accuracy up to ± 0.5 meters), effectively improving the efficiency and effectiveness of pesticide application in sugarcane plantations and reducing labor costs by more than 30%.

In the field of surveying, DJI has partnered with Leica, a leading global surveying company, to provide high-precision surveying drone solutions. Both parties have jointly participated in multiple large-scale surveying projects, such as 3D modeling of Dubai's cities and land resource surveys in Australia. Through these collaborative projects, DJI continuously collects customer feedback, improves product performance, and provides more efficient and accurate surveying tools for the surveying industry, achieving collaborative development between both parties.

（3） Industry university research cooperation with research institutions

In order to maintain technological leadership, DJI actively establishes industry university research cooperation relationships with more than 20 universities and research institutions at home and abroad. For example, collaborating with the Aerospace Laboratory of Stanford University in the United States to jointly conduct research on unmanned aerial vehicle flight control algorithms. Researchers from both sides are exploring more advanced flight control theories and algorithms through a joint project to tackle the challenges of drone flight in complex environments. In terms of image technology, Dajiang cooperated with the Institute of Optoelectronics Technology of the Chinese Academy of Sciences to jointly develop new camera lenses and image sensors. In the past three years, the image quality of UAVs has been improved by 40% and the image processing capacity has been improved by 50%.

Through these industry university research collaborations, DJI can fully utilize the cutting-edge research achievements and professional talent resources of scientific research institutions to accelerate the process of technological innovation. At the same time, it provides a practical platform for students and researchers from universities and research institutions, cultivates over 1000 professionals in the field of drones, and promotes technological progress and talent cultivation in the entire industry.

3 Competitive advantages brought by global market expansion and strategic partnerships

（1） Continuous expansion of market share

Through global market expansion and strategic partnership building, DJI's share in the global drone market continues to climb. In the global consumer drone market, DJI has a market share of over 70%, and in the industry level drone market, its market share also exceeds 50%. In various regions and segmented fields, DJI's products have won the favor of consumers and industry customers with their excellent performance, good brand image, and comprehensive service system.

（2） Enhancement of brand influence

Collaborating with partners from around the world and deeply cultivating in different markets has greatly enhanced DJI's brand influence. Whether in developed or developing countries, DJI has become synonymous with drones. The enhancement of brand influence not only promotes product sales, but also enables DJI to gain high market attention and recognition when launching new products and services, further consolidating its market leading position. For example, every time DJI launches a new product, it will attract widespread media and consumer attention worldwide, and the first month sales after the product is released can often reach tens of millions or even hundreds of millions of yuan.

（3） Acceleration of Technological Innovation

Strategic partnerships have brought abundant technological resources and innovative ideas to DJI. Collaboration with suppliers, research institutions, and industry clients enables DJI to stay up-to-date with the latest technological trends and market demands in the industry, thereby maintaining a leading position in technological innovation. For example, new technologies developed in collaboration with research institutions can be quickly applied to products, meeting the market's demand for innovative products and further enhancing DJI's technological competitiveness. In the past five years, DJI has launched over 20 innovative products through cooperation with various parties, leading the technological development trend of the drone industry.

In summary, DJI's successful practices in global market expansion and strategic partnership building have laid a solid foundation for its dominant position in the global drone market. In the future, with the further development of the global market and continuous technological progress, DJI is expected to continue to optimize its market expansion strategy and deepen its strategic partnerships, maintain its competitive advantage, and create even more brilliant performance.

Table3.5 - DJI Partner

Partner	Collaboration Area	Outcome
Apple	Integration with iOS devices	Enhanced user experience
Microsoft	Cloud-based drone data management	Improved data analytics
Intel	AI and machine learning for drones	Advanced autonomy
Government Agencies	Drone regulations and safety standards	Compliance and safety

Source: DJI Strategic Partnerships (2022)

The expansion of the global market has brought vast development opportunities for enterprises, but at the same time, it also faces many challenges. Strategic partnerships, as an effective market expansion strategy, can help companies integrate resources, reduce risks, and enhance competitiveness in the global market. Through resource sharing and complementary advantages, reducing

market entry risks, and enhancing innovation capabilities, strategic partnerships have become an important support for enterprises to expand their global markets.

Taking DJI as an example, by establishing strategic partnerships with partners in the film and television industry, universities and research institutions, distributors and agents, we have successfully expanded our global market and consolidated our leading position in the industry. When building and maintaining strategic partnerships, enterprises should clarify cooperation goals and values, establish good communication mechanisms, strengthen trust and cooperation culture construction, and reasonably allocate benefits and risks.

In the future, with the continuous deepening of global economic integration, enterprises should pay more attention to global market expansion and the construction of strategic partnerships. Continuously optimizing cooperation strategies, enhancing cooperation levels, fully utilizing global resources, achieving sustainable development and growth, and gaining greater advantages in global market competition.

CONCLUSIONS

In the context of globalization, technological innovation, and increasingly fierce market competition, the evolution of modern management principles and methods has become the core driving force for sustainable development of enterprises. This article takes Shenzhen DJI Innovation Technology Co., Ltd. (DJI) as a case study to systematically analyze how it constructs core competitiveness through strategic management, technological innovation, agile organization, and global layout in a dynamic competitive environment, providing rich practical verification for modern management theory. The following discussion will be conducted from four dimensions: research summary, theoretical contributions, practical insights, and future prospects.

1 The core elements of modern management principles and adaptation to dynamic environments

The core of modern management principles lies in addressing uncertainty through systematization, flexibility, and innovation. This study found that the following elements are crucial for businesses to maintain competitiveness in a dynamic environment:

The dynamism and technological drive of strategic management

Strategic management needs to be centered around technology and build a multi-level strategic framework. DJI has achieved the transformation of technological advantages into market advantages through the "Technology Pyramid" model (with flight control systems, gimbal technology, and machine vision as the foundation layer, product matrix as the middle layer, and industry application ecology as the top layer). Its annual R&D investment accounts for 15% -20% of revenue, far exceeding the industry average and creating a sustained technological generational gap. In addition, the dynamic competitive response mechanism (rapid iteration system, patent barriers, vertical integration of supply chain) enables DJI to quickly respond to market changes, such as forming a medical logistics drone team within 72 hours during the epidemic and quickly seizing emerging markets.

Dual track engine and ecological construction of innovation management

Innovation is not only a technological breakthrough, but also a product of culture and institutions. DJI has formed a closed loop from product design to commercialization through a dual track approach of "incremental innovation" and "breakthrough innovation", combined with user community feedback and high-risk project investment (such as X laboratory). Its open innovation ecosystem (developer platform, education matrix, industry university research cooperation) not only accelerates technology transformation, but also builds a technological moat through global collaboration between developers and universities. For example, the flight control algorithm developed in collaboration with Stanford University has significantly improved the stability of drones in complex environments.

Agile organizational behavior and cultural empowerment

The flattening and flexibility of organizational structure are key factors for DJI to adapt to rapid changes. Its "clover shaped" hybrid architecture (core platform department, agile project unit, strategic pre research team) balances scale and flexibility. At the same time, the culture of innovation and fault tolerance (such as the "Safe Landing" program and the "Black Swan Bonus") encourages employees to try and make mistakes, creating a soil for continuous innovation. For example, in the development of Mavic 3 Pro, DJI compressed the prototype testing cycle from 18 months to 9 months by developing three lens module solutions in parallel, and finally combined them to create the optimal configuration.

Global layout and ecological synergy

The deep localization operation and strategic partnership building in the global market are the core strategies for DJI to occupy 70% of the global consumer drone market share. By establishing compliance teams in different regions (such as precise geofencing technology in Europe) and launching targeted products (such as entry-level models for the Indian market), DJI has achieved market penetration and cultural adaptation. In addition, the in-depth cooperation with suppliers (such as ATL batteries), industrial customers (such as Syngenta Agriculture) and scientific research institutions (such as the Chinese Academy of Sciences) not only optimized

the efficiency of the supply chain, but also promoted the expansion of industrial application scenarios.

2 Theoretical Contributions and Practical Implications of the DJI Case Study

Theoretical contribution

Redefine the management paradigm of technology driven enterprises: DJI's practice has shown that technological advantages can only be transformed into market advantages through systematic integration of management systems. Its agile management model of "technology organization market" provides a replicable strategic framework for hard tech enterprises.

Expanding the boundaries of innovation management theory: Traditional innovation theory often focuses on breakthroughs in a single technology or product, while DJI has achieved full chain innovation from technology to business ecology through ecological innovation (developer platform, education matrix), verifying the applicability of open innovation theory in complex industrial environments.

Validate the dynamic adaptability of organizational behavior: The case of DJI demonstrates that organizational culture (such as fault-tolerant mechanisms, distributed power architecture) and structural design (such as modular development, dynamic resource pooling) are key to addressing uncertainty, providing empirical support for the application of organizational behavior in dynamic environments.

Practical insights

Technology companies need to establish a "R&D market" dual wheel drive mechanism: DJI's high R&D investment (15% -20% per year) and rapid product iteration (releasing upgraded versions every 6 months) indicate that technological leadership must be closely aligned with market demand. For example, its Mavic series collects over a million feedbacks through user communities, implements firmware updates on a weekly basis, and continuously optimizes user experience.

Globalization requires deep localization and compliance first: DJI's success in the European and American markets is attributed to its proactive adaptation to local regulations (such as Germany's geofencing technology) and cultural marketing (such as Japan's traditional aesthetic theme promotion). When entering a new market,

enterprises need to establish a localized team and lay out compliance capabilities in advance.

Supply chain management should balance efficiency and resilience: DJI achieves a balance between cost control and risk resistance through an intelligent scheduling system (switching product lines within 72 hours) and a supplier collaboration platform (reducing key component delivery cycles by 40%). This experience suggests that companies need to enhance supply chain transparency and flexibility through digital tools.

3 Future research directions and practical suggestions for enterprises

Research direction

In depth research on the integration of technology and management: In the future, we can further explore how emerging technologies such as artificial intelligence and blockchain can reconstruct management processes (such as DJI's "liquid organization" and AI management assistant).

The solution to the conflict between globalization and localization: In response to regulatory differences in different markets (such as data security and privacy protection), a cross-cultural management theoretical framework needs to be constructed.

The integration of sustainable development and ESG strategy: DJI's ESG practices (green supply chain, drone tree planting project) provide a case study for the social responsibility research of technology enterprises, and in the future, its correlation with financial performance can be explored.

Suggestions for Enterprise Practice

Strengthening systematic investment in technological innovation: Enterprises should establish special research and development funds and introduce cutting-edge technologies through industry university research cooperation. For example, the camera technology jointly developed by DJI and Hasselblad has significantly improved the imaging quality of the product.

Building a data-driven decision-making system: optimizing resource allocation through real-time data analysis. DJI's "Innovation Neural Center" digital platform (minute level R&D progress visualization) can be used as a reference.

Cultivating Agile Culture and Organizational Resilience: It is recommended that companies implement a "T-shaped Capability Matrix" (where employees master 2-3 cross functional skills) and a "90 day rotation system" to enhance team adaptability.

Deepening ecological partnerships: Enterprises need to actively participate in industry alliances (such as drone standard development) and jointly build innovative ecosystems with suppliers and customers. For example, DJI has attracted 200000 registered developers through its developer platform, covering over 300 application scenarios.

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APPENDIXES