

Strategic Analysis and Competitive Advantage Strategies for A Leading Information Security Enterprise: A Case Study of Q Technology Company[†]

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Abstract

This research aimed to 1) Analyze the competitive environment of Q Technology Company and 2) Utilize the Quantitative Strategic Planning Matrix (QSPM) to formulate competitive advantage strategies for Q Technology Company. To conduct a comprehensive analysis, document studies, a questionnaire survey involving 40 information security practitioners, and 7 expert interviews were utilized. The study investigated both the external and internal environments. Subsequently, key factors affecting the company were identified, followed by external factor evaluation (EFE) and internal factor evaluation (IFE) to assess the company's situation. QSPM analysis was then employed to determine Q Technology Company's strategies. The research findings revealed that 1) Q Technology Company faced a promising landscape with supportive policies and expanding market demand. Despite challenges like market competition and technological advancements, the company boasted strengths in brand influence and customer base. However, it needed to address weaknesses such as the lack of core technology and weak profitability. By leveraging its strengths, the company could penetrate international markets and enhance profitability through improved services and technology development. 2) Q Technology Company's competitive advantage strategies were formulated through a SWOT analysis, resulting in SO, ST, WO, and WT alternatives. The QSPM analysis favored the ST strategy, leveraging the company's strengths to address external threats. By collaborating with promising enterprises, focusing on customized services for its broad customer base, and expanding internationally, Q Company aimed to sustain growth and competitiveness in the cybersecurity market.

Keywords: Leading information security enterprise, Cybersecurity industry, Competitive advantage strategy

Introduction

By integrating internal factors such as Q Technology Company's organizational structure, resources, capabilities, and external factors including market dynamics, regulatory environment, and technological trends, the research aims to provide a comprehensive understanding of Q Technology Company's position within the information security industry. Strategic theory will be leveraged to analyze Q Technology Company's competitive landscape, identify its strengths and weaknesses, assess market opportunities and threats, and formulate actionable strategies. Furthermore, the study will incorporate relevant data from various sources including financial reports, industry publications, market research, and expert opinions to validate findings and enhance the robustness of the analysis. By multiple data sources, the research seeks to ensure the accuracy and reliability of the insights generated (Lemon & Hayes, 2020; Sridharan, 2021).

Despite the existence of systematic research and successful application cases in strategic analysis, there is a need for a tailored approach that specifically addresses the unique challenges and opportunities faced by Q Technology Company and similar enterprises. Each organization operates within a distinct context shaped by factors such as market positioning, technological capabilities, and regulatory compliance (Zhang

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et al., 2020; Cardinali et al., 2023; Yun et al., 2023). Therefore, a one-size-fits-all approach may not be suitable for effectively addressing the strategic concerns of Q Company.

Regarding the utilization of strategic planning tools like the Quantitative Strategic Planning Matrix (QSPM), while these tools have been extensively studied and applied in various industries, their application to the information security sector, particularly within the context of Q Company, presents a novel challenge. The unique characteristics of the information security industry, such as rapid technological advancements, evolving regulatory frameworks, and heightened cybersecurity threats, necessitate a nuanced approach to strategic planning (Kayode-Ajala, 2023; Mizrak, 2023). Thus, further investigation is required to tailor the application of these tools to the specific needs and challenges faced by Q Company, thereby enabling informed strategic decision-making and sustainable competitive advantage. It is hoped that through this research, information security companies led by Q Technology Company can develop in a positive direction and jointly improve the level of this industry on a global scale.

This study adheres to the conventional framework of “identifying issues, evaluating issues, and resolving issues” in order to conduct a thorough analysis of Q Technology Company’s corporate strategy. Initially, this study employs the PEST analysis approach as well as the 5 forces model to assess Q Technology Company’s external environment from the standpoint of the organization and the market environment. It consolidates the company’s current prospects. Subsequently, the study will appraise the company’s core competence while taking into account various factors such as corporate governance, marketing management, post-sales service, financial status, product technology, and more, in order to ascertain the company’s strengths or weakness. Finally, the study utilizes SWOT and QSPM analysis to establish Q Technology Company’s strategies and alternatives, and offers recommendations for strategy implementation based on the circumstances, as shown in **Figure 1**.

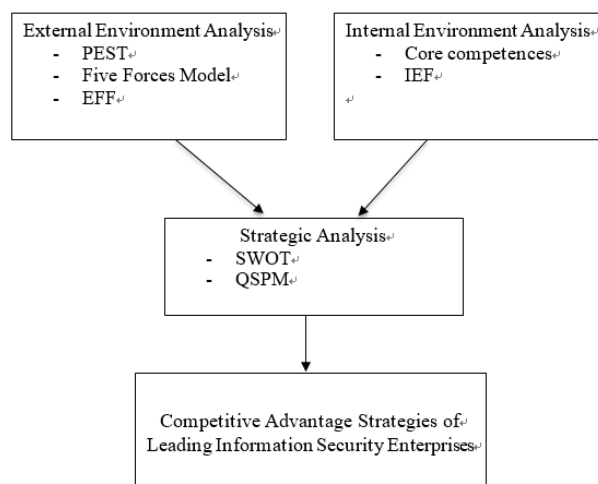


Figure 1 Conceptual framework.

Methodology

In order to conduct a comprehensive analysis of Q Technology Company, the document study, questionnaire survey and the interview method were used to investigate the external environment and the internal environment. After identifying the key factors affecting the company, external factor evaluation (EFE) and internal factor evaluation (IFE) are conducted to evaluate the company’s situation. Use QSPM analysis to determine Q Technology Company’s strategies.

Document study, thorough review of scholarly literature related to the information security industry, competitive strategy management, and relevant theoretical frameworks such as PEST analysis, Porter’s Five Forces model, and core competencies will be conducted. This will provide a theoretical foundation for the study and help identify key concepts and factors influencing the competitive landscape.

Interviews with industry experts will be conducted to gain insights into the current trends, challenges, and opportunities within the information security industry. These interviews will provide qualitative data

to complement the analysis and offer nuanced perspectives on the competitive environment and strategic positioning of Q Technology Company.

A structured questionnaire will be developed and administered to individuals working in the field of information security, including employees of Q Technology Company, as well as competitors and other industry stakeholders. The survey will gather quantitative data on factors such as market competitiveness, product advantages, and competitor analysis, which will be analyzed to assess the company's strategic positioning and competitive advantage.

External Factor Evaluation (EFE) and Internal Factor Evaluation (IFE), authentic data obtained from the company will be utilized to conduct EFE and IFE analyses at various organizational levels. This quantitative assessment will evaluate the external and internal factors influencing the company's competitive position and inform strategic decision-making.

The QSPM analysis will quantitatively evaluate strategic options and prioritize competitive advantage strategies for Q Technology Company. This will involve assigning numerical weights to key success factors and strategic options, enabling decision-makers to select the most optimal strategies based on quantitative analysis.

Results and discussion

Through the China Information Security Training Institute (CISP), 40 information security practitioners were randomly selected for the questionnaire survey, as well as the interview data of 7 expert members. It mainly examines the competitiveness of leading information security enterprises, including brand strength, performance, after-sales service, function, price, and so on.

Conduct PEST analysis and create external factor assessment (EFE) matrix and internal factor assessment (IFE) matrix to provide overall factor assessment scores. Seven expert group members determine the key factors give different weights, and then score each key factor. Finally, the total score is determined according to the weighted score, and the correlation analysis of the key factors is made according to the results. The specific results are shown in **Table 1** and **Table2**.

Table 1 The EFE matrix analysis form.

Key external factors	Weight	Rating	Weighted score
Opportunities			
Policy Support	0.21	3	0.63
The market demand is expanding	0.16	3	0.48
Enterprises attach importance to cyber security	0.16	2	0.32
Threats			
Fierce competition in the market	0.17	3	0.51
Fast technological updates and iterations	0.16	2	0.32
Not enough core technologies	0.14	2	0.28
Total	1		2.54

Through the analysis of the EFE matrix, the weighted score of the key external factors affecting Q company is 2.54, which is higher than the weighted average score, which shows that Q company faces more opportunities than threats, so it can avoid threats reasonably and make good use of favorable external opportunities to obtain a better development model.

Table 2 The IFE matrix analysis form.

Key internal factors	Weight	Rating	Weighted score
Strengths			
Strong interaction between products and high coordination ability	0.16	3	0.48
Good industry reputation and brand influence	0.20	4	0.80

Key internal factors	Weight	Rating	Weighted score
A broad customer base	0.20	2	0.40
Weaknesses			
Lack of core technology	0.15	2	0.30
Weak profitability	0.18	2	0.36
Internationalization	0.11	2	0.22
Total	1		2.56

From the above table, it can be seen that the weighted total score of Q company is 2.56 points, exceeding the average score of 2.5 points, which shows that Q company has a certain competitive advantage, but it still needs to be strengthened.

Therefore, Q company should make rational use of brand awareness to open up the international market, in a wide customer base, promote small profits and quick turnover, or after-sales service and other additional forms to enhance profitability.

Based on the analysis of the internal and external environment of Q company, this study lists the opportunities, threats, strengths, and weaknesses in the environment of Q company in a table to form a SWOT analysis matrix. Four strategy types, SO, ST, WO, and WT, are derived. Specific strategic analysis results are shown in the following **Table 3**.

Table 3 The SWOT analysis matrix.

Internal Environment & External Environment	Strengths	Weakness
	●Strong interaction between products and high coordination ability ●Good industry reputation and brand influence ●A broad customer base ●Strong interaction between products and high coordination ability	●Lack of core technology ●Weak profitability ●Internationalization
Opportunities	SO	WO
●Policy support ●The market demand is expanding ●Enterprises attach importance to cyber security	●Develop new products and expand the range of products and services ●Use financing and cooperation channels to obtain more resources and technology	●Participate in the development of underlying core technologies ●Reduce product diversification ●Expand international markets
Treats	ST	WT
●Fierce competition in the market ●Fast technological updates and iterations ●Customers have reduced their investment in IT	●Establishing strategic partnerships with promising enterprises to reduce competition ●Reduce the price and make a profit on after-sale and related follow-up fees	●Reduce operating and R & D expenses ●Establish cooperative relations with international enterprises

The analysis of the QSPM in **Table 4** indicates that the score of the ST strategy is higher than that of the other three strategies. ST strategy is a strategic matrix composed of its own advantages and external market threats, which is mainly a strategic type to avoid threats in the external market while giving full play to its own advantages. Q company already has strong R & D capability, a good industry reputation, and a certain brand status, so it is difficult for a single enterprise to deal with complex and changeable security

risks, and cooperate with promising enterprises at many levels. including intelligence sharing, loophole research, technology exchange, and so on.

Table 4 The QSPM analysis form.

Key factors	Weight	Strategic alternatives							
		SO		ST		WO		WT	
		AS	TAS	AS	TAS	AS	TAS	AS	TAS
Opportunities									
Policy support	0.21	2	0.42	2	0.42	3	0.63	1	0.21
The market demand is expanding	0.16	4	0.64	3	0.48	1	0.16	2	0.32
Enterprises attach importance to cyber security	0.16	3	0.48	2	0.32	2	0.32	1	0.16
Threats									
Fierce competition in the market	0.17	3	0.51	4	0.68	1	0.17	1	0.17
Fast technological updates and iterations	0.16	3	0.48	3	0.48	2	0.32	3	0.48
Customers have reduced their investment in IT	0.14	2	0.28	4	0.56	1	0.14	1	0.14
Strengths									
Strong interaction between products and high coordination ability	0.16	1	0.16	3	0.64	1	0.16	1	0.16
Good industry reputation and brand influence	0.20	2	0.40	2	0.6	2	0.4	4	0.8
A broad customer base	0.20	1	0.20	3	0.8	2	0.4	2	0.4
Weaknesses									
Lack of core technology	0.15	1	0.15	1	0.15	4	0.6	3	0.45
Weak profitability	0.18	2	0.36	2	0.36	4	0.72	4	0.72
Internationalization	0.11	2	0.22	2	0.22	4	0.44	4	0.44
Total	2		4.44		5.71		4.46		4.45

By sharing security intelligence, enterprises can quickly understand the latest threat intelligence and attack methods, and take corresponding measures to prevent them in time. It can also promote the development of loophole research and security technology, constantly improve their own security capabilities and technical level, and strengthen the competitiveness of enterprises through collaborative attack and defense drills and exchanges. Although corporate users have reduced their investment in IT due to the economic downturn after COVID-19 epidemic and international tensions, Q company has a broad customer base and can provide customized value-added services for specific industries or enterprises in addition to basic network security products and solutions. For example, provide security consulting, risk assessment, security training, and other services to help enterprises identify and respond to potential security threats. Focus on the international market, looking for cross-border cooperation and export opportunities. Different regions and countries have different requirements and regulations for network security and expand the scope of business and profitability by understanding and meeting the needs of the local market.

Conclusions

The research conducted by the China Information Security Training Institute (CISP) involved a questionnaire survey of 40 information security practitioners and interviews with 7 expert members. The study focused on evaluating the competitiveness of leading information security enterprises, considering factors such as brand strength, performance, after-sales service, function, and price.

Through PEST analysis and the creation of External Factor Assessment (EFE) and Internal Factor Assessment (IFE) matrices, the researchers provided an overall assessment of various factors. The EFE matrix indicated that the key external factors influencing the company (referred to as “Q company”) included policy support, expanding market demand, and competition in the market. On the other hand, the IFE matrix highlighted internal factors such as strong product interaction, industry reputation, and a broad customer base. Further analysis revealed that Q company had a weighted total score exceeding the average, indicating a competitive advantage but also areas for improvement. A SWOT analysis matrix was then formed based on the internal and external environment analysis, leading to the identification of strategic types: SO, ST, WO, and WT.

The Quantitative Strategic Planning Matrix (QSPM) analysis indicated that the ST strategy scored highest, emphasizing leveraging internal strengths to address external threats. Recommendations included collaborating with promising enterprises to address complex security risks, sharing security intelligence, and focusing on customized value-added services for specific industries or enterprises, especially in the international market. This research findings suggest that Q company should capitalize on its strengths to mitigate external threats and pursue strategic partnerships to enhance security capabilities and expand market reach, particularly in the international arena.

In terms of practical recommendations, Q Company should focus on several key strategies to enhance its competitiveness in the information security industry. Firstly, there's a pressing need to strengthen the company's international presence. Leveraging its strong industry reputation and brand influence, Q Company should actively pursue opportunities in international markets. By understanding and adhering to diverse regional regulations and requirements concerning network security, Q Company can effectively expand its business scope and boost profitability. Additionally, fostering collaboration with promising enterprises is essential. Through strategic partnerships, Q Company can address the complex and evolving security risks more effectively. Sharing security intelligence, conducting joint attack and defense drills, and exchanging technology are vital aspects of this collaboration, enabling Q Company to enhance its security capabilities and maintain a competitive edge in the market. Moreover, diversifying service offerings beyond basic network security solutions is crucial. Q Company should provide customized value-added services tailored to specific industries or enterprises, such as security consulting and risk assessment, to meet evolving customer needs effectively.

As for future research directions, it's imperative to conduct longitudinal studies to assess the long-term impact of external factors, such as policy support and market demand expansion, on Q Company's competitiveness. These studies will offer valuable insights into the sustainability of Q Company's competitive advantage over time. Furthermore, comparative analysis with industry competitors can provide benchmarks for strategic planning. By comparing Q Company's strategic performance with that of its rivals, researchers can identify areas of strength and weakness, as well as opportunities and threats, informing future strategic decisions. Lastly, investigating customer perceptions of Q Company's products and services is crucial. Understanding customer preferences and needs will enable Q Company to tailor its offerings more effectively, thereby enhancing customer satisfaction and loyalty. Through the implementation of these recommendations and the exploration of future research avenues, Q Company can fortify its position in the information security industry and achieve sustained growth in the long term.

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