

The Application of Sun Tzu's Art of War in Modern Management and Business Strategy: A Literature Review

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Abstract

Classical strategic philosophy continues to influence modern management thought. Over the past decade, scholars have found that Sun Tzu's *Art of War* is applicable not only to ancient military strategy but also to business strategy and modern management. However, existing research remains highly fragmented, which calls for a literature review to analyse research trends. To address this gap, the current literature review incorporated 29 articles indexed in the Clarivate Analytics Web of Science (WoS) database between 2016 and 2025 and followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The study identifies the implications of the *Art of War* for corporate planning, resource allocation, and management behaviour across three main themes: strategic decision-making, leadership development, and competitive advantage. The findings demonstrate that ancient military strategies remain applicable to today's rapidly changing business environment. The review also discusses the implications and limitations of these findings for future research and practice.

Keywords: Art of War, business strategy, modern management, literature review.

Introduction

The *Art of War* is an ancient Chinese treatise attributed to Sun Tzu and dated to around 500 B.C. (Chan, 2024). Many of its enduring lessons, such as self-awareness (Tan, 2023), knowing the enemy (Hlavatý & Ližbetin, 2021), adapting to circumstances (Ploumis & Kokolakis, 2025), and strategic deception (Freeman, 2021), have been widely applied in leadership, governance, and organisational decision-making beyond military contexts (Hlavatý & Ližbetin, 2021). According to Chen's (2012) Chinese annotation of Sun Tzu's *Art of War*, the work can be summarised into four main ideas: a holistic “grand strategy” perspective, the concept of “complete victory”, practical and effective methods for achieving victory, and an emphasis on leadership qualities and balanced military management.

Today, this ancient wisdom is being rediscovered by modern management researchers in highly competitive and technologically advanced business environments (Freeman, 2021; Zhang & Nasir, 2022). The 13 principles of Sun Tzu's masterpiece include detailed assessment and planning, waging war, strategic attack, disposition of the army, forces, weaknesses and strengths, military manoeuvres, variations and adaptability, movement and development of troops, terrain, the nine battlegrounds, attacking with fire, and intelligence and espionage (Chen, 2012). Therefore, this classic has significant potential to provide a framework for helping organisations interpret opponents' movements, make effective use of resources, and maintain a competitive edge (Ploumis, 2021).

Business and management strategies resemble military campaigns because both require the reading of environmental signals and the ability to develop plans that can adapt to situational changes (Opatska et al., 2024). In a world where globalisation and deglobalisation, emerging technologies, and disruptive competition continually reshape the business landscape, the principles expounded in the *Art of War* are well-suited to the managerial capabilities needed in the twenty-first century (Alzaghoul, 2025). However, although recent studies have extensively explored the application of these principles in areas such as corporate governance, healthcare, education, and technology, there remains a lack of literature reviews that comprehensively synthesise these research findings (Nazir et al., 2025).

Therefore, this study reviews the application of the *Art of War* in modern management and business strategy literature over the past decade by following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Nowell et al., 2022; Page et al., 2021). The study is based on answering the research question relating to the study characteristics and themes that characterise the ways in which the *Art of War* is interpreted and applied in modern organisational and managerial business contexts.

Method of Study

The literature review was determined by the Topic Search function in the WoS database, focusing on titles, abstracts, and keywords for all document types published between 2016 and 2025. The search was conducted on 30 November 2025. The WoS database was selected because of its recognised quality and extensive coverage as a leading research publication and citation resource worldwide (Wider et al., 2024). Tables 1 and 2 below are the results of the search made by the author. Table 1 outlines the search string employed in WoS for the current literature review, which yielded 114 initial results.

Table 1

Search String used in the WoS Database

No	Keywords	Justification
1	"Art of War" OR "The Art of War" OR "Sun Tzu" OR Sunzi OR "Sun Wu"	To identify literature related to Sun Tzu's <i>Art of War</i> .
2	manag* OR "business strateg*" OR "corporate strateg*" OR market* OR organis* OR organiz* OR leadership OR "competitive advantage"	To identify literature related to modern management and business strategy.

The eligibility criteria for the current literature review are presented in Table 2. The criteria included both inclusion and exclusion criteria. The review included qualitative, quantitative, and mixed-method studies that met the eligibility criteria. Studies published more than 10 years before the search date were excluded to capture only the most recent and relevant studies on the *Art of War* in modern organisational and managerial business contexts.

Table 2

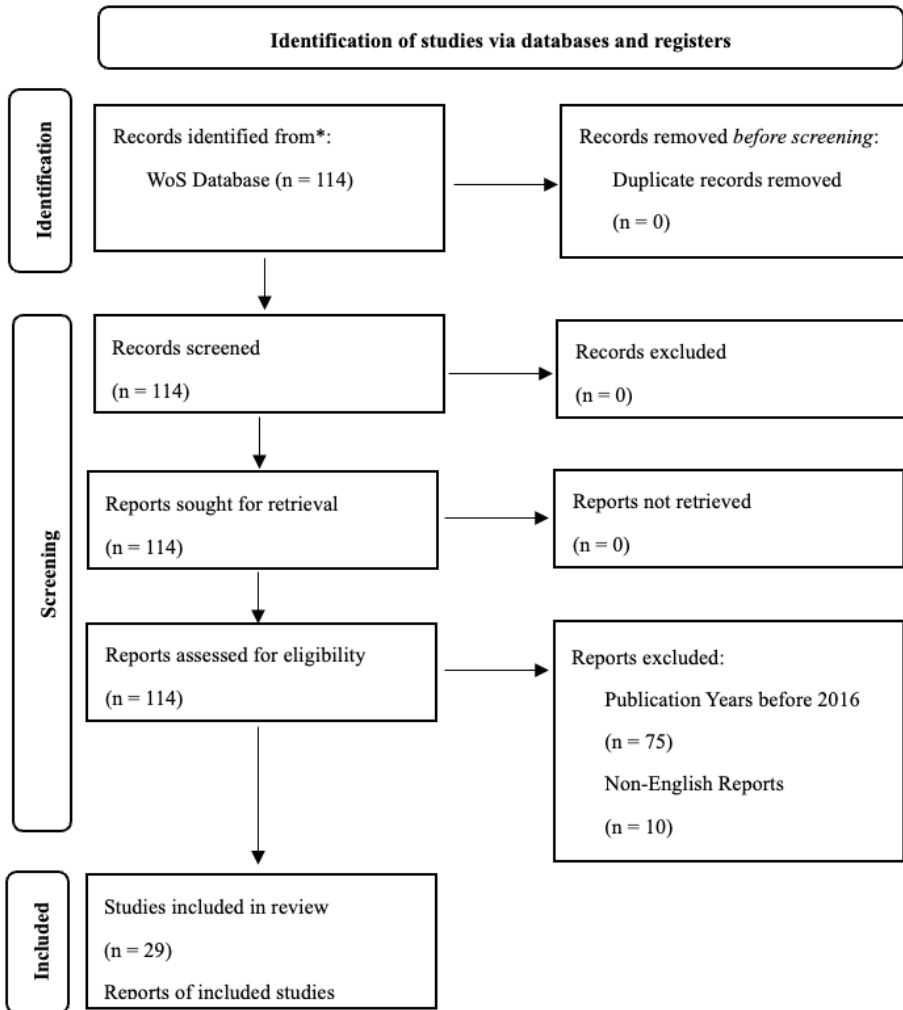
Eligibility Criteria.

No	Inclusion Criteria	Exclusion Criteria
1	Studies exploring and/or examining the use of the <i>Art of War</i> in leadership development, strategic planning, organisational design, competitive strategy, or decision-making processes.	Studies that do not report on the use of the <i>Art of War</i> in leadership development, strategic planning, organisational design, competitive strategy, or decision-making processes.
2	English-language studies between 2016–2025.	Studies published more than 10 years before the search date or in languages other than English.

Relevant items from the PRISMA guidelines were used to guide the screening and extraction process (Page et al., 2021). Four authors were divided into two teams of two reviewers. Each team independently screened all 114 studies, including titles, abstracts, and full texts, in duplicate. Discrepancies within each team were resolved through discussion, and then an overall discussion involving all four authors was conducted to reach consensus. Data extraction was conducted using a standardised Excel form. One reviewer from each team extracted study information, and the second reviewer verified the extracted data for accuracy. Extracted data included study characteristics (author, year, and country), study design, population details, interventions or exposures, outcomes measured, and key findings.

Results

A total of 114 unique records were identified from the WoS database. Using detailed search strings, no duplicate records were found, and no records were excluded during the identification process. The full texts of all WoS-indexed studies were available; therefore, no records were excluded because of non-retrieval. Ultimately, 29 studies met the eligibility criteria, as shown in Figure 1.

Figure 1*PRISMA Flow Diagram*

Source: Page et al. (2021)

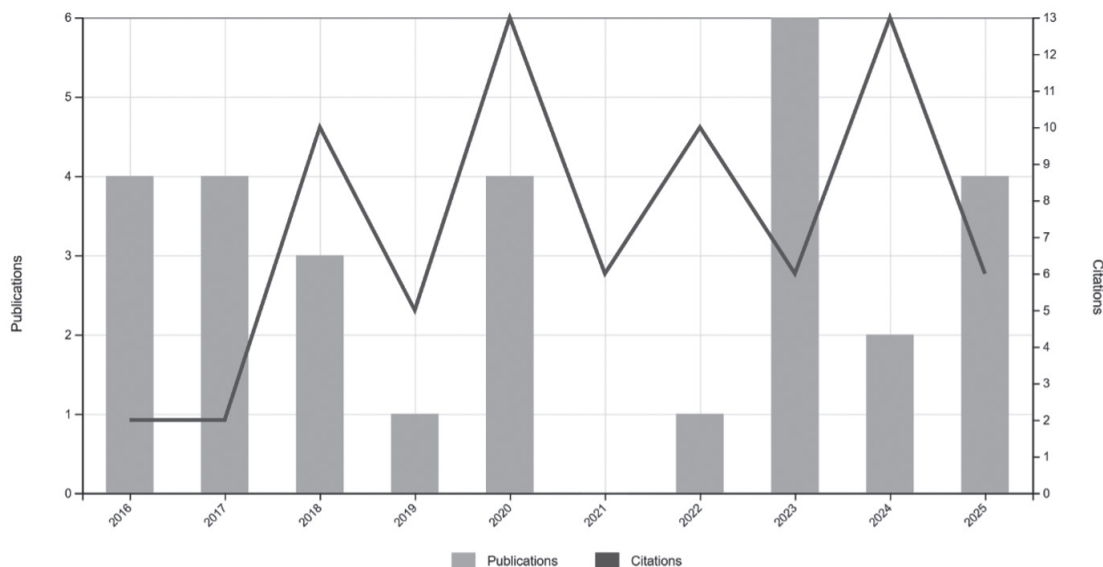
Study Characteristics

Figure 2 shows the quantity of publications and citations between 2016 and 2025. The number of published papers and citations fluctuated considerably, and each annual total was below 13. This finding suggests that the application of the *Art of War* in modern business and management contexts requires greater attention from researchers. In total, 72 indexed citations were recorded, 71 of which were not self-citations. The articles were cited 73 times in total, with 71 non-self-

citations and an average of 2.52 citations per article. The h-index was 6, indicating that at least six articles had been cited at least six times.

Figure 2

Quantity of Publications and Citations between 2016 and 2025



Source: Web of Science.

Table 3 summarises the research methods and countries of the 29 studies. Among the 29 studies, only a small proportion had a reported WoS impact factor, while many were indexed in ESCI or AHCI or appeared as conference proceedings without an impact factor. All selected papers were WoS-indexed, ensuring acceptable academic quality. Studies without an impact factor were included because they met the inclusion and exclusion criteria shown in Table 2. In terms of methodology, 20 studies (69%) used qualitative methods, six studies (21%) used quantitative methods, and three studies (10%) used mixed methods.

The available impact factors suggest that several journals are of moderate quality. However, not all WoS-indexed journals have an impact factor. This suggests that the application of Sun Tzu's *Art of War* in business strategy and modern management has not received sufficient attention within WoS, one of the most reputable English-language journal databases over the past decade. This gap creates an opportunity for future researchers to expand research in this field.

In terms of geographical distribution, eight studies (28%) involved China, indicating that this topic has important cultural and philosophical significance there. In addition, five studies (17%)

involved the USA, four studies involved the UK, two studies (7%) involved Europe, two studies (7%) involved Russia, and two studies (7%) involved Romania. The remaining studies were distributed across Japan, Ukraine, Italy, Lebanon, Poland, India, the Netherlands, Ethiopia, and Nigeria.

Table 3

Characteristics of the Selected Studies

No.	Authors / Year	Methodology	Country	Journal / Source	WoS impact factor
1	Ito et al. (2016)	Qualitative (conceptual / theoretical conference pa-per)	Japan	Conference Proceedings (ICAROB 2016)	N/A
2	Wang (2020)	Qualitative (theoretical / conceptual leadership study)	China	<i>Critical Studies in Education</i>	4.0 (2023)
3	Zhang et al. (2016)	Quantitative (empirical study on firms)	China	Journal of Asia Business Studies	3.0 (2024, ESCI)
4	Horiacheva et al. (2023)	Qualitative (historical / the-oretical analysis)	Ukraine	Cuestiones Políticas	0.204 (2022, ESCI)
5	Guimerá (2017)	Qualitative (historical comparative study)	UK & Spain	Book Chapter (<i>Naval Leadership in the Atlantic World</i>)	N/A
6	Isle & Smith (2018)	Mixed-method (data-driven computational study)	USA	Conference Proceedings (IEEE Big Data 2018)	N/A
7	Tan (2023)	Qualitative (conceptual / case-based educational study)	China	<i>International Journal of Leadership in Education</i>	2.4 (2023)
8	Villegas (2023)	Qualitative (theoretical / philosophical analysis)	USA	<i>Res Publica Revista de Filosofia Politica</i>	N/A (AHCI)
9	Lecompte (2025)	Quantitative (empirical study on ICO investment behaviors)	USA & Europe	<i>Crime, Law and Social Change</i>	1.0 (2023)
10	Tan (2025)	Mixed-method (educational intervention with qual + quant measures)	China	<i>Pastoral Care in Education</i>	0.9 (2023, ESCI)
11	Burciu et al. (2025)	Qualitative (Romanian au-tomotive case study)	Romania	<i>Systems</i>	2.3 (2024)

12	Ford (2024)	Qualitative (conceptual application in healthcare)	USA	<i>Journal of Healthcare Management</i>	2.1 (2024)
13	Li et al. (2016)	Quantitative (empirical / performance metrics)	China	<i>Journal of Management in Engineering</i>	7.0 (2024)
14	Bridoux (2021)	Qualitative (historical analysis)	UK & Europe	<i>Intelligence and National Security</i>	N/A
15	Kolotov (2023)	Qualitative (case study / descriptive)	Russia & Vietnam	<i>Russian Journal of Vietnamese Studies</i>	N/A (ESCI)
16	Washbourne (2023)	Qualitative (translation / literary analysis)	UK	<i>Translation Spaces</i>	N/A (ESCI)
17	Guidi (2020)	Qualitative (historical analysis)	Europe	<i>Book (Books, People, and Military Thought)</i>	N/A
18	Shi et al. (2017)	Quantitative/mixed (data analytics study)	China	<i>Frontiers of Engineering Management</i>	N/A (ESCI)
19	Khalife (2022)	Quantitative (policy/health intervention data)	Lebanon	<i>Global Health Research and Policy</i>	N/A (ESCI)
20	Uvarov (2023)	Qualitative (historical study)	Russia / France	<i>Frantsuzskii Ezhegodnik</i>	N/A (AH-CI-type)
21	Piskunova & Lu (2018)	Qualitative (conceptual / philosophical study)	China	<i>Changing Societies & Personalities</i>	N/A (ESCI)
22	Pauluzzo & Cagnina (2017)	Mixed-method (knowledge management with qual + survey)	Italy / Russia	Conference Proceedings (IFKAD 2017)	N/A
23	Arabia-Obeidoza et al. (2020)	Quantitative (data-driven cybersecurity analysis)	USA	Conference Proceedings (IEEE UEMCON 2020)	N/A
24	Constantinescu & Wattenhofer (2025)	Quantitative/computational modelling	Switzerland / Romania	Conference Proceedings (AAMAS 2025)	N/A
25	Gliwa (2016)	Qualitative (historical analysis)	Poland	<i>Acta Poloniae Historica</i>	N/A (AHCI)

26	Mehra & Ma-zum-dar-Leight-on (2024)	Qualitative (conceptual / theoretical)	India	<i>Resonance-Journal of Science Education</i>	N/A (ESCI)
27	Brandon (2018)	Qualitative (historical economic analysis)	Netherlands / UK	<i>Financial History Review</i>	N/A (AHCI)
28	Berhe (2017)	Qualitative (historical / policy case study)	Ethiopia	<i>African Security Review</i>	N/A (ESCI)
29	Adejuwon (2019)	Qualitative (historical / military study)	Nigeria	<i>Revista Universitaria de Historia Militar</i>	N/A (ESCI)

Source: Compiled by the author

Thematic Findings

The review of the 29 studies identified three themes representing the application of Sun Tzu's *Art of War* in contemporary business and management literature: strategic decision-making, leadership development, and organisational competitiveness. Although the studies contained distinct sub-elements, most were conceptually similar, showing how Sun Tzu's ideas remain applicable and relevant across multiple domains.

Strategic Decision-Making

Most research focuses on how Sun Tzu's classic informs strategy in uncertain and ambiguous environments, particularly with regard to tactical planning, information dominance, and speed of response. This is the most frequently addressed theme, with 14 articles (48%), reflecting the strong influence of the *Art of War* on strategic thinking. Topics within this theme span organisational strategy, military and political domains, cyber contexts, public health crises, and technological systems.

Several studies explicitly link the principles of Sun Tzu to corporate and market decision-making. Ito et al. (2016) introduced "momentum" into the organisational environment, explaining how firms can maximise business opportunities and manage downside risks, thereby aligning with the *Art of War* principle of timing and first-mover advantage. Similarly, Zhang et al. (2016) and Li et al. (2016) highlighted how Sun Tzu's principles of situational assessment and terrain analysis are applicable to the strategic decision-making of Chinese firms. Lecompte (2025) showed that high-risk ICO investors use the *Art of War* as a strategy for advancement, preparation, intelligence gathering, and investment in the most worthwhile "campaigns" in the financial sector.

The strategic thinking of the *Art of War* also occupies a prominent place in military, political, and historical analyses. Prior studies demonstrated how strategic principles, including

leadership discipline, terrain knowledge, logistics, deception, and timing, have guided historical military operations and political change (Adejuwon, 2019; Berhe, 2017; Bridoux, 2021; Gliwa, 2016; Guimerá, 2017; Horiacheva et al., 2023; Uvarov, 2023). These studies consistently reflect Sun Tzu's principles of foresight, intelligence gathering, and the avoidance of conflict in adverse circumstances.

Several studies apply the *Art of War* to digital and technological strategy, especially in situations involving modelling, predictive capability, and defence. Isle and Smith (2018) and Arabia-Obedoza et al. (2020) used concepts from the *Art of War* to inform strategies for disinformation warfare and social engineering attacks by encouraging approaches that focus on intelligence superiority, deception awareness, and countermeasure development. Shi et al. (2017) and Constantinescu and Wattenhofer (2025) also applied *Art of War* principles to data analytics. Their work illustrated that “know yourself and your enemy” and “win without fighting” can be applied to computing systems.

Sun Tzu's study is also referenced in public health and crisis-impact research. Khalife (2022) showed that effective COVID-19 response strategies can integrate the *Art of War* principles of agility, timely preparation, resource allocation, and leadership organisation when responding to changes in the external environment. The interpretation of adversaries, intelligence, and human behaviour as fundamental aspects of the strategic conception of the *Art of War* was highlighted in philosophical and interpretive works, including Guidi (2020), Mehra and Mazumdar-Leighton (2024), Villegas (2023), and Washbourne (2023).

Across these contexts, Sun Tzu's principles consistently support four strategic functions in decision-making: risk assessment and uncertainty management; information-based resource allocation and planning; intelligence, deception, and information control; and adaptive and proactive action in market, health, technological, and military environments.

Leadership Development

The second major theme identified from the current literature review is leadership development. This theme appears in 11 articles (38%), which discuss leadership behaviour, cultural values, governance practices, and institutional transformation related to the *Art of War*.

For example, Tan (2023) applied the military principles of the *Art of War* to educational management and found that decentralisation, collaborative decision-making, and flexibility can improve efficiency and enhance team spirit. This finding was supported by Tan (2025), who applied the *Art of War* principles to educational practices and leadership development programmes. The results showed significant improvements in student well-being, strategic planning abilities, and overall educational outcomes.

In terms of ethical and values-driven leadership, Wang (2020) found that Sun Tzu's ideas on moral persuasion and reduced coercion can improve social harmony through fairness, stakeholder

engagement, and institutional trust. Similarly, Piskunova and Lu (2018) connected Sun Tzu's teachings and Confucian values to leadership principles in a Chinese management model. Their work showed that moral discipline has long been a cornerstone of effective leadership.

Research on military and political leadership also reflects Sun Tzu's contributions to leadership development. Horiacheva et al. (2023), Guimerá (2017), Uvarov (2023), Berhe (2017), and Kolotov (2023) emphasised the role of leadership values and the alignment of *Art of War* principles in shaping effective command structures, political stability, and military professionalism. These values include strategic awareness, moral character, discipline, decisiveness, and contextual understanding.

Likewise, the leadership theme extends to healthcare. For example, Ford (2024) found that the *Art of War* can enhance organisational management in the healthcare industry through adaptive leadership, well-organised coordination, and strategy-oriented decision-making in highly stressful environments. In examining cross-cultural and collaborative leadership, Pauluzzo and Cagnina (2017) emphasised the importance of trust building, information sharing, and cultural sensitivity, which are consistent with Sun Tzu's assertion about unity and can improve leadership performance in international joint ventures.

In short, the leadership findings reveal consistent patterns across the studies, including situational and contextual awareness, ethical and value-driven leadership, adaptive and flexible leadership styles, collaborative and distributed leadership practices, and leadership development for high-risk environments such as military, political, and healthcare settings.

Organisational Competitiveness

The third major theme concerns how Sun Tzu's *Art of War* can enhance organisational competitiveness, particularly in areas such as strategic positioning, resource advantages, market entry, cultural leverage, and technological superiority. This is the least discussed theme, but it is still present in eight articles (28%), mostly in business and engineering management contexts.

In the context of global business competitiveness, Zhang et al. (2016) and Li et al. (2016) found that the principles of the *Art of War* are useful for companies seeking to adapt to a rapidly changing environment, enhance internal control and corporate governance, and identify new market opportunities. This is supported by Burciu et al. (2025), who showed that the competitive advantage of Toyota's dealer network stems from a strategically, structurally, and systematically coordinated approach inspired by Sun Tzu's principles.

In the context of modern information management, Isle and Smith (2018) and Arabia-Obedoza et al. (2020) used the *Art of War* principles to construct a framework that helps organisations prepare for disinformation and cyberattacks, thereby enhancing competitive resilience by controlling information flow and predicting adversary behaviour. Similarly, Shi et al. (2017) and Constantinescu

and Wattenhofer (2025) applied *Art of War* principles to enhance algorithmic predictive capabilities, defend against Byzantine attacks, and achieve technological advantage through optimisation in a highly competitive digital environment. Moreover, Piskunova and Lu (2018) and Pauluzzo and Cagnina (2017) demonstrated cultural and institutional sources of competitive advantage, arguing that Chinese cultural values rooted in the *Art of War* and Confucianism can provide advantages in strategic long-term orientation, relationship management, and knowledge sharing in international business environments.

A historically sensitive economic analysis has also emphasised how Sun Tzu's ideas can enhance economic strength (Brandon, 2018). This influence is reflected not only in current business practice but also in principles underlying modern corporate finance and national competitiveness. Expectations of competitor behaviour and perceptions of the enemy are important considerations for improving the competitive position of an organisation, as also noted by Guidi (2020) and Villegas (2023). Tan (2025) related educational competitiveness to Sun Tzu-inspired vision-based leadership that improves school outcomes and stakeholder satisfaction.

Synthesising these studies shows that *Art of War* principles can contribute to the creation of competitive advantage through four prominent dimensions: strategic positioning and differentiation; anticipation of competitors' actions and environmental changes; information and defensive advantages; and cultural and relational advantages in international or global environments.

Research Implications

This literature review finds that the *Art of War* can expand academic knowledge in strategy and leadership across three thematic areas. In strategic decision-making, the explanatory power of *Art of War* principles makes them worthy of integration into emerging fields such as artificial intelligence, algorithmic modelling, and digital strategy analysis (Arabia-Obedoza et al., 2020; Constantinescu & Wattenhofer, 2025; Isle & Smith, 2018; Shi et al., 2017), as well as areas such as cryptocurrency investment (Lecompte, 2025), public health crisis response (Khalife, 2022), and computational game theory.

Moreover, in leadership development, previous academic research has linked Sun Tzu's classic to theoretical, situational, and distributed leadership frameworks (Tan, 2023, 2025; Wang, 2020). Finally, with regard to competitive advantage, philosophical and historical analyses can deepen understanding of how cultural perspectives and ethical frameworks shape strategic behaviour (Guidi, 2020; Mehra & Mazumdar-Leighton, 2024; Villegas, 2023; Washbourne, 2023).

The three themes synthesised from the current literature review present research trends over the past decade. They align with the four main ideas summarised by Chen (2012): the holistic "grand strategy" perspective (strategic decision-making), the concept of "complete victory" (strategic decision-making), practical and effective methods for achieving victory (competitive

advantage), and an emphasis on leadership quality and balanced military management (leadership development). Therefore, the current literature review provides three themes that can be used as a conceptual framework for future empirical quantitative research.

By focusing on three identified thematic areas, this literature review discusses how modern professional practice can enhance the practical application of Sun Tzu's *Art of War*. Applications include decentralising authority in areas of modern management such as education, healthcare, and public administration. This requires translating Sun Tzu's concepts into actionable training programmes. From a competitive advantage perspective, leveraging best practices such as Toyota's dealer network, cyber threat modelling, and cross-cultural joint ventures, and translating Sun Tzu's principles into a framework of reproducible practices, can enable organisations to maintain resilience and consistency in unpredictable environments. Practically, these thematic applications go beyond general references and develop into strategic advantage tools tailored to specific domains.

Limitations, Recommendations and Conclusion

It is important to recognise that the current literature review has some inherent limitations. First, the literature was limited to the WoS database because of its coverage of English-language peer-reviewed journal articles and standardised citation indexing. As a result, valuable insights from grey literature, regional journals, or non-English publications may have been missed. Furthermore, because the sample size was limited to 29 articles, although the review adopted PRISMA guidelines, this study is classified as a literature review rather than a systematic review.

Second, most studies included in the literature review were conceptual and qualitative. This indicates that, although the research trend of applying Sun Tzu's timeless masterpiece to business strategy has developed in recent years, the lack of empirical research prevents strong causal conclusions about the actual impact of Sun Tzu's principles in modern organisational environments.

Despite these limitations, the findings of this review reveal how Sun Tzu's principles are interpreted and applied in modern contexts. The results also emphasise the need for more evidence-based research designs beyond conceptual and qualitative approaches, particularly quantitative and mixed-method designs, to assess the significance, applicability, and consequences of tactics based on Sun Tzu's *Art of War* within organisational research contexts.

First, it is strongly recommended that future researchers, when developing effective, reliable, and comprehensive measurement scales for wider application, fully consider all 13 principles expounded by Sun Tzu and to refer to non-English-language literature, especially Chinese literature. This is because the English-language publications currently indexed by the WoS database often discuss Sun Tzu's *Art of War* at a general level without examining each principle in depth, resulting in limited depth of research findings.

Second, further empirical research is recommended to investigate the application of the *Art of War* in modern management and corporate strategy. Future studies should employ quantitative and mixed-method designs to quantify the relationships between the *Art of War* strategies and leadership effectiveness, organisational performance, network resilience, and decision outcomes, while exploring the underlying causes to enhance the generalisability of the application.

Third, this study emphasises the importance of examining contextual factors such as corporate culture, industry, and strategic fit as potential variables that may influence the application of these principles. Finally, further longitudinal studies are needed to determine the long-term impacts and practical effects of applying Sun Tzu's principles to organisational performance and sustainability.

In summary, to answer the research question about the characteristics and themes of research on the interpretation and application of the *Art of War* in modern organisational, managerial, and business contexts, this study reviewed 29 articles published in WoS between 2016 and 2025. The findings suggest that the *Art of War* is applicable to three thematic areas of modern management: strategic decision-making, leadership development, and competitive advantage. These themes can serve as a conceptual framework and guide future research on the application of the *Art of War*.

However, because this review is based on a single WoS database, includes only English-language literature, and relies on a predominantly qualitative evidence base (69%), causal relationships cannot be established, and the findings may not be generalisable. Therefore, future research should include multiple databases, consider non-English-language literature, especially Chinese literature, and use quantitative and longitudinal research designs to strengthen the evidence base. Practitioners should also carefully consider the specific context when applying the principles of the *Art of War*.

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