

Mapping the research landscape: unveiling the dynamics of leadership in the military through bibliometric analysis

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Abstract

Leadership is achieving a goal with the help of other people. Paradoxically, military organizations are the best example of using direct reward and punishment as motivational factors. For this reason, we usually think of a leader in a military context as a military commander. This study conducts a bibliometric analysis of leadership in a military context using the Scopus database, focusing on 746 articles. The objectives of the study are to (1) examine the trend of publications related to "leadership"; (2) examine the most cited authors related to "leadership"; (3) examine the most cited sources related to "leadership"; (4) examine the most cited countries related to "leadership"; (5) examine frequently used keywords related to "leadership"; (6) recommend future research opportunities related to "leadership". Through this bibliometric analysis, research gaps were discovered.

Key words

leadership, military, bibliometric analysis

Introduction

Leadership is the art of inspiring a group of people to take action in the direction of a common objective. Leadership is, inspiring, leading, and influencing people when necessary is the definition given by Iddagoda in 2021. Gielnik and Bledow (2023) state that the leadership, or the leader's behavior that motivates followers, is thought to have a significant impact on the affective experiences of followers, according to research and anecdotal evidence. According to Hoek and Kuipers (2022), there is a pattern where conceptualizations of leadership are receiving more attention from researchers. The study conducted by Siew and Koh (2023) characterizes the leadership development experiences of young military officers and makes recommendations on how these officers might use this knowledge in their future careers. The findings of Siew and Koh (2023) support the idea that, in addition to formal programs and other temporary events, leadership development is a lifelong learning process. Szydło et al. (2021) and Abdurachman et al. (2023) assert leadership relations solely focused on performance can result in neglecting employee welfare. A leader's emphasis on productivity and meeting targets may cause them to overlook the well-being and needs of their subordinates. According to Diez et al., (2023), leadership is a fundamental military trait and should be treated as an ongoing process. Muhadi et al., (2023) found no indirect effect of military leadership on Organizational Citizenship Behavior through Organizational Commitment. Rofiq et al., (2023) highlight the role of military digital leadership is very influential on the digital transformation that occurs in military organizations. And also, the existence of digital-based data management, allows all decisions to be made more quickly, easily, and efficiently. Antonesei and Fășărea (2023) state being an authentic leader is much more complex than simply "giving an order". An authentic leader's influence on other colleagues or subordinates can take many forms. Yarnell et al., (2023) assert to eliminate inequities experienced by servicewomen, leaders across all levels of the military play a key role in supporting the successful integration of servicewomen, cultivating an environment of belonging, and guarding against toxicity, which will result in optimized performance and readiness for all service members in defense of the Nation. Bekesiene and Smaliukiene (2022) assert that leadership can replace a lack of social cohesion in a group with weak ties between group members and reduce the negative effect of perceived stress on personal growth. This is a new insight that allows social cohesion and leadership to be seen not only as complementary factors in group dynamics but also as substitutes. Frémeaux and Pavageau (2022) state leaders strive to favor the working conditions and professional development of their employees, to create positive and significant relationships with their

employees, and to set clear and coherent objectives. Singh et al., (2023) state noteworthy, strategic leadership is inherently grounded in digital transformation, innovation, and the upper echelons, with a growing footprint that spans across basic management and organizational activities; competitive advantage capabilities and strategies; the multiple roles of managers; the leadership, innovative, and strategic functions of management and upper echelons, including those specific to top management teams; the strategic leader; strategic choices; strategic teams; as well as strategic succession. The objectives of the study are: (1) To examine the trend of publications related to “leadership”; (2) To examine the highly cited authors related to “leadership”; (3) To examine the highly cited sources related to “leadership”; (4) To examine the highly cited countries related to “leadership”; (5) To examine the frequently used keywords related to “leadership”; (6) To recommend future research opportunities related to “leadership”.

1. Research methodology

Bibliometric analysis has gained increasing importance due to its ability to provide extensive information on specific subjects. This approach, as described by Garfield (1955), combines mathematical tools and statistical methodologies to examine and analyze publications such as articles and books. Utilizing statistical methods, bibliometric analysis enables the interpretation of scientific research and the identification of patterns within a particular topic. It goes beyond simply informing readers about past trends by shedding light on current advancements in the field and suggesting new avenues for study. In this study, Biblioshiny software was employed for data analysis (Aria and Cuccurullo, 2017).

This bibliometric analysis focuses on research in the area of leadership in the military context. Our analysis does not include studies done in tongues other than English, including only social science. Arts and business, management disciplines and published in 2023. In addition, this study considers only articles that include keywords related to the military context. The final SCOPUS database reveals 746 papers on “Leadership” and “military”, including 582 (78%) original research articles, 79 (11%) review papers, 50 (7%) book chapters, 18 (2%) conference proceedings, 25 (6%), 17 (2%) editorial, books, and surveys. The SCOPUS database was chosen as the data source for this study because it contains a comprehensive collection of research findings in the field of business and management.

The primary aim of this study is to utilize the user-friendly and comprehensive bibliometric analysis software, Biblioshiny, to analyze the bibliometric data. The study employs various techniques for analysis, starting with the use of a trend graph

to examine publication trends. Source analysis involves applying Bradford's law, total citations, total number of publications, h-index, I-index, and J-index. Author analysis employs Lotka's law, total citations, total number of publications, h-index, I-index, and J-index. The country analysis focuses on total citations and the number of publications. Additionally, the study utilizes word cloud and word frequency techniques to analyze keywords, while thematic maps and cluster analysis are used to identify and analyze themes. Lastly, a critical analysis of highly cited papers is conducted.

2. Results and discussion

2.1. Trend analysis

Figure 1 represents the publication trend in the field of 'Leadership' in the military context from 1967 to 2023, using data sourced from the Scopus database. The graph shows minimal or no publications from 1967 to 1998. However, starting from 1997, there has been a consistent growth in publications with slight declines in 2008 and 2014. The peak number of publications is observed in 2022. It is important to note that the analysis was conducted in May 2023, and the data for 2023 is a forecast based on the observed trend. The actual data for 2023 may differ, either being higher or lower than the projected figure.

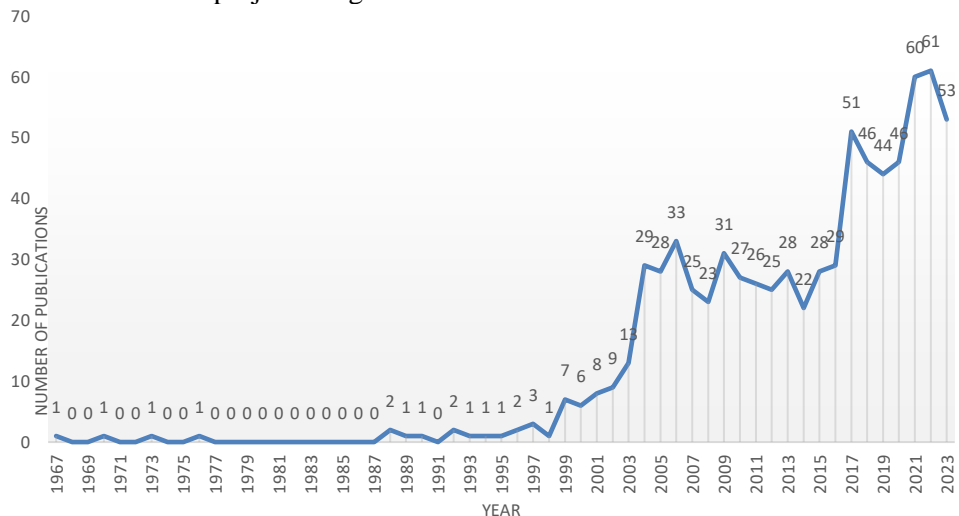


Fig. 1. Trend analysis

Source: constructed by the authors.

2.2. Source analysis

To assess the validity of the source analysis, Bradford's law was initially examined. The results revealed that the core sources consisted of 18 journals, which accounted for one-third of the total publications on "Leadership in military context". The middle important sources comprised 117 journals, contributing to the next one-third of publications. Lastly, the low-important sources included 246 journals, each publishing only one article, making up the final one-third of the publications.

Table 1 presents the outcomes of the source analysis specifically focused on 'Leadership in military context'. The journal with the highest number of citations and publications is Leadership Quarterly, with 928 citations for 10 publications. The second and third highest-cited journals are International Studies Quarterly and Harvard Business Review. It is noteworthy that all the journals mentioned in Table 1 have received more than 130 citations and are indexed in the ABS ranking.

Tab. 1. Source analysis

Journal	h_index	g_index	m_index	TC	NP	PY
Leadership Quarterly	8	10	0.38	928	10	2003
International Studies Quarterly	6	12	0.3	298	12	2004
Harvard Business Review	7	11	0.22	297	11	1992
Politics And Society	1	1	0.05	280	1	2006
Journal Of Strategic Studies	8	15	0.36	259	24	2002
Journal Of Personality And Social Psychology	2	2	0.08	256	2	1998
Military Psychology	6	14	0.55	209	30	2013
Armed Forces And Society	7	12	0.42	190	37	2007
Leadership And Organization Development Journal	7	9	0.37	145	9	2005
Journal Of Conflict Resolution	2	2	0.22	131	2	2015

TC: Total Citations; NP: Number of publications ; PY: Year of first publication

Source: constructed based on Biblioshiny software.

2.3. Author analysis

Lotka's law was initially employed to assess the validity of the author's analysis. The findings revealed that 93% of authors had published only one article, 6% had

published two articles, and 1% had published more than two articles, thus confirming Lotka's law. Table 2 provides a glimpse of the highest-cited authors who received more than 180 citations. Fry LW emerged as the most highly cited author, followed by Cedillo M as the second highest.

Tab. 2. Author analysis

Authors	h_index	g_index	m_index	TC	NP	PY
Fry LW	2	2	0.11	450	2	2005
Cedillo M	1	1	0.05	343	1	2005
Vitucci S	1	1	0.05	343	1	2005
Wood EJ	1	1	0.06	280	1	2006
Popper M	3	3	0.11	209	3	1996
Davidovitz R	1	1	0.06	185	1	2007
Izsak R	1	1	0.06	185	1	2007
Mikulincer M	1	1	0.06	185	1	2007
Shaver PR	1	1	0.06	185	1	2007
Larsson G	8	12	0.42	182	12	2005

TC: Total Citations; NP: Number of publications ; PY: Year of first publication.

Source: constructed based on Biblioshiny software.

2.4. Country analysis

Table 3 presents the countries with the highest number of citations for articles published on 'leadership in the military context,' exceeding 100 citations. The United States emerged as the most highly cited country, with 595 articles published. The United Kingdom and Israel secured the second and third highest positions, with 114 and 45 publications, respectively. Notably, India had the highest number of publications, totalling 98, but received 85 citations. It is worth mentioning that the highest cited countries primarily consist of developed nations, except for Israel, indicating a limited number of studies conducted in the context of emerging countries.

Tab. 3. Country analysis

Country	TP	TC	Average Article Citations
USA	595	2907	14.2
United Kingdom	114	966	15.6
Israel	45	490	22.3
Australia	45	258	9.6
Sweden	49	258	16.1
Spain	6	173	43.2
Germany	37	167	11.9
Finland	8	153	51
Canada	47	142	7.5
Turkey	18	119	19.8

TP: Total Publications, TC: Total Citations.

Source: constructed based on Biblioshiny software.

2.5. Keyword analysis

Table 4 and Figure 2 provide insights into the keyword analysis conducted on the topic of ‘Leadership in the military context.’ The most frequently occurring keywords are ‘Leadership’ and ‘Human.’ Additionally, keywords such as ‘military personnel,’ ‘United States,’ ‘war,’ ‘male,’ and ‘military interventions’ appear more than 80 times in the analyzed articles. The word cloud highlights other significant keywords, including ‘civil-military relations,’ ‘military leadership,’ ‘military culture,’ ‘armed forces,’ and ‘professionalism.’

The prominence of these keywords indicates their relevance and prevalence within the research on leadership in the military context. The occurrence of terms such as ‘military personnel,’ ‘war,’ and ‘United States’ suggests a focus on specific aspects related to military operations and their impact on leadership. Additionally, the mention of ‘civil-military relations,’ ‘military culture,’ and ‘professionalism’ suggests a keen interest in examining the dynamics between the military and civilian spheres, as well as the values and behaviors associated with effective military leadership.

This keyword analysis provides valuable insights into the prominent themes and areas of focus within the research on leadership in the military context. It helps researchers and practitioners identify key topics and trends, facilitating further exploration and understanding of this important field.

Tab. 4. Keyword analysis

Words	Occurrences
leadership	305
human	207
military personnel	103
united states	99
war	92
male	87
military intervention	83
female	79
adult	59
military operations	59
soldier	59
military government	55
armed forces	49
China	37
army	36
political history	30
Eurasia	29
political conflict	29
Decision making	28
National Security	25

Source: constructed based on Biblioshiny software.

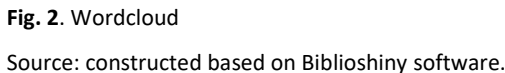


Figure 3 presents a visual representation of the thematic map focused on ‘leadership in the military context.’ The map is divided into different sections, each indicating the relevance and development of the identified themes. It offers an overview of the prevailing themes in this area of research. The bottom-right portion of the map highlights the foundational or basic themes that encompass well-established research topics, such as military leadership, civil-military relations, civil war, security, and military culture.

The top-left part of the map features the niche themes, indicating areas that require further exploration in future research. These themes encompass subjects like

the Cold War, Turkey, geopolitics, World War II, military history, collaboration, innovation, complexity, and technology. Future investigations should delve deeper into these specific areas to expand knowledge and understanding in the field.

Finally, the declining themes, which consist of China, Russia, NATO, Japan, and France, are situated on the map. These themes have been extensively covered in previous studies, suggesting a need to explore these topics from fresh perspectives or investigate different variants that offer unique insights, distinct from the keywords mentioned.

Overall, Figure 3 provides a comprehensive visual representation of the current trends and directions within the research on leadership in the military context. It showcases the fundamental, emerging, niche, and declining themes, offering researchers valuable guidance for further exploration and investigation in this field.

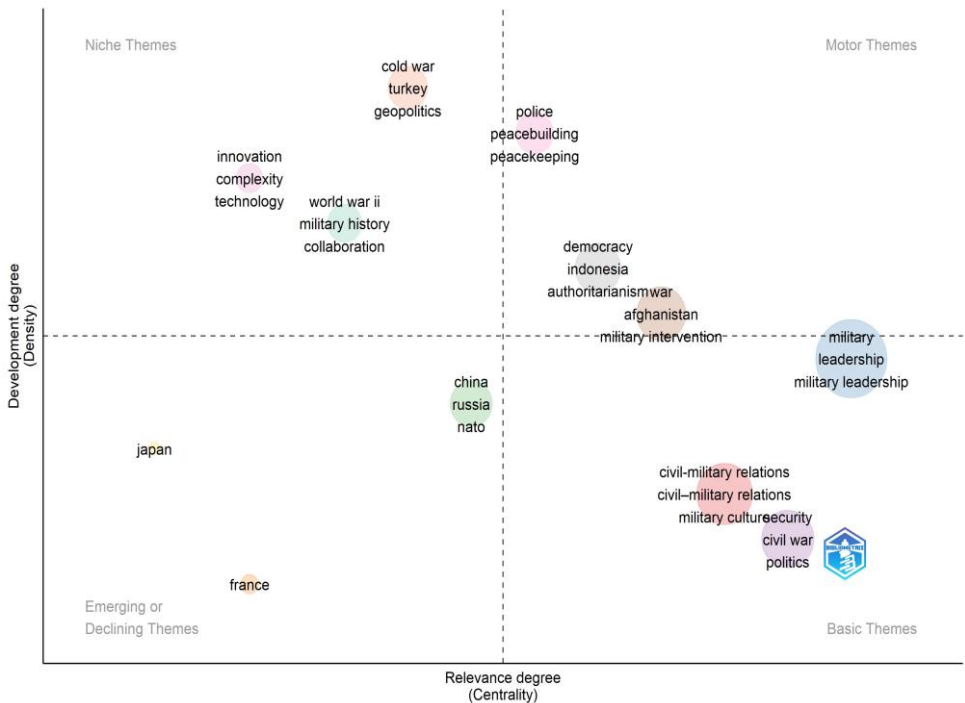


Fig. 3. Thematic map

Source: constructed based on Biblioshiny software.

4. Literature review – most cited articles

Fry et al., (2005) assert the consequence of spiritual leadership in developing this sense of leader and follower spiritual survival is to produce higher levels of corporate commitment, productivity, and employee well-being by fostering value congruence across the strategic, empowered team, and individual levels. Wood (2006) highlights, much of the literature on My Lai in Vietnam attributes the violence against civilians to poor leadership and morale. Davidovitz et al., (2007) state leaders' attachment anxiety was associated with more self-serving leadership motives and with poorer leadership qualities in task-oriented situations. Leaders' attachment anxiety also predicted followers' poorer instrumental functioning. Leaders' attachment-related avoidance was negatively associated with pro-social motives to lead, with the failure to act as a security provider, and with followers' poorer socio-emotional functioning and poorer long-range mental health.

Folch & Wright (2010) have examined the methods used by authoritarian leaders to step down and discovered that in personalist regimes, sanctions make both regular and irregular changes in power, such coups, more likely. However, sanctions don't have much of an impact on the stability of the government in one-party and military regimes. Paunonen et al., (2016) state knowing which individuals will be effective leaders of those in the lower strata of the military's rigid multi-tiered leadership hierarchy is crucial. Military leaders are responsible for countless lives in times of war, and the failure to identify and eliminate potentially destructive leaders can have enormous implications for human suffering. Paunonen et al., (2016) further assert, good leaders most likely differ from poor leaders in many ways. Some such differences might be seen in temperamental variables or common personality characteristics. Pilster and Böhmelt (2011) have studied the influence of civil–military relations on military effectiveness. Their main argument claims that coup-proofing has a negative impact on soldiers' leadership qualities, initiative, and ability to coordinate different military units.

Fry (2011) states according to the study, there is a strong and favorable correlation between spiritual leadership and a number of unit-level outcomes, such as organizational commitment. Wong et al., (2003) assert leadership remains inextricably intertwined with the military at every level. Wong et al., (2003) highlight it is useful to differentiate between two complementary ways in which military leadership research can be defined. The first alternative is to focus on studies that use military samples to test theories that have applicability across a broad range of organizations and the second is to consider the unique characteristics of the military and focus on studies that attempt to understand the nature of leadership within that context. Zack-

Williams (1999) in his study ‘Sierra Leone: the political economy of civil war, 1991-98’ argues that the causal factors are historical, reflecting the political economy of underdevelopment in that country.

By considering the most cited article a research gap is unearthed. The identified research gap is that there is no empirical evidence of military virtues, military organizational culture, innovative behavior and military leadership in a nomological network/conceptual framework in the Sri Lanka military context, perhaps in the international military context.

Conclusion

In conclusion, this article employed bibliometric analysis to examine the landscape of research on leadership in the military context. Through the utilization of Biblioshiny software, a comprehensive and user-friendly analysis of bibliometric data was conducted. The study explored various aspects, including publication trends, source analysis, author analysis, country analysis, keyword analysis, and thematic mapping.

The findings revealed significant insights into the research landscape of leadership in the military context. The publication trend analysis showcased a steady growth in publications over time, with certain periods of decline. The source analysis highlighted core journals that contributed significantly to the body of research, while the author analysis confirmed the Lotka law, indicating a pattern where a vast majority of authors published only one article.

The country analysis shed light on the countries that have made substantial contributions to the research field, with the United States emerging as the highest cited country. However, it also revealed a lack of studies from emerging countries, suggesting a need for further exploration in these contexts.

The keyword analysis provided valuable insights into the prominent themes and topics within the research, while the thematic mapping visually represented the trending themes, established research issues, emerging areas, niche topics, and declining themes in the field. From the mostly cited article an empirical research gap was identified. The identified research gap is that there is no empirical evidence of military virtues, military organizational culture, innovative behavior and military leadership in a nomological network/conceptual framework in the Sri Lanka military context, perhaps in the international military context.

Overall, this bibliometric analysis has contributed to a deeper understanding of the research landscape of leadership in the military context. The findings offer val-

uable directions for future research, highlight areas for further exploration, and provide researchers with a comprehensive overview of the current trends and topics within this domain. This study serves as a foundation for further research and contributes to the advancement of knowledge in the field of leadership in the military context.

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Mapowanie krajobrazu badawczego: odślanianie dynamiki przywództwa w wojsku poprzez analizę bibliometryczną

Streszczenie

Przywództwo to osiągnięcie celu z pomocą innych ludzi. Paradoksalnie, organizacje wojskowe są najlepszym przykładem wykorzystania bezpośredniej nagrody i kary jako czynników motywacyjnych. Z tego powodu zwykle myślimy o przywódcy w kontekście wojskowym jako o dowódcy wojskowym. Niniejsze badanie przeprowadza analizę bibliometryczną przywództwa w kontekście wojskowym przy użyciu bazy danych Scopus, koncentrując się na 746 artykułach. Celami badania są: (1) zbadanie trendu publikacji związanych z "przywództwem"; (2) zbadanie najczęściej cytowanych autorów związanych z "przywództwem"; (3) zbadanie najczęściej cytowanych źródeł związanych z "przywództwem"; (4) zbadanie najczęściej cytowanych krajów związanych z "przywództwem"; (5) zbadanie często używanych słów kluczowych związanych z "przywództwem"; (6) zarekomendowanie przyszłych możliwości badawczych związanych z "przywództwem". Dzięki tej analizie bibliometrycznej odkryto luki badawcze.

Słowa kluczowe

przywództwo, wojsko, analiza bibliometryczna