

The impact of strategic intelligence and asset management on enhancing competitive advantage: The mediating role of cybersecurity

Iqbal Jebril^a, Rafat Almaslmani^{b*}, Baker Akram Falah Jarah^c, Mohamed Ibrahim Mugableh^d and Nidal Zaqeaba^e

^aFaculty of Science, Al-Zaytoonah University of Jordan, Amman, 11733, Jordan

^bHR Consultant, Amman, Jordan

^cFaculty of Business, Amman Arab University, Amman 11953, Jordan

^dAssociate Professor, Administration and financial sciences, Department of Finance & Banking Science, Irbid National University, Irbid 21110, Jordan

^eAdministration and financial sciences, Department of Finance & Banking Science, Irbid National University, Irbid 21110, Jordan

ABSTRACT

Article history:

Received March 3, 2023

Received in revised format March 18, 2023

Accepted April 27 2023

Available online

April 27 2023

Keywords:

Strategic Intelligence Asset

Management

Competitive Advantage

Cybersecurity

Companies utilize competitive advantage as a tool to assist them gain more value for their products at a cheaper cost without sacrificing quality to provide greater features and services. Companies and services must use cybersecurity tools, training, and risk management strategies, as well as regularly upgrade systems as technology changes and evolves, to secure organizations, employees, and individuals. As a result, with the mediating function of cybersecurity, this study clarified the influence of strategic intelligence and asset management on boosting competitive advantage. A questionnaire was designed, and 300 questionnaires were collected out of 350 distributed to respondents working in Jordanian telecom companies. The study found a positive impact of both strategic intelligence and asset management on enhancing competitive advantage through the presence of the mediating role of cybersecurity.

© 2023 Growing Science Ltd. All rights reserved.

1. Introduction

Senior managers use strategically important information that influences their beliefs, actions, and commitments, which is known as strategic intelligence. The generation and transformation of information or knowledge that can be employed in high-level decision-making is referred to as strategic intelligence (Al-Zaqeaba et al., 2022a). Strategic intelligence entails bringing together various sorts of intellectuals and forming synergies between business intelligence, competitive intelligence, and knowledge management to give value-added data and knowledge for strategic decision-making in organizations (Ahmadi et al., 2020a; Al-Zaqeaba & Al-Rashdan, 2020).

As a result, the right quality of the provider's system is required for organizational benefit and success, since it is favorably associated with increased profitability and competitive advantage (Jarah et al., 2023). Organizations, on the other hand, are beginning to realize that a strategic approach to asset management can provide long-term competitive advantages and survival in a turbulent environment. The various levels of organizational strategy correspond to asset management strategies. Strategic asset management is a holistic approach to long-term sustainable development that centers on the asset portfolio, allowing for decision-making and the development of competitive advantages throughout the organization (Gavrikova et al., 2020; Al-Khawaja et al., 2023).

However, the emergence of information and communication technologies has led to the emergence of new challenges that must be dealt with while considering the security of citizens. Because it outlines the set of methods, technologies, and practices used to secure various software, hardware, networks, and data from hostile people who gain unauthorized access and inflict

* Corresponding author

E-mail address Rafat_gulf@yahoo.com (R. Almaslmani)

damage to these resources, cybersecurity is essential. Technical procedures, the growth of cyber competence, and investments in cyber security locks, community awareness, cyber alliances, data encryption, and backup have all been taken to ensure its protection (Alhayani et al., 2021).

Accordingly, this study investigates the impact of strategic intelligence and asset management on enhancing competitive advantage with the presence of the mediating role of cybersecurity in Jordanian telecom companies (Al-Fawaz, 2022; Al-Ajmi, 2022). However, since their goods and services are very identical, the best way for financial services to achieve a competitive edge is via the quality of services given to the consumers (Hailat et al., 2023).

2. Literature Review

This study examines the impact of strategic intelligence and asset management on enhancing competitive advantage through the presence of the mediating role of cybersecurity. Several recent literatures that contribute to this study have been reviewed.

2.1 Strategic intelligence and enhancing competitive advantage

Quality has become the basic phase in organizations as they search for a competitive advantage in an environment characterized by liberalization, knowledgeable clients, and globalization (Alqudah et al., 2023), as these play an important part in gaining a competitive advantage and retaining existing customers (Almatarneh et al., 2022). Strategic intelligence is critical to an organization's ability to gain a competitive advantage, particularly in the Jordanian pharmaceutical industry, which faces numerous challenges, including regional competition and access to foreign markets. According to Alomian et al. (2019), strategic intelligence has a statistically significant relationship with achieving competitive advantage in the pharmaceutical company's sector in Jordan. Radi and Navar (2020) reported that strategic intelligence is of great importance in organizations as it represents an effective tool towards achieving goals, maintaining organizations' standing, reading their future, and enabling leaders to sense available opportunities. Strategic intelligence has an impact on obtaining competitive advantage, according to the findings. Kaddour (2021) pointed out that strategic intelligence is one of the most important and latest systems that guarantee institutions' ability to maintain their position in a market characterized by change and intense competition, and that information and knowledge are among the most important resources that institutions try to access. In addition to that, economic intelligence and strategic vigilance in dealing with it and using it to achieve established objectives, which drive them to achieve a competitive advantage that distinguishes them over their competitors. Strategic intelligence, with its dimensions (knowledge management, economic intelligence, and strategic vigilance), is the most effective means and tool for small and medium enterprises, especially in order to ensure the preservation of their position as well as its promotion. Based on the above, the following hypothesis can be reached:

H₁: *Strategic intelligence has a positive impact on enhancing competitive advantage.*

2.2 Asset management and enhancing competitive advantage

Paracha & Siddiqui (2019) notes that assessing the use of assets is complex and not easy to do and measures how effectively a company uses resources to generate sales and achieve profitability. The company's success depends to a large extent on the ability to deal with and control its assets, and there are several factors that affect the company's performance. The results indicated that intangible liabilities have a significant negative impact on the return on assets while the positive and significant impact on the profit margin, on the contrary, intangible assets produce a negative impact on margins while positively impacting return on assets. (Alhayan & Almutairi, 2022)

Almeida et al. (2021) illustrate the importance of organizations continually improving their asset management capabilities, in order to systematically improve performance or service levels, modeling and forecasting costs, managing failure risks and finding strategies to fund both their long-term investment needs. In addition, Wardhani et al. (2021) reported that innovation capacity, the intangible assets of a company, such as knowledge management and intellectual capital, have a favorable impact on competitive advantage. Furthermore, the competitive edge has a positive impact on the company's performance. Based on the above, the following hypothesis can be reached:

H₂: *Asset management has a positive impact on enhancing competitive advantage.*

2.3 Cybersecurity impact on the relationship between strategic intelligence and enhancing competitive advantage

Cybersecurity threats are a major concern for most businesses. They may have multiple consequences, in addition to financial ones, that must be considered while deciding how to distribute cybersecurity resources under risk management. Experts have usually approached the topic from a technical standpoint, examining the consequences for data security, integrity, and availability. We adopt a more comprehensive approach, laying out a broader range of generic cybersecurity goals, as well as the features that go with them, as well as the forecasting and evaluation models that go with them. These are the fundamental elements of cybersecurity risk management decision support (Couce-Vieira et al., 2020).

Kosutic and Pigni (2020) describe the link between cybersecurity and competitive advantage. The authors did a thorough literature analysis and two rounds of semi-structured interviews with CEOs and security professionals from organizations in four financial-services countries, information technology, and security industries to investigate the impact of cybersecurity on

competitive advantage. The results of the investigation allowed for the creation of a cybersecurity competitive advantage model that describes how to develop dynamic cybersecurity skills in order to gain a long-term competitive advantage. (Murad et al., 2022)

Ensuring an organization's cybersecurity posture requires the active participation of decision makers at all levels. It is essential that these line managers are properly informed, trained and equipped with the tools required to fulfill their strategic management responsibilities. That strategic leaders should have, at a minimum, a general understanding and awareness of the topics chosen, even if the topics represent a more technical perspective. A general trend was found where topics in which business knowledge intersects with security knowledge consistently rank higher knowledge requirements, primarily related to business impact (Garcia-Granados & Bahsi, 2020). Based on the above, the following hypothesis can be reached:

H₃: *Cybersecurity has a positive impact on the relationship between strategic intelligence and enhancing competitive advantage.*

2.4 Cybersecurity impact on the relationship between asset management and enhancing competitive advantage

To manage cybersecurity, there is a need for a comprehensive approach to managing cybersecurity by balancing strategic, organizational, risk, technology, and people components in a socio-technical system. Compliance with various regulations is the primary benefit of cybersecurity management; yet, competitors can readily replicate compliance because it is dependent on operational capabilities. Companies can acquire strategic value that is difficult to mimic by building particular dynamic cyberidentity capabilities, and so gain a long-term competitive advantage. (Kosutic, 2021). An increasing number of cybersecurity breaches are negatively impacting business performance. Therefore, Knowing and evaluating the major important assets that must be safeguarded from potential cyber-attacks, as well as the potential commercial consequences, is a source of competitive advantage. (Corallo et al., 2020). According to Ahmad et al. (2020b), A diverse range of criminal individuals are constantly threatening businesses' digital assets. When threats materialize, the ramifications can be disastrous. Most significant corporations invest in a dedicated Information Security Management (ISM) role to ensure that digital assets are protected. The ISM function conducts risk assessments, develops strategies, implements policies and training to define roles and direct behavior, and implements technological controls like firewalls, antivirus, and encryption to prevent unauthorized access. Accidents (security breaches) will occur despite these safeguards (Al-Zaqeba et al., 2022b; Alqudah et al., 2023). Referring to (Kure & Islam, 2019), The assets' effective operation is critical to the systems, and any threats that could negatively impact the asset could cause significant disruption. Risk management is a crucial part of network security. Many theories and approaches exist for identifying assets as well as assessing and analyzing deficiencies. The running example demonstrates that some assets are more valuable than others, as well as identifying contextually relevant weaknesses and dangers. On the basis of the foregoing, the following hypothesis can be drawn:

H₄: *Cybersecurity has a positive impact on the relationship between asset management and enhancing competitive advantage.*

3. Methodology

This paper aims to assess strategic intelligence and asset management to achieve competitive advantage in the presence of the modified variable cybersecurity in Jordanian telecom companies. To achieve the goal of this paper, the community and the sample of this research are all employees of Jordanian telecom companies. However, the descriptive analytical approach was used to test the research hypotheses. A questionnaire was designed, and 300 questionnaires were collected out of 350 that were distributed to respondents working in Jordanian telecom companies.

4. Results

To test the hypotheses of the study, the researcher used appropriate statistical methods to test the hypotheses; ANOVA and Multiple Regression Loading were used to test the main hypothesis. To determine the probability of affirmative action and acceptance of this hypothesis, the researcher used simple regression analysis to test these hypotheses, and regression variance analysis as shown in Table 1 as follows:

Table 1
Simple linear regression analysis of the hypotheses one and two

Dependent Variable	Model Summary		ANOVA			Coefficients				
	R	R ²	F	DF	Sig F*	variables	B	Standard error	T	Sig t*
Enhancing Competitive Advantage	0.738	0.582	143.684	4	0.000	Strategic Intelligence	0.492	0.038	7.684	0.000
Enhancing Competitive Advantage	0.762	0.539	138.109	5	0.000	Asset Management	0.457	0.034	4.895	0.000

*The effect is statistically significant at the level ($\alpha \leq 0.05$)

Table 1 shows a significant statistical role of Strategic Intelligence in promoting competitive advantage in Jordanian telecommunications companies. The correlation coefficient ($R = 0.738$) indicates an important relationship between the independent variable (Strategic Intelligence) and the dependent variable (enhancing competitive advantage). The value of the determination factor ($R^2 = 0.582$) indicates that Strategic Intelligence interpreted the variability 58.2% (enhancing competitive advantage), and the remainder due to other variables not included in the model, as assessed ($F = 143.684$) at a level of confidence equal to ($\text{sig} = 0,000$), which underscores the importance of declining at an indicative level (0.05).

It also indicates a linear relationship between asset management in promoting competitive advantage in Jordanian telecommunications companies. The correlation coefficient ($R = 0.738$) refers to the important relationship of the independent variable (asset management) and the dependent variable (promotion of competitive advantage). The value of the restriction factor ($R^2 = 0.582$) indicates that asset management explains 58.2% of the difference in (enhancing competitive advantage), and the remainder due to other variables not included in the model, as estimated ($F = 143.684$) at a confidence level equal to 0.000, which underscores the importance of declining at an indicative level (0.05).

To test the third and the fourth hypotheses Hierarchical Multiple Regression analysis has been used and the results have shown as follows:

Table 2
Pyramid Regression Analysis Results for the third and the fourth hypothesis

Dependent Variable	Independent Variables	First Model			Second Model		
		B	T	Sig*	β	T	Sig*
Enhancing Competitive Advantage	Strategic Intelligence	0.641	12.715	0.000	-	-	-
	strategic intelligence \times Cybersecurity	-	-	-	0.374	4.717	0.000
	R	-	0.661	-	-	0.701	-
	R ²	-	0.437	-	-	0.492	-
	ΔR^2	-	0.435	-	-	0.478	-
	ΔF	-	161.683	-	-	100.228	-
	Sig. ΔF	-	0.000	-	-	0.000	-
Enhancing Competitive Advantage	Asset Management	0.624	11.694	0.000	-	-	-
	Asset Management \times Cybersecurity	-	-	-	0.362	3.654	0.000
	R	-	0.638	-	-	0.694	-
	R ²	-	0.418	-	-	0.472	-
	ΔR^2	-	0.436	-	-	0.490	-
	ΔF	-	173.683	-	-	103.548	-
	Sig. ΔF	-	0.000	-	-	0.000	-

* The effect is statistically significant at the level ($\alpha \leq 0.05$)

Table 2 presents the results of a hierarchical multiple regression analysis based on two models. In the first model, the value of the impact degree was ($B = 0.641$), which means that a one-degree increase in the level of interest in strategic intelligence leads to an increase in competitive advantage by a value of (0.641), which is This indicates that strategic intelligence explains 64.1% of the variance in competitive advantage. In the second model, the median variable (Cybersecurity) was introduced into the regression model, where the value of the correlation coefficient increased to become ($R = 0.701$), as well as the value of the coefficient of determination (R^2), which increased by 48.7%. and the level of significance ($\text{Sig} = 0.000$) is less than (0.05).

It also presents the results of the last hypothesis consisting of two models, in the first model, the value of the impact degree was ($B = 0.624$), which means that a one-degree increase in the level of interest in asset management leads to an increase in competitive advantage by a value of (0.624), which is This indicates asset management explains 62.4% of the variation in competitive advantage. In the second model, the median variable (cybersecurity) was introduced into the regression model, where the value of the correlation coefficient increased to become ($R = 0.694$), as well as the value of the coefficient of determination (R^2), which increased by 49%, and importance level ($\text{Sig} = 0.000$) was below 0.05.

5. Discussion

This study worked to clarify the mediating role of cyber security in the impact of strategic intelligence and asset management on enhancing competitive advantage. The study found that strategic intelligence has a positive impact on enhancing competitive advantage. This result agreed with Alomian et al. (2019) and Radi and Navar (2020). Kadour (2021) also clarified that strategic intelligence is one of the most important and latest systems that ensure the ability of organizations to maintain their position in a market characterized by change and intense competition. The study indicated that asset management has a positive effect on enhancing competitive advantage, and this result agrees with Almeida et al. (2021) and Wardhani et al. (2021).

In addition, cybersecurity has been shown to have a positive impact on the relationship between strategic intelligence and the enhancement of competitive advantage, and this result was supported by Kosutic and Pigni (2020) and Garcia-Granados and Bahsi (2020).

Finally, the results showed that cybersecurity has a positive impact on the relationship between asset management and the promotion of competitive advantage. According to Corallo et al. (2020), cybersecurity is an important source of competitive advantage. This result is consistent with Ahmad et al. (2020a, 2020b) and Kure and Islam (2019).

6. Conclusion

The study found that there is an impact of strategic intelligence and asset management on enhancing the competitive advantage with the presence of the mediating role of cybersecurity. The importance of strategic intelligence is embodied in being an important tool in the hands of managers with the aim of taking a set of proactive steps to achieve advanced competitive positions in the global environment. It is also important to manage assets within a systematic and continuous process that helps in perceiving and understanding information by managers to make rational decisions in a timely manner. This study is one of the important studies for companies and their employees in administrative positions, especially telecommunications companies, which were represented as a sample for this study.

All institutions, including telecommunications companies, strive for continuity and survival, so they must gain sustainable competitive advantages through which they can achieve excellence and distinction. The issue of the organization achieving a sustainable competitive advantage has become a very important issue. The sustainable competitive advantage is the guarantor of survival and profitability for the organization.

In light of the conclusions of the study, it is necessary to continue to achieve a high degree of cybersecurity in telecommunications companies, as this is considered part of the country's national security, because information security has now become an integral part of the field of security sciences, and to review the defects in the privacy elements. There is great importance to the application of cybersecurity through its dimensions, as it is linked to achieving competitiveness in the field of telecommunications companies, to achieve information security from the threat of electronic terrorism. It is also necessary to pay attention to the development of digital infrastructure for information security and to enhance corporate cybersecurity due to its positive role in achieving competitiveness.

References

- Ahmad, A., Desouza, K. C., Maynard, S. B., Naseer, H., & Baskerville, R. L. (2020a). How integration of cyber security management and incident response enables organizational learning. *Journal of the Association for Information Science and Technology*, 71(8), 939-953.
- Ahmadi, M., Baei, F., Hosseini-Amiri, S.-M., Moarefi, A., Suifan, T.S., & Sweis, R. (2020b). Proposing a model of manager's strategic intelligence, organization development, and entrepreneurial behavior in organizations. *Journal of Management Development*, 39(4), 559-579. <https://doi.org/10.1108/JMD-11-2018-0317>
- Al-Ajmi, M. (2022). The Role of the Teacher's Professional. *Journal of Education /Al Mejlh Altrbwyh*, 37(145(2)), 11-46. doi:10.34120/0085-037-145-012.
- Al-Fawaz, N. (2022). Indicators Linking University of Tabuk's Strategic Plans with Sustainability Standards and Their Green Implementations in Institutions According to Vision 2030. *Journal of the Gulf and Arabian Peninsula Studies*, 48(184), 349-381. doi:10.34120/0382-048-184-010.
- Alhayan, A., & Almutairi, M. (2022). Individual Institution Transformability into Company after Death of Licensee: An Analytical Study. *Journal of the Gulf and Arabian Peninsula Studies*, 84(184), 89 – 116. doi:10.34120/0382-048-184-003.
- Alhayani, B., Abbas, S. T., Khutar, D. Z., & Mohammed, H. J. (2021). *Best ways computation intelligent of face cyber attacks*. Materials Today: Proceedings.
- Al-Khawaja, H. A., Yamin, I., & Alshehadeh, A. (2023). The COVID-19 Pandemic's Effects on Fintech in Banking Sector. *Review of Economics and Finance*, 21(1).
- Almatarneh, Z., Ineizeh, N., Jarah, B., & Al-Zaqeba, M. (2022). The relationship between corporate social responsibility accounting and supply chain management. *Uncertain Supply Chain Management*, 10(4), 1421-1426.
- Almeida, N. M. D., Vieira, J., & Silva, J. G. (2021). The Impact of Asset management Development Programs in Infrastructure Organizations. *In Sustainability and Automation in Smart Constructions* (pp. 247-258). Springer, Cham.
- Alomian, N. R., Alsawalhah, A. A., & Almarshad, M. N. (2019). The Impact of Strategic Intelligence on Achieving Competitive Advantage: Applied Study on the Pharmaceutical Companies Sector in Jordan. *International Journal of Business and Social Science*, 10(4), 66-74.
- Alqudah, O., Jarah, B., Alshehadeh, A., Almatarneh, Z., Soda, M., & Al-Khawaja, H. (2023). Data processing related to the impact of performance expectation, effort expectation, and perceived usefulness on the use of electronic banking services for customers of Jordanian banks. *International Journal of Data and Network Science*, 7(2), 657-666.
- Al-Zaqeba, M. A. A., & Al-Rashdan, M. T. (2020). Extension of the TPB in tax compliance behavior: The role of moral intensity and customs tax. *International Journal of Science Technology Resources*, 9(4), 227-232.
- Al-Zaqeba, M., Al-Khawaja, H. A., & Jebril, I. H. (2022a). The effect of Supply Chain Management on Competitive Advantage: COVID-19. *In 2022 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETSIS)* (pp. 131-136). IEEE.
- Al-Zaqeba, M., Ineizeh, N., Jarah, B., Hamour, H. M. J. A., & Zeyad, Z. (2022b). Intelligent matching: Supply chain management and financial accounting technology. *Uncertain Supply Chain Management*, 10(4), 1405-1412.

- Corallo, A., Lazoi, M., & Lezzi, M. (2020). Cybersecurity in the context of industry 4.0: A structured classification of critical assets and business impacts. *Computers in industry*, *114*, 103165.
- Couce-Vieira, A., Insua, D. R., & Kosgodagan, A. (2020). Assessing and forecasting cybersecurity impacts. *Decision Analysis*, *17*(4), 356-374.
- Garcia-Granados, F. B., & Bahsi, H. (2020, March). Cybersecurity knowledge requirements for strategic level decision makers. In International Conference on Cyber Warfare and Security (pp. 559-XIII). *Academic Conferences International Limited*.
- Gavrikova, E., Irina V., & Yegor B. (2020). Strategic Aspects of Asset Management: An Overview of Current Research. *Sustainability*, *12*(15), 5955. <https://doi.org/10.3390/su12155955>.
- Hailat, K., Jarah, B., Al-Jarrah, M., & Almatarneh, Z. (2023). The impact of electronic banking services on the use of technology by customers of conventional and Islamic banks in Jordan. *International Journal of Data and Network Science*, *7*(2), 737-744.
- Jarah, B. A. F., Zaqeeba, N., Al-Jarrah, M. F. M., Al Badarin, A. M., & Almatarneh, Z. (2023). The Mediating Effect of the Internal Control System on the Relationship between the Accounting Information System and Employee Performance in Jordan Islamic Banks. *Economies*, *11*(3), 77.
- Kaddour, S. (2021). The contribution of strategic intelligence to the sustainability of the competitive advantage of small and medium enterprises - Presentation of experiences. Master's Thesis, Université 8 mai 1945 - GUELMA
- Kosutic, D. (2021). The Impact of Cybersecurity on Competitive Advantage (Doctoral dissertation, Grenoble Ecole De Management).
- Kosutic, D., & Pigni, F. (2021). Cybersecurity: investing for competitive outcomes. *Journal of Business Strategy*, *43*(1), 28-36. <https://doi.org/10.1108/JBS-06-2020-0116>
- Kure, H. I., & Islam, S. (2019). Assets focus risk management framework for critical infrastructure cybersecurity risk management. *IET Cyber-Physical Systems: Theory & Applications*, *4*(4), 332-340.
- Murad, H., al-Fadhli, S., & Dashti, A. (2022). Students' Perceptions of Distance Learning During the Corona Pandemic Crisis: The Kuwaiti Private Universities as a Case Study. *Arab Journal for the Humanities*, *40*(158), 271-287. doi:10.34120/0117-040-158-009
- Radi, A. A., & Navar, H. N. I. H. (2020). The Impact of Strategic Intelligence of University Leaders in Achieving Competitive Advantages in Palestinian Universities-Gaza Strip. *AAU Journal of Business and Law Al Ain University Journal of Business and Law*, *2*(2), 3.
- Wardhani, A. P., Kusumawardhani, A., & Ubaidillah, M. (2021). The Effect of Intangible Asset on Competitive Advantage and Firm Performance; Study on Budget Accommodation in Semarang City. *SALAM: Jurnal Sosial dan Budaya Syar-i*, *8*(2), 383-404.



© 2023 by the authors; licensee Growing Science, Canada. This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC-BY) license (<http://creativecommons.org/licenses/by/4.0/>).