

The effect of strategic intelligence, effective decision-making and strategic flexibility on logistics performance

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ABSTRACT

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This paper aims to investigate the impact of strategic intelligence on strategic flexibility, in addition, to identify the effective decision-making on Logistics Performance. Nevertheless, partial least squares (Smart -PLS- 4.0.8.7) are used to examine the hypotheses, the results indicate that strategic intelligence (organized thinking, strategic vision, foresight, partnership, and motivation) significantly affect Strategic flexibility. In addition, effective decision-making mediates the effect of strategic intelligence and strategic flexibility towards the performance of logistics companies. Moreover, the influence of effective decision-making on logistics performance is therefore clear and significant towards logistics performance. However, the study supports managers in enhancing sustainability practices in logistics organizations while also offering policy guidance to decision-makers.

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1. Introduction

Contemporary intellectual trends have given great importance to the study of leadership behavior. This is because it includes all the prevailing variables in the work framework of intellectual values, customs and civilized horizons, and material dimensions that mainly affect employees, and industrial companies, especially leadership, are currently going through a stage of radical transformation due to the pressures caused by accelerating changes in the technological environment, especially in the light of crises and disasters. However, modern leaders have tended to apply modern administrative approaches by introducing modern administrative, educational methods as well as raising the performance; which requires them to pay attention to the quality of strategic decision-making processes to keep pace with future needs, and the most prominent of these modern intellectual trends is Strategic Intelligence (SI) (Al-Zaqeba & Al-Rashdan, 2020).

In addition, strategic intelligence appeared as one of the effective tools that contribute significantly to directing companies towards achieving their long-term goals, helping them maintain their position, read their future, and help their leaders sense environmental opportunities and adapt to the surrounding variables. The use of this type of intelligence has begun in Military operations, and this type of intelligence has been used in making presidential decisions for states and their foreign policy decisions, as it was used by law enforcement agencies. Many organizations have formed units for strategic intelligence to provide information that supports decision-making in them, and the role of director of strategic intelligence has appeared in many companies, strategic intelligence research centers have been established, and many universities have begun to teach

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strategic intelligence to some specializations in them. Companies are generally aware that many of the philosophies and administrative tools that prevailed for many years are no longer feasible now because of many factors, including the increased intensity of competition in various fields at the local and global levels. In which these institutions operate, it is now characterized by a lot of ambiguity and complexity, which necessitates rapid adaptation to environmental changes, as well as the huge knowledge explosion in the fields of communication and information technology, knowledge economy, in addition to globalization, the growing interest in beneficiaries, and the search for new relationships with competitive competitors.

All these factors forced companies to search for new options to achieve their goals, and among these options is strategic intelligence as a new method to guide the organization towards achieving its goals and maintaining its position. The issue of strategic intelligence derives its importance from the fact that organizations now view information as a strategic resource, and its connection to a distinct type of intellectual capacity concerned with holistic thinking about the company's future as a learning organization and the application of the knowledge economy approaches. This requires that its leaders possess the characteristics of strategic intelligence, which qualifies them to improve their decision-making processes, especially the logistical decision-making processes.

The strategy includes basic elements such as focusing on the organization's long-term orientation and matching its activities with the environment and available resources with the aim of reducing threats and maximizing available opportunities (Alnoukari et al., 2012). As the strategic direction in the management literature, which is the general direction of the company and the goals that senior management aims to achieve, is to focus on the long-term direction of the organization. It also evaluates the performance of the organization within a known economic environment. Strategic direction focuses on the comprehensive comprehension and application of the organization's internal environment and its internal resources, as well as the effective prioritization and allocation of these resources as necessary to achieve or ensure the achievement of the organization's long-term goals. Additionally, necessary for firms seeking to gain competitive advantages is a strategic direction. Organizations started to understand better and improve it to be organized and methodical, in order to come up with new services and methods that achieve the performance of the competitive advantages of the organization, with the contemporary technology revolution, the increasing intensity of the strategic direction gradually, and its role as an activity that enables competition.

The purpose of administrative leaders is to work on making good judgments that ensure the survival and success of organizations since the amount to which the intended goals are realized determines the success of any business, as the process of decision-making and decision-making permeates continuously in the company's activity and in all elements of the administrative process from planning, organizing, Direction and control, which must be compatible with the strategic flexibility of the company in accordance with the strategic plans (Almatarneh et al., 2022; Al-Zaqeba et al., 2022). Interest in strategic orientation in organizations contributes to the development of organizational structures that clarify lines of responsibility and authority and contributes to accelerating the process of decision-making and implementation, as well as eliminating duplication and conflict, if any, and reviewing and shortening administrative procedures in order to remove complexity. However, the investigation of logistics performance has become necessary to verify the extent to which strategic intelligence contributes to the strategic flexibility mediating role of effective decision-making in the context of Jordanian logistics performance.

Nowadays, it is widely acknowledged that the corporate climate is tumultuous, uncertain, and volatile. It is feasible for businesses to coexist peacefully with their surroundings while still being able to quickly adjust to environmental changes (Al-Zaqeba et al., 2022). This has dominated companies to define their organizational structures, strategies and operations in response to the pressures of competition and the ever-changing external environment. Companies are now better able to adapt the outside world and competitive conditions than they were in the past due to changes in the industry, changing customer requirements, uncertainty in market conditions, conditions related to general social, economic, as well as uncertainty political factors and unexpected fluctuations (Almatarneh et al., 2022). Nevertheless, it may not be difficult for organizations that are growing throughout time to establish resilient resources and capabilities right at once, even though the business climate may not be unpredictable and turbulent for all enterprises. While the environment in this situation is dynamic and competitive, maintaining an equilibrium position for businesses that opt to stay in an internal line of defense is essentially impossible. In phases of establishment and expansion, a firm may be more inventive and entrepreneurial, but depending on its level of specialization during periods of maturity, it may become more stable to maintain its current position. Another severe transformation is required for entrepreneurship and innovation, and preserving this status requires adaptive competencies (Wei et al., 2014).

Firms need different capabilities and strategies than their competitors to deal with increasing environmental uncertainty and disruption in competition, as well as to meet changing market/customer trends and influence on customer/market demand (Teece et al., 1997; Jarah et al., 2022). Environmental disruption in competition forces most firms to use their capabilities in a controlled manner against the movements and actions of competitors. The main reason for this is to maintain business presence and achieve performance to provide strategic flexibility (Yang et al., 2018; Al-Zaqeba et al., 2022). Though, effective competition efforts require the robust use of commercial capabilities and the development of flexible strategies. Furthermore, decisions taken by senior management dominate the strategic flexibility of logistics companies, especially engineering

industries companies, which require flexibility in all strategies followed, as there is a research gap in strategic intelligence and strategic flexibility in the logistics sector, especially in the context of Jordan.

2. Literature Review and Hypothesis development

As a paradigm for industrial operations, strategic resilience combines the benefits of earlier approaches to strategic management with a fresh viewpoint (Fraj et al., 2015). Moreover, possible issues that may be caused by the development of an anti-flexibility trend in organizations in changing and uncertain environmental conditions (Fraj et al., 2015; Zaqeba et al., 2022): Routine business processes created by more segmentation and intensive specialization, rigidity or rigidity in structure and operation decreased ability to innovate due to limited creative revolutionary perspectives Authoritarian approach to top management constraints innovations and organizational changes control of business processes, usually through hierarchical mechanisms due to narrow job role and stagnant career development Opportunities, reduced satisfaction Motivation. In addition, not responding to change. These issues, which generally affect the organizational structure and work negatively, may cause the enterprise to lose its competitiveness in the long run, because they hinder the development of enterprises' ability to adapt to the external environment.

2.1 Strategic Intelligence (SI) and Strategic Flexibility

SI plays a major role in every area of management and the organization's decisions regarding future, as it provides a means of support for operational goals by predicting future challenges (Berkowitz & Goodman, 2021). Nevertheless, organizational flexibility plays an important role in an emerging organization's strategy to survive in an increasingly competitive market according to Atkinson et al. (2022). It was also found that competitive intelligence has an indirect effect on organizational agility through strategic flexibility, which was a mediating variable. Agha et al. (2021) found that strategic intelligence (foresight, visioning, and motivation) has strong favorable effects on business performance, and strategic flexibility is positively impacted by strategic intelligence (production flexibility, marketing flexibility, and competitive flexibility). Strategic intelligence is a tool used in strategic management and is becoming more significant as a means for businesses to obtain long-term competitive advantage, according to Ahmed et al. (2021). Strategic intelligence has an effect that is statistically significant. Dimensions on the dimensions of core competencies, organizational efficiency, strategic flexibility, and creative culture (information systems, business intelligence, competitive intelligence, and knowledge management). As mentioned by Al-Daouri and Atrach (2020) most notably the presence of a statistically significant effect of strategic intelligence (foresightedness, intuition, and strategic vision) on strategic flexibility. The role of strategic intelligence in improving the performance of insurance companies, as strategic intelligence helps organizations achieve their goals and interact with their environment with a high degree of flexibility, by giving them predictions of the opportunities and threats around them and allowing them to take the appropriate actions based on knowledge and organized thinking; Which enables the organization to respond to current according to Qasim and Kanaan (2018). Since there is an effect of strategic intelligence represented by insight, structured thinking, strategic vision, partnership, and motivation for strategic flexibility. Accordingly, the following hypotheses were reached:

H₁: *Strategic intelligence (foresight, organized thinking, strategic vision, partnership, and motivation) affects positively strategic flexibility in Jordan.*

2.2 Moderation and Mediation Effect

Al Hada et al. (2021) concluded that Strategic intelligence and resilience have a positive relationship, and it is possible to draw conclusions about the existence of positive relationships between these variables and other factors that affect performance, including emotional and health stability, decision-making ability, social responsibility, professional compatibility, stress and crisis management, psychological stability in general. In addition, Daleel et al. (2021) found that strategic intelligence plays a statistically significant role in outstanding performance, and that there is a statistically significant relationship between forecasting, motivation, and partnership, as well as outstanding performance, and that there is no relationship between systems thinking and future vision, which are two dimensions of strategic intelligence. Farah and Khelili (2020) showed that the availability of the dimensions of strategic intelligence has a role in the decision-making process; and it proved the existence of statistically significant differences and a significant relationship with regard to the dimensions of strategic intelligence (systems thinking, future vision and strategic motivation). On the other hand, the study showed that there is no significant relationship between the dimensions of (foresight and partnership) and the decision-making process.

Jum'a et al. (2021) indicate that environmental sustainability was put to a lot of tests and impacted by supply chain activities including customer relationships, delay, the degree of information exchange, and the caliber of the information. While environmental sustainability significantly impacted business performance directly. Finally, except for the strategic supplier partnership feature, environmental sustainability moderated the association between all supply chain management techniques and financial performance. According to Alnoukari et al. (2016), the main achievement of this integration is to help decision makers systematically implement their corporate strategies, easily adapt to changes in the environment, and gain competitive advantages. Atwa (2013) concluded that strategic intelligence, (insight, insight, and motivation) has a significant positive

effect on company performance, positive effects of strategic intelligence, (foresight, vision, and motivation) on the company's performance in the presence of strategic flexibility as an intermediary variable, and positive effects of strategic intelligence, (insight, insight, and motivation) on strategic resilience. Moreover, Yousuf et al. (2020) found that both market orientation and strategic flexibility enable companies to improve and enhance performance, strategic flexibility also enables companies to deal with uncertainty. Effective Decision-Making has moderate the effect of strategic intelligence and strategic flexibility towards performance. According to the above, the following hypothesis can be reached:

H₂: *Strategic flexibility mediates positively the relationship between strategic intelligence and logistics performance in Jordan.*

H₃: *Effective Decision-Making moderate the relationship between strategic intelligence and strategic flexibility in Jordan.*

3. Research Methodology

The analysis is composed of verifiable analysis and descriptive analysis. Path analysis used to determine the effects of strategic intelligence (foresight, organized thinking, strategic vision, partnership, and motivation) on strategic flexibility. Strategic flexibility is used as meditation between strategic intelligence and logistics performance. Effective Decision-Making is also used as a moderation between strategic intelligence and strategic flexibility.

4. Discussion

The (Cronbach Alpha) test was employed to assess the consistency of the research items' internal consistency. According to Sekaran and Bougie (2020), the values ranged between (86.4% and 93.7%, and with a stability degree of (95.4%), all of them are considered ideal because they are greater than (0.70). The Kolmogorov-Smirnov test also demonstrated that the data distribution was expected, with all Sig values greater than (0.05) (Jarrah et al., 2022; Tabachneck & Fidell, 2018). The VIF (Variance Inflation Factor) and the Tolerance were extracted, the coefficient of variance values ranged between 0.2-1, and the coefficient of variance inflation values were calculated to ensure that the data were suitable for the regression analysis test and free of multiple linear correlations (5). This shows that the independent variables do not have a strong correlation, making them appropriate for use in multiple linear regression analysis (Hair et al., 2018). Descriptive research is distinguished by the development of hypotheses. Next, the pertinent information must be clearly described, making descriptive research organized and systematic (Malhotra's opinion, 2017). The study's main goals are to support hypotheses, show how variables relate to one another, and create predictions and generalizations. The Partial Least Square estimation technique is used to create a Full Structural Model (SM) path map, as shown in Fig. 1 below.

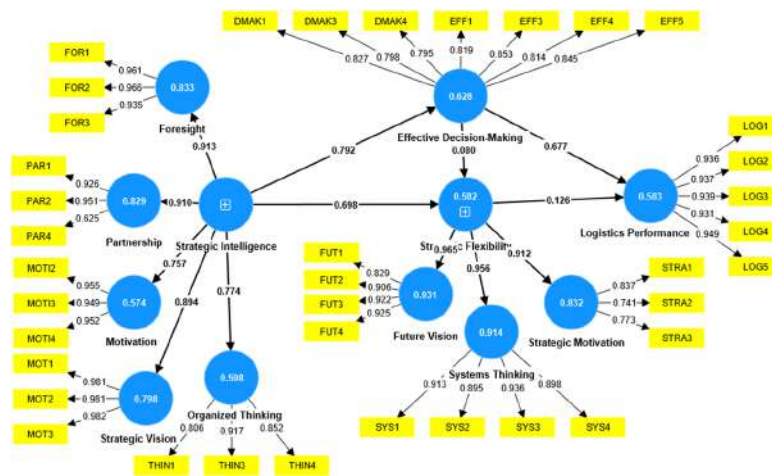


Fig. 1. Structural Model (SM); (PLS-Algorithm)

The latent variables are displayed in the blue circle, and each indication is displayed in the yellow box above. Additionally, each arrow includes values that demonstrate the precision of each indication and evaluate the dependability of the construct of the examined variables. If an indication's factor weight value is greater than 0.50, it is considered to be valid.

All four latent variables have AVE values greater than the necessary value of 0.5, as seen in the Table 1 above. If all variables are assumed to be valid in explaining their latent counterparts, then the use of manifest variables satisfies the AVE requirements. All manifest variables have been found to meet the criteria for convergent validity, therefore. If there is a significant correlation between the score generated by the instrument and the score attained when the concept is quantified or evaluated in a variety of ways, convergent validity can be demonstrated to be true.

Table 1
AVE and population

Variable	Average Variance Extracted (AVE)
Effective Decision-Making	0.676
Foresight	0.910
Future Vision	0.803
Logistics Performance	0.881
Motivation	0.907
Organized Thinking	0.739
Partnership	0.717
Strategic Flexibility	0.686
Strategic Intelligence	0.555
Strategic Motivation	0.616
Strategic Vision	0.963
Systems Thinking	0.829

Table 2
Fornell-Larcker Criterion (Discriminant Validity Test)

	Effective Decision-Making	Foresight	Future Vision	Logistics Performance	Motivation	Organized Thinking	Partnership	Strategic Flexibility	Strategic Intelligence	Strategic Motivation	Strategic Vision	Systems Thinking
Effective Decision-Making	0.822											
Foresight	0.564	0.954										
Future Vision	0.598	0.527	0.896									
Logistics Performance	0.757	0.504	0.513	0.938								
Motivation	0.846	0.543	0.512	0.544	0.952							
Organized Thinking	0.792	0.574	0.656	0.830	0.584	0.860						
Partnership	0.621	0.872	0.586	0.530	0.581	0.613	0.847					
Strategic Flexibility	0.633	0.603	0.965	0.555	0.543	0.688	0.645	0.828				
Strategic Intelligence	0.792	0.913	0.697	0.669	0.757	0.774	0.910	0.761	0.745			
Strategic Motivation	0.646	0.715	0.843	0.548	0.561	0.674	0.738	0.912	0.830	0.785		
Strategic Vision	0.585	0.912	0.513	0.493	0.529	0.555	0.833	0.600	0.894	0.749	0.981	
Systems Thinking	0.569	0.519	0.876	0.520	0.484	0.631	0.553	0.956	0.673	0.807	0.507	0.911

The results of the Table 3 show the strong discriminant validity of the model, where every variable's root value is higher than the correlation.

Table 3
Cronbach's Alpha and Composite Reliability (CR) Test Results

Variable	Cronbach's Alpha	Composite Reliability	Variable	Cronbach's Alpha	Composite Reliability
Effective Decision-Making	0.920	0.936	Partnership	0.791	0.881
Foresight	0.951	0.968	Strategic Flexibility	0.952	0.960
Future Vision	0.918	0.942	Strategic Intelligence	0.949	0.956
Logistics Performance	0.966	0.974	Strategic Motivation	0.724	0.823
Motivation	0.949	0.967	Strategic Vision	0.981	0.987
Organized Thinking	0.822	0.894	Systems Thinking	0.931	0.951

The preceding test results show that the data is reliable and that all indicators consistently assess each variable because the Composite Reliability (CR) score is greater than 0.7 and the Cronbach's Alpha value is greater than 0.6.

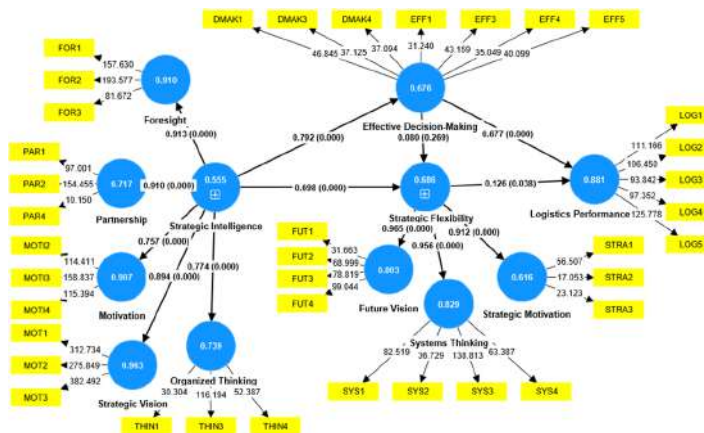


Fig. 2. Bootstrapping results

The influence of dependent variables can be demonstrated using the R-square value. This is the improvement in R-square.

Table 4
Results of R Square

Model	Strategic Flexibility	Logistics Performance
Direct effect model	0.55	0.26
Mediating Effect Model	0.55	0.33
Moderating effect	0.56	0.34

According to Hair et al. (2011), endogenous latent variables (dependent variables) in the structural model might be characterized as considerable, moderate, or weak depending on their R² values of 0.75, 0.50, or 0.25. There are three types of effect models used in this study: direct, mediating, and moderating. The R² for each model is shown in Table 4. It demonstrates that the R² for the direct effect model is 0.55 and 0.26, both of which are regarded as moderate, while the R² for logistics performance climbed to 0.33 for the mediating effect of strategic flexibility. Strategic flexibility and logistical performance both saw an increase in R² due to the moderating impact of Effective Decision-Making, from 0.34 to 0.56 respectively. Overall, all models' R² values are regarded as acceptable and moderate; The coefficient of determination (R-square) value, which is shown in the above table, demonstrates this.

Table 5
Path Significance Test

H		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV))	P values	Remark
1	Effective Decision-Making → Logistics Performance	0.677	0.679	0.056	12.183	0.000	Accepted
2	Effective Decision-Making → Strategic Flexibility	0.080	0.083	0.073	1.106	0.269	Rejected
3	Strategic Flexibility → Future Vision	0.965	0.965	0.005	179.172	0.000	Accepted
4	Strategic Flexibility → Logistics Performance	0.126	0.124	0.061	2.072	0.038	Accepted
5	Strategic Flexibility → Strategic Motivation	0.912	0.912	0.011	81.630	0.000	Accepted
6	Strategic Flexibility → Systems Thinking	0.956	0.956	0.006	168.399	0.000	Accepted
7	Strategic Intelligence → Effective Decision-Making	0.792	0.792	0.027	29.098	0.000	Accepted
8	Strategic Intelligence → Foresight	0.913	0.913	0.009	106.860	0.000	Accepted
9	Strategic Intelligence → Motivation	0.757	0.756	0.031	24.216	0.000	Accepted
10	Strategic Intelligence → Organized Thinking	0.774	0.773	0.033	23.712	0.000	Accepted
11	Strategic Intelligence → Partnership	0.910	0.911	0.011	81.203	0.000	Accepted
12	Strategic Intelligence → Strategic Flexibility	0.698	0.694	0.070	9.999	0.000	Accepted
13	Strategic Intelligence → Strategic Vision	0.894	0.895	0.010	90.140	0.000	Accepted

According to Indrawati and Ridwansyah (2015:172), business research frequently uses 95% confidence levels, thus that is what the researchers in this study did. The coefficient path score recommended by the T-Statistics value for the one-tailed hypothesis must be more than 1.65. The results of the Path Coefficient and T-Statistics in the table above are as follows:

4.1 Strategic intelligence (foresight, organized thinking, strategic vision, partnership, and motivation) affects positively strategic flexibility in Jordan.

The findings in Table 5 above shows that the computed t value of 9.999 is higher than the required value of 1.65 for figuring out the influence of the Strategic intelligence variable on the strategic flexibility variable. The influence of Strategic intelligence on strategic flexibility is therefore clear and significant. Hypothesis 1 is accepted. With regard to the sub-hypothesis from H1.1-H1.5, Table No. (5) also presents that t values are higher than the required value of 1.65 for figuring out the influence of the Strategic intelligence dimensions on the strategic flexibility variable. The influence of Strategic intelligence dimensions on strategic flexibility is therefore clear and significant. Hypotheses 1.1-1.5 are accepted.

4.2 Strategic flexibility mediates positively the relationship between strategic intelligence and logistics performance in Jordan.

The findings in Table 5 above shows that the computed t value of 12.183 is higher than the required value of 1.65 for figuring out the influence of the Effective Decision-Making variable on the Logistics Performance variable. The influence of Effective Decision-Making on Logistics Performance is therefore clear and significant. Hypothesis 1 is accepted.

4.3 Effective Decision-Making moderate the relationship between strategic intelligence and strategic flexibility in Jordan.

Table 5 indicates that the calculated t value of 1.106, which was used to assess the influence of the Effective Decision-Making variable on Strategic Flexibility, is less than the necessary 1.65. Consequently, we could conclude that Effective Decision-Making has a positive but minuscule impact on Strategic Flexibility. Hypothesis 3 is rejected.

5. Results

This paper contains direct and indirect effect, the direct effect is represented in the dependent variable, and there are also five sub-hypotheses that were included in the analysis through the first and second order, also included the mediator and moderating effect in one model. However, the study found that there is statistically significant effect for strategic intelligence (foresight, organized thinking, strategic vision, partnership, and motivation) in Strategic flexibility. Agha et al. (2021) found that strategic intelligence (foresight, vision and motivation) has significant positive effects on company performance, and positive effects of strategic intelligence on strategic flexibility (production flexibility, marketing flexibility, and competitive flexibility). According to Ahmed et al. (2021), there is a (statistically significant) effect of strategic intelligence on the dimensions of strategic resilience. Al-Dawori and Atrak (2020) also reached a number of results, most notably the presence of a statistically significant effect of strategic intelligence (foresightedness, strategic vision, and intuition) on strategic flexibility. The study also found that there is no statistically significant effect for the moderation role of effective decision-making; while the mediating role of both effective decision-making and strategic flexibility on logistics performance. Al Hada et al. (2021) agreed with this result as Strategic intelligence and resilience are positively correlated, and it is feasible to draw good conclusions about the correlations between these two traits and other traits like decision-making ability. In addition, Farah & Khelili (2020) showed that the availability of the dimensions of strategic intelligence has a role in the decision-making process; and it proved the existence of statistically significant differences and a significant relationship with regard to the dimensions of strategic intelligence (systems thinking, future vision and strategic motivation) (Gwadabe & Ab Rahman, 2020). On the other hand, the study showed that there is no significant relationship between the dimensions of (foresight and partnership) and the decision-making process.

6. Conclusion

The study's results indicate that, strategic intelligence (motivation, organized thinking, foresight, strategic vision, and partnership,) affects positively strategic flexibility towards logistics performance. The second theory is put to the test, the results shows that strategic flexibility mediates positively the relationship between strategic intelligence and logistics performance in Jordan. Moreover, the influence of effective decision-making on logistics performance is therefore clear and significant towards logistics performance. Testing the last hypothesis leads to the conclusion that effective decision-making moderates the relationship between strategic intelligence and strategic flexibility towards logistics performance in Jordan have a significant link.

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