

STRATEGIC INTELLIGENCE AND SUSTAINABLE COMPETITIVE ADVANTAGE OF SMALL AND MEDIUM ENTERPRISES: AN EXPLORATORY STUDY IN IRAQ

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ABSTRACT

Strategic Intelligence (SI) is a business tool within strategic management and is gaining importance to enable companies to achieve sustainable competitive advantage. This study explores the current SI state in small and medium enterprises in Iraq, electrical and electronic industries. For this purpose, a questionnaire model was developed to test the relationship between strategic intelligence dimensions and sustainable competitive advantage in its various dimensions. The study sample includes 60 respondents from managers, department heads, and managers of production units in small and medium-sized companies operating in Iraq during 2020. The results of multiple regression analysis show the presence of a (statistically significant) impact of the strategic intelligence dimensions (information systems, knowledge management, competitive intelligence, business intelligence) On the dimensions of the core capabilities, the efficiency of the organization, the strategic flexibility, and the creative culture. However, there is no statistically significant effect of the strategic intelligence dimensions (information systems, knowledge management, competitive intelligence, business intelligence) on the information technology dimension. This study provides theoretical and practical implications to help managers develop sustainable competitive advantages through the capabilities provided by SI in small and medium industrial enterprises in Iraq.

Keywords: Strategic Intelligence, Sustainable Competitive Advantage, Core Capabilities, Competitive Intelligence, Business Intelligence

JEL Classification Code: G32, J53, M12, M54

INTRODUCTION

It is challenging to maintain a competitive advantage in an unstable and turbulent environment, and nothing tends to stabilize for a more extended period than expected. Therefore, organizations must be visionary and responsive to their environment with intelligent behavior surrounding them. For the company to perform well, it does not come easily or in time. Therefore, organizations need strategic intelligence to enhance and maintain their performance. Under today's current conditions, an organization can constantly refine its processes and tools and help it where; knowledge, the power of information, and the possibility of converting data into information are the challenge and judgments that can distinguish one company from another. At present, when organizations live in a changing world, where customer requirements are constantly increasing, with better products, higher quality, and shorter delivery times, most organizations rely on sustainable competitive advantage to reach their goals (Ali, Almagtome, & Hameedi, 2019). The adoption of sustainable development in organizations is one strategy to deliver high-quality outcomes with a competitive advantage. It helps to address the constraints they face, through the introduction of continuous development, the provision of an innovative environment and appropriate infrastructure, and the use of modern technology. The use of ICT in the organization's service contributes to improving the worker and the work environment's

interactive relationship. All of this requires strategic intelligence on environmental developments and change and to respond to those changes. So, the research's central question is how strategic intelligence can improve or achieve a sustainable advantage?

It is noteworthy that strategic intelligence supports strategic management by contributing to the collection, analysis, and distribution of information. Strategic intelligence has a realistic understanding of the situation and its use to develop an appropriate strategy commensurate with circumstances and actions. Strategic intelligence helps to understand how and where the company is headed? How to limit its long-term competitiveness, and how to face future challenges and changes. Strategic intelligence radar can be conceived alerting the company to any threat with opportunities from its external environment. The research problem is that although researchers are concerned about the current research variables, there is a need to deepen the application of its variables in academic studies and research. Besides, there is a need to emphasize the influential role of strategic intelligence in sustainable competitive advantage. It helps produce that level of production with the industrial organization's presence in the market to pursue continuous excellence in the performance of its production processes. The extent of interest in strategic intelligence and constant improvement in Iraq is not clearly defined. There is a lot of literature and research in the field of strategic intelligence activity. Still, few have focused on integrating the process with the sustainable competitive advantage of an industrial and production organization locally. The researcher will answer these philosophical questions within the current research variables' intellectual and practical premises. In light of that issue, the recent research aimed to explore the correlation and impact relationship between strategic intelligence in its dimensions (information systems, knowledge management, competitive intelligence, business intelligence) and sustainable competitive advantage in its dimensions (core capabilities, organization efficiency, information technology, strategic flexibility, creative culture).

The Department of The General Electric Industries Company was chosen as a research sample for medium enterprises. The questionnaire was distributed to 60 executive managers as a measure of research. The primary and sub-hypotheses are included by testing statistical significance by using the Likert scale.

Conceptual Framework and Research Hypotheses

Strategic Intelligence

Strategic intelligence has a long history, as this concept extended in military operations and aspects in the 4th century. However, strategic intelligence aims to achieve the strategic goal (Basile et al., 2018). For the first time in the CIA, it was utilized in arms control agreements and strategic intelligence decision-makers (Treverton, 2021). Practices for national security and military intelligence and expanding the horizon include businesses' main role (Scott, & Jackson, 2004). The term is associated with the implementation of arms control by the Central Intelligence Agency (CIA) to provide military decision-makers with strategic intelligence (Odinga, 2018). Obeid (2015) explains that the designation came in two directions. The first meaning refers to the collection of information, which relies on the English translation (Intelligence), on which information gathering and decision-making have the same purpose. Therefore, the term paints a picture of the organization's current operations and requirements. The scale of competition, environmental diversity, and modern and advanced technology technologies with the digital information revolution. The competition has the most significant impact in making organizations consider using strategic intelligence systems techniques and assisting decision-makers in analyzing, scrutinizing, and developing general strategies. The formation of special business units has begun to manage the organizational, marketing, and commercial intelligence system in business organizations to collect information on the external environment and competitors.

The strategic intelligence system was developed to electronic, providing the opportunity to deal with a large block of information (López-Robles et al., 2019). Suppose organizations strive to deliver better performance and continuous improvements. In that case, they should consider developing their strategic intelligence to be their top priority and make efforts to improve ongoing performance (Do & Mai, 2020). Coble et al. (2020) argue that intelligence activities to be a significant variable in strategic decision-making inputs. Noting that companies seek sustainable growth in commercial and industrial workers, they need to have accurate and timely intelligence on opportunities and threats in the public business environment. This growth may be why companies constantly seek to find and use different intelligence systems to collect and process data in all the process's collection, analysis, and dissemination of information relevant to external or internal communication, explicit or implicit. It is necessary to immediately disclose the opportunities and threats brought about by emerging trends to learn appropriately, making this challenging for organizations.

An essentially constant change characterizes labor environments. These changes occur in areas where individual companies do not have control, such as macroeconomic changes for government policy, demographic trends, and competitor movements. Although the company's management can control it, it may affect how it works in the future. Therefore, it is essential to monitor these changes, take them into account to make a strategic decision to keep up with those changes, and make continuous work improvements (Souza, & Alves, 2018). Gilad (2004) emphasizes the contribution and role of intelligence in that it gives early warnings. It is a challenge to fundamental assumptions that affect the organization's thinking and strategic implementation and modify it according to changes in the competitive environment and determine when the change occurs. It is a process that adopts intuition, partnership, foresight, vision, and thinking, owned by managers and employed with their expertise intelligently; policies and strategies are developed appropriately to counter any future or current environmental impacts or threats. Suppose we try to answer what kind of individuals have this characteristic. In that case, the answer will be a tool available to managers who hold senior leadership positions.

Xu & Kay (2009) confirm that senior managers should have this status and talent for formulating appropriate strategic plans, identifying and working to achieve them, capturing or anticipating opportunities from the external environment, and avoiding threats from them. Institutionally, strategic intelligence is "an organized process for producing intelligence from the environment, necessary to create strategic value and to facilitate rational decisions for the organization's long-term future" (Leleur, 2012). Wilensky (2015) defines Strategic intelligence as the organization's ability to gather and analyze information about other organizations competing with them in the same field and identify the factors that threaten their survival and continuity and the clarity of the strategy they currently adopt. Therefore, intelligence increases under competitive conditions because it has a crucial role in organizations' competitive superiority.

1. Information Systems: The technologies and tools needed to operate the information technology and methods necessary for the Organization's strategy and its components, including hardware, software, data and information, and procedures (Tallon et al., 2019). It should be noted that any operational decision is related mainly to the availability of strategic-based details, which are often received in the future and is the vital source of any active strategic decision.
2. Knowledge Management: It is an integrated scientific and regulatory approach because of its data, policies, documents, and expertise that supports the organization's learning, knowledge acquisition, and distribution skills (Aulawi et al., 2017). The information relies on research, dissemination, and access to the decision-makers to provide it.
3. Competitive Intelligence: Expresses the mission of monitoring and monitoring competitors in a limited business environment (Cavallo et al., 2020). Competitive intelligence converges with strategic intelligence in that the latter is used to enable the organization to excel competitively and inform strategic decisions through the collection and analysis of information. It is the process of increasing value and constantly scrutinizing the internal and external environment (Fatima et al., 2020). It is a way of collecting and analyzing market dynamics, which may also benefit the organization's strategic and operational decisions

(Huang & Rust, 2021). It contains surveys, disseminates information on the competitive environment, diagnoses current and future competitors' movements, and identifies their potential and capabilities through the organization's organizers' intelligence through programs and systems used.

4. **Business Intelligence:** Identifying information and data needs, collecting them from valuable management knowledge, and processing them (Al-Wattar, Almagtome, & AL-Shafeay, 2019). This component supports proactive decision-making and strategic planning. It is a means of managing and profiting from business data and producing both operational and strategic knowledge. It may provide information and experience about the business environment or define its current state.

Sustainable Competitive Advantage

Business organizations are racing to determine their strategic performance effectiveness and maintain their competitive and sustainable advantage in a complex environment characterized by dynamic changes and fluctuations in competition levels (Khaghaany, Kbelah, & Almagtome, 2019). This forced organizations to adopt modern tools to ensure their survival. Sustainability promised the driving force for performance assessment and measurement and an integral part of the core organizations' strategy (Martins & Belo, 2017; Singh & Arora, 2018). Ali et al. (2020) define sustainable competitive advantage as an image with a high degree of difficulty for competitors to replicate. It can be brought about by the organization's implementation of a carefully planned blend of resources and capabilities in tune with its surrounding environments. It leads to continued excellence and superiority by creating benefits and values for the organization and the customer through continuous strategic innovation in development and design (Salunke et al., 2019). It is determined by reputation, innovation, and strategic assets (Hakkak & Ghodsi, 2015). We can define sustainable competitive advantage as the superior performance of the organization relative to other competitors, strive for excellence with the highest returns and low cost, and ensure its place and value in the face of environmental changes. The researcher concludes that measuring sustainable competitive advantage is not limited to external analysis of the environment but focuses on internal capabilities and availability, i.e., linking the organization to its external world through its different resources and internal capacity. Many researchers agree on the dimensions of sustainable competitive advantage, including:

1. **Core capabilities:** This refers to the organization's help to perform its activities distinctly and differently from competitors and how its competitors cannot imitate (A. Almagtome, Khaghaany, & Önce, 2020). It also refers to strategic behaviors geared towards achieving desired results through those non-imitation or cloning resources.
2. **Organization efficiency** means adapting to and staying in its environment constantly (Al- Fatlawi, Al Farttoosi, & Almagtome, 2021). The long-term advantage consists of optimizing the product's quality, increasing productivity, and bringing in new ideas, leading to reduced production costs while bringing in more significant value. It leads to success, facing competitors, and continuing excellence.
3. **Information Technology:** It is an essential tool that helps senior management make future decisions under the organization's objectives and gain a competitive advantage for the long term and remove all the organization's obstacles to achieve its position in the competitive market (A. H. Almagtome, Al-Yasiri, Ali, Kadhim, & Bekheet, 2020). It confirms that it is a source of sustainable competitive advantage, exploiting opportunities and attracting as many customers as possible.
4. **Strategic flexibility:** It means a regulatory principle and coordination of the organization's resources and the ability to help the organization identify external variables to mobilize its resources to respond to changes and adapt to those changes' sudden changes (Hameedi, Al- Fatlawi, Ali, & Almagtome, 2021).
5. **Creative culture:** Its importance is the creative culture of sustainable competitive advantage, which explores new opportunities in the external environment, and the rapid response to opportunities and threats. Creative culture is one of the foundations of a sustainable competitive advantage (Haseeb et al., 2019). Therefore, the creative culture enhances the organization's competitive strategy to generate creativity through organizational learning. The organization's culture and organizational climate are of great importance in its continuity and superiority over other organizations. Through it, we can develop a creative vision for the development and implementation of new ideas.

Hypotheses Development

A separate study investigates the hospitality and food service industries (Kim et al., 2019). Studies have previously examined the usage of strategic intelligence in U.S. and Brazilian hotels. Mainly Strategic intelligence has, however, has been more widely deployed in the American and Brazilian hotel industry. Thus, there is a greater need for extensive research on the industry's usage of strategic intelligence. Although the current understanding of strategic intelligence use to support industrial competitiveness is modest, this is prevalent in many industries. This phenomenon has often been observed; more studies have shown that increased competition correlates with greater quantity and a broader type of strategic intelligence. However, since this field is concerned with integrating strategic intelligence processes with the industry and achieving a competitive advantage for local companies, there has not been much attention paid to the strategic intelligence's industry structure. To predict the role of environmental factors on business advantage, we have several working hypotheses that can be stated as follows:

H1: Strategic intelligence is significantly and positively related to dimensions of sustainable competitive advantage in small and medium enterprises.

H1-1: Information system is significantly and positively related to sustainable competitive advantage dimensions in small and medium enterprises.

H1-2: Knowledge management is a significantly and positively related dimension of sustainable competitive advantage in small and medium enterprises.

H1-3: Competitive Intelligence is significantly and positively related to sustainable competitive advantage dimensions in small and medium enterprises.

H1-4: Business intelligence is significantly and positively related to dimensions of sustainable competitive advantage in small and medium enterprises.

H2: Strategic intelligence has a significant positive effect on the dimensions of sustainable competitive advantage in small and medium enterprises.

H2-1: There is a significant positive effect of Information systems on the dimensions of sustainable competitive advantage in small and medium enterprises.

H2-2: There is a significant positive effect of Knowledge management on the dimensions of sustainable competitive advantage in small and medium enterprises.

H2-3: There is a significant positive effect of Competitive Intelligence on the dimensions of sustainable competitive advantage in small and medium enterprises.

H2-4: There is a significant positive effect of Business intelligence on the dimensions of sustainable competitive advantage in small and medium enterprises.

DATA AND METHODOLOGY

The research is based on the (exploratory-analytical) approach by regulating the two research variables' resolution in their referenced dimensions. A survey approach is an appropriate approach for studies aimed at reaching the relationship between variables. Consequently, the questionnaire distributed to the eye was approved to collect data. We note that the Department of The General Company for Electrical Industries selected a research community. The research variables' standards (strategic intelligence, sustainable competitive advantage) have been adapted to the research variables and the purpose for which they were developed. Additionally, the level of agreement (agreed, neutral, disagreed, not agreed) has been incorporated. The Likert scale roughly correlates with the answer [x] by equal weight (around represents the score) (1).

Similarly, the independent variable (Strategic Intelligence) has been marked by the symbol (X) and the approved variable (continuous improvement) with the sign (Y). Also, the measurement stability test was conducted in two ways: the Cronbach's alpha and the second (the half-scale of Spearman-Brown method), to define the stability value of the scale, which means the stability of the results obtained (the measure gives the same results if reapplied). The importance of the stability

coefficients and the two methods are more significant than (0.67), and therefore the scale is highly stable.

Factors	The value of the stability coefficient	The value of a self-honesty factor
Cronbach's alpha	0.78	0.88
Split-Half Reliability	0.790	0.89

Exploratory factor analysis was used to determine the factor structure. But before applying factor analysis, the data's reliability had to be checked with the Kaiser-Meyer Ulkin, and Best-IV tests had to be calculated. Besides, the relationship between strategic intelligence and the measure of sustainable advantage can be expressed in terms of a determinant matrix, wherein strategic intelligence is one of the factors and sustainable advantage's dimensions:

Index	Index Value	Baseline
(SMEs)	0.799	Larger than (0.50)
Bartlett's test.	**148.74	Spiritual (Dal Ehsaya)
Link Matrix Selector (Determinant)	0.067	Selected greater than (0.0001)

Table 2 indicates that the data collected by the questionnaire are suitable for exploratory analysis. The analysis shows the value of the KMO scale of 0.799 greater than (0.50), indicating increased reliability on the factors we obtain and the adequacy of sample size for the 60-respondents analysis. The results suggest that bartlett's test value of 148.74 is statistically functioning below a moral level (0.01), which means that the correlation matrix is not the unit matrix. There is a sufficient correlation between the dimensions of the resolution. The link matrix selector is equal to (0.067) and is more significant than (0.0001), indicating no linear dependence between dimensions or high correlations between dimensions that are not real. Therefore, the data are valid for the work of analytical analysis. To testing the study, the criterion (Kaizen test) was adopted to determine the number of factors by placing the underlying root value equal to one. Only two factors were obtained whose underlying roots are more significant than the correct one, explaining these two factors a discrepancy of (54.34) and as shown in the following table (Table 3).

The following table shows the saturations of the dimensions of the strategic intelligence variables and the sustainable competitive advantage on which the factors obtained after recycling are saturated. The values that are flooded are less than (0.1).

Dimensions of the main variables	Saturations	
	First Factor	Second Factor
X1: Information systems	0.668	
X2: Knowledge Management	0.708	
X3: Competitive Intelligence	0.553	
4X: Business Intelligence	0.535	
Y1: Core aptitudes		0.256
Y2: the efficiency of the organization		0.712
Y3: Information Technology		0.686
4Y: Strategic Flexibility		0.597
5Y: Creative Culture		0.140

Table 3 shows the saturated dimensions (information systems, knowledge management, intelligence, business intelligence). In the current state of the dimensions of strategic intelligence and competitiveness are saturated. From the preceding, the dimensions of the resolution are well represented by the search variables.

RESULTS AND DISCUSSION

Respondents Perceptions on Research Variables

Table 5 shows that the study sample members' agreement ratio is like the dimensions of the strategic intelligence variable. It is arranged by importance (information systems, business intelligence, knowledge management, competitive intelligence). Each is more significant than (69%), which is a good agreement ratio. A test (t) was used to test whether the value of the medium differed from (greater than) the hypothetical medium of (3), or not and the test results were all moral, i.e., all the circles of dimensions and variable overall are more significant than the hypothetical medium and the test. The values of the calculation selections of the strategic intelligence variable and its dimensions point to a neutral direction when classified on the 50-50 Likert scale, as it is within limits (3.45-3.50). The answer is homogeneous on these dimensions, as evidenced by the average standard deviation value where all dimensions were in the range (0.51-0.45).

Dimensions	Medium	Standard Deviation	Relative Importance	Test Value(t)	Order by Importance
X: Strategic Intelligence	3.48	0.35	70%	**10.7	
X1: Information Systems	3.50	0.49	70%	**8.04	First
X2: Knowledge Management	3.46	0.45	69%	**7.91	Third
X3: Competitive Intelligence	3.45	0.51	69%	**6.88	Fourth
4X: Business Intelligence	3.50	0.51	70%	**7.57	Second
Y: Sustainable Competitive Advantage	3.48	0.37	70%	10.13**	
Y1: Core capabilities	3.53	0.49	71%	8.4**7	Second
Y2: The organization efficiency	3.40	0.59	68%	5.24**	Fourth
Y3: Information Technology	3.64	0.48	73%	10.4**3	First
4Y: Strategic Flexibility	3.38	0.56	68%	5.1**9	Fifth
5Y: Creative Culture	3.46	0.64	69%	5.5**5	Third

Table 4 shows that the proportion of the sample members' agreement is close to all dimensions of the sustainable competitive advantage. They are ranked in importance (information technology, intrinsic ability, creative culture, organizational competence, strategic flexibility). Each variable's relative importance is more significant than (68%), a reasonable consensus ratio. A (t) test was performed to determine the extent of the difference in the mean value, the hypothesis mean of (3). The test results were significant for all dimensions, meaning that all the dimensions' standards and the primary variable were more critical than the hypothesis. The values of the mean of the sustainable competitive advantage variable and its dimensions indicate a neutral trend when classified on the five- dimensional Likert scale. It is up to (3.38-3.64), and the answers were consistent. These answers are evidenced by the mean, standard deviation of all dimensions in the range between (0.64 and 0.48).

The Normal Distribution Test

The statistical analysis of the data requires the availability of certain conditions, the most important of which is the normal distribution of data. The Kolmogorov–Smirnov test and

Shapiro– Wilk test were performed for the independent and dependent variables, and it was found that they followed the normal distribution. Figure 1 shows the normal distribution histograms of the sample responses.

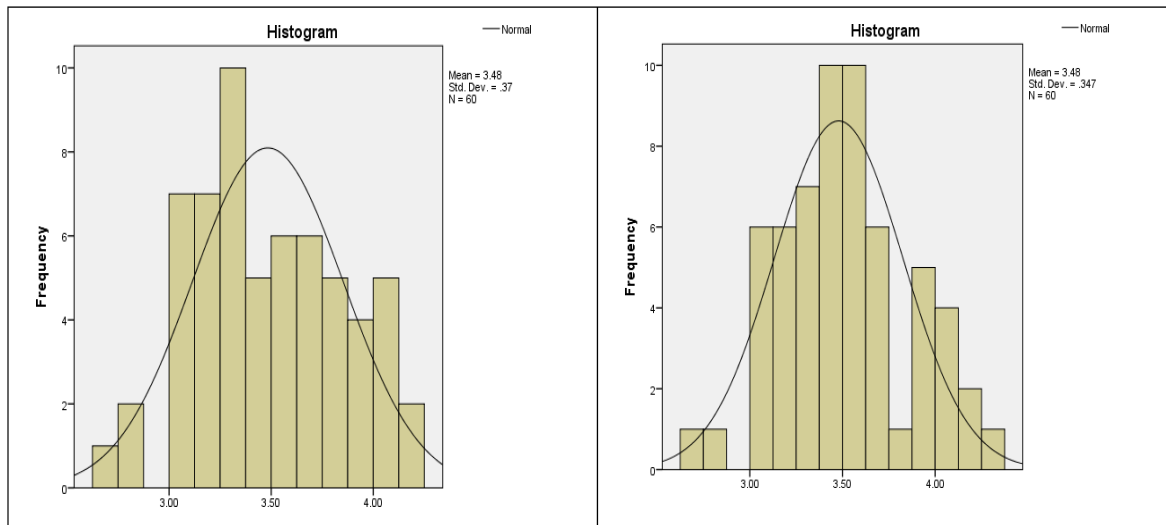


FIGURE 1
NORMAL DISTRIBUTION HISTOGRAMS

Results of Correlation Analysis

To measure and evaluate the degree obtained in the study sample members' responses and to identify the extent of harmony and compatibility in the sample's views and their perceptions of the study's variables in general, the weighted circles and standard deviations.

Dimensions	Y1: Core capabilities	Y2: The organization efficiency	Y3: Information Technology	4Y: Strategic Flexibility	5Y: Creative Culture	Y: Sustainable Competitive Advantage
X: Strategic Intelligence	0.58**	0.41**	0.12	0.43**	0.61**	0.66**
X1: Information Systems	0.30*	0.11	-0.02	0.16	0.40**	0.29*
X2: Knowledge Management	0.43**	0.40**	0.11	0.31*	0.51**	0.55**
X3: Competitive Intelligence	0.44**	0.32*	0.16	0.37**	0.49**	0.54**
4X: Business Intelligence	0.46**	0.34**	0.07	0.38**	0.39**	0.49**

Note: *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).

RESULTS OF REGRESSION ANALYSIS

To measure and evaluate the degree obtained in the study sample members' responses and to identify the extent of harmony and compatibility in the sample's views and their perceptions of the study's variables in general, the weighted circles and standard deviations. The relative importance and testing (t) of the medium adopt the test criterion of the extreme hypothetical medium (3) as the average measurement tool.

XY	Y1: Core capabilities	Y2: The organization efficiency	Y3: Information Technology	4Y: Strategic Flexibility	5Y: Creative Culture	Y: Sustainable Competitive
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							Advantage
X.	F	**7	3.2*2	0.46	3.4*6	9.3**1	10.7**1
X1, X2, X3, X4	R2	0.34	0.19	0.03	0.20	0.40	0.44
Note: *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).							

Table 7			
STEPWISE MULTIPLE REGRESSION TO PREDICT THE SUSTAINABLE COMPETITIVE ADVANTAGE			
All strategic intelligence dimensions were tested as independent variables to determine their effect on the dependent variable (x4, x3, x2, x1).			Y: Sustainable Competitive Advantage
The variables included in the model (which prove to have a significant effect on the dependent variable in the presence of other variables)	X2: Knowledge Management	F	R2
	X3: Competitive Intelligence	**17.6	0.38
The sign (**), the highest value of (F), indicates that the effect is significant (statistically significant), assuming a substantial level of (0.01), meaning that (P. Value) is less than (0.01).			
The significance of the regression model is tested through the value of (F). In contrast, the value of the coefficient of determination (R2) represents the explanatory power of the independent variables in the dependent variable.			

CONCLUSION

Strategic Intelligence supports strategic management by collecting, analyzing, and distributing information and developing an appropriate strategy tailored to circumstances and business. It can be conceived as radar alerting the company to any threat with opportunities from its external environment. Despite the researchers' interests in the current research variables, there is a need to deepen the application of its academic studies and research variables. Also, there is a need to emphasize the influential role of strategic intelligence in sustainable competitive advantage, resulting in the production of that level of production that results in the industrial organization's presence in the market to achieve the goal of continuous and continuous excellence in the performance of its production operations. To this end, the questionnaire was adopted as a measuring tool, and a few statistical means were used to analyze the answers of the sample members.

As a result, the company's performance in question shows a gap in strategy intelligence standards and methodologies. This gap appears especially when the private sector has arrived on the scene and needs to deal with the industry's challenge to restrain market changes and its business environment. Besides, the results show positive correlation suppositives between (medium-high) research variables at the macro and sub-dimension levels. Impact relationships have also demonstrated positive indicators of statistical advantages between research variables at the macro and sub-dimension levels, which places the senior management responsible for intensive efforts to maintain relationships and ensure sustainable competitive advantage requirements. However, it is difficult to judge; no one has noticed any connection or impact between the strategic intelligence variables and the IT data elements.

The results of multiple regressions also showed the entry of knowledge management into the multiple regression models, indicating a direct impact on sustainable competitive advantage. Therefore, we should pay attention to cooperation and partnerships with other companies of a one-activity nature, thereby creating a transparent environment. Besides, the company should seek to develop its strategic intelligence, focusing on current and potential competitors to anticipate goals and strategize. Moreover, companies should focus on sustainable excellence with the highest and lowest cost to attract as many customers as possible.

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