

**Competitive Intelligence a driver for achieving  
Competitive Advantage case study PROGRESS MEDICAL  
ALGERIE (PROMEDAL)**

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**Abstract:**

This papers aims to find potential impact that Competitive Intelligence could have on achieving national Competitive Advantage in a company through a designed survey that was distributed on sample of 40 individuals form PROMEDAL an Algerian company specialized in the production and distribution of medical supplies for unique use , only 31 of them where returned and fully answered. We pursued our study in which we used both descriptive and analytical methods, results of the questionnaire were analyzed with the Statistical program SPSS V26. The results of the study concluded that there was a significant and positive relationship between Competitive Intelligence and competitive advantage. Furthermore, findings of the study indicate a significant relation between CI sub-types and competitive advantage.

**Keywords:** Competitive Intelligence; Competitive Advantage; Competitors Intelligence; Marketing Intelligence; Technological Intelligence.

**Jel calisification codes:** L1, L19

**Introduction:**

It is known that today's business environment is highly complex and the competition is fierce, there for enterprises resorts to competitive intelligence (CI) to gather information about their environment <sup>2</sup> .

According to<sup>3</sup> gathering intelligence is important for strategic planning, spotting new opportunities or avoid disasters and improves the ability of the enterprises in controlling their own development cycles. In many enterprises, CI is viewed as a system using all the individuals' knowledge and different elements (structure,

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<sup>2</sup> Gisela Casado Salguero and others, "Competitive Intelligence and Sustainable Competitive Advantage in the Hotel Industry," *Sustainability* 11, no. 6 (2019).

<sup>3</sup> Peter RJ Trim and Yang-Im Lee, "A Strategic Marketing Intelligence and Multi-Organisational Resilience Framework," *European Journal of Marketing*, (2008).

marketing and strategy) to track direct and indirect competitors business activities (market penetration, product development, patents , etc.)<sup>4</sup>.

An enterprise's competitive advantage consists of two components, the first one is the sources of competitive advantage (i.e. market position or resources) and the second one is the outcome of competitive advantage (i.e. performance such as profitability).

Competitive advantage shows when an organization acquires or develops an attribute or combines action of attributes that allows it to outperform its competitors. These attributes can include access to natural resources, inexpensive power, or access to highly trained and skilled human resources<sup>5</sup>.

**Research problem:**

In our study we ask the following question: **To what extent does CI influence the acquisition of competitive advantage within an Algerian company?**

**Sub-Question:**

1. To what extent does marketing intelligence affect the acquisition of a competitive advantage within?
2. To what extent does competitor intelligence influence a company's competitive advantage?
3. How technology intelligence does affect a company's competitive advantage?
4. How social and strategic intelligence does affect a company's competitive advantage?

**Objective of the study:**

In our study we aim to define both CI and competitive advantage, and find the impact of applying CI within an Algerian company and its impact on competitive advantage according to<sup>6</sup> model.

**Study hypotheses:** In order to reach the objective of the study, we set the following hypotheses:

**Main hypothesis:**

H<sub>0</sub>: There is no significant influence between CI and competitive advantage.

H<sub>1</sub>: There is a significant influence between CI and competitive advantage.

**Sub-hypotheses:**

H<sub>0</sub>: There is no significant influence between marketing intelligence and competitive advantage.

H<sub>1</sub>: There is a significant influence between marketing intelligence and competitive advantage.

H<sub>0</sub>: There is no significant influence between competitor's intelligence and competitive advantage.

H<sub>1</sub>: There is a significant influence between competitor's intelligence and competitive advantage.

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<sup>4</sup> Phani Tej Adidam, Madhumita Banerjee, and Paurav Shukla, "Competitive Intelligence and Firm's Performance in Emerging Markets: An Exploratory Study in India," *Journal of Business & Industrial Marketing*, (2012).

<sup>5</sup> Wen-Cheng Wang, Chien-Hung Lin, and Ying-Chien Chu, "Types of Competitive Advantage and Analysis," *International Journal of Business and Management* 6, no. 5 (2011).

<sup>6</sup> Hatem Jasima, Zuraidah Sulaimanb, and Norhayati Zakuanc, "Influence of Competitive Intelligence Success on Business Competitive Advantage: A Conceptual Framework," *International Journal of Innovation, Creativity and Change*. 11, no. 12 (2020).

H<sub>0</sub>: There is no substantial influence between technological intelligence and competitive advantage.

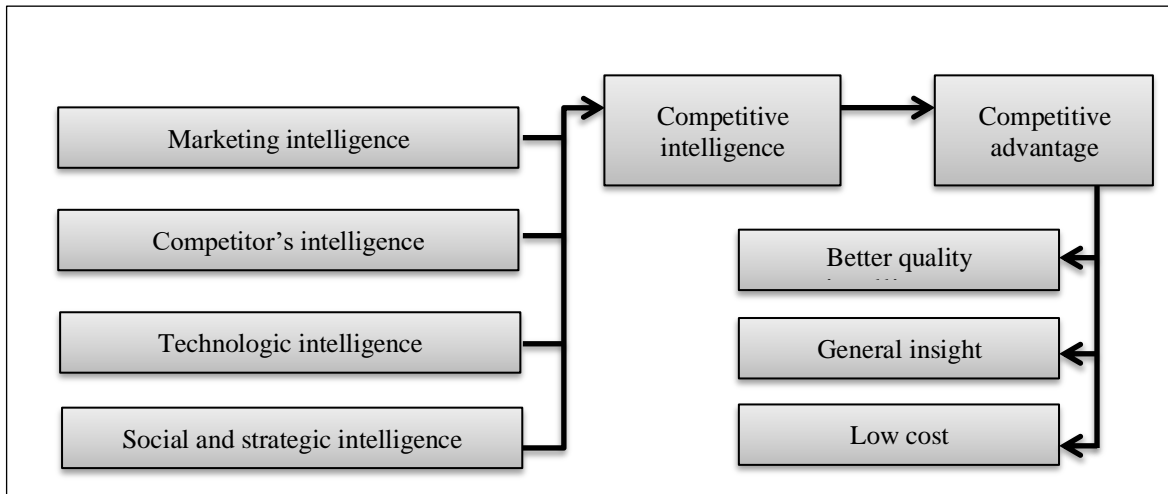
H<sub>1</sub>: There is a substantial influence between technological intelligence and competitive advantage.

H<sub>0</sub>: There is no significant influence between social and strategic intelligence and competitive advantage.

H<sub>1</sub>: There is a significant influence between social and strategic intelligence and competitive advantage.

**Study model:**

**Fig (1): Conceptual model of the study**



Source: (Jasima, Sulaimanb et al, p. 802)

**The importance of the study:**

This study is important because it highlights the role played by CI in achieving competitive advantage, a subject that is less discussed by researchers.

**Methodology used in the study:**

Descriptive method was used in the theoretical framework of the study, along with analytical statistical model to measure the impact of deploying CI on achieving competitive advantage in an Algerian company.

**Previous studies:**

- The study of<sup>7</sup>, titled : **Competitive intelligence and developing sustainable competitive advantage**: In this study researchers attempted to show the role played by CI on gaining sustainable competitive advantage, and there for a questionnaire was addressed to 123 middle and senior managers in Iranian insurance companies in Tehran. The data collected was analyzed using Structural Equation Model (SEM) with PLS software. As results, the study showed a positive effect of CI on the creation of competitive advantage by establishing what was called “strategic unit” to collect, analyze, and diffuse information collected from both internal and external environment.

- The study of<sup>8</sup> , titled: **Review of competitive intelligence & competitive advantage in the industrial estates companies in the Kerman city:**

In this study researchers explored the impact of CI on competitive advantage through 80 surveys obtained from industrial estates companies of Kerman city in Iran, the data collected was analyzed by using the SPSS 16 software. The results strongly supported the high association between CI and competitive advantage.

- Another study by<sup>9</sup> , titled: **Competitive intelligence and competitive advantage in pharmaceutical firms in developing economies:** Researchers studied the existence of a relation between CI and competitive advantage in pharmaceutical firms in Lagos State in Nigeria, a total of 139 were conducted in pharmaceutical companies data from surveys was analyzed using the One-Sample T Test statistic, the findings of the study revealed a significant relation between CI and competitive advantage.

### **1.Theoretical background of Competitive intelligence:**

Earlier, organizations relied only on gathering and analyzing internal information, but with the unstoppable evolution in technologies, economics, industry ...etc. Keeping up with the external environment of the organizations became crucial for their development or their survival in a fierce competitive battle. There for, organizations try to gather all the important information about their competitors and background information in different fields such as politics, economy, society, technology and culture, along with new business trends<sup>10</sup>. In order to win in now days fast global information society, organizations depends on understanding their environment and competitors. The term competitive intelligence dates back to many years ago. Many definitions have been given for this concept in literature. According to <sup>11</sup> CI is a process of gathering information (on competitors and competitive environment) used by organizations to support their planning process and their decision-making in the aim of improving their performance. CI produces insight about the external environment and future developments and their implications into the organization ability to reduce risk of dealing with threats and opportunities<sup>12</sup>. Another definition given by<sup>13</sup> emphasize that competitive intelligence is a tool used by organizations to show them early signs of opportunities or threats in their competitive environment. And so by the definitions given to this concept we can define competitive intelligence as:

- Competitive intelligence is a process

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<sup>8</sup> Hasan Safarnia, Zahra Akbari, and Abbas Abbasi, "Review of Competitive Intelligence & Competitive Advantage in the Industrial Estates Companies in the Kerman City: Appraisal and Testing of Model by Amos Graphics," *International Business and Management* 2, no. 2 (2011).

<sup>9</sup> Ngboawaji Daniel Nte and others, "Competitive Intelligence and Competitive Advantage in Pharmaceutical Firms in Developing Economies: A Review of Lagos State, Nigeria," *Journal of Management, economics, and Industrial Organization* 4, no. 1 (2020).

<sup>10</sup> Celina M Olszak, "An Overview of Information Tools and Technologies for Competitive Intelligence Building: Theoretical Approach," *Issues in Informing Science and Information Technology* 11, no. 1 (2014).

<sup>11</sup> Sheila Wright, Elsayed R Eid, and Craig S Fleisher, "Competitive Intelligence in Practice: Empirical Evidence from the UK Retail Banking Sector," *Journal of marketing management* 25, no. 9-10 (2009).

<sup>12</sup> Craig S Fleisher and Sheila Wright, "Competitive Intelligence Analysis Failure: Diagnosing Individual Level Causes and Implementing Organisational Level Remedies," *Journal of Strategic Marketing* 18, no. 7 (2010).

<sup>13</sup> Nte and others.

- It's an important tool for strategic planning and management process
- It is used to monitor the competitive environment
- The aim of competitive intelligence is to provide competitive edge to the organization
- Competitive intelligence allows the organization to be pro-active and competitive.

### **1.1 Components of Competitive intelligence:**

In view of literature, researchers have identified the following components for competitive intelligence<sup>14</sup>:

#### **1.1.1 Competitors Intelligence:**

<sup>15</sup>Said that competitors will find and capitalize on any weakness in your company, it's more difficult to acquire new customers than it is to keep the current ones; there for when the company forecast it competitor's actions, this allows it to be more proactive. The company must keep a constant scan to its environment, not only to consider the new entrants but to monitor the already existent one on the market<sup>16</sup>.

#### **1.1.2 Marketing Intelligence:**

According to<sup>17</sup> Marketing intelligence is used in strategic planning, it gives the organization the potential to understand and analyze booth internal and external environment specially competitors, consumers, markets, industry. Marketing intelligence is also defined as a process to collect information on competitors, consumers, markets, industry using data mining to develop or correct current strategic marketing plans<sup>18</sup>.

#### **1.1.3 Technological Intelligence:**

Usually the concept technology is limited to science, engineering or mathematics without shading light on other aspects in technology. This concept can be defined as the use of whatever is needed (knowledge) to transform resources into products or services or accomplishing a task<sup>19</sup>. Technological intelligence consist on monitoring technological development in order to detect any threats or opportunities in the environment<sup>20</sup>.

#### **1.1.4 Social and strategic intelligence:**

According to <sup>21</sup> social and strategic intelligence is a process of gathering, planning and analyzing environmental information including social antecedents of consumers, most important competitors and their human resource<sup>22</sup>. Include in the domain of social and strategic intelligence, strategic vision, economic and political aspects of the organization.

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<sup>14</sup> Jasima, Sulaimanb, and Zakuan.

<sup>15</sup> Larry Kahaner, *Competitive Intelligence: How to Gather Analyze and Use Information to Move Your Business to the Top* (Simon and Schuster, 1997).

<sup>16</sup> Christopher West, *Competitive Intelligence* (Springer, 2001).

<sup>17</sup> Kalanit Efrat, Shaked Gilboa, and Moshe Yonatany, "When Marketing and Innovation Interact: The Case of Born-Global Firms," *International Business Review* 26, no. 2 (2017).

<sup>18</sup> Ibid.

<sup>19</sup> GH Gaynor, "Management of Technology: Description, Scope and Implications," *Handbook of technology management*, (1996).

<sup>20</sup> Clive IV Kerr and others, "A Conceptual Model for Technology Intelligence," *International Journal of Technology Intelligence and Planning* 2, no. 1 (2006).

<sup>21</sup> Thomas H Davenport and Laurence Prusak, *Working Knowledge: How Organizations Manage What They Know* (Harvard Business Press, 1998).

<sup>22</sup> Hamid Tahmasebifard, "The Role of Competitive Intelligence and Its Sub-Types on Achieving Market Performance," *Cogent Business & Management* 5, no. 1 (2018).

## **2. Theoretical background of Competitive Advantage:**

According to <sup>23</sup> Competitive advantage means advantage of differentiation, lowering costs or building a successful strategy. He adds that competitive advantage occurs when a firm is able to create value for clients, that is higher than the firm's cost of creating it. <sup>24</sup> argue that a firm has a competitive advantage when the rate of its economic profit is higher than the rate of economic profit earned by other competitors in the same market. <sup>25</sup> Emphasize a firm that adopts a differentiation strategy has a competitive advantage over its competitors, through building customers and brand loyalty, and even creates entry barriers to potential entrants to the same market. There for competitive advantage is a feature that distinguishes a firm from its competitors who operate in the same market allowing it to achieve leadership and increase its market shares.

### **2.1 Determinants of national advantage:**

In his book *The competitive advantage of nations*, <sup>26</sup> & <sup>27</sup> set a model for the competitive environment of firms, related to nation's success in a certain industry based on four general characteristics, which is generally known for the diamond that suggests the factors determinants of national advantage:

1-The factor conditions: such as qualified human resources, or necessary infrastructure.

2- Demand conditions: The volume of demand and its nature.

3- Related industries: such as suppliers or related industries.

4- The strategy adopted by the firms and the rules controlling their creation, organization and management in the nation, and also the domestic rivalry.

Porter also adds two more determinants: Chance, which is not controlled by the firm or government, like inventions, war, and the fifth determinants is Government.

### **3.The relationship between Competitive Intelligence and Competitive Advantage:**

Empirical studies over the years showed a significant and positive relationship between competitive intelligence and competitive advantage.<sup>28</sup> Concluded in their study that executives at companies using CI programs have a better understanding of the competitive environment around them to maximize competitive advantage. In their research <sup>29</sup> concluded that competitive advantage requires that the firm has to be up to date with tendencies of its sector and not ignore any information about its environment. <sup>30</sup> Said that competitive intelligence for an organization is to stay aware of any possible moves of its competitors and their strategies, to prepare counter moves, maintain or gain competitive advantage. In their study<sup>31</sup> found that

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<sup>23</sup> Davenport and Prusak.

<sup>24</sup> David Besanko and others, "Sustaining Competitive Advantage," *BESANKO, D. et al. Economics of strategy. 2nd ed. New York: John Wiley & Sons, (2000).*

<sup>25</sup> Moses Acquah, "Business Strategy and Competitive Advantage in Family Businesses in Ghana: The Role of Social Networking Relationships," *Journal of developmental entrepreneurship* 16, no. 01 (2011).

<sup>26</sup> Michael E Porter, "The Competitive Advantage of Nations the Free Press," *New York* 564, (1990).

<sup>27</sup> Michael E Porter, "The Competitive Advantage of Nations: With a New Introduction," (1998).

<sup>28</sup> Richard G Vedder and others, "Ceo and Cio Perspectives on Competitive Intelligence," *Communications of the ACM* 42, no. 8 (1999).

<sup>29</sup> Wang, Lin, and Chu.

<sup>30</sup> Ranjit Bose, "Competitive Intelligence Process and Tools for Intelligence Analysis," *Industrial management & data systems*, (2008).

<sup>31</sup> Nte and others.



competitive intelligence has a positive influence on competitive advantage, through competitive intelligence the organizations have the ability to predict and detect early signs of threats or opportunities, also its helps promoting and supporting strategic decision making.

There for our study was designed based on a questionnaire which is the suitable tool for this type of study, since the aim was to lay out whether a relationship existed between two factors.

#### **4. Empirical study:**

##### **4.1 Research design:**

As known, a research design is like a road map which helps and guides a researcher on the most proficient method to gather pertinent information for examination; such information empowers the specialist to draw pertinent surmising concerning causal relationship among the factors being considered.

##### **4.2 Sampling size determination:**

As indicated by<sup>32</sup> there is no acceptable generalization on what the suitable example size ought to be. In our study we distributed the questionnaire on total of 40 respondents among the Progress Medical Algérie company (PROMEDAL) in the estate of Tlemcen.

##### **4.3 Research instrument:**

A questionnaire was designed for the purpose of collecting information and primary data among Progress Medical Algérie (PROMEDAL) an Algerian company specialized in the production and distribution of medical supplies for unique use. 40 questionnaires were distributed, only 31questionnaire were returned and fully answered. The questionnaire was divided in two parts: part A contained general information about the respondents(Sex, Age, Work experience, Educational qualification), and part B was for answering the research questions using a four point Likert scale in total of 25questions.

##### **4.4 Validity of the instrument:**

Validity refers to the degree to which an instrument accurately measures what it intends to measure; therefore validity is concerned with the relevance of an instrument for addressing a study's purpose and research question(s)<sup>33</sup>. Our questionnaire was submitted to the supervisor for any comment or criticism, and was also addressed to experts in the field for comments, advice and recommendations in order to set up the final draft.

##### **4.5 Reliability of the instrument:**

The reliability of an instrument is concerned with the consistency of measurements: from time to time, from form to form, from item to item or from one rater to another. Reliability and validity coefficients in the .70 or .80 or above range are often considered acceptable<sup>[34, 35]</sup>. The Cronbach's alpha was used to test for the reliability of our study. The result of the Cronbach's alpha coefficient of variables was 91, 8%

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<sup>32</sup> A Ezejelue, EO Ogwo, and A Nkamnebe, "Basic Principles in Managing Research Projects. Port Harcourt," (Educational Books Ltd, 2008).

<sup>33</sup> Edward G Carmines and Richard A Zeller, *Reliability and Validity Assessment* (Sage publications, 1979).

<sup>34</sup> Lee J Cronbach, "Coefficient Alpha and the Internal Structure of Tests," *psychometrika* 16, no. 3 (1951).

<sup>35</sup> Lee J Cronbach, "Test Validation," *Educational measurement*, (1971).

reliable. This indicates that the instrument is reliable.

**4.6 Method of data collection:**

A questionnaire is the method we used to collect data in our study. So a structured questionnaire was used in the purpose of gathering the relevant data with choices provided for respondents on a four Likert scale<sup>36</sup>. Response to the items ranges from (4-Strongly Agree, 3-Agree, 2-Disagree, 1-Strongly Disagree).

**4.7 Method of data analysis:**

In order to determine whether if the independent variable (competitive intelligence) does affect the dependent variable (competitive advantage), the research hypotheses was analyzed using the One-Sample T Test statistic<sup>37</sup>. Decision was made based on rejection or acceptances of null hypotheses, if the calculated value exceeds the critical value (1.96), reject the null hypothesis, otherwise the alternative hypothesis will be upheld. Or, if the p-value is less than the alpha level (0.05) reject the null hypothesis, otherwise accept.

The hypotheses were tested at 95% level of confidence based on the outcomes of the SPSS (Statistical Package for the Social Sciences) Version 26.

**4.8 Decision rule:**

The decision rule applied in this study is to reject the null hypotheses if the calculated value is higher than the critical table at 95% (1.96) confidence level, otherwise reject the null hypotheses. Or reject the null hypotheses if the probability' value (p-value) is less than the critical value of 0.05, otherwise accept the null hypotheses.

**4.9 Analysis and interpretation of results:**

**4.9.1 Analysis of the Reliability and Validity:**

The questionnaire's reliability coefficient was calculated statistically using the Cronbach's Alpha with a total score of (0,918) which confirms that our questionnaire was reliable , meanwhile the validity coefficient is the square of the reliability coefficient with a total score of (0,958), and the following table shows the results of testing the reliability and validity of the questionnaire.

**Table 1: Reliability and Validity of the questionnaire**

The axis	Marketing intelligence	Competitor's intelligence	technological intelligence	Social and strategic intelligence	Competitive intelligence	Total
Nbr of items	05	05	05	06	04	25
The Cronbach's alpha	0.766	0.827	0.911	0.705	0.758	0.918
The validity degree	0.875	0.909	0.954	0.839	0.870	0.958

**4.9.2 Analysis of personal Data:**

<sup>36</sup> Andrew T Jebb, Vincent Ng, and Louis Tay, "A Review of Key Likert Scale Development Advances: 1995–2019," *Frontiers in psychology* 12, (2021).

<sup>37</sup> Noel Cressie, "Relaxing Assumptions in the One Sample T-Test," *Australian Journal of Statistics* 22, no. 2 (1980).



**Table 2: Sex of respondents**

Sex	Frequency	Percent
Male	12	38.7
Female	19	61.3
<b>Total</b>	31	100

The result of table 2 shows that there is more female staff in our study with statistics of 61.3%, meanwhile the male staff represent 38.7%.

**Table 3: Age of Respondents**

Age	Frequency	Percent
20-29	5	16.1
30-39	17	54.8
40-49	9	29.0
<b>Total</b>	31	100

The result of table 3 indicates that more than the half of the respondents age range is between 30 to 39 with a percentage of 54.8%. 29% of the respondents age ranges between 40-49, and 16.1% age ranges between 20-29. Over all we can say that the majority of the respondents are young.

**Table 4: Educational qualification of respondents**

Educational qualification	Frequency	Percent
High school diploma	2	6.5
Bachelor's degree	10	32.3
Master's degree	15	48.4
PhD	2	6.5
Other	2	6.5
<b>Total</b>	31	100

A breakdown of the result of table 4, we found that 48.4% of the respondents hold a Master's degree, followed by 32.3% with a Bachelor's degree and each of the rest educational qualification (High school diploma & PhD) share the same percentage of 6.5%. Also a percentage of 6.5% of the respondents held other educational qualification (Pharmaceutical diploma).

**Table 5: Work experience of respondents**

Work experience	Frequency	Percent
1-3	9	29.0
4-6	10	32.3
7-10	7	22.6
Above 10yrs	5	16.1

<b>Total</b>	31	100
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As results in table 5, a percentage of 32.3% of the respondents have between 4 and 6 years work experience, 22. 6% have worked in the enterprise for 7 to 10 years, 29% worked between 1-3 years, and 16.1 % have a work experience above 10years.

**4.9.3 Research question:**

**Research question 1:** To what extent does CI influence the acquisition of competitive advantage within an Algerian Enterprise?

**Table 6: CI impact’s on competitive advantage**

Question	N	Mean	t- value	p- value
<b>Q1</b> Competitive intelligence has a positive influence on the acquisition of a competitive advantage for the company	31	3.81	18.530	0.000
<b>Q2</b> Competitive intelligence helps companies make strategic decisions	31	3.65	18.833	0.000
<b>Q3</b> A company's external environment can be monitored through competitive intelligence	31	3.45	11.180	0.000
<b>Q4</b> Competitive intelligence helps improve company’s performance	31	3.55	15.179	0.000

Result shows in of table 6 that the p-value are less than the alpha value of 0.05. There for CI has a positive influence on competitive advantage especially in the matter of better quality of services and products, general insight and lower coasts. CI also have a contribution in creating strategic decisions, and keeping a close eye on the company’s external environment, and over all CI helps improve the company’s performance .

**Research question 2:** To what extent does marketing intelligence affect the acquisition of a competitive advantage within an Algerian Enterprise?

**Table 7: Marketing intelligence impact’s on competitive advantage**

Question	N	Mean	t- value	p- value
<b>Q5</b> Marketing intelligence has a positive impact on a company's ability to gain competitive advantage	31	3.74	15.376	0.000
<b>Q6</b> Marketing intelligence enables the company to reach new customers	31	3.52	13.493	0.000
<b>Q7</b> The company manages its website to attract new customers	31	3.48	14.498	0.000
<b>Q8</b> The company develops its marketing policy on the basis of information obtained through constant monitoring of local and global markets	31	3.58	17.545	0.000
<b>Q9</b> The company takes part in local and international exhibitions to promote its products	31	3.81	21.066	0.000

From the result of table 7 and with a the p-value less than the alpha value of 0.05, Marketing intelligence has a positive impact on a company's ability to gain competitive advantage, it contributes to reach new customers. The company is on

point when it comes to managing its website in the goal of attracting new customers. The marketing policy of the company is managed on the basis of information obtained through constant monitoring of the local and global markets. And in order to promote their product the company participates in both local and international exhibitions.

**Research question3:** To what extent does competitor intelligence influence a company's competitive advantage?

**Table 8: Competitors impact's on competitive advantage**

Question	N	Mean	t-value	p-value
<b>Q10</b> Competitors intelligence has a positive impact on achieving competitive advantage for the company	31	3.77	17.629	0.000
<b>Q11</b> The company monitors its direct competitors and follows their strategies, products and services provided	31	3.45	14.230	0.000
<b>Q12</b> The company monitors new market entrants and tries to understand their marketing strategy and products	31	3.48	16.263	0.000
<b>Q13</b> The company develops its marketing policy on the basis of the information obtained from the monitoring process	31	3.32	12.288	0.000
<b>Q14</b> The competitors intelligence process provides information on the company's position in the market and identifies its strengths and weaknesses in relation to its competitors	31	3.45	11.970	0.000

As result in table 8 indicates, the p-value are less than the alpha value of 0.05, and so the Competitors intelligence has a positive impact on achieving competitive advantage for the company. Furthermore competitor intelligence enables the company to monitor its direct competitors and follow their strategies, products and services provided. The company develops its marketing policy on the basis of the information obtained from the monitoring process, these information help to determine the company's position in the market and identifies its strengths and weaknesses in relation to its competitors.

**Research question 4:** How technology intelligence does affect a company's competitive advantage?

**Table 9: Technology impact's on competitive advantage**

Question	N	Mean	t-value	p-value
<b>Q15</b> Technology intelligence positively affects a company's competitive advantage	31	3.81	16.733	0.000
<b>Q16</b> Information compiled on current technology and the latest technological developments around the world affect the effectiveness of the organization's strategic management	31	3.39	10.154	0.000

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<b>Q17</b>	Keeping abreast of modern technologies enables the company to develop new products or improve existing ones	31	3.55	15.179	0.000
<b>Q18</b>	The company looks for new technologies to reduce production costs	31	3.58	14.185	0.000
<b>Q19</b>	The company collects, analyzes and disseminates information on modern technologies	31	3.29	87.15	0.000

From the result of table 9, the p-value are less than the alpha value of 0.05, and this indicates that technology intelligence has a contribution in achieving competitive advantage because the information compiled on current technology and the latest technological developments around the world affect the effectiveness of the organization's strategic management. The results also show that the development of new products or the improvement of existing one depends on keeping abreast of modern technologies, analyzing and disseminating information on modern technologies can contribute to reduce production costs.

**Research question 5:** How social and strategic intelligence does affect a company's competitive advantage?

**Table 10: Social and strategic impact's on competitive advantage**

Question	N	Mean	t- value	p- value
<b>Q20</b> Social and strategic intelligence positively affects a company's competitive advantage	31	3.65	16.634	0.000
<b>Q21</b> Our company keeps abreast of all current and future legislation affecting our sector of activity	31	3.68	17.269	0.000
<b>Q22</b> Financial and tax information are continuously collected and disseminated within the company	31	2.06	.812	0.423
<b>Q23</b> The company generates and distributes information within the organization on various economic issues	31	2.26	3.230	0.003
<b>Q24</b> The company collects and analyzes human resources information and disseminates it throughout the company	31	2.23	2.244	0.032
<b>Q25</b> The company gathers and analyzes information on various social issues related to its field of activity, then disseminates it within the company.	31	2.23	2.528	0.017

Results of table 10 indicates that the p-value are less than the alpha value of 0.05, and confirms that social and strategic intelligence positively affects the company's competitive advantage, the company does keep abreast of all current and future legislation affecting its sector of activity. The company gathers and analyzes information on various social issues related to its field of activity, then disseminates it. Economic issues and human resources information are also gathered and managed by the company. However the financial and tax information are not continuously collected and disseminated within the company as the p-value is 0.423.

**4.9.3 Test of hypotheses:**

The five hypotheses were tested using the one sample t-test statistic.

**Hypothesis one:** There is no significant influence between CI and competitive advantage

**Table 11: Competitive intelligence influence the acquisition of competitive advantage**

Variable	N	Mean	Std Dev	T	df	P- value(sig)
Competitive intelligence influence the acquisition of competitive advantage	31	3.6129	0.44646	20.114	30	0.000

Alpha=0,05

Result of table 11 shows that the number of respondents (N) is 31, Mean=3.6129, Standard deviant =0.44646, t-test calculated=20.114 with a degree of freedom =30 and P-value (sig) =0.000 that is less than 0,05 (the significant level). And so the null hypothesis that there is no significant influence between CI and competitive advantage was rejected and the alternative hypothesis that there is a significant influence between CI and competitive advantage was accepted.

**Hypothesis two:** There is no significant influence between marketing intelligence and competitive advantage.

**Table 12: Marketing intelligence affect the acquisition of a competitive advantage**

Variable	N	Mean	Std Dev	T	df	P- value(sig)
Marketing intelligence affect the acquisition of a competitive advantage	31	3.6258	0.40576	22.309	30	0.000

Alpha=0,05

Result of table 12 shows that the number of respondents (N) is 31, Mean=3.6258, Standard deviant =0.40576, t-test calculated=22.309 with a degree of freedom =30 and P-value (sig) =0.000 that is less than 0,05 (the significant level). And so the null hypothesis that there is no significant influence between marketing intelligence and competitive advantage was rejected and the alternative hypothesis that there is a significant influence between marketing intelligence and competitive advantage was accepted.

**Hypothesis three:** There is no significant influence between competitor's intelligence and competitive advantage.

**Table 13: Competitor intelligence influence a company's competitive advantage**

Variable	N	Mean	Std Dev	T	df	P- value(sig)
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Competitor intelligence influence a company's competitive advantage	31	3.4968	0.44980	18.527	30	0.000
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Alpha=0,05

Result of table 13 shows that the number of respondents (N) is 31, Mean =3.4968, Standard deviant = 0.44980, t-test calculated =18.527 with a degree of freedom =30 and P-value (sig) =0.000 that is less than 0, 05 (the significant level). And so the null hypothesis that there is no significant influence between competitor’s intelligence and competitive advantage was rejected and the alternative hypothesis that there is a significant influence between competitor’s intelligence and competitive advantage was accepted.

**Hypothesis four:** There is no substantial influence between technological intelligence and competitive advantage.

**Table 14 Technology intelligence affects a company's competitive advantage**

Variable	N	Mean	Std Dev	T	df	P-value(sig)
Technology intelligence affects a company's competitive advantage	31	3.5226	0.58578	14.472	30	0.000

Alpha=0,05

Result of table 14 shows that the number of respondents (N) is 31, Mean=3.5226, Standard deviant = 0.58578, t-test calculated =14.472 with a degree of freedom =30 and P-value (sig) =0.000 that is less than 0,05 (the significant level). And so the null hypothesis that there is no substantial influence between technological intelligence and competitive advantage was rejected and the alternative hypothesis that there is a substantial influence between technological intelligence and competitive advantage was accepted.

**Hypothesis five:** There is no significant influence between social and strategic intelligence and competitive advantage.

**Table 15: Social and strategic intelligence affects a company's competitive advantage**

Variable	N	Mean	Std Dev	T	df	P-value(sig)
Social and strategic intelligence affects a company's competitive advantage	31	3.4968	0.32305	11.768	30	0.000

Alpha=0,05

Result of table 15 shows that the number of respondents (N) is 31, Mean=3.4968, Standard deviant =0.32305, t-test calculated=11.768with a degree of freedom =30 and P-value (sig) =0.000 that is less than 0,05 (the significant level). And so the null hypothesis that there is no significant influence between social and strategic intelligence and competitive advantage was rejected and the alternative hypothesis that there is a significant influence between social and strategic intelligence and competitive advantage was accepted.

### **5-Discussion of findings:**

This study examined the influence that CI could have on achieving competitive advantage in a company, an exploratory questionnaire was used to help reveal this relationship between the two concepts. The following sections present key observations regarding the study model.

#### **5-1 CI impact on achieving competitive advantage:**

Through the study conducted in the Progress Medical Algérie (PROMEDAL) an Algerian company specialized in the production and distribution of medical supplies for unique use, CI and competitive advantage had significant relationship. The results show that CI helps companies make strategic decisions and their performance; it can be used to monitor a company's external environment. This support CI literature that emphasis that CI is the procedure by which businesses gather data about their rivals and the environment in which they compete, ideally incorporating this information into their decision-making and planning processes with the intention of adjusting activities to boost performance<sup>38</sup>.

#### **5-2 Marketing intelligence; Competitor intelligence and competitive advantage:**

From the study we had identified a significant relationship between marketing intelligence and competitive advantage. The marketing policy is developed by the information generated by continues process of environmental scanning. The company manages its website to attract new customers and always participates in local and international exhibitions to promote its products, which lines with the study of<sup>39</sup> as marketing intelligence can offer certain competitive advantages in approaching potential market, competitors, products, and customer.

Competitor intelligence had also a significant relationship with competitive advantage, it enables the company to monitor its direct competitors and follow their strategies, products and services provided, and to know the new market entrants and try to understand their marketing strategy and products because the competitor's intelligence process provides information on the company's position in the market and identifies its strengths and weaknesses in relation to its competitors, and so marketing policy is developed on the basis of the information obtained from the monitoring process, these findings are confirmed in the study of<sup>40</sup>.

#### **5-3 Technology intelligence and competitive advantage:**

Today's world is all about technology and there for technology intelligence was included in the study model (Fig1), and resulted with a positive impact on the company's competitive advantage, because the company collects, analyzes and disseminates information on modern technologies, <sup>41</sup>said that it is hard to be a

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<sup>38</sup> Wright, Eid, and Fleisher.

<sup>39</sup> Nguyen Anh Khoa Dam, Thang Le Dinh, and William Menvielle, "Marketing Intelligence from Data Mining Perspective," *International Journal of Innovation, Management and Technology* 10, no. 5 (2019).

<sup>40</sup> Antonio Navarro-García, Marta Peris-Oritz, and Ramón Barrera-Barrera, "Market Intelligence Effect on Perceived Psychic Distance, Strategic Behaviours and Export Performance in Industrial Smes," *Journal of business & industrial marketing* 31, no. 3 (2016).

<sup>41</sup> Surajit Chaudhuri, Umeshwar Dayal, and Vivek Narasayya, "An Overview of Business Intelligence Technology," *Communications of the ACM* 54, no. 8 (2011).



successful company if Business intelligence technology had not leveraged for its business.

**5-4 Social and strategic intelligence and competitive advantage:**

Results of the study concluded a presence of a significant relationship between social & strategic intelligence and competitive intelligence unlike the study of<sup>42</sup> that found no significant relation between this subtype of CI on achieving competitive advantage, and this difference in result could be due several reasons: the size of the company, number of respondents, the industry difference, the country characteristics, different analysis tool).

**Conclusion and recommendations:**

There are many studies that have been conducted on competitive Intelligence, but what is noticeable is that there is a scientific gap regarding studying the effect of practicing this intelligence on giving the organization a kind of competitive advantage. What distinguishes our study is that it attempts to identify the presence of this effect in an exploratory manner in one of the leading companies in the field of the production and distribution of medical supplies for unique use in our city.

A survey study was administrated to examine the relationship between CI and competitive advantage. The study findings confirmed significant impact of CI on achieving competitive advantage in a company.

After the government relinquished its monopoly on the import, storage and distribution of medicines, and thanks to efforts to promote local manufacturing the number of production units has risen to 196 in recent years, and the rate of market coverage by local production has risen from 40% in 2011 to over 70% in 2021, with the development of this sensitive sector, the import bill has fallen significantly in recent years, from 2 billion USD in 2019 to 1.7 billion USD in 2020 and 1.2 billion USD in 2021, a drop of 40%.

Therefor the Algerian market is more open towards local investments and manufacturing, and this creates a lot of opportunities for companies, but in the same times it creates more competition, as companies are looking for ways to get the most benefits with the least amount coasts.

Through the results derived from our study, we confirmed that there are positive results for organizations that wish to enhance the practice of competitive intelligence as a way to confront the intense and escalating competition and obtain a competitive advantage.

The results also show which types of intelligence studied in the specific model of our study are most beneficial to organizations, where we found that the marketing intelligence had the most influential, followed by the competitor's intelligence, and then the technological intelligence, however the least impact was of social and strategic intelligence.

Consequently, the work the following recommendations:

- Algerian companies must enhance the practice of competitive intelligence and knowledge management necessary for this practice, and consider it an independent and important function that helps them know their competitive climate in order to meet the needs of customers, monitor their competitors, and why not make innovations.

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<sup>42</sup> Tahmasebifard.

- The Algerian companies must pay more attention on gathering financial and tax information and continuously collect and disseminate this information within the company, especially that rules and regulations are constantly changed in the country.

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