

Competitive Intelligence For The Pharmaceutical Industry: The Case of Greece

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ABSTRACT

The complex nature of the pharmaceutical market in Greece, combined with intensified rivalry that occurs among pharmaceutical firms, create an unstable environment forcing pharmaceutical companies to become more conscious of the market's behaviors. One way to better understand the market, in order to efficiently support business decisions, is Competitive Intelligence (CI). This research aims to investigate the awareness level and the presence of CI in the Greek pharmaceutical industry, in order to verify whether a formalized CI process would be applicable and beneficial for the industry, and the elements it could entail. The methodology chosen for the completion of the project is a feasibility study. This includes data collection from interviews, an online survey, an industry analysis based on Porter's (1980) five forces as well as extensive literature review, although literature on CI for Greece is limited. The main conclusions of the study are: the fact that, although CI awareness in the Greek pharmaceutical industry is high, actual knowledge on the topic is fairly low; as well as the fact that a CI process, currently not present, could be implemented in the industry. In fact research findings show that such a process would be welcomed by Greek pharmaceutical executives and managers alike.

Keywords: Competitive, Intelligence, Industries, Greece, Business, Pharmaceutical, Greek

INTRODUCTION

In today's hypercompetitive environment every company should have the ability to understand better its competition and the competitive forces that affect its success. For that purpose, Competitive Intelligence (CI) has started flourishing in the last two decades. Sharp (2009) describes CI as knowledge and foreknowledge about components and factors that impact the success of a business, which decision makers use to support their actions. In fact, according to Outward Insights (2005) as is cited in Sawka (2008), seven in ten US companies claim to have an organized system for delivering intelligence to decision makers.

CI is becoming a fundamental area for more and more large organisations. The development of CI has been stimulated by global competition, the emphasis of quality management and the realisation by managers that actionable intelligence can be a key competitive advantage. The field of CI exists since the middle of 1960, only involving CI in the collection of competitive data. According to Prescott (1999), CI was primarily a library function and the involvement of top management in CI towards the decision making process was limited⁵. Bergeron (2002) presents Michael Porter's work

on strategic management as the catalyst that fostered renewed interest in CI as a concept and practice in the early 1980s. During that time, significant emphasis was given on the analysis of the industry structure and competitors, making the transition from data collection to data analysis apparent. Moreover, Prescott (1999) mentions that this transition faced three challenges. Firstly, the work that had been performed before the 80s gave employees in leading edge firms the advantage to pilot the creation of business cases for CI in order to illustrate to top management what CI was, why CI was essential and how CI could assist in decision making. Secondly, workers in appeared to be more interested in espionage and breaches than the CI process, and thirdly the challenge for developing skills in order to transform data into intelligence⁵.

During the last decade, an increased emphasis has been given to the strategic implications of CI efforts. In most cases, these efforts require the involvement of other initiatives such as quality improvement. The usage of CI within organisations has significantly contributed towards the sharing of ideas, addressing competitive dynamics, identifying new opportunities and avoiding surprises⁵.

Despite the growth of CI in the world, it appears that Greece is behind in this particular concept. The reasons for Greece's slow adoption are: unawareness, lack of sufficiently competent staff and a shortage of experts available to train them, perceptions of the cost and somewhat complacent satisfaction with the general market research activity of in-house marketing departments. In particular, CI does not seem to be currently deployed in the Greek pharmaceutical industry.

The purpose of this study is to assess awareness and the presence of CI in Greece, and more specifically in the pharmaceutical industry. The methodology followed for the completion of this project is based on primary and secondary data.

For the analysis phase of the study two different approaches are deployed. The first approach utilizes Michael Porter's five forces for the overall analysis of the competitive environment of the Greek Pharmaceutical Industry. The results of this analysis will provide valuable information regarding rivalry, threats of new entrants, threat of substitutes, the power of suppliers and buyers, and will determine the structure and profitability of the Greek pharmaceutical industry. This information will demonstrate the need of CI in the Greek pharmaceutical industry. The

second approach, followed in parallel with the aforementioned industry analysis, is qualitative data collection. The data collection effort is performed by means of two different questionnaires. The first questionnaire is utilized during interviews with top executives of the Greek pharmaceutical industry, in order to assess their level of CI awareness and review the support system of their decision making processes. The second questionnaire takes the form of an online survey, with 47 participants gathered from middle and upper level managers of the Greek pharmaceutical industry. The research findings are then analysed in accordance to the literature review of CI, concluding to recommendations and research limitations.

Although ample literature on CI is available both in the form of books and articles, unfortunately it is only general and of international nature. More specifically, with the exception of a handful of articles, the majority of the literature available on the topic refers to and analyses CI either abroad (outside of Greece) or in sectors that are out of scope of this study. The literature available on CI in Greece and more specifically in the Greek pharmaceutical industry is very limited and not exhaustive of the subject. Finally, the limitation, encountered during the qualitative data collection effort, refers to the issue of availability of top executives for the interview.

The development of Competitive Intelligence within organisations

The presence of CI in a firm as a formal activity is essential, since organisations need to be aware of their competitors' behaviour. It is therefore, necessary to understand the forces that drive companies to be knowledgeable and analytical towards competitors and dedicate resources to practise CI. However, as Christopher West (2001) states that having access to information on competitors is not the same as structured intelligence programs. As it is explained later on, CI is not a process that occurs as a single step, but it is performed over a period of time. During this time there is growing awareness of the requirements to have a competitive strategy, which is as important as an organisation's need to have a strategy in place for its customers. Figure 1 illustrates the three stages companies go through in terms of their use of CI.

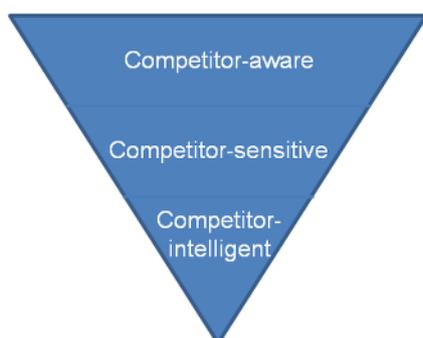


Figure 1: The path to CI
[Source: West, 2001 (p.26)]

A firm enters the first stage, *competitor awareness*, when the company is formed. In this first stage, the company knows its key competitors, their products, their prices, the market sectors they service and their employees. As companies grow, they enter into the second stage, *competitor sensitive*, where they need to be aware of the damage competitors can inflict on their business and the need to gain market share by competing more effectively. Finally an organization enters into the third stage, *competitor intelligence*, when it needs resources to study their competitors and anticipate their actions.

In addition, it should be mentioned that many organisations recognize the need of CI, but some have no knowledge of how to fulfil it; others collect information but they do not know how to create competitor strategy (West, 2001).

METHODOLOGY

For the successful completion of this research project, the research methodology chosen is a feasibility study. This type of study is an operational tool that can be used to manage a business more effectively for achieving the greatest success. Feasibility studies consist of a definition of the business problem that needs to be addressed, an extended analysis and assessment of the current situation, a definition of the requirements in order to achieve the best possible results, an evaluation of alternatives and an agreed course of action.

The scope of the present research project is to shed light on the awareness level and presence of CI in the pharmaceutical industry, and particularly to examine the case of the Greek pharmaceutical industry.

Research design

In order to assess whether a CI process can effectively be implemented in the pharmaceutical market in Greece, an analysis of the industry is firstly conducted. The approach that is used, as an introduction in order to provide a general picture of the pharmaceutical market in Greece, is "Porter's Five Forces" that was developed by Michael Porter⁴. By means of Porter's model, the five forces, which determine the degree of competition in the Greek pharmaceutical industry, is discussed. In particular, the degree of rivalry, the barriers of entry by potential competitors, the power of the buyer, the power of suppliers and the threat of substitutes in the pharmaceutical industry provides an overall picture of the industry's competition in Greece.

Secondly the level of awareness and actual practices of CI in the Greek pharmaceutical industry is investigated. For this purpose, two different questionnaires are being prepared to investigate the level of awareness and actual practices of CI in the Greek pharmaceutical industry. Both questionnaires attempt to answer the question, "What is the current status and what is the level of CI awareness, as a process, in the Greek pharmaceutical industry".

DATA ANALYSIS

Research findings

This part focuses on the specific characteristics of the pharmaceutical industry in Greece. The Greek pharmaceutical industry is analysed by means of Porter's five forces⁴. Furthermore, it presents the findings of the feasibility study analysis (interviews and online survey), assessing CI awareness among pharmaceutical industry professionals.

Greek Pharmaceutical Industry Analysis - Porter's Five Forces

The aim of this analysis is to investigate the degree of competition in the Greek pharmaceutical industry, in order to best determine the need for a CI process, a process to support companies with their decision making¹. For the purposes of this analysis, Porter's five forces are deployed⁴. Hence, the five forces of Porter's model adjusted to the attributes of the Greek pharmaceutical industry include:

The rivalry that exists in the industry

The first force to be analyzed is the rivalry that exists among organizations that compete within the Greek pharmaceutical industry. According to IMS Health data in 2010, there are 315 active firms that manufacture, supply, distribute or trade drugs in the Greek pharmaceutical market. The top 20 companies, according to IMS Health (2010) account for 71.59% of the Greek pharmaceutical market, as shown in Appendix C. It should be mentioned that the company with the highest sales volume for 2010, Pfizer, owns 9.38% of the market in the Greek pharmaceutical industry.

To evaluate the market power of the organizations within the Greek pharmaceutical industry, the Concentration Ratio (CR_n) is used. CR_n is a structural measure of market concentration based on market share. In order to indicate the market concentration of the pharmaceutical industry in Greece, the top four companies, according to their sale volume in 2010, are used. Therefore, the Concentration Ratio of the top four pharmaceutical companies in Greece, CR_4 , is equal to 31.81%. The relevant data and calculations are shown in Appendix C.

Concentration Ratio (%)	Intensity	Type of competition
0	No concentration	Perfect competition
0 – 50	Low concentration	Perfect to oligopoly competition
50 – 80	Medium concentration	Oligopoly
80 – 100	High concentration	Oligopoly to monopoly competition
100	Total concentration	Monopoly

Table 2: Industry Concentration Levels

Hence, the figures above show that the Greek pharmaceutical industry is relatively low concentrated, presenting a perfect to oligopolistic competition, with a high number of companies competing.

In addition, there are a number of mergers and acquisitions (M&A) that have been performed in the last years in the Greek pharmaceutical industry (e.g. ALAPIS S.A. acquisition of P.N. Gerolymatos S.A. in 2008 and Merck and Schering-Plough merger in 2009). These M&As are particularly beneficial since they empower the merged companies and increase their market share. For example, ALAPIS S.A. has greatly increased its market share following the acquisition of several pharmaceutical firms (e.g. P.N. Gerolymatos, Lambda Pharmaceuticals, and others), reporting increases in sale volumes in excess of 800% since 2007¹⁴. Consequently, ALAPIS S.A. has increased its market share and has become more competitive in the Greek pharmaceutical industry, which affects rivalry in the market overall. This example demonstrates how M&As affect the degree of rivalry among pharmaceutical companies and contribute towards competition.

Furthermore, the cost of switching between products of different companies in Greece is relatively low. An example of this is painkillers, whose retail cost is similar (e.g. DEPON: €1.22; PANADOL: €0.72; DOLAL: €0.72). This intensifies rivalry between the companies that own the products, since switching becomes easier when there is no cost implication.

To conclude, the high number of pharmaceutical companies together with the low Concentration Ratio, the M&As and the low switching costs, increase rivalry and make the Greek pharmaceutical market highly competitive.

The barriers of entry to new competitors

The pharmaceutical industry in Greece has significant barriers to entry with the most important one being the extensive bureaucratic procedures in conjunction with significant cost expenditure required for the set up and initialization of operations. Patent, R&D and marketing costs are also mentioned (among others) as potential obstacles, hindering new entrants, however, these are widely applicable for the case of Greece. More specifically, since Greece is primarily a distribution country, barriers of entry relate primarily to the distribution setup. Nonetheless, if a company was to start operating in Greece with a different setup (different to the rest of the country) the barriers of entry related to R&D, patent and marketing costs would be correlated, since the patent ensures that the expenditure of R&D breaks even within a period of time, during which extensive marketing is required for the patented product to be properly advertised and produce acceptable sales numbers. In addition, the latest regulation introduced by the Greek government related to the decrease of medicines prices, created an additional barrier of entry. In fact due to this specific change Novo Nordisk, a Danish pharmaceutical company, has decided to temporarily stop supplying its products in Greece. Finally, the excessive debts of public hospitals in Greece, as well as their inability to make payments to pharmaceutical firms are driving companies away. More specifically, Roche announced that

they will stop supplying drugs to the hospitals that are overdue with their payments. This unstable environment could also prevent new companies from entering the market.

The substitutes of products

As with the pharmaceutical industry worldwide, the Greek pharmaceutical industry is also threatened by alternative products, claimed to be capable of either supplementing or even substituting medicinal products²⁰. These products belong to the categories of Complementary Alternative Medicine (CAM) and alternative medicine, none of which are recognised as part of conventional medicine. CAM includes methods, such as Chinese medicine, hypnosis and chiropractic care where as alternative medicine uses natural substances (e.g. herbs) to replace conventional drugs. These products have started gaining market share in Greece in the recent years following the social trend of healthy living. However, the European Directive on Traditional Herbal Medicine Products that came into force in 2004 is going to restrict the expansion of CAM in the years to come. This is because no licence was required prior to the Directive taking effect and now all products that are entering the market, after 2004, need to hold a special licence similar to the licence required for conventional medicine products. Any products that existed prior to the Directive will need to obtain their licence by April 2011 if they wish to continue marketing their products¹². The risk associated with this Directive, is that several products (depending on the number of years they have been in the market) may need to be withdrawn, which can be considered a great benefit for the pharmaceutical companies that have been losing market share from CAM products.

Then, there are the generic pharmaceutical products, copycats of original drugs, e.g. Bristol-Myers Squibb's DEPON versus ALAPIS's DOLAL. There are two schools of thought regarding generics. On one hand, generics are considered as substitutes, due to the fact that they contain the same elements as the original product they are replacing. On the other hand, they are considered as rivals since they are targeting the same audience (patients with a need for the specific substance, e.g. aspirin, regardless of the product name). For the purposes of this study the latter point of view is adopted.

It is important to mention that generic drugs are gaining market share in the Greek pharmaceutical market, since they are considerably cheaper, resulting in the Greek pharmaceutical industry being more competitive²⁵.

The power of suppliers

A supplier of the pharmaceutical industry could be anyone from the provider of raw materials, labour forces and unions, that could have bargaining power in the pharmaceutical industry, however, since Greece is primarily a distribution country (€825 million exports versus €3,653 million imports), supplier power can be considered minimal. There are countless manufacturers, Good Manufacturing Practice holders, that can supply pharmaceutical companies with raw materials or identical finished products, i.e. the exact same product can be produced by multiple

manufacturers. Therefore, pharmaceutical firms have the privilege of switching between suppliers, which decreases suppliers' power significantly. In addition, pharmaceutical companies in Greece supply hospitals directly, no intermediaries are required, but distribution to pharmacies is conducted via wholesalers, although their bargaining power is also marginal given the overall setup of the market. Finally, workers' unions can also exercise supplier power.

The power of buyers

Within the pharmaceutical industry anyone from a patient, physician, pharmacy and hospital can be considered a buyer. The same is the case for the Greek pharmaceutical industry. More specifically, in Greece, hospitals and pharmacies have the most bargaining power than all other types of buyers. In particular, pharmacies account for almost 75% of the total pharmaceutical sales in Greece²⁶. Both hospitals and pharmacies are able to negotiate prices with pharmaceutical companies since they are purchasing large quantities of drugs. Furthermore, in Greece pharmacies are the only retailers that can sell drugs (unlike other European countries where drugs are sold in supermarkets and elsewhere), which increases their bargaining power significantly. However, as mentioned previously, the recession combined with poor financial management of hospitals is decreasing their bargaining power, since pharmaceutical companies gradually stop providing them with medicines²³.

Moreover, in a country where the total annual expenditure in pharmaceuticals for the year 2006 was €1,850 million and the population above 65 years of age accounted for almost 30% of the total population in 2001, it can be concluded that patients' bargaining power is significant. In addition, Greece appears to be the number one country in terms of antibiotics consumption in Europe, therefore patients bargaining power is considerable.

In addition, the recent financial recession in the country is also contributing to patients' price sensitivity which has a direct impact in pharmaceutical sales figures. Hence, the overall power of buyers is considerable; it is however, currently decreasing due to the financial crisis.

The findings of the industry analysis show that the Greek pharmaceutical industry is a hypercompetitive environment, a characteristic that could attest to the need for the adoption of elements of a CI process, as it is also supported by the literature of this study.

Questionnaires

The results of this research, both from the interviews and the online survey, determine the high level of CI awareness by professionals in the Greek pharmaceutical industry. Moreover, the information collected confirms the lack of formalized CI in the pharmaceutical industry in Greece.

Interviews

As mentioned in the methodology section, the collection of the qualitative data for the purpose of the awareness and

presence of CI in the Greek pharmaceutical industry, by five (5) executives of the sector, is in the form of interviews.

The first question of the interview is investigating the executives' familiarity with CI. As it is illustrated in Table 3 and Figure 15, it is clear that CI familiarity among the interviewees is high. More specifically, according to the answers received, interviewees' seniority as well as years of experience in the pharmaceutical industry, determine the knowledge of the CI concept.

Level	Answers
Not familiar at all	0
Somewhat familiar	0
Familiar	2
Very familiar	3

Table 3: Interviewees' familiarity with CI

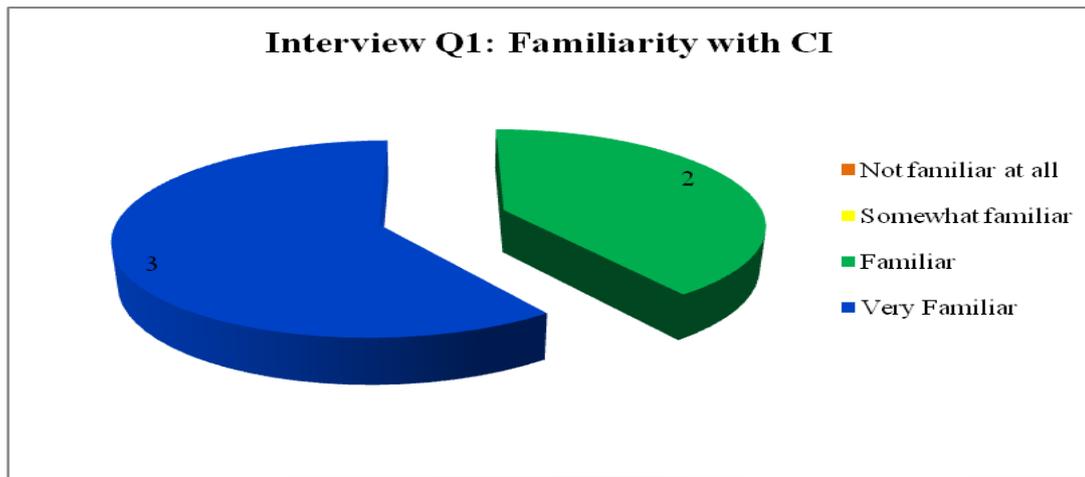


Figure 15: Interviewees' familiarity with CI

The second question investigates the opinion of the interviewees regarding the importance of CI in pharmaceutical firms. The replies indicate that CI is considered as a very important tool by all interviewees. In particular, they characterized CI as both a strategic and tactical tool, which also confirms their genuine knowledge of CI, inquired in question 1.

The third question aims to explore the existence of a CI in the interviewees' business environment to support them in their decision making. The majority of the interviewees mentioned that although certain processes exist, they are not formalized. In fact, one of the interviewees mentioned that CI is practiced by top executives mentally. Hence, it is determined that CI is not enforced within the pharmaceutical sector in Greece.

The fourth question refers to the approaches utilized by top executives for data collection regarding their competitors. All interviewees mention the usage of primary and secondary sources, which indicates that data collection is an important business aspect. Since data collection is also a key step of CI, it indicates that the basis exists for CI to be enforced in the industry.

The fifth question investigates the reasons that CI is not enforced in the Greek pharmaceutical industry. Although the answers received by the interviewees varied, the majority agreed that there are two possible reasons. Either international pharmaceutical companies are deploying CI at headquarter level, which lacks the necessary

regionalization and is therefore not representative of the Greek market, or lack of knowledge and training is hindering the development of CI.

Online Survey

The purpose of the survey is to investigate the awareness and presence of CI in the Greek pharmaceutical industry. The first two questions aim to obtain some basic information about the participants, i.e. education level and the position they currently hold in their companies. This assists to identify whether CI awareness is related to the education level or the professional seniority of the respondents.

The majority of the responders hold a Masters degree, which indicates that individuals with strong academic background responded to the questionnaire. A summary of the results is shown in Table 4, and is graphically represented in Figure 16.

Education level	Percentage
High school diploma	2.1%
Bachelor degree	21.3%
Masters degree	68.1%
PhD	8.5%
Other	0.0%

Table 4: Education level of the 47 participants

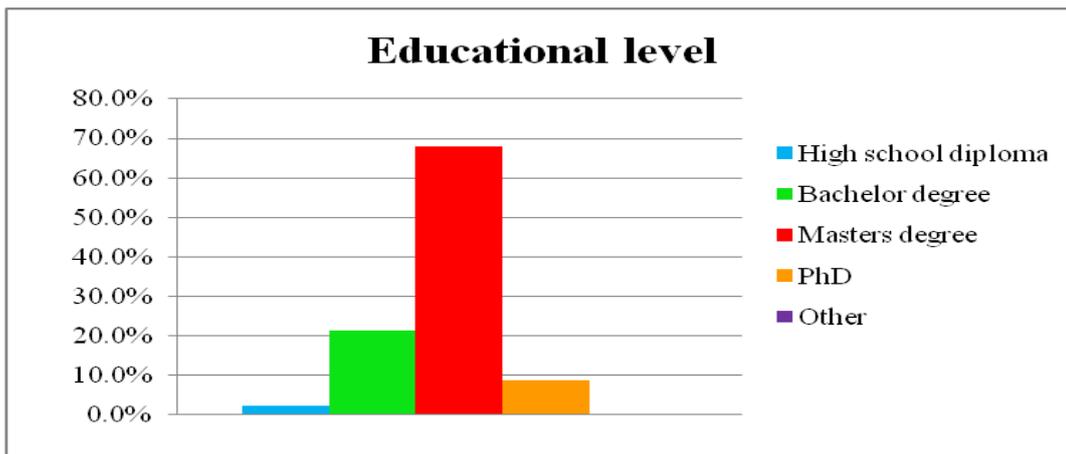


Figure 16: Education level of the 47 survey participants

In addition, to the educational level of the survey participants, the professional position (job title) of each participant was also required in order to determine if professional seniority ensures CI awareness. The majority of the respondents hold managerial positions. A summary of these results is shown in Table 5 and is graphically represented in Figure 17.

Professional position	Percentage
Manager	78.7%
Director	21.3%

Table 5: Professional seniority of the 47 participants

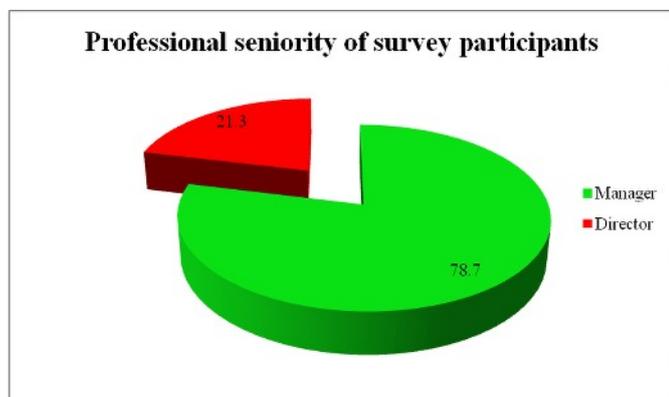


Figure 17: Professional seniority of the 47 participants

The first question of the survey investigates if the respondents have a process in place within their business or company for gathering data to support decisions. Since data gathering is a key step in the CI process, the answers received to this question help determine whether data collection, as a formalized process exist, to support business decisions. This will also assist in determining if companies knowingly or unknowingly perform parts of the intelligence cycle. The majority of the respondents appear to have a

process in place for gathering information in order to support decisions. A summary of the results is shown in Table 6 and is graphically represented in Figure 18.

Professional position	Percentage
Manager	78.7%
Director	21.3%

Table 6: Existence of a process for gathering data

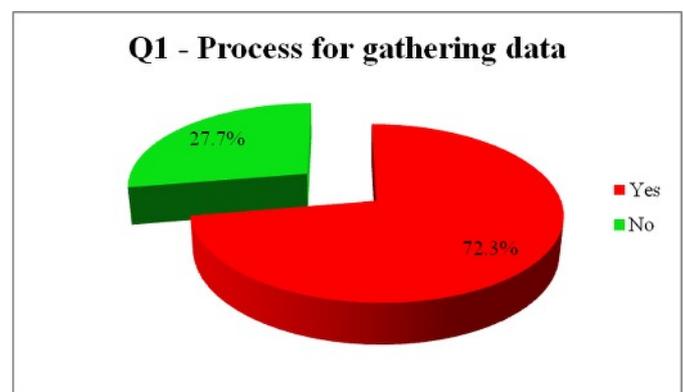


Figure 18: Existence of a process within businesses or companies for gathering data

The second question investigates which department in the respondents' organisation is "primarily" responsible for monitoring the flow of information, for evaluating this information and for data analysis. The answers received to this question provide insight regarding the formalised existence of CI processes, as well as the department primarily responsible for such processes. Based on the answers received, it is determined that CI is handled by different specialty individuals, primarily by the Marketing department, and is not formally established in a sense that no CI department exists. A summary of the results is shown in Table 7 and is graphically represented in Figure 19.

Department for monitoring data	Percentage
Finance	6.4%
Marketing	38.3%
Planning	12.8%
R&D	8.5%
Sales	14.9%
Other (All departments Business Development Different departments per function Sales & Marketing Effectiveness Not Specified)	19.1%
General Management Not known / Don't reply)	

Table 7: Department within organisation(s) for monitoring data

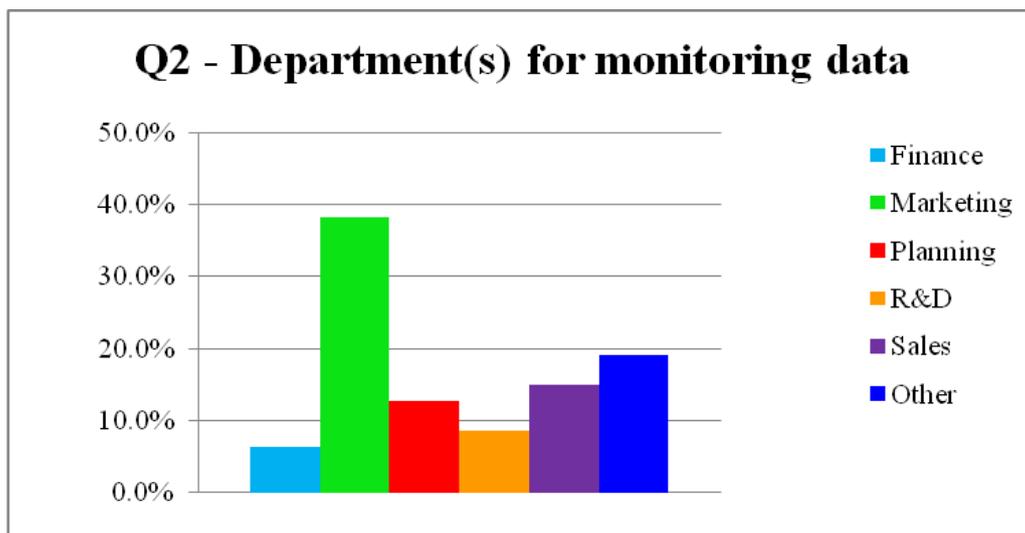


Figure 19: Department within organisation(s) for monitoring data

The third question investigates the approaches utilized by firms to analyse their competitors. This question is related to the analysis part of the CI process. It attempts to collect insight regarding specific tools that Greek pharmaceutical professionals use for the analysis of their competitors. The answers provided by the respondents present the most widely used competition analysis tools and determine if the analysis phase of the CI process is currently deployed. For

this question, the participants could provide more than one answer. Therefore, the results are presented as a percentage of the total answers received. More specifically, the findings show that pharmaceutical firms in Greece do analyse the information collected mostly by means of Market Analysis and SWOT. A summary of the results is shown in Table 8 and is graphically represented in Figure 20.

Competitor analysis approaches	Percentage
Competitor profiles	19.6%
Market analysis	34.3%
Financial analysis	7.8%
SWOT	24.5%
Information on competitors' technology	11.8%
Other (Not aware Deals research)	2.0%

Table 8: Approaches for analysing competitors

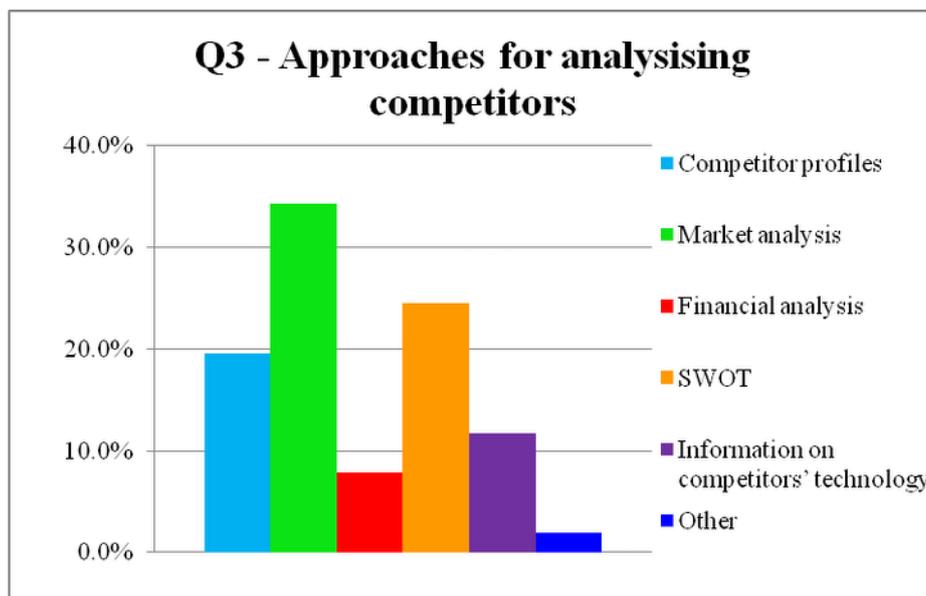


Figure 20: Approaches for analysing competitors

The fourth question investigates the respondents' familiarity with the concept of CI. The responses received indicate whether CI awareness in the Greek pharmaceutical industry is circumstantial. The majority of the respondents appear to be familiar with the concept of CI, however, a large percentage of the respondents are not familiar with the concept at all. These results determine the existing awareness of CI by the respondents. A summary of the results is shown in Table 9 and is graphically represented in Figure 21.

Familiarity with CI	Percentage
Very familiar	21.3%
Somewhat familiar	46.8%
Not familiar at all	31.9%

Table 9: Familiarity with CI

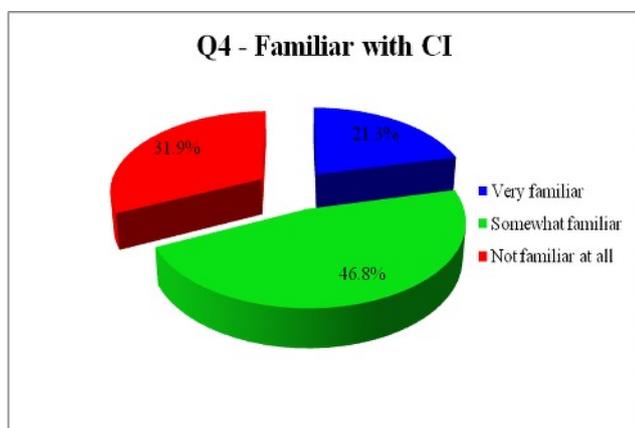


Figure 21: Familiarity with CI

The fifth question assesses the need of outsourcing customer or competitor research to external companies. The participants are asked to report how many times their organisations have outsourced customer or competitors

research to a third party in the last three years. More than half of the respondents of this question answered that there has not been any request to external companies for customer or competitor research on behalf of their organisation. These results indicate that customer or competitive research is either conducted internally or not at all. A summary of the results is shown in Table 10 and is graphically represented in Figure 22.

Frequency	Percentage
None	55.3%
1 – 3	23.4%
4 – 6	10.6%
7 – 9	8.5%
10 <	2.1%

Table 10: Outsourcing frequency of customer or competitor research

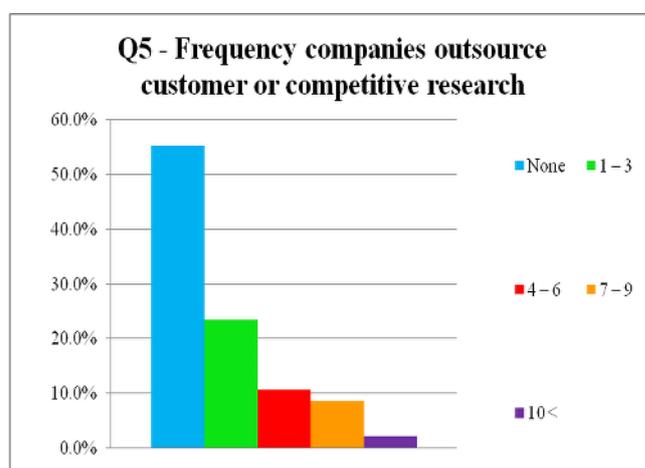


Figure 22: Outsourcing frequency of customer or competitor research

The sixth question investigates the frequency of electronic storage of data is utilized by employees in a firm for communicating purposes. Since data libraries are a cornerstone of the CI process, it is important to determine

if and how often they utilized in the Greek pharmaceutical industry. The answers obtained verify that electronic storage is often utilised. A summary of the results is shown in Table 11 and is graphically represented in Figure 23.

Frequency	Percentage
Always	29.8%
Often	44.7%
Sometimes	17.0%
Rarely	6.4%
Never	2.1%

Table 11: Frequency of companies using electronic storage for personnel access

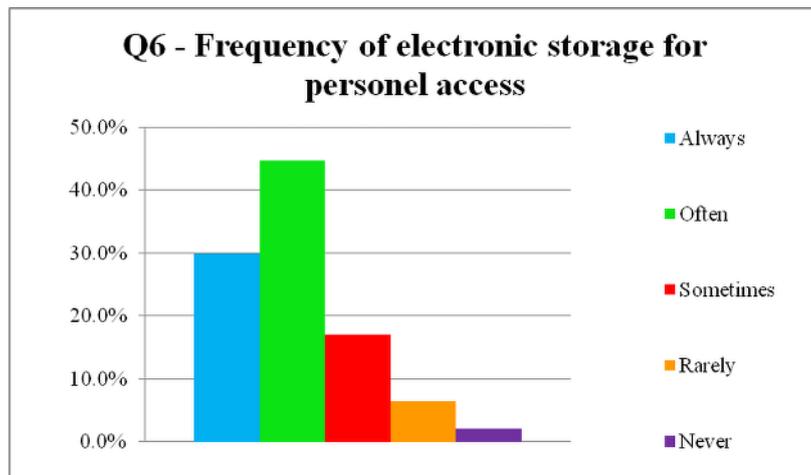


Figure 23: Frequency of companies using electronic storage for personnel access

The seventh question investigates the importance of technology for the decision making process. Since technology plays an integral role in the CI process, it is important to evaluate the respondents' disposition towards technology too. Based on the answers provided, the respondents' mindset can be assessed and realistic

proposals can be made regarding the implementation of a CI process in a Greek pharmaceutical company. The vast majority of the respondents consider technology to be of great importance for the decision making process. A summary of the results is shown in Table 12 and is graphically represented in Figure 24.

Importance of technology	Percentage
To a great extent	53.2%
Very	42.6%
Somewhat	4.3%
Not at all	0.0%

Table 12: The importance of technology for the decision making process within organisations

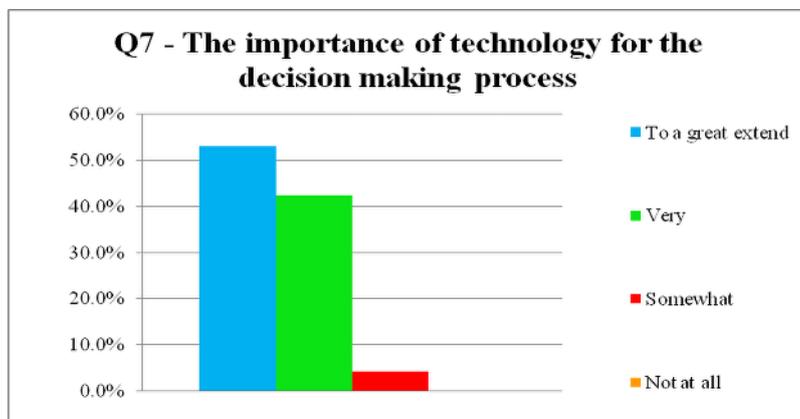


Figure 24: The importance of technology for the decision making process within organisations

Finally, the eighth question is related to the respondents' interest of CI. This last question aims to discover whether the concept of CI is of interest to the participants and if they would like to know more. The answers received to this question also indirectly point out the CI awareness level of the participants. The topic seems to be very attracting to the

majority of the survey participants, who are interested in learning more about CI, because either they think that CI will help them with their work or they don't have a clear understanding of the CI concept and find it very promising for their work. A summary of the results is shown in Table 13 and is graphically represented in Figure 25.

Interest of CI	Percentage
Yes	91.5%
No	8.5%

Table 13: Interest of the CI concept

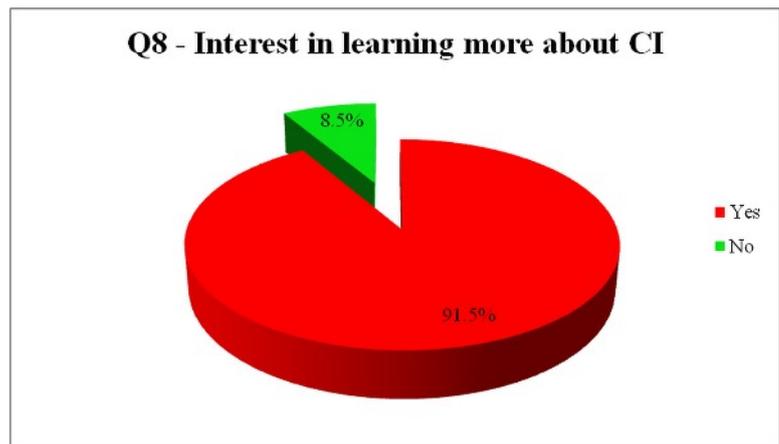


Figure 25: Interest of the CI concept

DISCUSSION

“The basic unit of Competitive Intelligence is the intelligence cycle a process, by which raw information is turned into intelligence” (p.43).

The present study attempts to determine if a CI process can be implemented in the Greek pharmaceutical industry. This is achieved by analyzing the results of the pharmaceutical industry analysis, in conjunction with the findings from the interviews and survey, according to the intelligence cycle phases (planning and direction, collection, analysis, dissemination).

A closer examination of the Greek pharmaceutical industry analysis results shows that the Greek pharmaceutical environment can greatly benefit from a CI process. More specifically, the fact that 20 of the 315 active pharmaceutical companies operating in Greece account for more than 70% of the country’s market share (Appendix C) further strengthens the view that dynamic and comprehensive CI, could greatly contribute towards firms’ competitive advantage, i.e. provide support on the decision making process to maintain or further increase their market share. In addition, the fact that extensive bureaucracy and significant cost is currently hindering the establishment of new pharmaceutical companies in Greece could change in the future and if that is to happen, then the country could be overflowed with new competitors, an argument that further attests to the need for a CI process as a support mechanism for the decision making process,. Moreover, substitutes like generics are becoming more popular with consumers because of cheaper prices, hence is it becoming more important for pharmaceutical companies to be fully aware of the market’s players and their activities²⁵. Finally, supplier’s power appears to be minimal, due to the fact that the Greek pharmaceutical market is dealing primarily with distribution, and buyer’s power is shown as considerable since their negotiation power is significant²⁰. The most important finding of the industry analysis is the fact that the Greek pharmaceutical industry is a highly competitive environment. Therefore, a CI process could be implemented in this environment to support executives with their business decisions.

Following the findings of the industry analysis, the study discusses the interview and survey findings in accordance with the intelligence cycle phases. For the first phase of the intelligence cycle, planning and direction, this study accepts that the Key Intelligence Topic is the result of management planning, a standard activity performed by Greek pharmaceutical companies. Traditionally, firms spend a considerable amount of time, planning their activities, in short and long term, in order to achieve their targets. Therefore, there is a strong link between planning and direction of the intelligence cycle and management planning. However, planning alone does not necessarily guarantee success. Only when combined with the rest phases of the intelligence cycle a company can ensure that planning can bring the desired results. It should also be mentioned that the intelligence cycle as part of the CI process can provide the framework for data transformation into intelligence. However, at that stage the process concludes and the produced intelligence is passed to the decision makers. It is then under their responsibility to ensure that the plan is successfully executed.

The second phase of the intelligence cycle is the collection phase. The questions posed to the survey participants and interviewees related to this particular phase, returned very interesting findings. More specifically, the majority of the survey participants reported that a process exists in their respective organizations for data gathering to support corporate decisions. Moreover, on the collection phase, the top management executives that were interviewed were surprisingly consistent with their answers regarding the sources of information they utilize. In particular, all interviewees reported that they collect information both from primary and secondary sources. This alignment of opinions and positions shows that data collection is not only valued within the Greek pharmaceutical industry but also practiced; hence a basic ground has already been set for the introduction of CI.

As far as technology and its role in the collection phase is concerned, the results were rather complementary. On the one hand the survey respondents reported in their majority, that electronic storage is only “often” used for storing and sharing purposes and a smaller percentage advised that this

is “always” the case. On the other hand, when asked to evaluate the importance of technology in the decision making process an impressive 95.8% of the survey respondents reported back that they consider technology to be of great importance. These responses although contradictory to some extent, clearly show that technology is valued, as well as that technology as a supportive tool to the decision making process is underutilized. As Bergeron (2002) also points out, technology is a cornerstone of the data collection and analysis phases of the intelligence cycle and consequently a key contributor to the success of the CI process. Therefore, although the correct mindset exists among Greek pharmaceutical professionals, more action needs to be taken for a full CI process to be implemented in the industry, starting with the approach companies take towards technology and enforce its usage for data collection, sharing and analysis.

Regarding the analysis phase, the responses received regarding the departments that are primarily responsible for collecting and analyzing data varied considerably. More specifically, the respondents pointed to the Marketing department as the main owner of these tasks, although other departments were also mentioned. According to Kahaner (1996), multiple CI processes performed by multiple company functions is an acceptable CI model providing that all teams communicate effectively³³. However, since communication can be a challenge, especially within large firms, Persidis' (2003) recommended approach, is that the CI process should be positioned at a high level of the firms' hierarchy. Having the CI process controlled at the CEO's level is a good approach since it embraces the entire environment of an organization. At the same time the CI process should be accessible by everyone in the firm and not be seen as intimidating because of its importance.

The survey respondents were also asked to provide feedback regarding the tools they use to analyze their competitors. The most popular tools are the market analysis and the SWOT. Interestingly these two tools, when combined can provide a good overview of the industry. This is due to the fact that the market analysis examines the overall market from a geographical location, customer and competition perspective, whereas the SWOT focuses on the strengths, weaknesses, opportunities and threats of the company or product. It should be mentioned that all tools the respondents could select from, can be used in CI depending on the key intelligence topic that requires the services of CI. The fact that none of the respondents selected all tools serves as evidence that there is lack of CI knowledge and absence of an established CI process. If a formalized CI process was already implemented, then the respondents would have been aware of the use of all tools in their respective firms.

Furthermore, information was obtained from the answers to the question on the frequency of third party company assignments of customers or competitors' analysis in the last three years. More than half of the survey respondents reported that no such activity has taken place. This could mean that either such analysis is performed internally, or not at all. If performed internally it means that companies recognize the importance of such information for the

decision making and that this particular task of CI is exercised. If not, then it serves as evidence for the lack of CI knowledge.

As far as the dissemination phase is concerned, there are limited findings to be presented, since proper dissemination requires proper data collection and analysis. As mentioned earlier the current data collection and analysis activities, although considerable, are not following the pattern required for effective dissemination. Therefore, the dissemination phase was out of scope of the survey analysis.

Apart from the information linked to the intelligence cycle, there were also some general findings obtained from both the interviews and the survey, related to the level of CI awareness. Interestingly, although 68.1% of the survey respondents answered that they are “somewhat” and “very” familiar with the concept of CI, an astonishing 91.5% advised they would be interested to learn more about it. These figures prove that even though there is some familiarity with CI, indeed there is not enough knowledge. Therefore, CI awareness is more likely circumstantial. This is also supported by the responses received from the top management executives that were interviewed, who reported that lack of employee skills as well as knowledge on CI could be the reason for the slow penetration of CI in Greece. The question on familiarity was also posed to the executives during the interview, to which all answers were positive. This does not come as a surprise, since top management executives tend to be better educated on innovative ways to deal with business and achieve their goals.

When asked about the importance of CI, all interviewees were unanimous in their response that CI is an essential tool that can support them in achieving their targets. The same group also commented on the current situation of CI and the fact that it is not widely known and practiced, but also on the current data collection activities where most of the interviewees reported that a data collection process exists but it is not formalized.

All these results are showing that there is some ground already set in the Greek pharmaceutical industry to implement a CI process. More specifically, the findings suggest that most of the intelligence cycle elements are individually performed. A structured and formalized CI process could therefore be introduced in the Greek pharmaceutical market. With the exception of more usage of technology and specialized CI training, which would require certain efforts, the rest of CI elements would just be centralized and better coordinated. The elements of a CI process are presented in the form of a recommendation in the next section.

CONCLUSIONS

The purpose of the present study was to investigate the level of awareness and presence of CI in the Greek pharmaceutical industry, and the applicability for the implementation of a formalized CI process in this industry. The method chosen for the completion of this research is a feasibility study based on literature review and empirical data. A brief

industry analysis is introduced in order to provide a general background of competition in this sector in Greece that makes CI a necessity. In addition, the empirical data was gathered through questionnaires addressed to managers, directors and executives of the Greek pharmaceutical industry.

The research findings of the study displayed that although CI awareness in the Greek pharmaceutical industry is high, knowledge on CI is actually low. Furthermore, the industry analysis performed complemented the view that a CI process would be very beneficial for the Greek pharmaceutical industry². This is mainly because the Greek pharmaceutical industry is highly competitive with a considerable amount of rivals.

Since a CI process was deemed beneficial, the study proposes elements of a CI process that could be adapted by any pharmaceutical company in Greece. The proposed elements of the CI process were combined and presented with the help of the literature available. Luckily, the results of the interviews and the survey showed that certain aspects of CI are already known and practiced in the Greek pharmaceutical industry, even though the respondents might not be aware of it. More specifically, research confirmed that data collection from primary and secondary sources, a key aspect of CI, is already performed. However, although some ground for the introduction of elements of a CI process already exists, certain changes will need to be made, primarily in the technology field (research showed that technology is underutilized especially as far as data storing is concerned).

REFERENCES

- Sharp S., (2009), "Competitive Intelligence Advantage: How to Minimize Risk, Avoid Surprises and Grow your Business in the Changing World", John Wiley & Son Inc, New Jersey.
- Sawka K. and B. Hohhof, (2008), "Starting a Competitive Intelligent Function", Competitive Intelligence Foundation, Alexandria.
- Prescott J.E., (1999), "The Evolution of Competitive Intelligence: Designing a Process for Action", Proposal Management, Spring, pp. 37-52.
- Bergeron P. and A.C. Hiller, (2002), "Competitive Intelligence", Annual Review of Information Science & Technology, 36(1), pp.353-390.
- Priporas C.V., Gatsoris L. and V. Zacharis, (2005), Competitive Intelligence Activity: Evidence from Greece, Marketing Intelligence & Planning, 23(7), pp. 659-669.
- Porter M.E., (1980), "Competitive Strategy: Techniques for Analyzing Industries and Competitors", The Free Press, New York.
- Bryce T., (2008), "The Elements of a Good Feasibility Study", <http://www.projectsmart.co.uk/pdf/elements-of-a-good-feasibility-study.pdf>
- Intercontinental Marketing Service Health: Intelligence Applied, (2011), <http://www.imshealth.com>
- QuickMBA.com, (2010), Quick MBA: Knowledge to power your business, <http://www.quickmba.com>
- Wikipedia: The Free Encyclopaedia, (2011), Concentration Ratio, www.wikipedia.org
- McClintic A., (2001), Competition, Encyclopaedia of Business and Finance, <http://www.enotes.com/business-finance-encyclopedia/competition>
- ALAPIS Group of Companies, (2011), <http://www.alapis.eu>
- Merck Merger and Schering-Plough Merger, (2009), http://www.merck.com/investors/stockholder-services/Merck_Tax_Summary_For_Website.pdf
- Danzon P.M., Epstein A. and S. Nicholson (2007), Mergers and Acquisitions in the Pharmaceutical and Biotech Industries, Managerial and Decision Economics 28, pp. 307-328
- Γενική Γραμματεία Εμπορίου, Δελτία Τιμών Φαρμάκων, (2011), <http://www.gge.gr/37/index.asp>
- Thomson A.A. and A.J. Strickland, (2003), "Strategic Management: Concepts and Cases", McGraw-Hill Companies Inc, New York.
- Focus Reports, (2008), Greece's Pharmaceuticals: Classical Thinking For A Modern Industry, <http://pharmexec.findpharma.com/pharmexec/data/articlestandard/pharmexec/372008/548990/article.pdf>
- Best-information.eu, Appendix B: The Pharmaceutical Industry, <http://www.best-information.eu/international-marketing-strategies/Appendix-B.html>
- Σύνδεσμος Φαρμακευτικών Εταιριών Ελλάδας, (2010), Δελτίο τύπου: Καθορισμός τιμών φαρμάκων, http://www.sfee.gr/files/story/P_R_1_9_2010.pdf
- SKAI.gr, (2010), Εγκαταλείπει η φαρμακευτική εταιρεία Novo Nordisk την Ελλάδα; <http://www.skai.gr/news/health/article/143933/egataleinei-i-farmakeutiki-etaireia-novo-nordisk-tin-ellada/>
- Φυτά Ο., (2011), Η Roche αναστέλλει την παράδοση φαρμάκων σε νοσοκομεία με οφειλές, <http://www.skai.gr/news/health/article/164838/i-roche-anastellei-tin-paradosi-farmakon-se-nosokomeia-me-ofeiles/>
- National Centre for Complementary and Alternative Medicine, (2011), <http://nccam.nih.gov/health/whatiscam/>
- Geitona M., Zavras D., Hatzikou M. and J. Kyriopoulos, (2006), Generics Market In Greece: The Pharmaceutical Industry's Beliefs, Health Policy, 79(1), pp. 35-48.
- European Federation of Pharmaceutical Industries and Associations, (2010), The Pharmaceutical Industry in figures, <http://www.efpia.eu/content/default.asp?PageID=559&DocID=9158>
- MHRA, (2011), Good Manufacturing Practice, <http://www.mhra.gov.uk/Howweregulate/Medicines/Inspectionandstandards/GoodManufacturingPractice/index.htm>
- BUSINESS.COM, (2011), Pharmaceutical Contract Manufacturing, http://www.business.com/directory/pharmaceuticals_and_biotechnology/contract_manufacturing/
- Contiades X., Golna C. and K. Souliotis, (2007), Pharmaceutical Regulation in Greece at the Crossroad of Change: Economic, Political and Constitutional Considerations for a New Regulatory Paradigm, Health Policy 82, p.116-129.
- Εθνική Στατιστική Υπηρεσία, (2011), <http://www.statistics.gr/portal/page/portal/ESYE>

29. Lambelli D. and O. O'Donnel, (2010), "The Importance of Price Controls: Failed Attempts to Constrain Pharmaceutical Expenditures in Greece", Health policy, http://www.sciencedirect.com/science?_ob=MIimg&imagekey=B6V8X-514FVS0-2-4&cdi=5882&user=6991156&pii=S0168851010002575&origin=search&coverDate=09%2F29%2F2010&sk=999999999&view=c&wchp=dGLzVtz-zSkWA&md5=14ee0bc683a3f86c5a4101903291e241&ie=/sdarticle.pdf
30. Organization of Economic Co-operation and Development, (2011), Pharmaceutical Consumption, <http://www.oecd.org>
31. Kahaner L., (1996), Competitive Intelligence: How to gather, analyse, and use information to move your business to the top, KANE Associates International Inc., New York.
32. Landon T., (2011), What's Broken in Greece: Ask an Entrepreneur, New York Times, http://www.nytimes.com/2011/01/30/business/30greek.html?_r=1
33. Εθνικός Οργανισμός Φαρμάκων, (2011), Διαδικασίες και Δικαιολογητικά, http://www.eof.gr/web/guest/procedures?p_p_id=62_INSTANCE_gTy0&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_gTy0_struts_action=%2Fjournal%2Fview&_62_INSTANCE_gTy0_groupId=12225&_62_INSTANCE_gTy0_articleId=17058&_62_INSTANCE_gTy0_version=1.0
34. Bergeron P. and A.C. Hiller, (2002), "Competitive Intelligence", Annual Review of Information Science & Technology, 36(1), pp.353-390
35. Persidis A., (2003), "Corporate Intelligence in a *Corporately Intelligent World*", Journal of Competitive Intelligence and Management, 1(2), pp. 87-99.