ISCTE Business School
Instituto Universitário de Lisboa

COMPETITIVE INTELLIGENCE WITHIN THE HIGHER
EDUCATION SECTOR, AN ACADEMIC AND
ORGANISATIONAL APPROACH

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Resumo

O actual contexto do ambiente de negócios, fortemente marcado pelo fácil e rápido acesso a informação, a globalização de práticas e o crescente nível de competitividade, leva a que as empresas procurem outras formas de se manterem em jogo e obterem e conservarem uma vantagem competitiva. As organizações deparam-se com um problema de gestão de informação: a mesma deve ser correcta, aparecer no momento certo e ser transmitida à pessoa certa dentro da organização para ajudar, da melhor forma possível, no processo de tomada de decisão. É neste contexto que a temática de Inteligência Competitiva ganha relevo dentro das organizações.

As Instituições do Ensino Superior, em particular as Universidades, lidam tipicamente com informação e conhecimento e, apesar de operarem segundo leis específicas e terem fins diferentes da maior parte das organizações, são também afectadas por este contexto.

O objectivo deste estudo é tentar perceber se é possível relacionar a temática de Inteligência Competitiva, tanto de um ponto de vista organizacional – em que as universidades possam utilizar esta estratégia como resposta para optimizar o seu processo de gestão de informação e posterior tomada de decisão, assentes numa óptica de processamento inteligente da informação –, e também segundo um ponto de vista académico – em que as universidades actuam como impulsionadoras da Inteligência Competitiva junto dos jovens que formam.

O método de análise utilizado foi o estudo qualitativo de cariz indutivo, mais especificamente a aplicação de entrevistas a especialistas na área de Inteligência Competitiva.

Palavras-chave: Inteligência Competitiva; Universidades; Informação; Decisão.
Classificações JEL: D80 e I29.

Abstract

The current context of the business environment, strongly marked by the quick and easy access to information, the globalisation and the increasing level of competitiveness, leads companies to seek other ways of staying in the game and obtain and retain a competitive advantage. Organisations face an information management problem: the same must be accurate, appear at the right time and be transmitted to the appropriate person within the organisation to help in the best way possible in the decision-making process. It is in this environment that the topic of Competitive Intelligence (hereafter referred to as CI) becomes important within organisations.

The Higher Education Institutions, particularly Universities, typically deal with information and knowledge and, even though they operate under specific laws and have different purposes of most of organisations, are also affected by this context.

The aim of this study involves trying to understand if it is possible to relate the topic of Competitive Intelligence, both from an organisational point of view – in which universities can use this strategy as a response to optimize their management information process and later the decision making one, based on optical intelligence information process –, and also according to an academic point of view – where universities act as drivers of Competitive Intelligence among the young people they form.

The method of analysis utilised was the qualitative study of inductive nature, in particular the implementation of interviews to experts in the field of Competitive Intelligence.

Keywords: Competitive Intelligence; Universities; Information; Decision.
JEL Classifications: D80 and I29.

"Know where to find the information and how to use it - That's the secret of success"

Albert Einstein

List of Abbreviations

Terms	Desccription
Competitive Intelligence	CI
KSF	Key Success Factors
ISCTE-IUL	ISCTE- Instituto Universitário de Lisboa
HES	Higher Education Sector
HEI's	Higher Education Institutes
SCIP	Society of Competitive Intelligence Professionals
BI	Business Intelligence
KM	Knowledge Management

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Sumário Executivo

Esta dissertação propõe-se estudar se a temática da Inteligência Competitiva pode ser relacionada com as universidades. Esta relação vai ser analisada segundo dois primas: organizacional e académico. Em síntese contextualizada: por um lado, vai-se estudar a relação do ponto de vista do exercício de gestão organizativa; considerar a universidade como uma empresa que necessita de informação formatada e organizada para a correta tomada de decisão; e, por outro lado, estudá-la segundo o ponto de vista académico, em que se evidencia como principal tarefa da universidade, a formação dos seus estudantes.

A grande questão recai sobre a possibilidade de relacionar esta temática de análise estrutural da informação que envolve a organização e a forma como se relaciona com uma empresa, neste caso a universidade, segundo as duas valências que caraterizam uma instituição de ensino superior (formação e normal gestão da organização).

A escolha deste tema deveu-se principalmente a dois pontos: 1) a necessidade que as organizações – sendo as universidades um bom exemplo devido à natureza das suas atividades – têm, de constantemente estarem atentas ao mercado, para conseguirem obter e manter uma vantagem competitiva; 2) a essência da Inteligência Competitiva, que permite às empresas colocarem em prática bons mecanismos de alerta para as mudanças no mercado.

Como método de análise utilizado, aplicou-se uma ferramenta qualitativa, de caracter indutivo, as entrevistas de resposta aberta. A escolha desta ferramenta deveu-se sobretudo à posição subjectiva assumida pelo entrevistador, que pretendeu entender a intenção, o propósito da acção e inferir o seu significado enquanto informação deste estudo. As entrevistas permitiram ao entrevistador obter um maior número de dados que só terão valor e significado enquanto inseridos neste contexto. O entrevistador optou por não criar suposições *à priori* e criar ele mesmo, segundo os seus parâmetros de análise, significado e relevância temática com base na Revisão da Literatura conjugada com a análise dos dados das entrevistas.

As entrevistas foram aplicadas a uma população de oito *experts* (académicos e gestores) na área de Inteligência Competitiva. A escolha destes *experts* teve por base um método não probabilístico e alicerçou em dois factores: o conhecimento da população sobre o tema da Inteligência Competitiva e a circunstância de serem profissionais que, no exercício das suas funções, poderiam, ou não, já ter aplicado os conhecimentos desta temática ou já a terem abordado enquanto docentes.

A metodologia encontra-se dividida em duas fases: fase 0 ou fase teste, que consistiu na aplicação de apenas um entrevista a um *expert* com o intuito de finalizar o guia da entrevista e retirar os melhores outputs possíveis; e uma fase 1, que consistiu na aplicação das restantes sete entrevistas. Esta última fase teve como objectivo continuar a recolha de informação. O horizonte temporal das entrevistas foi composto, na sua totalidade, por 2 meses. A fase 0 aconteceu no mês de outubro de 2013 e as restantes entrevistas foram distribuídas pelos meses de outubro e novembro do mesmo ano.

Como principais dificuldades da aplicação da metodologia, podem-se destacar: reunir um número de *experts* que correspondesse aos critérios necessários de amostragem previamente definidos e também encontrar um horário de fosse compatível com o entrevistado e entrevistador. A última, acabou por ser solucionar, em alguns casos, através da aplicação de entrevistas via computador.

Outra dificuldade prendeu-se com a necessidade de se conseguir congruência entre os autores escolhidos para a Revisão da Literatura, o propósito e a base lógica da tese.

Para a análise da informação recolhida com as entrevistas, foi utilizada a técnica de *Coding*. Esta técnica caracteriza-se por duas fases: uma primeira responsável por relacionar os excertos das entrevistas dos diferentes *experts* com as oito grandes categorias criadas, as perguntas-chave; e um segundo nível, responsável por agregar pontos de inter-relação entre o que cada entrevistado respondeu. Isto é, encontrar pontos de concordância e também discorda entre os entrevistados. Este método permite captar as mensagens mais relevantes das entrevistas e agregá-las e organizá-las de forma a tornar os dados mais coerentes e conseguir melhores outputs. Este tipo de análise atinge, por vezes, um número muito grande de informação e torna-se nuclear conseguir desagregar o fundamental do supérfluo. A informação só é relevante para a tese se for coerente com o seu objectivo.

Como forma de organização, cada entrevista foi analisada separadamente e exibida de forma individual numa tabela específica.

Numa perspectiva futura foi sugerida a aplicação da Inteligência Competitiva a uma universidade em particular, sendo um bom exemplo, o ISCTE - Instituto Universitário de Lisboa.

O trabalho encontra-se organizado em sete grande tópicos: *Literature Review*, *Methodology*, *Data Analysis*, *Conclusion*, *Research challenges and suggestions for a future research*, *Reference List* and *Appendices*.

1. Literature Review

1.1. Introduction

The business world is a very competitive place where all the companies fight for the same bone – the clients, and consequently, to achieve profitability. National or internationally, companies must be aware of the many factors surrounding its activities and effectively respond to them to successfully compete in the market place. Even if a company only has activities in its national market that does not mean that it is not affected by the globalisation factor. Today, many are the companies that operate outside its national markets. Due to this increase in the competitiveness dynamics of the business world, it became crucial for companies to possess more information than competitors.

Knowing the markets as well as being able to predict and anticipate a certain event can greatly influence the outcomes of a company's actions and affect its chosen strategy; the company can better prepare itself to select a solution that responds the most to the issues accessed. But, simply having more information it is not enough nor efficient. Since the market place is very volatile, the company with the best position to assess its movements, that is, the one with the most accurate available information, can more effectively match those movements and reduce and anticipate the negative impacts. Therefore, having more available information than competitors is only relevant if that information is correct and can be reliable. Moreover, the information systems of the organisations need to be mature, both from a standpoint of getting the right information as transmitting it to the right person at the right time. That is, organisations need to master both Information and Communication. Consequently, it emerges the necessity to do a permanent assessment of the competitive environment and of all the information it contains based on specific criteria. And also, to define an internal strategy for analyse that information and effectively transmit it in order to strengthen the decision making process of the organisation.

Davenport and Prusack (1998) and Ghoshal (1999) denote Knowledge is now the scarce element within organisations. Meaning, those who are able to reach it and keep it will have an edge over the industry.

Any organisation, being the higher education institutions (hereafter referred to as HEI's) a good example, must continually assess the environment and try to maintain its market share and competitive position as the reality of the business world can quickly change and a competitor may, prior to us, identify that change and in a more efficient way organise itself

for the same. Furthermore, the HEI's, more specifically the universities, are complex organisations due to the nature of their activities and the uniqueness of their assets. Therefore, their decisions are subject to a broader set of evaluation criteria and specific legal aspects of their home country.

Given the quick changes in the businesses scenarios, CI is an activity of increasing importance. Competitive Intelligence allows companies to, more than react to the problems, anticipate the market development and be on the top of the situation. Has a consequence of the growing competitiveness, the competitive intelligence knowledge is a strategic tactic for those companies who want to succeed and moreover, want to overcome the other competitors. In order to organisations remain successful in the business environment, among other factors, they must seek "innovation"; however this "innovation" can not only be achieved in products nor services, it has to be embedded in the business models and applied in the everyday of the company. CI can very well, fill that gap and offer an efficient solution to the firms by playing the role of "innovation" within the same.

For the purpose of this work, the definition of innovation given by the Business Dictionary will be use. Therefore, innovation is the process of converting an idea into a good or service that will create value or for which the customer pays for. Furthermore, it represents an idea that must be replicable at an economical cost and must satisfy a specific purpose or need.

1.2. Basic Concepts: Data, Information, Insight, Knowledge and Intelligence

Data, Information, Insight, Knowledge and Intelligence are intrinsically linked to the central topic of CI. In order to better understand the scope of CI, it is necessary to clarify the difference between these topics and the way they relate one to another.

Frequently, data and information are used as synonymous, although they have different meanings. Consequently, it is important to have a proper definition of the topics in order to avoid confusion. Furthermore, it is also relevant to introduce the subjects of Insight, Intelligence and Knowledge.

Data are partial representations of facts, images or sounds and do not have meaning by themselves. Thus, they do not lead to the understanding of the situations; they just illustrate how things occurred.

Davenport and Prusak (1998) state data turns into information when its creator joins them meaning. Therefore, Information can be seen as the following equation:

Data + Meaning = Information

Meaning it is the crucial factor that transforms simple observations into a set of usable information with some important input to decision making. As Belkin (1978) proposes, information is the data with value to the decision making process.

Generally speaking, humans are responsible to provide meaning to the data, but Checkland and Howell (1998) note that some definitions of information in the scientific field assume that the machine gives them meaning. Luís Madureira (2012) refers to Information as Processed Data. William Zikmund (2000), states that information refers to a body of facts and/or events organised in a convenient format to the decision making process or in a specific context that defines the relationship between the data. Furthermore, he offers the distinction between information and knowledge. The internalisation of information by a person to the point that it can use the same it is called knowledge.

Knowledge is a mix of contextual information, experiences, values and expert insight that provide a foundation for evaluating and incorporating new information.

Knowledge can be seen as the sum of two factors:

Knowledge = Internalised information + ability to use it

The term of Knowledge is also characterised by some complexity. Knowledge is within people and people are unpredictable and complex, therefore, it is not surprising to verify that knowledge is much harder to obtain than information. To Davenport and Prusak (1998), knowledge exists primarily in the depths of people and it is an integral part of the human complexity and unpredictability.

Furthermore, knowledge is endowed with a duality: it is something that can be stored and something that can flow from one person to another. This duality can, to some extent, complicate its treatment and management. For example, in an organization, the knowledge is not only present in documents and reports but it is also in routines, processes, practice and, especially in people.

Drucker (1997) points out an interesting feature of Knowledge. Knowledge will always be an increasingly more important driver of competitiveness, but knowledge is unlike any other type of resource has it becomes constantly obsolete and the advance knowledge of today may not be important tomorrow.

Luís Madureira (2012) defines Knowledge as an Insight that reveals to be true. An insight is Information that is understood, it is an understanding perspective on something. If it is a perspective on future events, it is called foresight; if it is a perspective on past events, it is

called hindsight. He also refers to the topic of Intelligence. Intelligence is seen as an actionable insight. That is, a perspective that can be put into place.

Therefore, we can have the following:

Figure 1 - Intelligence Development
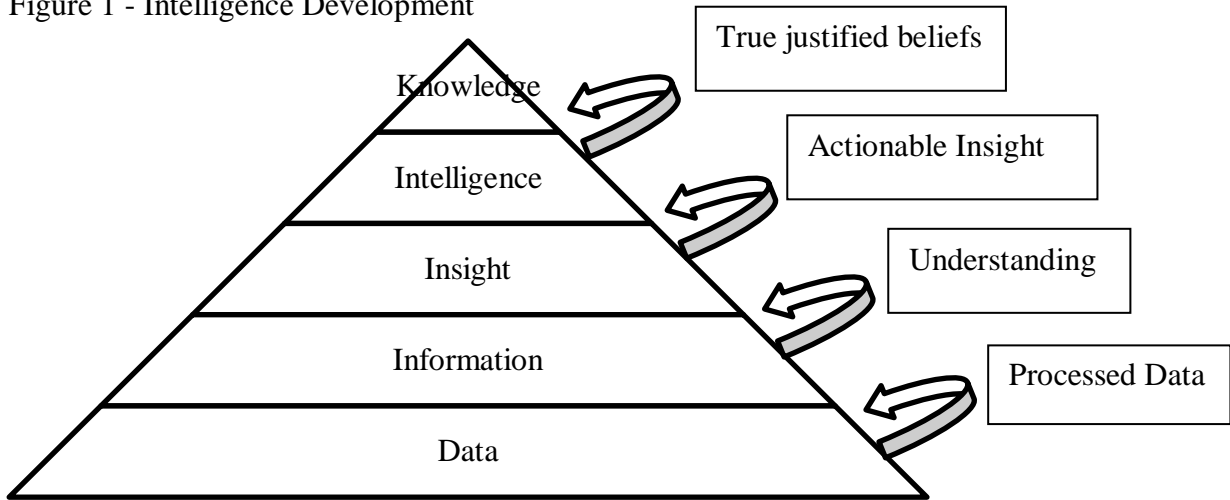
(Source: Madureira, L; *SMINT - Social Market Intelligence - Strategy, Innovation, Growth - International Exec, Lecturer & DJ. at OgilvyRED* [online] Availble at: <http://www.slideshare.net/lmadureira/2012-11-08-luis-madureira-scip-exec-address-slideshare.>)

Fuld (1995) defines and distinguishes 4 major topics: Data, Information, Analysis and Intelligence.

Table 1 - Data, Information, Analysis and Intelligence

Definitions	Examples
Data: Scattered bits and pieces of knowledge	• 1990: "The Dun & Bradstreet report told us that the competitor's plant had 100 employees" • 1993: "One of our sales people just passed by the competitor's plant and spotted only 30 cars in the lot."
Information: a pooling of these bits of knowledge	"Based on the D&B and the sales report it appears the competitor has lost business."
Analysis: distilled information	"After gathering more operational information and running it through a side-by-side profit and loss analysis, it appears the competitor has become highly efficient. It exceeds industry standards and has become a best-in-class facility."

Definitions	Examples
Intelligence: the implication that will enable you to make a decision	"The competitor would make a good acquisition candidate. Its lean-and-mean structure would fit well with our current operations.

(Source: Fuld L.M. 1995. The new competitor intelligence: the complete resource for finding, analyzing and using information about your competitors. New York: John Wiley & Sons)

This example clearly shows the importance of all stages, even when the path to achieve Intelligence differs between authors. If, for example, the process had been interrupted right before the analysis stage, and the decision maker had only relied on the collected information, it would probably draw wrong conclusions: the drop in employment equals poor financial conditions. With this conclusion, the competitor's operation would not be considered for acquisition as it would be dismissed as unprofitable. Considering that another competitor could have analysed the same information and saw a profitable operation, promptly snatching it from your company. The other company would have gain a potential competitive advantage – an advantage that your company as just missed.

Besides the importance of correctly follow a strategic analysis process of the information until Intelligence can be achieved, it is also important to refer that almost all companies have virtually access to the same information. Meaning, the process of converting it into actionable intelligence will be the difference between winning or losing the "game". It will be the Intelligence behind the information process that will differ between two competitors that sell similar products and have similar access to the market.

1.3.   The definition of Competitive Intelligence

There is not a simple and clear definition of Competitive Intelligence. Many are the authors you have written about the topic and many are the definitions given to the same.

The concept of CI can be traced back over 5,000 years of Chinese history (Qingjiu and Prescott, 2000). Many are the authors that point out various historical examples that address intelligence concepts, such as Sun Tzu, who wrote 2,400 years ago The Art of War, an influential work that provides a detailed description of how to develop intelligence on military applications (Sun, 1988).

Kelley (1968) refers that the notion of CI derived from a military and governmental context and it is defined as an organised and systematic effort to collect information, assess carefully and join to form a clear idea of things to happen.

There has been an increasingly effort by the Society of Competitive Intelligence Professionals[1] (hereafter referred to as SCIP) since the 80's to promote the concept, the expression, as well as the definition of CI. However, the same does not represent consensus and the activity is still confused with other organisational practices, such as, business intelligence, knowledge management, competitive and environmental analyses. Furthermore, some still confuse the terms corporate or industrial espionage, an illegal activity with CI.

Although this lack of clarity regarding the topic of CI, below some definitions of the same are introduced:

The SCIP (2004) states CI is the "process of monitoring the competitive environment and analysing the findings in the context of internal issues, for the purpose of decision support".

Competitive intelligence is characterised as the systematic and ethical program of gathering, analysing and managing information that can affect the company's decisions and ultimately, its business (Kahaner, 1996).

In essence, it is a methodology that supports the strategic thinking that consequently helps in the decision making process. Furthermore, it includes the selection, interpretation and distribution of publicly-held information that has a strategic importance.

Rouach & Santi (2001) state CI has being the art of collecting, processing and storing information to be made available transversally to all people within the company, with the purpose of helping them shaping its future and protect it against current competitive threats. That information should be legal and respect all codes of ethics. Furthermore, it involves a transfer of knowledge from the surroundings to the organisation within established rules.

According to the Business Dictionary (2003), CI is defined as the "continuous process of monitoring a firm's industry or market to identify (1) current and future competitors, (2) their current and announced activities, (3) how their actions will affect the firm, and (4) how to respond.".

Deschamps & Ranganath Nayak (1995) distinguished three types of competitive intelligence:

- Market Intelligence: creates a road map of current and potential customer's needs, emerging markets and creative segmentation opportunities, and major shifts in marketing and distribution.

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[1] In 1986, the SCIP was founded with the purposes of combining and training professionals of the field.

- Competitors' Intelligence: assesses the evolution of competitive strategy over time through the modifications in the competitors' structure, new product substitutes and new industry entrants.

- Technological Intelligence: assesses the cost/benefit of current and new technologies and foresees future technological discontinuities.

Gary Costly (2001), the former Kellogg's USA President, stated in a CEO Roundtable organised by the SCIP that "the big payoff for Competitive Intelligence is that it will point out weaknesses that you have internally because of the strengths of your competitors. Companies that don't do this will fail." Therefore, he stresses out the importance of a good CI program in companies. It is of a great significance to be aware of the surrounding environment, in this case, the competitors and try to understand how your company can improve and became a leading firm.

CI can help companies to develop better strategies to compete in the market. Its big contribution to technological knowledge, analysis of strategic behaviors of competitors and customers, innovation and intelligence systems is of a great importance.

According to Fuld (1995), "it is intelligence – not information – that helps a manager to respond with the right market tactic or long-term decision". Likewise, in the organisational field, intelligence is defined as "high-level, processed exploitable information" (Prior, 2009). Fuld (1995) describes what intelligence is not: "it is not reams of databases print-outs. It is not necessarily thick, densely-written reports. It is most certainly not spying, stealing, or bugging. Put most basically, intelligence is analysed information." Consequently, the concept of having the right information: the most updated, accurate and reliable are important. Raw information is not competitive; it can even be harmful for the company. If the information is not organised and can very well no longer be up-to-date, may lead the company to wrong conclusions about the business environment. Consequently, the resultds can be catastrophic.

Kahaner (1996) highlights the need to distinguish between information and intelligence and states that what managers need is intelligence not information to make decisions.

The key factor of CI is that it turns raw data (a collection of facts, figures and statistics) into intelligence (information organised and interpreted that reveals underlying patterns, trends and interrelationships). CI is a refined product that meets the unique needs and requirements of the decision-marker, unlike the simple set of unorganised raw data that is collected from the environment. Later on, managers can use that data to analytical tasks and decision making; therefore, CI constitutes the basis for strategic management.

SCIP (2004) points out that effective CI is a continuous process that involves the legal and ethical collection of information, its analysis and controlled dissemination of actionable intelligence that helps the decision-makers. Furthermore, and in order to truly support in an efficient way the decision-making process, the data must be the most exclusive as possible, timely and oriented towards the user's needs.

The following picture illustrates some aspects of important information for the CI process:

Figure 2 - Aspects of Competitive Intelligence
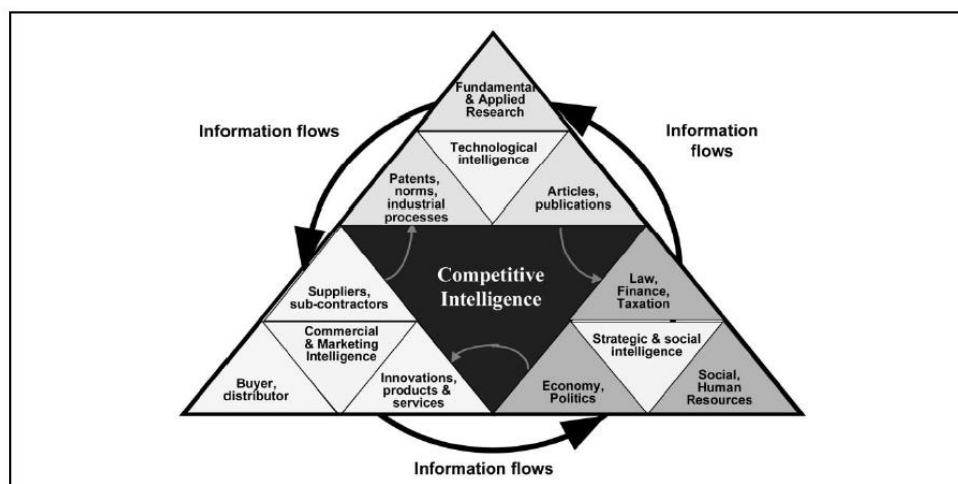
(Source: European Management Journal Vol. 19, No. 5, pp. 552-559, October 2001)

Fuld + Company (2014) characterise CI in 10 different points:

- CI is Information that has been analysed to the point where you can make a decision;
- CI is a tool to alert the management department to early warning of both threats and opportunities;
- CI is a means to deliver reasonable assessments. Competitive intelligence offers approximations and best views of the market and the competitors. It is not a peek at the rival's financial books;
- CI comes in many flavors;
- CI is a way for companies to improve their bottom line;
- CI is a way of life, a process. If a company uses CI correctly, it becomes a way of life for everyone in the corporation — not just the strategic planning or marketing staff. It is a process by which critical information is available for anyone who needs it. That process might be helped by computerisation, but its success rests upon the people and their ability to use it;
- CI is part of all best-in-class companies;

- CI is directed from the executive suite;

- CI is seeing outside yourself. Companies that successfully apply competitive intelligence gain an ability to see outside themselves. CI pushes the not-invented-here syndrome out the window;

- CI is both short- and long-term. A company can use intelligence for many immediate decisions, such as how to price a product or place an advertisement. At the same time, you can use the same set of data to decide on long-term product development or market positioning.

1.4. Sources of Competitive Intelligence

Many are the companies that rely on external information to provide them with accurate data on competitors, client trends, and almost all types of research studies. Firms such as A.C. Nielsen Co. provide subscribers with updated data on brand share, retail prices and percentage of stock-outs stores, among others. A company that is able to put into practice a plan to successfully be aware of all this data, will be able to spot almost all the opportunities and easily find a good way out from the problems or even better, be able to predict the constraints previously to its occurrence. Market Research.com, LexisNexis, Finsbury Data Services and Hoover's web site, are other corporations that offer company, country and industry analyses. Furthermore, the easy access to information through internet has changed the way strategist engage in the environmental scanning. Internet offers the quickest resources to obtain data on almost any subject. There is a setback though, the scope and quality provided may not be the best, and companies must be aware of that issue and fight it in order to make accurate conclusions. Fuld + Company (2014) state the importance of being aware of how to use and misuse internet. Its reach is great, but you need to sift, sort, and be selective on its content. Nevertheless, companies can not only rely on external data. Internal information is crucial to succeed as it gives a full perspective of the organisation: weakness, strengths, and resources' usage, among others key factors. Internal sources of information will help the company to better know itself and when balanced with the external information collected and analysed from the competitors and the industry will give an accurate perspective of the place the company has in the sector. Besides, knowing their employees, their strengths, weakness, aspirations and ambitions can also help the company to shape and enhance their human resources force to have the best human power in place.

1.5.   What Competitive Intelligence is Not…

- Something new

CI is certainly not an invention of the 21th century. Fuld + Company (2014) state CI has been around as long as business itself. It may have operated under a different name or under no name at all, but it has always being present.

- Espionage

CI is often not taken seriously and most managers do not realise that by not using it on their company, they are indirectly jeopardising its potential to growth and success. One plausible reason that can, to some extent, explain why that happens is the lack of an accurate differentiation between the concept of CI and espionage. Espionage is an illegal activity carried out by some unethical companies trying to overcome others by using inappropriate methods. CI is an ethical activity that lays in the ability of a firm to correctly assess the information available in the market, filter it (what is important and what is circumstantial), and transmit it to those who will make the decisions within the company.

Managers should beware of both legal and illegal methods of collecting information. According to CSIS/SCRS (1996), the companies that are more likely to be a potential victim are those who either have important clients or operate in specific areas such as aerospace, biotechnologies, chemicals, among others. Likewise, the more successful an organisation is, the more likely it will be a target of industrial espionage. Furthermore, if a manager is aware of the two types of collecting data, will put into practice safeguard measures that can help to protect its company. Galen *et al* (1997), state it is easier to conduct industrial espionage on a company with overseas operations as the same is not as able to protect the company as it is in the national market; the overseas partner might not be following the same procedures.

Fuld + Company (2014) state that CI is not spying as spying activities imply illegal or unethical activities. Bartes (2010) defines CI as analogous to intelligence activities conducted by intelligence agency. It differs as it only uses legal methods of work and legal information sources.

- Knowledge Management (KM)

KM, as the name indicates, is about being able to manage the knowledge individuals have. KM in the organisational panorama means that the company supports their people so they can effectively use their knowledge. The primary focus of this technique has been on the capture,

sharing and distribution of unstructured information (textual and graphic) as opposed to the structured, organised and goals oriented data CI provides.

- Business Intelligence (BI)

Business Intelligence, on a broader scope, is concerned with information technology solutions that transform the output from large data collection into intelligence, usually by integrating the sales, marketing, and servicing and support activities. On a narrow scale, it is also referred to as Customer relationship management; it covers activities like data mining and enterprise reporting and the associated software. Therefore, Competitive Intelligence can be seen as the fuel that gives power to the Business Intelligence process.

- Competitive Analysis

A competitive analysis is characterised as the identification of the competitors and evaluation of their strategies to determine their strengths and weaknesses relatively to your own.

CI involves the collection of information, internal and external to the company. It includes information from competitors, but also from customers, suppliers, technologies, among others. Gilad (1996) states CI is designed to provide an early warning and helps to anticipate the moves of competitors, customers and governments. All this suggests that the focus of CI covers the entire competitive environment, not just the competition.

Knowing the competitors is important but not sufficient to succeed. And although it can help to detect important current and potential threats and consequently, reduce the response time, it is only an action combating the many threats in the market.

The systematic scanning offered by the CI approach, including noticing and interpreting competitive stimuli, is critical for companies to stay abreast to changing market conditions and avoid costly mistakes (Patton and McKenna, 2005; Anderson and Hoyer, 1991).

Wright *et al.* (2002) distinguish competitor intelligence from competitive intelligence. They define Competitor Intelligence as those activities by which the company determines and understands its competitors, their strengths, weaknesses and expectations of their actions. On the other hand, Competitive intelligence extends the role to include consideration of competitor responses to consumer/customer needs and perceptions and one's own responses in the strategic decision-making process.

- <u>Environmental Analyses</u>

Environmental analyses evaluate the external forces and conditions of a specific industry. A good example is the PESTEL analysis. The same assesses 6 factors of the external environmental sphere to the company, political, economical, social, technological, environmental and legal.

The external analyses can be seen as a form of CI, the CI analysis studies the internal and external factors of the company.

- <u>Crystal ball</u>

Fuld + Company (2014) refer competitive Intelligence is not a crystal ball. There is no such thing as a true forecasting tool. CI enables organisations to have good approximations of reality, short- and long-term, but it cannot predict the future.

- <u>Date base search</u>

Databases are just a small portion of all there is in the CI world, they constitute the smallest particular of the Information department, the data. Databases are simple displays of raw information. Fuld + Company (2014) state CI is not database search. Databases offer just that - data. Databases do not massage or analyse the data.

- <u>Software</u>

Fuld + Company (2014) state Competitive Intelligence is not software. Software does not in and of itself yields intelligence. Software has become an important resource of CI with numerous software houses producing products for the intelligence marketplace. However, software does not truly analyses, it is capable of collecting, makes contrasts and compares data, but the true analysis is a process of people reviewing and understanding the information.

- <u>Spreadsheet</u>

Fuld + Company (2014) state Competitive Intelligence is not a spreadsheet. Intelligence comes in many forms, only one of which is a spreadsheet or some quantifiable result.

- <u>Competitive Intelligence is not paper</u>

Fuld + Company (2014) state paper is the death of good intelligence. Think face-to-face discussion or a quick phone call works more efficiently than paper delivery.

- One man show

Fuld + Company (2014) state Competitive Intelligence is not a job for one, not a job for just one smart person. One person can be responsible for oversee the CI process in the organisation but that one person cannot do it all.

- Internet or rumors' chasing

Internet is one source of data, but that is it. Fuld + Company (2014) state the internet is primarily a communications vehicle, not a deliverer of intelligence. You can find hints at competitive strategy, but you will also uncover rumors disguised as fact, or speculation dressed up as reality.

- Competitive Intelligence is not a news story

Fuld + Company (2014) state newspaper or television reports are very broad and are not timely enough for managers concerned with specific competitors and competitive issues. If an organisation is only aware of a situation after seeing it in the news or read it in a magazine, the chances that others in the industry have already spot that issue are incredible high. If CI was this, then the advantage of using CI – have a more accurate and less time consuming decision – was lost. Nevertheless, some information can be found on these networks.

1.6. Objectives and benefits of Competitive Intelligence

The literature on CI reveals the important existing challenge in measuring the outcomes and impacts of intelligence (Gainor and Bouthillier, 2012). Furthermore, the results of some CI' surveys have revealed the lack of a formal measurement of CI processes, products or outcomes (Herring, 1996; Marin and Poutler, 2004; Prescott and Bharwaj, 1995).

The two main reasons that explain why measuring CI is so difficult are relates with, 1) the challenge of conceptualising CI value in order to better distinguish between effectiveness, benefits, outputs and impacts; and 2) the lack of an accurate isolation between the sense of CI processes and products.

The big issue behind these two reasons lays in the attempts made by the companies to measure the entire CI model, rather than closely examining and testing each element of the model and seek a connection between CI and the organisation's performance measures (Calof and Wright, 2008).

Although there is a significant difficulty to study the outcomes of CI in the business environment; practitioners of CI, when surveyed, have stated that they are conscious of the necessity for measurement and consider its development a priority for their field of practice (Hannula and Pirttimaki, 2003; Qingjiu and Prescott, 2000). Prescott and Bharwaj (1995) conduct a large-scale survey to members of SCIP and conclude that the same believed that CI could benefit the decision making, sharing information and identifying new opportunities processes. But, were uncertain as to how CI could impact on strategic areas, namely, on market position, revenues, customer service and increased capabilities. Back then, the authors emphasize the need for metrics that would enable CI units to better assess their role and impact within organisations.

Not all studies reveal the same, Jaworski and Wee (1992) found that CI was applied to strengthen the quality of the strategic planning process by improving the knowledge of the market. Qingjiu and Prescott (2000) perceive that Chinese CI practitioners believed CI could positively impact the decision making and customer service processes.

Hannula and Pirttimaki (2003), who studied Finnish CI practitioners, found that their most-expected benefits when using CI were related to having better information for the decision making process; ability to anticipate threats and opportunities; growing knowledge; and saving specially in time and money.

Generally speaking, we can say CI enables the company to assess all that the market has; it acts like a radar screen spotting new opportunities or helping to avert disaster. It tracks competitors' activities and also empowers the firm in monitoring its activities and development.

Furthermore, the objectives of the CI programs are intimately linked to its benefits:

- Provide information that can be used to positioned the company on the frontier of competitive advances;
- Add value to the information, seeking organisational growth;
- Detect competitive threats;
- Eliminate or reduce surprises;
- Find new opportunities;
- Enhance competitive advantage by lessening reaction time;
- Help in the decision making process.

Since the perceived benefits of using CI are more or less transversal to all the companies, the big question lays on the development of the right measures to understand in a more accurate way its impact on the different sectors of the company.

1.7. Competitive Intelligence cycle (the different stages)

The definition of Competitive Intelligence does not gathers consensus among all the practitioners, the same happens with the different stages which constitute the CI cycle. Kahaner (1996) states CI is a total process and not just a function in the company. Furthermore, it differentiates between four stages:

- Planning and Direction: this is the first stage of all the process. It is necessary to define the intelligence action and start the procedure; understand the user's needs is fundamental to the success of the same. The time-frame is also important, as it will determine the allocation of the resources and those that are needed to find and which types of collection processes to use.

- Collection: the second step involves the collection of the raw data. The author distinguishes between three types of data: "White Information" (open source information) – it can be found publicly in databases, newspapers, among others; "Grey Information" – this type of information covers private domain data such as trade shows; "Black Information" – it includes illegally-obtained information.

Figure 3 - Classification According to Information Types
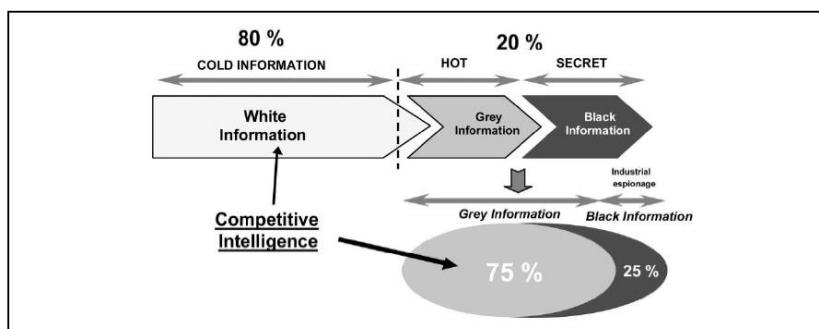
(Source: European Management Journal Vol. 19, No.5, pp. 552-559, October 2001)

- Analysis: the core element in the process: it turns the raw collected data into usable intelligence. According to Joseph Rodenberg (1998), it is illustrated in the following figure the Intelligence Production Process and the Analysis part is put on the top of the

pyramid through which the added value of information is increasing from simple information gathering to intelligence production.

Figure 4 - The Intelligence Production Process

Source: Rodenberg, May 22, 1998
(Permission granted)
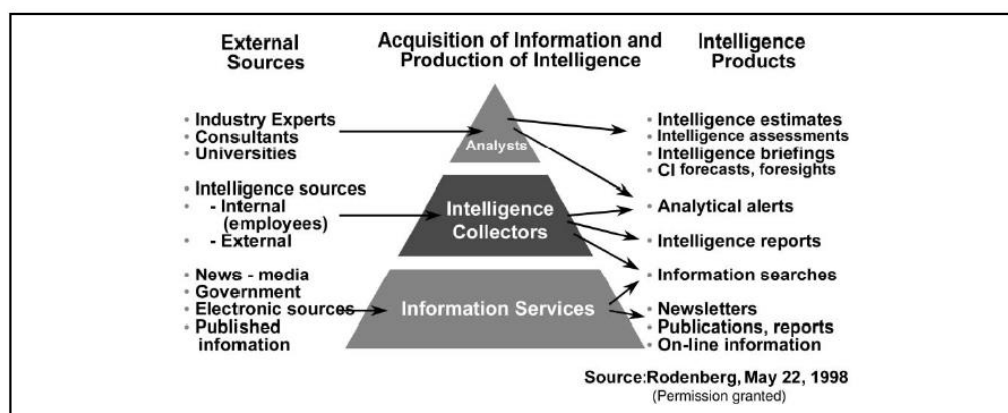
(Source: European Management Journal Vol. 19, No.5, pp. 552-559, October 2001)

- Dissemination: this represents the final stage of the CI process. In this stage the analyst proposes possible courses of action and allocates it to end users, according to their needs.

For Fuld (1995), one fifth step should be included: storing and delivering the information together with the implementation of security measures.

Ashton and Stacey (1995) go a bit further and would like to include a sixth step: auditing the system's performance.

For Vella & McGonagle differentiate the process of CI in four phases:

- Requirements: in this first stage, the company recognises the need for CI, defines the type of issue (strategic or tactical) that is motivating the project, what questions need an answer, who will be the users and how CI will be used. In this stage the company conducts a plan, a structure of how the all process will be conducted.

- Collection: in this phase, all the data needed is going to be systematically acquired. For this process to take place successfully, the company must determine who is going to perform the CI (if is going to be a separate CI professional, the user of the CI or both), have a frank understanding of the constraints on the assignment (time, money, organisational, informational and legal issues and identification of the relevant rivals), and have already identify potential data sources (where to look for what).

- Processing: In this phase, all the data already collected will be organised and analysed in order to transform it into Knowledge (CI). According to the authors, this process

may include the comparison and/or the integration of the information with CI obtained from other sources; plus the measurement of the results of the research against predetermined "benchmarks".

- Dissemination: this represents the final phase, and it is characterised by the distribution, on time (it is expected), to those who have requested it.

According to the Institute of Management Accountants (1996), the process of CI can be expressed has follows:

Figure 5 - The Competitive Intelligence Process
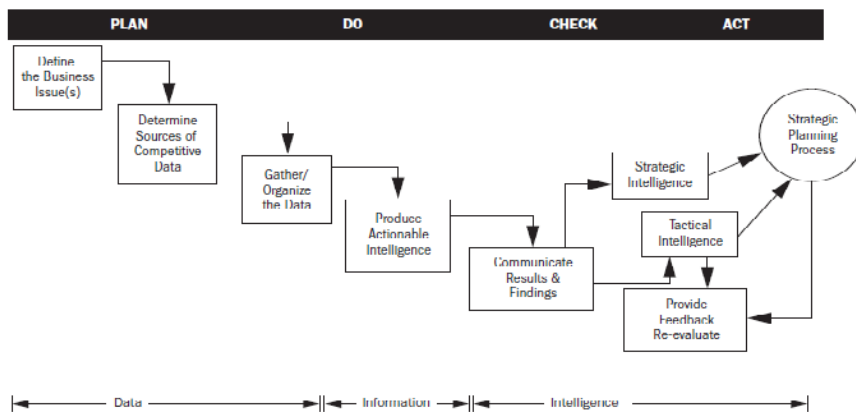
(Source: Institute of Management Accountants, Developing Comprehensive Competitive Intelligence, 1996)

Meaning, the process will be divided into seven different phases:

- Define the Business Issue(s): in this phase, the answer for the following questions should be given, "what kind of intelligence is expected and for whom?; How will they use the competitive Intelligence?; and When do they need it?".
- Determine the Sources of Competitive Data: after the first phase has been conducted and all the business issues identified, as well as the project correctly delineated, it is necessary to identify and utilise the key sources of competitive data. The key sources of CI data are: Internal staff – data that most organisations already possess about the market and in a more particular way their competitors. It is information that for example, the distribution function comes across while contacting intermediaries in the distribution channels; Published information – there is plenty of published information about the industry that if the company organises can build a competitive advantage. For example, patents and/or technical articles written by competitors can give a good perspective of the direction the company is takin to what concerns technical issues;

Third-party interviews – organisations must be aware of the contacts they have with external groups and individuals that also encounter its competitors and can provide good information. Two examples are the trade associations and trade press; finally, the Commissioned research – some organisations like to, more than collect themselves the information from the market, buy information from market research companies.

- Gather and Organize the Data: in this phase, the firms have to classify all the data collected so they can be logically stored and retrieved. According to the authors, one useful framework includes three major categories: industry data, data collected from each competitor being tracked and competitive data that is related with some specific areas that the management area is particularly concerned about.

- Produce Actionable Intelligence: in this fourth step, the organisation has to verify all the data with both line and staff managers. It is important to obtain their acceptance before proceeding to the next step has it avoids having the data supporting conclusions that line and staff managers oppose to. Besides, the organisation needs to use some criteria to evaluate if the information it has found provides competitive intelligence.

- Communicate Results and Findings: in this stage, all the competitive intelligence data will be transmitted to the decision makers, closing the link between those who collect and analyse competitive information and those who will use it to make decisions.

- Provide Input into the Strategic Planning Process: this is the sixth step of the process and is characterised by the necessity to guaranty that the data communicated to the decision makers is a key component to the strategic planning process.

- Provide Feedback and Re-evaluate: this is the seventh and last stage of this process. In this phase, the users can assess the significance, timeliness and comprehensiveness of the material. This phase is very important as it can help to clarify user's needs, identify key missing information and suggest new areas of investigation.

1.8.   Setting up a Competitive Intelligence Unit

In order to develop a CI unit in an organisation, it is necessary to define the process and the structure of the same. CI requires an appropriate set of policies, procedures, and the definition of an infrastructure in which employees can effectively contribute to the all process. A formal structure and a systematic approach to intelligence enhance the sense of corporation support within the firm (Cox and Good, 1967; Cleland and King, 1975; Gilad and Gilad 1985, 1986;

Ghoshal and Kim, 1986; Porter, 1980). Here, the definition of corporation support is linked with the receptiveness of the firm to the presence of a formal CI process. The corporation support can be assessed through, for example, the organisation culture. That is, the process of "knowledge sharing" is encouraged or discouraged within the firm.

Besides, the definition of the process and structure to the CI process, the sense of organisational awareness and culture is extremely important for the success of a CI unit.

According to Garvin (1993), Sinkula (1994), Slater and Narver (1995), in order to CI be optimally used, the company needs to have an appropriate organisational awareness of CI and a culture of competitiveness. Furthermore, it is important to create the right environment for CI to succeed. The organisation must develop CI awareness and encourage both intelligence and information sharing. Fuld (1995), state that organisations can enhance awareness and participation within the same by using various methods. Among them, the incentives available to recognise or reward useful contributions are a good example.

Rouach & Santi (2001), propose their own process to set up a CI unit after analysing some models adopted by different companies and experts. Their model is based in five phases:

- **Incubation:** this stage aims to assess the necessity to set up a proper CI structure through the analysis of the company's efficiency in the treatment of information. Furthermore, in this phase, for example, the company must be able to identify the gap which may exist between their perceptions of the external environment and the reality. Ultimately, this stage should clearly identify the attitude to adopt and the objectives of the process.

- **Conception:** this is the second stage and a very crucial one, has it is responsible for the definition of the whole process components: what sources, which users, what structure, among others. This stage is strongly linked with the first one and its process results directly from the objectives defined in that phase.

- **Implementation:** this stage involves the launching of the process. It is a very important step has it deals with the CI culture within the company and it must consider ethical and legal issues in order to guarantee the integrity of the company's actions.

- **Structuration:** this phase is concerned with the selection of the experts to be recruited for the development and management of the CI unit.

- **Evaluation:** In order to ensure the efficiency and efficacy of the process it is necessary to continually assess the same. Therefore, the unit must assess the efficiency

of the tools and of the team, and always re-orient the unit according to the necessities expressed by the company and by its external environment.

Figure 6 - Development of a Successful Competitive Intelligence Unit
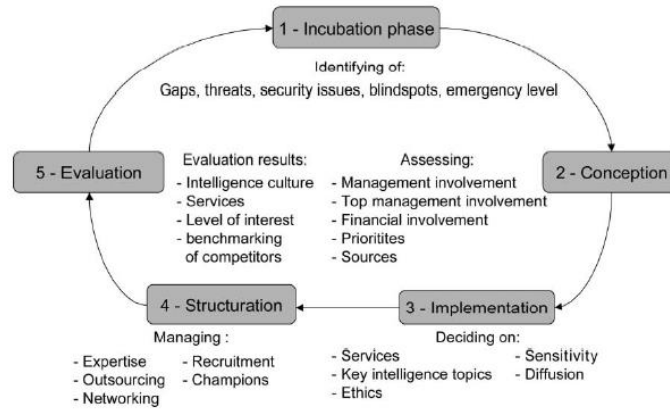
(Source: European Management Journal Vol. 19, No.5, pp. 552-559, October 2001)

1.9. Competitive Intelligence in non-business sectors, particularly at Universities

The globalisation's elements in the Higher Education Sector are widespread and complex. The market is competitive for both revenues and students. The global phenomenon is clearly established, particular in the major-English speaking countries: Canada, the US, Australia and the UK. In this context of increasing competition, universities now recognise the necessity for market themselves. Newman, Couturier, and Scurry (2004) state Market influences and competition for revenue are evident throughout the higher education landscape. Pursuing sources of revenue has become a constant pressure as well as identifying opportunities for growth and strategic positioning is now crucial to survival. This situation offers the opportunity for universities to shift their institutions' focus away from the traditional methods of revenues generation and information treatment and identify new ways which are unique, marketable and profitable.

Their biggest challenge is concerned with achieving excellence. One way of enhancing the excellence in the processes is to stimulate specialisation and competitiveness between all universities. The Lisbon European Council (2000) states that "Europe needs excellence in its universities to make it a more competitive and dynamic knowledge-based economy with the capacity to sustain economic growth and create quality jobs that guarantee greater social cohesion."

According to the Commission of the European Communities (2003), two of the current university goals are: 1) ensure greater adaptation of the university educational offer to the needs of the society and the requirements of the labour market. A good example was the introduction of the Bologna Process, which reform almost all the degrees in the European Higher Education Area (EHEA); and 2) increase university contribution to local and regional development. Therefore, to be able to monitor market trends and correctly assess the surrounding environment it is crucial to define suitable qualifications and ensure a proactive evolution.

Besides the pressure for excellence, universities operate in a very dynamic and constantly evolving environment. Consequently, and according to Cobarsí (2005), they feel an increasing pressure to position themselves in any of the following areas: securing students, securing talent (researchers and lectures), gaining the interest of other external agents or responding to the appearance of new social and economic needs. In addition, the current trend highlights that universities receive financial contributions on the basis of competitive criteria. Finally, there are some emerging threats universities are now facing that include, but are not limited to:

- Shrinking enrollment;
- Rising costs;
- Demographic changes;
- Online Competition;
- Increasingly competitive fundraising environments;
- Accreditation pressures;
- Recruiting needs;
- Decreasing state and federal funding opportunities.

Hughes & White (2005) emphasise that the uncertainty surrounding these threats requires universities to place a strong accent on improving efficiency and effectiveness in the way they structure, manage and deliver their services.

As a consequence, universities need to pursue more efficient and professional management structures and models that will help them to deal with the changes on the environment and, at the same time, establish or strengthen relations with external agents. Peltoniemi *et al.* (2005), state it is important to stimulate cooperation as another element of competitiveness.

CI can easily be the answer to all the challenges universities are facing.

Higher Education Institutions, more specifically Universities, can address Competitive Intelligence from two perspectives: an organisational one and an academic one. From an organisational perspective, the way it would be applied would not differentiate much from any other organisations; of course, that it should converged to the topics the university perceives as important and wants to assess and should be worked on based into the strategy and structure of the university. From an academic perspective, although the topic would be not exclusively to universities, as organisations may want to instruct their employees into the subject according to their goals, it is important to state that universities place a very important role in the formation of students and they could tailored their curricular to offer CI. Like any other subject, such as marketing or accounting, CI can have a relevant place in the offers of the universities.

Bergeron *et al.* (2002), denotes that the practice of CI is very common in companies, primarily in the English-speaking, Japanese, French and German arena, and that CI has been noted for its relevance and use as an instrument that contributes to the strategic planning process.

If in the past, CI was primarily adopted on business sectors, today the CI techniques are starting to be applied to a broader spectrum of areas, as public bodies and universities. That is, there is an increasing recognition of its importance and therefore, the CI activity is starting to leave the sphere of pure business-sectors and entering the non-business sectors. But, and although CI techniques have successfully been adopted in the business landscape, these methodologies have no yet gained general acceptance as an asset within the not-for-profit educational arena.

Universities have always adopted management tools and techniques from the business field in order to better survive to the changes in the environment.

Hughes and White (2005) highlight the importance CI activities could have and that they should play a role in the broader strategic process – one that could support and improve on-going controls of multiple higher education environments through the application and dissemination of CI activities across departments.

SCIP (2004) states CI methodology evaluates and disseminates external information that can help the organisation in the decision making and design of strategic processes.

Currently, and on one hand, CI techniques are being mostly used to analyse the university-company relationship from the technology and knowledge transfer perspective. And, on the other hand, the majority of CI activities within the higher education level are very focused on developing academic programs and curricula to prepare accredited competitive professionals.

CI techniques within this sector have not yet directly contributed or benefited the strategic planning process (Hughes and White, 2005). Very little has been conducted with respect to the application of CI techniques to the decision-making process, although some studies suggest its benefits. A study was conducted at some Chinese universities (Liu *et al.*, 2006), which evidenced that the CI theory and techniques are an excellent support for developing the competitive strategies of universities in today's society. Furthermore, the significance of applying CI methods to the university strategic planning process was also discussed at the annual conference of the Indiana Association for Institutional Research (Cronin, 2006). Therefore, it can be concluded that the academic circle is already, to some extent, aware of the benefits CI techniques can have on their business. To same extent, it can also be stated that universities already understand the role they can play in educating students about CI; universities could be the vehicle that introduces CI and that helps shaping the way the students perceive and use the information that surrounds them. For example, in Portugal it is possible to find a master degree in Competitive Intelligence in the Universidade Fernando Pessoa, in Oporto.

However, and although there are some evidences that the higher education institutions could benefit from CI activities, some factors have been limiting its adoption: the lack of a for-profit orientation, lack of resources, fears of academic turf wars, general disagreement about the meaning of CI and a mismatch of CI principles and practice in the university's business environment (Fine, 1987; Giguere, 1999; Wagner, 2003; Horne & Parks, 2004).

Hughes and White (2005) state the argument remains concerning higher education's resistance to change and the need for the developing processes to collect, analyse, and disseminate information more effectively as universities increasingly encounter threats to their operations.

1.10. Risks of not using Competitive Intelligence as a corporate technique

With the technological advancement, there has been an explosion on the documentation made available. The amount of accessible data in digital form has increased, making it very easy to anyone with a computer to access it.

Sensitive information to the company may easily be obtained through legal and ethical ways, like with the use of CI. There is a set of documents that the companies must publish, such as their annual report. Once all that documents are put together and closely analysed, they can provide useful information to predict changes in the firms' direction, or to infer on details of

new products and innovations (Weiss, 1997). And on this case, only legal and ethical ways of obtaining information are being accessed, because if a company uses unethical ways to obtain information about the market or a competitor, can easily deduce same good and harmful conclusions.

Complete security is impossible! As a consequence, those companies that do not use CI are more expose to threats since they are not well-informed and lack the ability to make quick decisions and prevent changes.

Furthermore, CI is not a linear process; it is composed by multiple stages – that although same may differ in name and/or context from author to author – all together make the CI process a very important milestone in the companies' progress.

For example, the first stage, which is cross-cut to almost all authors (however sometimes addressed with a different name), is related with what the company wants to assess, what is important for the organisation. Namely, we can say it is related to the Key Intelligence Topics or requirements that ultimately will answer the question: "what do we need to know?". If a company misses this stage, it will possibly be looking for information in the markets (external sources) and in the organisation (internal sources) with no guideline or categorisation of what is really important to check at that time. All information will be collected and the organisation will lose important time and resources on the analysis and defragmentation process that in fact would not be necessary. Plus, the data collection can become outdated and all the hard work goes into the bin because the window of opportunity and the time to assess those issues finished.

Or even worse, the company can make a wrong decision based on that outdated information.

2.   Methodology

2.1.   Illustration of the philosophical underpinnings of the research

Ontology, Epistemology, Human Nature and Methodology are four types of social research strategies.

Ontology is responsible for studying the way individuals interpret the world. There are two possible approaches to the world in ontology terms:

Objectivist – sees the world in an external way, believing reality is there in spite of individuals; and subjectivist – sees the world in an internal way, and believes reality is a product of individual cognition.

Epistemology is responsible for the study of knowledge: "what is knowledge?"; and "How do we know what we know?"; are same questions that it can give an answer to. There are two possible approaches to knowledge in epistemology terms:

Positivism – the individual believes there is a single, external and objective reality to any study regardless of the researches believes; and Interpretivism – individuals believe reality is relative and multiple. Furthermore, it can exist more than one single structured way of accessing the different realities.

Human Nature studies to what extent individuals' choices are "free" or "pre-determined". There are two possible views of the world in human nature terms:

Determinism – individuals believe humans are a part of the world and do not create it; and Voluntarism – individuals believe humans are the creators of reality.

Methodology is responsible for the study of the way individuals perceive social sciences. There are two possible approaches regarding methodology:

Nomothetic – individuals believe there are general laws of behaviour that can be applied to all the theories; and Ideographic – individuals believe each event is unique and cannot be interpret in the same way.

For this study, regarding Ontological terms, it was taken a subjective perspective and on an Epistemological terms an interpretivist perspective. That is, there are multiple realities that exist in the form of mental constructions and are socially localised. Additionally, it emphasises the role of the researcher/creator of knowledge. Concerning Human Nature, a voluntarism approach was taken meaning the human are the creators of the reality as we know it. Finally, regarding the Methodology, an Ideographic approach was taken meaning, individuals believe each event is unique and cannot be interpret in the same way.

2.2. Illustration of the research approach (inductive vs. deductive)

The research approach is grounded in the role the theory plays in the relationship with the social research. As this research philosophical underpinning as Ontological, Epistemological, Human Nature and Methodological terms are Subjectivism, Interpretivism, Voluntarism and Ideographic respectively, the right way to illustrate the research is on an Inductive way. An Inductive reasoning is used because the researcher intends to discover the intent, the purpose of the action, studying it in its own significant position. That is, the meaning of the research has value while inserted in the research context. The research adopts a position in which it tries to understand the situation without imposing prior expectations to the phenomena studied.

2.3. Illustration of research design

The identification of the research design is fundamental for the success of any work; when selecting a research design it is important to ensure that it is valid, workable and manageable (Kumar, 2005).

The research designs can be classified on the basis of the number of contacts with the study population. According to this topic, the research design used is the **cross-sectional one**. That is, more than one case analysed and at a single point in time. This type of research design is useful in obtaining an overall picture as it stands at the time of the study. Furthermore, it is possible to specify five important topics within a research study:

1) Research problem/objective:

The research problem has the important function of focusing the attention of the researcher to the phenomenon in question, playing the role of "lead" in the investigation. Thus we can conclude that, formulated or emerging, the issue of research is critical because (adopted from Coutinho, C., 2013, p. 49-50):

- Focuses the research on a specific area or field;
- Organises the project, giving it direction and coherence;
- Delimits the study showing its borders;
- Guides the literature review to the central issue;
- Provides a framework for the drafting of the project;
- Points to the data that should be obtained.

Having these key ideas in mind, the research objective or hypothesis of study is:

Can the topic of Competitive Intelligence be related to the universities from an academic and organisational point of view?

2) Tools Utilized: Interviews – qualitative research method;

3) Identification of the study population: All respondents are experts on Competitive Intelligence.

4) Access to respondents in order to collect the required information: Some interviews were conducted in person while others were made via computer;

5) Time Frame: The population was interviewed into two different phases. The phase 0 or test phase, conducted in the beginning of October 2013, and in the phase 1, conducted from October to November 2013.

2.3.1. Illustration of the research methods

The research method utilised was the interview.

- The phase 0 or also called the test phase, is solely composed by the application of a test interview to an expert and also professor of Competitive Intelligence with many years of experience in the field. The objective of this stage is to correctly define and finalise the interview guide in order to retrieve the best output possible from it. The conclusions taken from this stage are crucial for the success of the study.

- The phase 1 aggregates the application of 7 structured interviews to experts in CI.

Summarising:

Table 2 - Organisation of the interviews in time and objectives

Phases	No. of Interviews	Objective	Time-frame
Phase 0 or Test Phase	1	- Correctly define and finalise the interview guide; - Analyse the hypotheses	Beginning of October, 2013
Phase1	7	Analyse the hypotheses	October-November, 2013
Total	8		2 Months

2.3.2. Illustration of the sampling methods/and of the sample

According to Coutinho, C. (2013), for this process, three points need to be consider:

a. Identification of the population and sample: Academics or managers.
b. Selection of the sample: Non-probability sampling, based on the Judgmental Sampling (Charles, 1998). This was the method used as some segments of the population for the study were selected according to a predefined criterion that balanced two key factors: their knowledge of Competitive Intelligence and their knowledge of CI applied in universities. Plus, but not exclusive, professionals who might or might not already have applied this theme on their jobs as managers or have taught the same in a class.
c. Sample size: 8 interviews.
   Some authors advocate to be more important the caution in the sampling selection than properly in the size of the same.

2.3.3. Illustration of the access issues

Regarding the easiness on the access to the information two factors can be considered: **Gathering the interviewees and get the responses** and **Relevance of the Literature Review** (the latter although it is not a direct part of the methodology, it represents an important impact on it and therefore it is also here considered):

- **Gathering the interviewees and get the responses:** Gathering the people to interview was a bit tricky, but following the criteria selected for the sampling and based on some own research and also a very important help by one of the interviewers, getting the other contacts was relatively accessible. However, getting people to answer the interviews was a bit complicated mostly due to time constraints. That is why some interviews were conducted on the computer.

- **Relevance of the Literature Review:** The choice of the relevant literature to address mainly the key authors and the key papers it is crucial to make a good analysis. Furthermore, more than making a simple resume of the theories it is important to critically discuss and show insight and awareness of the different arguments. Finally it should be correctly linked to the purpose of the research and its rationale. Therefore, it was a bit of a constraint to make sure that the relevant literature review was addressed.

2.3.4. Explanation of the data analysis process that was carried out

This process was divided into 5 stages:

1. **Data reduction**: Miles and Huberman (1994) stated that "Data reduction refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data that appear in written up field notes or transcriptions.". The goal of this stage was to out of all the data collected from the interviews be able to reach to the most important outputs.

2. **Organise the data**: this stage is strongly linked with the previous one. Due to the open and flexible nature of the qualitative researches that almost always produce a huge amount of descriptive information, it is necessary to organise and reduce it to allow the correct description and interpretation of the phenomenon under study.

3. **Coding**: the goal of this stage is to divide the data and rearrange it into categories to facility the analysis.

4. **Test the hypothesis**: this stage comprises the validation of the outcomes of the study counterpointing the same with the hypothesis previously raised.

5. **Description**: this stage is responsible for offering a summarisation of the outcomes researched on this data analysis but lacking a critical point. It is a mere statement of facts.

The choice of this process was based on the inductive nature of this research that needs a specific address to the data collected. The challenges encountered are essentially related to the data treatment. The data comprises many different statements and ideas transmitted by the interviewees and it was hard to correctly separate the more meaningful things from those that could be cut off. That is, the data reduction and consequently organisation was an important process that represented an arduous and rigorous task. Additionally, the process of the coding: the organisation of the different ideas into categories; aggregating the data was a very meticulous task.

2.3.5. Illustration of the validity and reliability aspects of the research

Validity is concerned with the integrity of the conclusions that result from a research. It also determines to which extent a test measures the concepts it proposed to address. Furthermore, it analyses how accurate were the data collection and data analysis processes.

Qualitative researches are iterative rather than linear and therefore, moving forward and backward between the planning and development are exactly what endows and ensures the congruence among question formulation and research, the literature review and sampling, and also the collection and data analysis. On this research that same behavior was taken to ensure all that. The results and conclusions were only reached and taken as static for the purpose of this study when the congruence between topics was reached (based on the opinion of the researcher). There are no linear thoughts and the researcher adopted a self-corrective attitude. However, same critics can be made, especially regarding the sampling size. As only 8 experts were interviewed, this research can lack a bit on validity.

Reliability is related with the possibility of replicating a study and obtaining the same result. Since the study is based on subjectivist, interpretivist, voluntarism and ideographic approaches, the sense of reliability is not very important and the study lacks it. If this study was again conducted, different results could be reached.

3.   Data analysis

On this stage, eight interviews were conducted. On the appendix number I it is possible to view the full transcript of the test interview (phase 0) that was conducted to Professor Luís Madureira. And on the appendix number II it is possible to verify the evolution of the questioner. The questionnaire consists of eight questions; the eighth question is a suggestion for a future study on the topic and, therefore, it will be discussed and analysed in the topic "Research Challenges and Suggestions for future research" (topic no 5.).

In order to better analyse the data collected the Coding process is applied. The same consists of two different levels of coding: in the first level, each one of the most relevant excerpts is aggregated into eight major categories. For the second level, the aim is to aggregate similar answers, understand if more than one interviewee has the same opinion and capture the most important messages. Each question is aggregated in one table that displays the two levels of coding. For an easier distinction between each one of the respondents' answers to the different questions, the following summary is presented to better identify each interviewee by a specific number: Interviewee 1: Luís Madureira | Interviewee 2: Elsa Cardoso | Interviewee 3: Miguel Trigo| Interviewee 4: Alexandre Pinho | Interviewee 5: Carole Tansley | Interviewee 6: Bernardo Caupers | Interviewee 7: Jorge Silva Cardoso | Interviewee 8: Artur Romão

All the questions are divided by different tables:

Table 3 - Coding of the interviews, first question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: Before I will explain what Intelligence is. It always starts with data or information. (…) when processing the data we have information; when we understand the information we have an insight. An insight is a perspective on a particular subject and this perspective can be right or wrong. (…) when this insight can be trigger, then we have intelligence; if this insight is true, we have knowledge. (…)	1 - Competitive Intelligence Definition	Actionable insight (int 1 and 6); External factors that impact the performance of the organisation (int 1,2, 7 and 8); Helps in the decision

Interview Transcript	1st level of coding	2nd level of coding
Intelligence is when we can trigger that insight, that is, when we can make a decision or develop a strategy based on it. Intelligence = actionable insights. Now the Competitive Intelligence: we have the external environment composed by 5 vectors (PESTEL). This external environment typically impacts on a geography that is the market. To have a market it is necessary to have 3 things: Industry, Players and the Consumer or Client. So the Competitive Intelligence are actionable perspectives or actionable insights on all of this. Interviewee 2: For me, Competitive Intelligence is to analyse external factors that impact the performance of the organisation, our organisation. One thing is Business Intelligence, which is concerned with an analytical internal analyse of the performance of our organisation on several perspectives of analysis. Another thing is to be attentive to the environment that surrounds me and realise that I have to adapt to the conditions, both opportunities and threats of the environment to be more competitive. That is, Competitive Intelligence is in the sense of applying an analytic view both to the inward and outward of the organisation. Therefore, it is beyond Business Intelligence. Business Intelligence is internal, Competitive Intelligence is external. To be exact, is about factors that influence the organisation. Interviewee 3: Competitive intelligence is doing		making process (int 1,3,4,5,6 and 8); Competitive/Strategic Advantage or as a Value added process (int 4, 5 and 7); Continuous/routinely assessment process (int 3,4 and 8); Ethical, legal and illicit practice (int 7 and 8); Collection (int 1,3,4,7,8), Processing, Integration (int 2,7) Analysis (int 2,4,7) Evaluation (int 7), Interpretation/ understanding (int 1,7,8) and dissemination (int 4,7) processes of data/ information; Right information, reaches the right

Interview Transcript	1st level of coding	2nd level of coding
something well done 5 times. That is, ensure the right information reaches the right person, at the right time, in the right model and in the right format so that the person can make the right decision. (…) with a bit more substance, it is to create models that, in a systematic way, will first understand what the actual needs of the information are. (…) understand which information is really important and from there put a system to continually monitor that information, i.e. to collect it, to recognise the opportunities and the threats and also ensure that the information reaches the person that will do best use of it. Interviewee 4: I use my own definition of Competitive Intelligence which I have framed in most of my research and publications as a 'concept'. I deconstruct this concept into the following categories: Purpose; A Discipline; and System; Purpose: there is always an existential purpose to CI. It can be survival, better decision making, more power, more knowledge to use as influence, etc. Furthermore, the purpose and nature of CI will reflect the DNA of who uses it; (…) Discipline: CI has a body of knowledge, theory, and several definitions. The mission of intelligence analysts is to apply in-depth substantive expertise, all-source information, and tough-minded tradecraft to produce assessments that provide distinctive value-added to policy client. It is also a discipline because it routinizes		person (int 3), at the right time (int 3 and 6), in the right model and in the right format (int 3) to make the right decision (int 3,6).

Interview Transcript	1st level of coding	2nd level of coding
methods, and, codifies actions, hence it is closely associated with a "profession"; (…) System: A system that controls a Process and the use and employment of methods. There are three types of methods: Collection, Analysis and Dissemination. Interviewee 5: Duncan (2008:5), suggests that "Competitive Intelligence … is the harnessing of all forms of intelligence you can use to make decisions, with the overall goal of gaining sustainable strategic advantage." Interviewee 6: Competitive Intelligence is the tool/discipline that enables the managers to make decisions in a more rapid and assertive way. It is based on creating the so-called "'actionable knowledge" so that decision-makers make the right decision at the right time. Interviewee 7: It consists on the resulting product from the collection, processing, integration, analysis, evaluation and interpretation of all information, legal and ethically available of a business or company. It is the cultural, legal, reputational, economic and financial information on markets and about the most important stakeholders, mainly on customers, suppliers and competitors, that it is obtained, processed (analysed) and internally widespread and, if necessary externally, in order to give companies a competitive advantage. Interviewee 8: Competitive Intelligence is a set of ethical and licit practices and methodologies		

Interview Transcript	1st level of coding	2nd level of coding
that include data and information collection (from primary and secondary sources) on any environmental, economic, or social topics that may be relevant for an organisation to assess any competitive issues that may impact the decisions and strategies it has to define and implement. This data collection and the generation of intelligence should be regarded as continuous efforts, rather than ad-hoc initiatives.		

Table 4 - Coding of the interviews, second question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: The answer to this is, to everything you want. You can apply this at the company or strategy level until the brand level. (...) It can be applied to all the industries, being the education industry or another one. (...) This can be applied to everything, either on global or brand perspectives or even to a function. Interviewee 2: I think it can be applied to any organisation. Interviewee 3: I think so. I think there is no limit. It is not by the institution be a company, a nonprofit institution, an university... We are all in this world, full of information and also a world that is increasingly marked by volatility, uncertainty, competition and also by ambiguity, i.e. we do not know very well what can happen overnight therefore I think any organisation actually needs to have competitive intelligence practices to learn to be attentive to what it	2 - Competitive Intelligence scope of application	CI can be applied to anything or to any type of organisation (int 1,2,3,4,5,6 and 8); CI has to be adjusted and the effort will vary according to the organisation (int 4 and 5); CI can be a creator of a Competitive Advantage in the Higher education sector (int 6);

Interview Transcript	1st level of coding	2nd level of coding
surrounds them.		CI can be applied to almost all kinds of organisations (int 7).
Interviewee 4: (…) I'm confident CI can be used for any type of organisation. This is why I kept a broad approach when developing a concept for CI. As long as there is a Purpose which requires the use of this specific Discipline with the Methods that make up CI, then Competitive Intelligence is always useful for any organisation. It then comes down to a matter of size and scope and capabilities. Each organisation is different therefore, CI efforts will vary accordingly.		
Interviewee 5: CI can be applied to any organisational area at any level. Clearly, there will be different ways of defining CI in practice, different experts in the organisation, in different areas and levels, such as a business unit, a function or a team application. CI will also have different configurations in different sectors, again, depending on the way "competitive" is defined and the way in which "intelligence" is construed. The higher education is a very good example, because institutions operate to the legislation in their home country and each within a country may have their own governance structures and organisational cultures and each will have their own individual experts being responsible for CI in their own areas, such as strategic management and marketing.		
Interviewee 6: CI is a theme that can be applied to any area and/or industry. Through its specific molds, CI is designed to be completely cross,		

Interview Transcript	1st level of coding	2nd level of coding
naturally shaping it up within each company/industry/market. Taking the example of the question, institutions of higher education, I believe that CI not only has the ability to be applied, but has the possibility to be quite relevant: the goal of any institution of higher education is, in my opinion, to be the best; for that, it needs to see their competitive scope (because even in this industry it can be found) and needs to realise what are the offers that exist in the market today, how to offer, which are the teaching parameters, so on... to be able to offer the best and on the best way; in the end of the day, it needs to rely on CI in order to create competitive advantages in the industry. Interviewee 7: It can be applied to almost all kinds of organisations in the grounds that the CI activity, although intends to confer, by the means of knowledge, a competitive advantage for certain organisations operating in a competitive environment, it is also responsible for the collection of useful information to improve the top or strategic decision making process and, thereby, improve the effectiveness of the organisation. Interviewee 8: CI may be applied, virtually, to any type of organisation, and covering any topics that influence its competitive positioning towards the environment in which the organisation develops its activities. These topics are, surely, related to competitors, but may also address customers, suppliers, legal and regulatory		

Interview Transcript	1st level of coding	2nd level of coding
frameworks, environmental and labor issues, among others. In the particular case of high education institutions, all the topics previously mentioned are relevant, and if we take the specific issue of competition, we can easily think about the need to attract students, who are exposed to other institutions' offers. This has bi-directional implications on getting revenues and research funding, and attracting the best teachers and researchers.		

Table 5 - Coding of the interviews, third question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: It is a shame that this is not compulsory, not just in Portugal, but that it is not compulsory. Many companies fail because they never make it. For example, the phrase "fall fast to learn quicker", if they had done an initial analysis, maybe they would not need to fail and come to the conclusion that that idea would never be feasible and that would have spared them an enormous amount of time. (...) Students should have at least one introductory course at their bachelor and later another course in their master's. At least they should learn the very basics, that is, to know what an insight is. Interviewee 2: From an academic point of view it is, obviously, a topic that makes sense, especially in a Masters in Management. From an organisational point of view, ISCTE is already carrying out some initiates that lead us to think and reflect on the courses that are offered. Of	3 - Establishing a relationship between the higher education institutes and CI	CI makes sense in academic terms at universities: It is a shame that it is not compulsory. Student should have at least one introductory course at the bachelor and another course in their masters' degree (int 1); Makes perfect sense, especially in management courses (int 2); A subject of CI

Interview Transcript	1st level of coding	2nd level of coding
course it makes sense to do a systematic market analysis. (…) CI is connected to the strategy. Who sets the organisation strategy? When you are using competitive intelligence is to be aware of the threats and opportunities against your organisation, come to some conclusions, and apply the results that may or may not have an impact on the strategy that you are already implementing. If a department is created, that department has to be linked to the rectory, to the school's directors otherwise it will not work. They are the responsible for defining the strategy of the course. Interviewee 3: CI in the universities and first addressing it from an academic point of view: we (University of Fernando Pessoa in the city of Oporto) have a Masters in CI, which has aroused more interest from the foreigner than in our own country. But one of the things I have talked to people of other nationalities, including French (which is where it is the school where I majored in CI), in an event in Brazil some time ago, was "what is the place Competitive Intelligence must occupy in academics terms". And we realised and it is also something that we are doing at the University of Fernando Pessoa is that CI appears as a discipline of other formations. And I believe that yes, it makes all sense. Increasingly more the people that are formed today have to deal with this issue of information and be able to have the tools to choose good information from bad information. I think some of the practices of		within a course makes sense and the subject will depend on the course in question (int 3); As an enabler of knowledge transfer in universities (int 5); Not as a course but as one or two modules (int 6); Should be given in the form of postgraduate studies in management and recommends the existence of a masters' degree in CI, among other courses (int 7); If universities introduce CI in the academic curriculum, it will be align with the

Interview Transcript	1st level of coding	2nd level of coding
competitive intelligence are really great for people to have a course. If it should be semiannual, annual, optional, mandatory, as obviously to do with the course that we are talking about. We have here two experiments, one in the faculty of science and technology, with engineering students and then on the faculty of humanities and social sciences, with communication students. I believe that in these cases one semester to arouse curiosity about the subject and also to assure students have some tools, I think that will be enough. Obviously, as we are also in a world where we have to try to learn every day, this would just be a start to awaken the taste. From here, people can make different courses, with more time, to learn a bit more about the subject. In organisational terms, yes, I also think that the competitive intelligence, as I mentioned in the 2nd question, can be applied to any institution, so the universities are no exception. Interviewee 4: Some Portuguese universities already offer CI courses at undergraduate and post-graduate levels. (…) some universities in France are now including compulsory "economic intelligence" courses at the undergraduate level, across all degrees. (…) From a planning perspective, CI is a useful tool. I would see a CI program useful when laying out a long term plan for a university. University plans are usually 5 year-long and this implies allocation of resources and defining a comprehensive strategy for its		business trends (int 8); ISCTE is already carrying out initiates to reflects on the courses it offers (int 2); Some Portuguese universities already offer CI courses (int 4), the University of Fernando Pessoa is an example (int 3); France universities are offering compulsory courses on economic intelligence (int 4); CI makes sense in organisational terms: Helps organisations to spear time, make better analysis and allows them to

Interview Transcript	1st level of coding	2nd level of coding
academic and research projects. Interviewee 5: In recent years, government funding of Higher Education Institutions in the UK, in teaching (first-stream) and research (second-stream) has reduced in real terms. At the same time an increase in student numbers has placed an additional resource burden on HEI's. As a result HEI's have been forced to seek income from outside first and second stream funding to maintain standards and provide capital for growth (Marginson & Considine, 2000; Shattock, 2003). The impact of the current downturn in the economy on public spending, has led to a "claw-back" of first-stream funding. The pressure for third-stream (defined as all funding not associated with the UK government in first and second stream) is likely to continue and intensify. (…) The rhetoric from and within both leading European business school associations within the sector emphasises the need for business schools to respond to the third-stream agenda. For example, a strong focus by the Association of Business Schools (ABS) on the policy and sharing best practice in the sector through the formation of a 3rd Stream Steering Committee in 2004 and its sponsorship of four conferences on this theme over the last 2 years. Similarly the European Federation of Management Development (EFMD) has focused debate with its last four annual international executive education conferences on how business schools		avoid the "fast fall to learn quicker" philosophy (int 1); It makes sense to do a systematic market analysis (int 2); Useful planning tool to lay out long term plans for universities (int 4); As a source of founding for the university (int 5); As a facilitator for universities to configure its capabilities differently (int 5); Makes perfect sense for a university to have a CI department (int 6); Universities should regard CI as a new

Interview Transcript	1st level of coding	2nd level of coding
can respond to organisational demand by configuring its capability differently. This emphasis is not particularly new; however, at the same time there is not one example within this wide membership of leading business schools where third-stream activity is more than just a peripheral activity and there is little evidence that this is likely to change in the short-term.		strategic initiative (int 8);
As a key HE/industry interfaces and potential source of knowledge to transfer, a Business School is an ideal subject area, particularly one like Nottingham Business School, with a long tradition of work-based learning and engagement with industry, in research, teaching and consultancy (The Equis Report). This is a good time to study why third-stream income activity is a peripheral activity and why CI is so important.		CI can be applied to any organisation and the university is not an exception (int 3);

It is a good time to study why third-stream income activity is a peripheral activity and why CI is so important (int 5). |
| Interviewee 6: I believe that it makes perfect sense for universities to have their own CI department. Regarding the introduction of CI in the offer of the university teaching courses, I think it has all its legitimacy; maybe not through a specific course but by one or two modules. CI is a very practical subject and, in my personal opinion, you learn a lot by doing; in the day-to-day business life... within a classroom, it is possible to learn the basic techniques, but then it will always be necessary to put the theory in practice. | | |
| Interviewee 7: I believe that CI should be given in the form of postgraduate studies in Management and recommend the existence of a | | |

Interview Transcript	1st level of coding	2nd level of coding
masters' degree in CI aggregating knowledge management, business intelligence, strategy, management of change, governance, among others. Interviewee 8: It goes without saying that in a more and more globalised and highly competitive business environment as we have been facing, and the fact that this trend will surely get even more important in the years to come, preparing people, especially future managers and executives, to help their organisations survive and prosper is of utmost importance. Therefore, my view is that business oriented universities that introduce CI, as a course per se, or by teaching its practices and methodologies throughout its graduate and postgraduate programs, are modernising and aligning its vision and policies with business trends that really matter. From an organisational point of view, and regardless of the type of university, if we think again about the attraction of students case I mentioned above (just to mention one application field), it should become natural that universities regard CI as a new strategic initiative that should be taken very seriously. Modern universities are businesses, and must be managed as such.		

Table 6 - Coding of the interviews, fourth question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: I do not see any other special difficulty. (…) it is related to have people that	4 - Benefits and difficulties of the	Difficulties: Human resources

Interview Transcript	1st level of coding	2nd level of coding
know how to do it; there are very few people who know. That is, there is a shortage of human resources. (...) People do not have the necessary information. Everyone can do an analysis. I can do an analysis of a bridge but I do not have the structure and knowledge behind on how to build a bridge. I will build a bridge and it will fall. This is the difficulty of not having enough skilled resources to do it well. Therefore it is necessary to ensure that certified people that know what they are doing are hired. Advantages, from perceiving what the consumers want (final consumer - students, before them - companies), understand the way the industry is going and see how they can adapt to it. (...) It has so many benefits. Since increasing the competitive advantage, to better adequate their offer... I do not see anything against it or risks as it does not represent an innovation in investment. Interviewee 2: Well, from the benefits side we can point out that the university will be offering formative courses that are tailored to the needs of the market. So, it is about having greater agility, be more proactive and sooner realise the opportunities of the market rather than take a couple of years to put the courses into the market. This is quite important, especially given that the number of student in the higher educational level is decreasing. This year that was not the case for ISCTE, but nationally the number is decreasing. Therefore, and to monetise the faculty course and the facilities, it is	relationship from an organisational point of view	(shortage of certified human resources – int 1, expensive (experts in CI) – int 2 and how to organise them – int 6); Level of maturity of the information systems of same universities (int 2); Resistance to change and flip of culture (int 3, 6 and 8); The higher education market may not be fast enough to respond to the new demand of knowledge transfer. The UK HEI sector is an example of that. (int 5); Volatile income generation leads to a smaller

Interview Transcript	1st level of coding	2nd level of coding
necessary to understand what courses are more profitable. From the difficulties side, it is essentially related with the resources, we are in an economic crisis and for example, the human resources necessary would be particularly expensive. Additionally, it is hard to create more structures within the organisation. (…) The degree of maturity of the information systems is also very important. (…) CI assumes a king of management based on facts, based on a proactive management and that is not the reality of many universities. So it is necessary to have integrated data, an overview of the organisation for this to work. It is necessary to have communication and accountability strategies that work. Interviewee 3: I believe that in terms of benefits, obviously the possibility of being quick to respond to market changes is very important; then, clearly the way we look at the issue of sharing information and knowledge; and would also refer that being the competitive intelligence a discipline, it can easily be taught and should be taught. (…) Basically, we would be alert to one type of situation, that before CI we would not be educated and informed about… Also regarding intelligence, for example, we can prevent people from some things that can be really sensitive to the organisation and have to be ensured. (…) Regarding the difficulties, I would say, based on my experience, that the main difficulty is that we		investment (int 5); Organise resources (int 6) Understand the underlying structure to implement to get the most accurate information in the fastest way (int 7); Benefits: Market assessment and knowledge that can represent a quick response and agility to market changes (int 1, 2, 3, 4 and 8); Formative courses tailored to the market needs (int 2 and 4); Gain and maintain a Competitive Advantage (int 1, 6 and 8);

Interview Transcript	1st level of coding	2nd level of coding
are doing something new and perhaps the main difficulty is the resistance to change that can be found. To the people that have the mission of trying to spread, entrench the competitive intelligence in the organisation, must realise what the best strategies to use are.		Helps to Monetise the university resources (faculty course and facilities) (int 2);
Interviewee 4: From an organisation perspective (…) should develop its own CI program. The university needs to keep consistent situational awareness (market share, customers – what are students looking for, what kind of degrees should we offer, what kind of research should we fund, what kind of research should we deliver, which organisations should we engage with, how are we perceived by the general public, what is our reputation, what is our international reputation (…) If the university is research-intensive, it needs to protect its assets (knowledge and human). It needs to protect its intellectual capital by funding the right projects, protecting these from domestic or foreign competitors, and even stimulating continuous research by providing researchers the right conditions.		Can prevent people to be more attentive to the more sensitive information for the university (int 3); Helps to protect the university assets, for example for a research-intensive university (int 4); Drives innovation and economic growth (int 5);
Interviewee 5: At the same time, the emergence of a new knowledge economy had provided universities with an opportunity to exploit intellectual assets (Webster & Etzkowitz, 1998), which is recognised more broadly by government. Consequently, Government has placed a new emphasis on the role of universities to facilitate knowledge creation and knowledge transfer to drive innovation and economic		Others: CI must be align with the business characteristics of the organisation including size and business area (int

Interview Transcript	1st level of coding	2nd level of coding
growth. The Government sees 'an economic imperative is to make sure that scientific knowledge is used by business to create wealth' and concludes 'that […] knowledge transfer – both the science base "push" and the business "pull" – is […] an important element of Government's science and innovation strategy' (HM Treasury, 2004: 69). Thus, stronger links with industry to facilitate this transfer have also been encouraged at both the UK and EU policy level (CEC, 2003, 2005). This is seen as even more important in the current economic climate. This encouragement has also attracted "pump-prime" funding. Since the late 1990s, the HE sector in the UK has been encouraged, prodded, incentivised and compelled to respond to a changed policy and economic environment; yet to date, the response has been patchy. Knowledge transfer activity by universities is not in a healthy state in the UK, with entrepreneurial activities to promote business interactions being marginal. One key reason is that the income they generate is volatile and in most cases much smaller than from core sources. Researchers in the science disciplines report certain structural barriers to engaging in knowledge translation activities (Jacobsen *et al*, 2004). Interviewee 6: The benefits are inherent in the many benefits of CI ... raising primary and secondary information can take time so the treatment of that information but also, and applying a good Portuguese expression,		7).

Interview Transcript	1st level of coding	2nd level of coding
"squeezing all the juice", the university will gain actionable information to become better than its competition. A practical example, let's say it was invented a new teaching or even research in the USA. None of the other colleges are aware of this situation since they spend too much time looking inside and not for their competitive scope... a university that has CI can detect this opportunity and anticipate any competitor... sometimes analyses of patterns of behavior can lead the university that has CI to anticipate even the pioneer university in the U.S. from the example. Naturally, it will have some difficulties in the beginning to organise resources and also to flip the disc to a culture of CI... it is not just the creation of the department of CI that is necessary… it is also necessary to 'format' all the organisation to use what CI can bring. Interviewee 7: CI applied to the company must always be adapted to the characteristics of the same, including the size and business area. (…) In many cases, their efforts [of the companies] to obtain knowledge are complemented and supported by the governments of the respective countries. In these companies the question that arises is not so much the need for knowledge, is the organisation of the underlying structure that allows for more accurate and faster information. These companies are fundamental organisations of integrated business knowledge.		

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 8: Again, as business entities, universities must take care about their competitive positioning in the market they operate. By adopting CI practices, universities will benefit from proven methodologies that help in tasks that they are not used to think about, let alone implement. I think that the most important effect would be that a university would start having a "sense of market" (and I mean that globally, not just from a local or national perspective), meaning it could get to know the relevant trends and react to them in anticipation, thereby improving their overall business, whether that means attracting more customers (students) or the best talents (teachers and researchers), optimise their operations (better sourcing, for example), better management of their brand (in social media, for example). (…) On the other hand, this being something totally new for many universities, it should be regarded as a strategic move that needs to be integrated in a cultural and organisational change for them. That's because introducing something as disruptive as CI in an organisation that is used to function "far" from the markets will never work unless the management incorporates it into a greater effort of adapting the organisation, as the result of some strategic vision for the future.		

Table 7 - Coding of the interviews, fifth question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: Either an undergraduate or graduate student, if it does not have a minimal basis to understand the industry he is in, the competitive environment, if it cannot have a structured view of the competitive environment; How will he be able to do marketing if he cannot understand what people outside the organisation think? If I cannot understand how the economy outside impacts the economy here, how will I run a business and the economics of a business if I do not realise the impact of the external economy? (…) If an employee in a company stands out and it comes from a particular university, then the employer will stay with a good image of the university

Interviewee 2: From an academic point of view, it is like any theme that is given.

Interviewee 3: (…) I believe that our educational offerings in academic terms would be much more interest for students because we would be in tune with what the market trends are, what the needs are, even in terms of detecting what soft skills people will need to master in some areas. But above all, it also creates opportunities to teach on how to look for relevant information and give some tools that seek to help on this process. In terms of resource allocation, obviously if I am more attuned to what is happening, I can also clearly see how to best allocate some resources, how can I do things differently.

Interviewee 4: (…) The single most important | 5 - Benefits and difficulties of the relationship from an academic point of view | Benefits: Gives students the minimal understanding of the industry and competitive environment that will help with to succeed in the market place (int 1);

Good for universities' image in the labor sector. Good as an outside perspective of the academic curriculum of the university (int 1);

Can help universities to better allocate their resources (int 3);

Universities would have Educational offers in academic term more interest to students and |

Interview Transcript	1st level of coding	2nd level of coding
problem with teaching and delivering effective CI at the academic level is related with the level of abstraction on which it is dealt with. (…) From an academic perspective, I would recommend a university CI department to conduct war games for companies. Alongside some tailored courses and consulting services universities offer those companies, a CI department could carry out war games, scenario exercises, workshops etc. This would be more value-focused rather than academic-curricula-focused. Interviewee 5: (…) What has happened in recent years is that the burden for income-generation outside government funding has fallen on those academic disciplines, which could meet the demand of emerged tiger economies (China, India, Brazil – growth in student numbers) for graduates (at undergraduate, postgraduate and doctoral level), notably business, law and biosciences. In product development terms (Ansoff, 1967) this is simply the expansion of a market for existing products and has often involved very little diversification. Interviewee 6: From an academic point of view I do not see great difficulty. It would only be necessary to allocate some resources to be available to teach CI. And from what I know, there are excellent CI professionals in Portugal (and even abroad) who could teach (some even give some modules already). Interviewee 7: I do not see any major problems		align with the market trends (int 3); Could help universities to generate income as it could meet the demand of some emerged tiger economies for graduates (int 5); Difficulties: Main difficult is related with the level of abstraction when dealing with CI. (int 4) ; There are no major difficulties in using CI in the academic curriculum. (int 6 and 7); It is necessary to consider the crucial resources, re-organise the syllabuses and engage people (int 8);

Interview Transcript	1st level of coding	2nd level of coding
unless a dramatic shortage of specialists in Intelligence. I understand that the main advantage is CI as an essential tool for the modern management. Interviewee 8: When the CI issue is relevant in the context of what the university incorporates in its academic offer, then obviously it must consider the resources necessary to do it properly, starting from the need to re-organise syllabuses (so that CI is naturally incorporated, rather than being something coming in without a rationale), and engage people (especially teachers, with a good level of field experience, rather than theorists).		Like any other theme that is given in a university (int 2); Better curriculum if it is value-focused rather than academic-curricula-focused int 4); There are good CI professionals in Portugal and abroad capable of teaching CI (int 6)

Table 8 - Coding of the interviews, sixth question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: I have already mentioned it, it has so many benefits. Interviewee 2: This is namely related with the theme chosen for a subject within a curriculum. The benefits and difficulties will depend on the extent to which the same is aligned with the course profile and its aim. Interviewee 3: (...) Students will benefit from it, if employers will value it or not... I think they will. It may not be the fact that it says in the curriculum that the person had CI, I guess that is	6 - Benefits and difficulties of the relationship for the students in particular	It will depend to the extent to which it is aligned with the course profile and its aim (int 2); It is beneficial to students (int 1, 3,4, 6, 7 and 8); Most employers do not know what CI

Interview Transcript	1st level of coding	2nd level of coding
not valued. In a first phase, people maybe do not realise very well what competitive intelligence is but will find out what it is and just as I often tell my students that need to do a website even when there are studying chemical engineering, because I believe it is an added value; if an employer has two curricula in more or less the same situation, it will value the one with more skills. So I think it only bring benefits to students. Interviewee 4: (…) Without experienced lecturers (who are rarely available to discuss their methods and can only be found actually working in those organisations that do CI), I wouldn't expect CI programmes to pose as useful academic tools for students. This is why CI "ideas" and "topics" are loosely discussed in Strategy modules, or Organisational Strategy courses. Most organisations don't understand what CI is so I'm not sure recruiters would see the "advantages" of a student who studied CI. In addition to this, CI is a trap for recent graduates because it can seduce them to think everything can be achieved with CI. This is not the case. (…) effective CI can only be delivered after a significant experience in the field. Still, it is possible to find some good CI courses in Portuguese universities taught by CI practitioners. Interviewee 5: (…) Any further development or diversification of the curriculum for delivery in association with industry or in-company has also been limited. In business education, only a		is and yet do not perceive its value (int 3,4,6 and 7) ; It can only be an advantage if universities have experienced lectures: 5-10 years of experience) (int 4); Some good CI courses are already taught in Portuguese universities by CI practitioners (int 4); In the UK market, the consultancies and companies are the ones that occupied the leadership and management education and training (Int 5).

Interview Transcript	1st level of coding	2nd level of coding
handful of leading business schools directly supply the business-to-business market, with in-company leadership, management development and accreditation services, or indeed short-courses on a non-accredited framework. This is in sharp contrast to competition from outside the sector. The competitive space of in-company leadership and management education and training is still firmly occupied by consultancies and companies themselves, even within the Public Sector, which has a relatively new demand. The Business School's market share of "Executive Education" activity less than 2% (EFMD)).		
Interviewee 6: In my view, it will not be appreciated if the companies are not "formatted" to CI. That is, if a company does not have anyone responsible for CI it will not give great value to the fact that a student had CI as a discipline. Again, I believe it is very important and beneficial for students to learn the basic techniques of CI and also realise its importance and relevance to business, but from by time they will work for a company/institution that does not have CI, all this knowledge will eventually "die".		
Interviewee 7: It would be beneficial to students in order to strengthen a holistic and comprehensive view of management. Employers initially would not have a great sensitivity to this matter but this situation would change in the short-medium term given the increased competitiveness and market instability, as well as		

Interview Transcript	1st level of coding	2nd level of coding
increased complexity resulting from phenomena like globalisation. Interviewee 8: My understanding is that if a student comes out of a university that has put him or her in contact with competitive topics in general, and has provided concepts, techniques, and methodologies to deal with those topics effectively and aligned with the current trends, this can only be a major advantage for him or her when approaching potential employers. This is especially true when those employers are companies heavily exposed to competition, of course.		

Table 9 - Coding of the interviews, seventh question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: To organise it in the best way, what the university has to do is to implement the function of CI with the steps of the roadmap for implementing CI. (...) But the short answer is: allocating sufficient resources to each one of the Key Success Factors (KSF - Scope, Process, Deliverable, Tools, Organisation and Culture); because without them, it will not be able to do it! For example, even if you have the tools, the culture... even if you have everything and do not have the culture, if people do not decide based on intelligence, then it is not worth wasting time on intelligence. Interviewee 2: The ISCTE's mission is based on three pillars: education, research and service to the society.	7 - Ways to improve the relationship between the two topics	Allocate sufficient resources to each KSF (int 1); Mature information and the processes for its assessment (int 2); On an academic perspective – have good professionals, with work experience (int 4 and 6);

Interview Transcript	1st level of coding	2nd level of coding
To implement a center of CI the maturity of the organisation has to be quite high from a point of what the same does with the information that is generated. And at this stage, we still do not have the information completely integrated of whole the universities' performance.		Set the strategy, define the goals and what is to implement, define the tools and train and involve people in the CI process (int 3);
Interviewee 3: (…) one of the main things to do when we want to use CI is to train people to practice Competitive Intelligence. Obviously before we form people we have to define the strategy of what we do and to define the strategy of what we do and what goals we want to achieve, which is important when we want to define the implementation of a competitive intelligence work, we obviously choose some sort of tools that should be used.		Organisational perspective – set a CI department with at least three people: two juniors for information gathering and one senior for creating actionable knowledge (int 6);
(…) one of the important sources of information of competitive intelligence is the people who are already part of our organisation. (…) reinforces the importance of involving the various people who might work in the organisation in competitive intelligence. So, to involve people in the CI process, first we need to teach them in order to achieve a greater scope of the CI work.		It is expected that universities behave entrepreneurially, linking the pursuit of knowledge (int 7);
(…) I believe that, preparing, sharing, and finding and have effective mechanisms for people to make the CI reports and then work hard with the decision makers is key.		
Interviewee 4: (…) Effective "operational" CI is only achieved after 5-10 years of work experience within any given area/profession. It is necessary to find good experts with work		Not have the appropriate level of knowledge about the organisational

Interview Transcript	1st level of coding	2nd level of coding
experience in the area.		issues in a university to be able to provide an answer (int 8).
Interviewee 5: We are living in the knowledge economy. Government policy is focussed on the pivotal role of Universities to facilitate in knowledge creation and transfer to drive innovation. The down-turn in the economy will force the government to reduce the spending within the HES and Universities to intensify their search for other sources of third-stream income, which better utilising existing assets. Supply side change will intensify competition for the current core business of Universities, particularly in professional education. This is a problem which is not going away. The response from Universities to date has been patchy. What has happened is that the emergence of the global knowledge economy and the political response in return has challenged the established mission of universities. (Williams, 2003). There is a new expectation that universities and academics behave entrepreneurially, linking the pursuit of knowledge with the commercial opportunity and exploitation. There are no roadmaps to do it.		
Interviewee 6: From an organisational view it should clearly form a CI department with at least three people: two juniors for information gathering and a senior for creating actionable knowledge from that same information. From an academic point of view, it should first see in what courses the CI module can be applied and then highlight some good professionals that work to teach.		

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 7: The CI structure should be linked or share the guardianship with the information structure and strategy. Interviewee 8: I don't have an appropriate level of knowledge about the organisational issues in a university to be able to provide an informed answer to this question.		

Table 10 - Coding of the interviews, eight question

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 1: This department has to report to the rector or vice-rector of the university; it has to be a cross-department at the organisation. (…) It has to be a department that reports to the maximum representative of the university. (…) It should not be created a CI department for lectures and to do CI; that is the greatest way for things not to work. (…) The part of who is teaching CI should report to the academic part and not to the executive one. (…) CI at the function level, at the company level, has to report to the rector.	8 - For a future study, a CI department at universities, specifically at ISCTE-IUL, good or bad?	CI at universities should always be reported to the highest representative of the same (int 1, 3 and 4); CI in academic terms must report to the academic side of the university and CI as a planning tool must report to the executive part of the university (int 1);
Interviewee 2: ISCTE is investing a lot, there is an office, the evaluations, studies, planning and quality office (GEAPQ) that is responsible for making all the ISCTE's studies and that works for the rectory and responds to the vice president of quality and organisational development. The question here is: with this office would it be beneficial… At the present state, well… I think that it is beneficial, but it is not feasible just yet. Because we (ISCTE) are still at the stage of		Cross department for all the university (1,2,3

Interview Transcript	1st level of coding	2nd level of coding
trying to monitor, we are at the stage of putting business intelligence to work. We still do not have, unfortunately, the whole structure of integrated information that would allow us to manage all information of the university, of all its schools. Therefore, and as the effort is on to get this part of BI, I think it is still early for we to turn outside. (…) Competitive Intelligence is a step ahead (…) In my opinion, it is a good medium term goal, but I also believe it is interesting to think in the way to operationalise this.		and 4). But for interviewee 3 it only makes sense to create a department if that is the way the organisation perceives importance; otherwise, a cross CI center is better;
Interviewee 3: I do not know if it is necessary to create a competitive intelligence department. Perhaps, I would say it is not necessary. (…) However, it could make sense to have a department, if we want to make a statement and show to the people in the organisation the importance we are giving to the subject. Plus, if that is the way the organisation perceives importance, it makes sense to create one. If not, I believe the creation of a cross CI center to the entire university, would make more sense. (…) Competitive Intelligence has to have a seat at the highest level so there must be a representative of this area in the office of the rector, in the general advising board because there is where the major decisions are taken.		First step know yourself then turn to the outside scope (CI) (int 2 and 6); First test CI only in one school of the university (int 6); Not sufficient knowledge of the university to articulate an answer (int 5 and 7);
Interviewee 4: Any CI program requires a strong endorsement from high echelons. This implies any CI department would have to liaise closely with the Chancellor (Reitor). (…) I highly		Include CI in an already existing ISCTE department,

Interview Transcript	1st level of coding	2nd level of coding
trying to monitor, we are at the stage of putting business intelligence to work. We still do not have, unfortunately, the whole structure of integrated information that would allow us to manage all information of the university, of all its schools. Therefore, and as the effort is on to get this part of BI, I think it is still early for we to turn outside. (…) Competitive Intelligence is a step ahead (…) In my opinion, it is a good medium term goal, but I also believe it is interesting to think in the way to operationalise this.		and 4). But for interviewee 3 it only makes sense to create a department if that is the way the organisation perceives importance; otherwise, a cross CI center is better;
Interviewee 3: I do not know if it is necessary to create a competitive intelligence department. Perhaps, I would say it is not necessary. (…) However, it could make sense to have a department, if we want to make a statement and show to the people in the organisation the importance we are giving to the subject. Plus, if that is the way the organisation perceives importance, it makes sense to create one. If not, I believe the creation of a cross CI center to the entire university, would make more sense. (…) Competitive Intelligence has to have a seat at the highest level so there must be a representative of this area in the office of the rector, in the general advising board because there is where the major decisions are taken.		First step know yourself then turn to the outside scope (CI) (int 2 and 6); First test CI only in one school of the university (int 6); Not sufficient knowledge of the university to articulate an answer (int 5 and 7);
Interviewee 4: Any CI program requires a strong endorsement from high echelons. This implies any CI department would have to liaise closely with the Chancellor (Reitor). (…) I highly		Include CI in an already existing ISCTE department,

Interview Transcript	1st level of coding	2nd level of coding
recommend the creation of a Strategic Board or Committee in the "Conselho Geral" section. This board or committee should be chaired by the Chancellor and by a vice-chair; I would expect the vice-chair to be the CI practitioner with the highest level of responsibility for the CI program, who should oversee the whole program. The committee should include a representative from the "Conselho de Gestão", then "Adminstradora", "Directora Coordenadora" and a representative from Public Affairs who would bring together information from "Gabinete Apoio", "Núcleo Relações institucionais", "gabinete commuicação imagem". The board should also include the heads of each academic department. In addition to this, the board should include on R&D expert whose main task is to cross-functionally analyse and keep awareness of all on-going and future research programmes in the various academic departments. This R&D expert and the vice-chair for CI should be the only two members that I would recommend being allocated specifically to these new full time functions/positions. These professionals can either be external recruitments or selected from members of staff, however, they should not be expected to accumulate with previous functions. This is my recommendation at the higher/strategic echelon. From an operational perspective, the vice-chair for CI and the R&D expert could then bring together a small team from the Management academic department.		GEAPQ (int 8).

Interview Transcript	1st level of coding	2nd level of coding
Those two professionals will be responsible for operationalising the CI programme, for collecting information from other departments throughout the university and so forth. Interviewee 5: I am afraid I am not able to give an answer as I am not fully aware of the university structure. Interviewee 6: Clearly, due to the complexity of the organisational structure of ISCTE, coldly analysing, the suggestion would be to create a CI department that is directly connected to each 'school' and have a junior to collect all the necessary information for each. Initially it would be important to collect all the internal information as possible in order to know yourself first. From the moment that all the internal information has been collected, they could turn to the outside scope. From there, it would be necessary to create a scheme of questions (Key Intelligence Questions) for each school to be able to see the fields of analysis. In summary, it would be rather complex to start by creating a CI department at a university (especially as ISCTE). A good alternative would be to create a specific department just for a school to start acknowledging the discipline of CI in practice and above all to show all the teachers and students that CI works! Interviewee 7: I do not have an opinion define on the subject as I do not have a specific knowledge of the university organisational structure.		

Interview Transcript	1st level of coding	2nd level of coding
Interviewee 8: This depends a lot on the size and strategy of the university. In some cases it may make sense to create a department (in very big institutions, with a broad range of areas), but I would say that, especially in Portugal, this is hardly the case. Introducing CI-related activities in an existent department (or other organisational unit), with clear responsibilities and goals, staffed with people with knowledge and experience of the subject, should be enough, at least to start. In the specific case of ISCTE, and at the risk of making a big mistake by not quite knowing the nature and objectives of each department, I would say it should make sense that CI would be run under the "Gabinete de Estudos, Avaliação, Planeamento e Qualidade".		

Summarizing the data analysis findings, it is possible to point out key notions about CI for each question. Regarding the definition of CI, it is important to highlight the introduction of the topic "actionable insight". Two experts refer to it and explain that CI is to be able to trigger an insight. An insight is a perspective on a particular issue that implies the user of the information is able to understand it and can apply that understanding. Still on the definition of CI, one respondent defined it as the process of getting the right information to the right person, at the right time in the right format and model to make the right decision. It is not the only respondent that addresses the topic of decision. In fact, only two respondents out of the eight did not mention it. Three interviewees point out CI is a continuous and routinely assessment process and another four state it as a combination of external factors that impact the performance of the company. Two experts differentiate CI from other espionage company's actions by indicating its ethical, legal and illicit practice. CI does not rely on any unethical actions. Last but not least, three experts believe CI can be a source of Competitive or Strategic Advantage, meaning it is seen as a Value Added Process to the organisation. Concerning the scope of CI, almost all respondents, at the exception of one, agree it can be

applied to any organisation. Some argue the need to adjust CI to the organisation in question. Furthermore, one states CI can bring a competitive advantage to the HES.

In terms of trying to establish a relationship between CI and universities: in academic terms, one expert stated very firmly that was a shame that CI was not compulsory. For this expert, students should at least have one introductory course in the bachelor and another course in their masters' degree. Another expert says it makes sense to have a course and that the subject and format depend on the course in question. One of the respondents even refers to the fact that in Portugal there are already some universities offering courses on CI; in organisational terms, experts say CI makes sense as it helps organisations to both improve their analysis as well as save time on them. One respondent state CI as an useful long-term planning tool and another one state it makes perfect sense to have a systematic market analysis plan. Furthermore, one respondent state CI could be a source of funding for universities, in the sense that universities would be more attentive to their surrounding market and to arising opportunities.

Analysing the benefits and difficulties of the relationship of CI and universities from an organisational point of view, it is possible to identify that universities would greatly benefit from CI but should also be aware of some key factors that need to be structured and thought before implementing CI. Within the difficulties side, it can be highlighted, for example the fact that the organisation may find some resistance to change from their employees. Furthermore, and still on the topic of human resources, a shortage of qualified employees to make the analysis may occur and it is also important to identify the best way to reallocate the human resources in this new environment. One respondent highlighted a key point: the HES may not be as fast as it should to respond to the new knowledge transfer demand. Another respondent pointed out that, before implementing CI, the university must understand the underlying structure of what is to be implemented in order to get the most accurate information in the fastest way possible. From the benefits side, two interviews mention that universities would offer better tailored courses to their students. Another two believe CI could help organisations to gain and maintain a competitive advantage over other universities. Almost all respondents state CI could benefit universities to have a better and quicker response to market changes. One respondent highlighted that CI could help universities to protect their assets in a more accurate way has it would help them to be more attentive to the market. However, for all this to happen, it is necessary to align CI with the business characteristics of the organisation.

On the topic of understanding the benefits and difficulties of the relationship of CI and universities from an academic perspective: from the benefits side, two can be highlighted for their importance, the universities would have their educational offers more aligned with the market and could generate income by fitting the demands of some emerged economies for graduates as they would be more fully aware of that demand; on the difficulties side, although two respondents mentioned there are no major difficulties in using CI in the curriculum of a university; others highlight as major difficulty the level of abstraction when dealing with CI and the necessity to identify the crucial resources, re-organise the syllabuses of the courses and engage people into CI.

When concerning to the pros and cons of CI to the students, almost all interviewees agree it can be beneficial to students but it will always depend on the extent to which it is aligned with the course profile and its aim. Besides, it can also be an advantage if universities have experience lectures. Has an example, some good CI courses are already taught in Portuguese universities by CI practitioners.

On the topic of the ways to improve the relationship between CI and universities, two respondents highlight the importance of having good professionals with work experience to enhance that relationship from an academic perspective. One respondent specified the necessity to mature the information and its assessment processes within the university. Side by side with this idea, one respondent highlighted the need to set a strategy, define goals and tools, define what to implement, train and involve people in the CI process. Regarding the idea for a further research – the creation of a department at a university, that could be specifically my university ISCTE-IUL –, two experts chose to not articulate a response and base their answer on the fact that they are not fully acquainted with the university in question. Three respondents referred that, CI within the organisation must report to the highest representative of the same. One of the three respondents differentiates between the two types of CI (academic and organisational) and states CI from an academic perspective should report to the academic side of the organisational. Two respondents say that before looking outside the organisational and start the process of implementing CI, universities should first know itself. For three experts, CI should always be cross department within the organisational. However, for another respondent, and as a first step of the plan of implementing CI at universities, the organisation could select one school in particular to implement it and afterwards grow from there.

4.   Conclusion

The purpose of this dissertation is to understand if the theme of Competitive Intelligence can be related to universities both from an academic and organisational perspective. The qualitative research was the method utilised and based on this technique, eight experts on the subject were interviewed. The interviews were divided into two times frames: the first entitled the phase 0 or test phase, aimed to examine the relevance of the questions and help to further develop the questionnaire. In this phase, only one respondent was interviewed; and the phase 1, that aimed to continue to collect data. This phase was composed by seven interviews.

The research is based on a qualitative approach to the subject. McMillian and Schumacher (1993) defined qualitative research as "primarily an inductive process of organising data into categories and identifying patterns (relationships) among categories." This statement implies that the date and the findings (meanings and conclusions reached) emerge "organically" from the context of the research. That is, they are built throughout the study and take a proactive stance rather than a closed and static one and can, therefore, be changed according to the purpose of the research, findings and also the subjectivity and goals of the researcher. The methodology used is based on five key steps: data reduction, organisation of the data, coding, test the hypothesis and description.

Concerning the validity of the research, this was always a central topic for the preparation of the study. Therefore, and based on the selection of a qualitative research, an open and dynamic approach was undertaken to what concerns the study and its results. However, it can be argued that the sample size may not be as extensive as it could be. Regarding reliability, the nature of the study confers it the necessary subjectivity; if the same study was conducted, different results would be encountered.

Concerning the aim of this study, it was achieved and based on the data collected, both from the interviews and literature review, and also from the analysis made, it is possible to conclude that CI is a very interesting topic to be addressed at universities. From an organisational point of view, it is important to highlight the university could benefit from CI as it would be more fully aware of all the opportunities and threats that may arise in the HES and therefore, could put into practice a further more interesting and market focused plan. However, experts point out a very important factor. Inserting CI in the HES, in a macro level or to universities, at a micro level, implies universities have the right human resources. However, certified resources are in short number to respond to all the necessities. Another factor pointed out is the necessity for a proactive response from universities based on a mature

informational system. One respondent pointed out that for example in the university it teaches there is no integrated data system. Another respondent's alert to the fact that a culture shift would be necessary and there could be some resistance to change. Based on all these factors, the HES may not be able to have a quick and accurate response to this new knowledge transfer phase. From an academic perspective, CI could benefit the students as it makes them more aware of the information it surrounds them. Knowing where to look for information and be able to concentrate their efforts on the right sources and tools of analyses would help the students to spare time and have more focused and goals oriented researches. Students could use the knowledge of CI in all their other subjects. However, for this to be successfully implemented, universities must ensure they hire professionals with work expertise in CI to give those classes. Besides, universities would need to adjust CI to the course in question by aligning all the necessary resources.

As a last note, it would be interesting to address the issue of CI from an application point of view to a university. For example, this assignment could be done in one of the top Universities in Portugal: ISCTE-IUL.

5.	Research challenges and suggestions for future research

The biggest problem that could be raised by the academic community is related with the sample size. An inductive research bases big part of its conclusions on the qualitative data analysis and since 8 interviewees is not a big sample; the results can be put into question. Another topic that may also arise is related with the time-frame. As the interviews were conducted almost one year ago, some may argue that the analysis is no longer valid. However, and in an inductive analysis it is normal that a long analysis is taken. Mainly because, the qualitative data is more difficult to analyse, aggregate into related topics and draw accurate conclusion from it. Besides, moving forward and backwards in this type of analysis is very common and that takes time.

In the future, a good research study would be to address the adoption of CI in the a university as ISCTE-IUL (my university); is it a good or a bad thing?; how can the same be implemented?; who can be responsible for the implementation?; for what purpose?, example: become a more competitive university in the international market; among others that the university finds important.

The question eight as somehow already addressed this topic and some conclusions can already be taken from it. Nevertheless, more research needs to be conducted if in fact CI is going to be implemented in a university. Either being the same, in the form of a cross-sectional department or center, defined to the all the university or just as an application test to a specific department or to one school… CI is perceived as a good thing to universities (both in academic and organisational terms) as long as some parameters are met. In fact, all organisations are different, even when operating in the same sector – the Higher Education one. Therefore, for each university to successfully introduce CI, must first look inwards and define and mature its information, define the CI strategy, goals and how to allocate resources, among other factors. Then, look outside and start searching for the right information, the information that will in fact respond to their questions and help them to better foresee opportunities and anticipate threats and moreover, gain and maintain a competitive advantage. Concluding, if in fact CI in any organisation depends on the structure, size and strategy of the same, for each organisation to put into practice a CI programme it cannot really on a study for another university, it must conduct its own study and first, verify if it is in the right path to use CI as a planning tool and later define how to use it in a more effective way.

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7.   Appendices

7.1.   Appendix I – Full Transcript of the interview (Phase 0)

Interview to Prof. Luís Madureira

Interviewer – Good afternoon Professor Luís Madureira. First of all, I want to thank you for having accepted the invitation to this interview. The purpose of this research is to understand if the topic of Competitive Intelligence can be related to Universities both from an academic and organisational perspective.

Interviewee – Good Afternoon Mafalda. I am very pleased with this invitation and I hope I can help you.

Interviewer – Thank you Professor. Starting with the questionnaire, **in your opinion what Competitive Intelligence is?**

Interviewee – Before I will explain what Intelligence is. It always starts with data or information. Data is the most granular element of intelligence, is the smallest thing it can be when it comes to intelligence; when processing the data we have information; when we understand the information we have an insight. An insight is a perspective on a particular subject and this perspective can be right or wrong. If this perspective is looking back, that is, if it is to explain something that happened in the past, we have an hindsight; if this perspective is looking forward, it is a foresight, that is to develop a perspective on an event that has a high likelihood of happening; when this insight can be trigger, then we have intelligence; if this insight is true, we have knowledge. So I only have knowledge when I have an insight and that insight is true. Intelligence is when we can trigger that insight, that is, when we can make a decision or develop a strategy based on it. Intelligence = actionable insights.

Now the Competitive Intelligence: we have the external environment composed by five vectors (PESTEL). This external environment typically impacts on a geography that is the market. To have a market it is necessary to have three things: Industry, Players and the consumer or client. So, Competitive Intelligence is actionable perspectives or actionable insights on all of this.

When it comes to Economic Intelligence, only the E in the PESTEL analysis is being addressed. Therefore, CI is much more than that. Its definition is actionable insights in the industry, the players, the consumers, in a geography that is in the external environment. The main point here is the "actionable", the "trigger", not the information

However, this is my definition. You will find other things like "Market Intelligence"…

For example, if we are talking about the world, the market and competitive intelligence are the same because the scope is the same. I call "Market Intelligence" when I am referring to intelligence in a particular geography; Market Intelligence in Portugal or Spain, but there are people who use interchangeably the topics of: market, competitive and business. For me, business is just the company. So our business lives within an industry and the industry lives within an external environment. There are many people who use business for the overall and competitive for competitors. But many are confused, even those working in the area, not all have a neat idea. And I spent a lot of time doing this (structuring ideas) and it is too complicated to explain to someone. And it depends, if you look into Business Intelligence books, where they want to project the idea ... their perspective is only the company's one; it is, start from the company to the world, which is, in my perspective, the wrong approach, because the company is what you control. What is outside you do not control, thus we have to start from what we do not control to what we control, so then we can adapt in the best way. That is the philosophy, the logic and the mindset of competitive intelligence.

In the business world, business intelligence is closely related to financial reporting software. For me, business intelligence is not that, for me it is a tool, it is a technology, it is not a discipline and it is just a tool. Business Intelligence is not, for example own a dashboard; business intelligence is, I have to have information about my business and I have to think what the best place is for me to place my stores. Imagine that we have a sushi business; we have to understand what the best locations to have stores are. For example, next to office's areas, in a shopping center, in highly populated places or near supermarkets. This is what business intelligence is: the intelligence of the business. Business intelligence software is reporting, it is jut report data, it is only technology.

In a marketing plan, we have the internal and external analyses; the external analysis is the competitive intelligence. To be easy to identify, most of the competitive intelligence which is the part of the external elements and the industry, the competitors and so on, enters all in the external analysis. The analysis of competitors while marketing is an external analysis. Often this is poorly done: I have a competitor here, another there and I see what their range of products is. With competitive intelligence I am able to do an analysis of their marketing, marker and communication strategies, what are communications they are using, their communication models, among others and all of these with a degree of reliability of 90%.

Interviewer – And in your opinion, **does CI has a specific area of application or the topic has a wide scope?**

Interviewee – The answer to this is, to everything you want. You can apply this at the company or strategy level until the brand level; to the level of making innovation plans, which products to launch, in at platforms… so the scope of this is wide or comprehensive and covers almost everything.

Interviewer – The idea of this question is more to understand if it can be applied to any company, university, and so on.

Interviewee – It can be applied to all the industries, being the education industry or another one.

At universities, what the trends of the external environment are? How should the same structure to respond to the market? This can be applied to everything, either on global or brand perspectives or even to a function.

For example, I can only do marketing intelligence and marketing intelligence has two strands, the internal aspect which is closely linked to the mobilisation and optimisation of the marketing mix. For example, if I spend more on television, how much will the sales increase? It is based on a sensitivity analysis to the four P's.

And then there is the external marketing intelligence, which is to realise the marketing of the competitors.

The answer is, can be applied to all industries either schools or businesses; it can be applied to everything.

Interviewer – **Professor, how do you see the theme of CI at universities? In your opinion is it possible to match the two? (from an academic and organisational way)**

Interviewee – What is the angle in which you want me to answer? This is a wide topic.

Interviewer – The idea is to analyse two aspects, a more academic one that would be teaching the subject and another one more related to the organisational structure of the university: if it could be used or not.

Interviewee – It is a shame that this is not compulsory, not just in Portugal, but that it is not compulsory. Many companies fail because they never make it. For example, the phrase "fall fast to learn quicker", if they had done an initial analysis, maybe they would not need to fail and come to the conclusion that that idea would never be feasible and that would have spared them an enormous amount of time.

That is, I think it's a very big flaw… for e.g. the logic at state level in France, French companies have economic intelligence. Economic intelligence is usually taken at state level, they protect the French companies. The government has some means to condition other non-

national companies in competitive terms. This enables French companies to gain a competitive advantage.

Interviewer – Would it be interesting for students to have a competitive intelligence course or even to get a master in this field?

Interviewee – In my opinion, students should have at least one introductory course at their bachelor and later another course in their master's. At least they should learn the very basics, that is, to know what an insight is. An insight is not just a term of competitive intelligence, it is of market research; it is closely linked to the market and the consumer and often is linked to consumer research. But very often no one teaches how to arrive to an insight and the course would be a way of structuring ideas.

Interviewer – Maybe it could even help students in other studies, their analysis would be much more groomed and they would better understand the industry they were considering.

Interviewee – Yes, to help in college papers. CI has multiple processes; there is one thing that is the cycle of intelligence. It should be followed by everyone. Before you start looking for something, you have to realise what you are looking for, then it is necessary to observe and monitor that, then you have to select the information in primary and secondary sources. Then you have to structure the information and eliminate what is garbage, what it does not matter, only after that the analysis is done. Most people do not follow this path and because, there is too much information that does not matter, insights are poorly made: with no structure. Besides, they do not have everything organised and often do not realise exactly what the demand is and then draw half conclusions and have to return to the beginning to find out more.

After, it is necessary to realize how to spread it, I mean, how to communicate the insight that you found. And this is difficult. One thing is being technically good to make insights, but if I cannot pass the results I have, what is it worth to me? This is why it is very important that all students have this. Moreover, I do not remember having in university a course in communication or making presentations or even on how to build a presentation.

Interviewer – Neither do I. But then when we are professionally working that already exists. I will have two formations in my company.

Interviewee – Would they be given by an external company?

Interviewer – No, the company will be giving them.

Interviewee – For example, there are already lessons of CI in Portugal.

Interviewer – I just found one in the University Fernando Pessoa.

Interviewee– There is one also at ISEG, I will give one in the University Europeia. And where more... Nowhere else that I know...

In the University Europeia, I have seen a course there. I also teach in Spain a master in the University Carlos III, University of Barcelona and in the UAB Barcelona.

Interviewer – So, in Spain they are already focusing on this theme.

Interviewee – In Spain they started to bet on this topic a bit later but now are already ahead and they are increasingly more inviting me to give more classes.

Interviewer – **What benefits and difficulties can an university have by using CI in its strategy from an organisational way?**

Interviewee – In terms of difficulties, it is related to have people that know how to do it; there are very few people who know. That is, there is a shortage of human resources. Beside this, I do not see more special difficulties.

Advantages, from perceiving what the consumers want (final consumer - students, before them - companies), understand the way the industry is going and see how they can adapt to it. Very often companies try to take a big leap and sometimes it is a very good innovation but is completely out of time.

Interviewer – And if there is no one interested in a specific master?

Interviewee – People need CI but do not know that yet.

If you go and take a course on CI, companies now are not very alert to this issue, but also if there are no people they might never be…

Oh and by the way, I will also be giving a workshop on CI at AESE.

Interviewer – AESE is a very good university.

Interviewee – This is only for CEO's, area directors and so on… It has a different target. This is to say, that universities are beginning to address it because increasingly more people are talking about intelligence, also linked to issues of Analytics because Analytics is part of the analysis that is between information and insight. The analytics are here (the professor points to a piece of paper: between the two, information and insight) and alone do nothing but are what allows to do something after.

A good example is Amazon. Amazon works through analytics databases and analyses all the people it has, all their affinities to buy other books. This is the first part of analytics. And now there is the other part that is the intelligence that covers what to do to trigger this. That is, it only matters if people actually buy the books. Intelligence is things like what to do in terms of processes, at website level, among others.

Interviewer – It is like the card of Continente or Tesco. They assess what people buy and then make discounts on those products or on similar ones.

Interviewee – For these processes, companies like Tesco need Intelligence. If you make a search on Google by the word "Intelligence" will find many things that do not matter. There are already many people talking about this topic that do not understand it at all.

And it has so many benefits. Since increasing the competitive advantage, to better adequate their offer... I do not see anything against it or risks as it does not represent an innovation in investment.

Interviewer – You said the biggest difficult would be people. It is from a way of gathering more information or from an analysis perspective?

Interviewee – People do not have the necessary information. Everyone can do an analysis. I can do an analysis of a bridge but I do not have the structure and knowledge behind on how to build a bridge. I will build a bridge and it will fall. This is the difficulty of not having enough skilled resources to do it well. Therefore it is necessary to ensure that certified people that know what they are doing are hired.

Interviewer – **And what benefits and difficulties, if any, can it bring to the university in an academic way?**

Interviewee – Either an undergraduate or graduate student, if it does not have a minimal basis to understand the industry he is in, the competitive environment, if it cannot have a structured view of the competitive environment; How will he be able to do marketing if he cannot understand what people outside the organisation think? If I cannot understand how the economy outside impacts the economy here, how will I run a business and the economics of a business if I do not realise the impact of the external economy?

For example, for the future, when students are already employed: If an employee in a company stands out and it comes from a particular university, then the employer will stay with a good image of the university.

Interviewer – **And to its students?**

Interviewee – I have already mentioned, it has so many benefits.

Interviewer – **Very well, and focusing on the core business of a University: how can the same organise their resources to, in a more effective way, use CI?**

This question is related to: how can the university do analysis, collect the data, how can the same perceive what information is important to research, what the search engines to use, and also, how can the same identify a lack of resources.

Interviewee – This is a somewhat a complicated question. The logic is, and to organise this in the best possible way, what the university needs to do is to implement the CI function according to the steps. (The professor displays a slide and says) this is the roadmap to implement CI and these are the critical or key success factors. Therefore, since the creation of the process itself, the question of the organisation is: what resources allocate; the scope is: what is the scope of the CI work? CI will be devoted to what? Only consumer intelligence or to the consumer and the industry? Or to the competitive intelligence as a whole?; The culture: that is, making decisions based on intelligence and appeal to CI to make decisions; tools: what tools to have; deliverables: that is, what is the university hoping for to take from this, what are the practical results of it. The university wants reports? Or wants a newsletter? Does the same wants an early opportunity warning? Summarising, what does the university wants to take from CI? So these factors are the critical success factors to implement CI. That is, the university must think about the best way to allocate the resource to each KSF.

Interviewer – Yes, this is in the perspective of, for example, to implement a department at the university, these would be the Key Success Factors.

Interviewee – These are the KSF. And for example there are various stages, we have the "fire fighters" that are always extinguishing fires; then we have those you are always looking forward and tell other what the path of the education industry will be and what is necessary to get there. So, to answer this question I would need an entire day. But to give a short answer: the university should allocate sufficient resources to each one of the KSF, because without them the university is not capable of doing a good job. For example, even if we have the tools and the culture... or even if we have everything and do not have the culture, that is, if people will not decide based on intelligence, then it is not worth wasting time on intelligence.

Interviewer – The most important point in CI are the people.

Interviewee – Yes, if someone says it does CI with machines is lying. Or then does a garbage of CI.

The main point is to have the key resources and we are always talking about people.

Interviewer – **In your opinion, would it be beneficial for a university to create a CI Department that could be responsible for collecting, analyzing and applying the results in the university?**

Interviewee – This department has to report to the rector or vice-rector of the university; it has to be a cross-department at the organisation. It cannot be a single department in the marketing area, it cannot be a department in the Masters in Management area... It has to be a department that reports to the maximum representative of the university.

Interviewer – For example, when I think about CI at ISCTE, and specially for a first stage, I only think for a specific school, for example Business School, because the university is very big to start analysing everything.

Interviewee – It can be. It can be applied to INDEG or to ISCTE... But my point is that whatever the scope is, the department has always to report to the maximum representative of the university.

Interviewer – Yes, in order to get a more global vision of CI instead of a disaggregated one.

Interviewee – Exactly.

Interviewer – For example, should the department be focused on a more academic part and have courses and trainings or should be focused on a more organisational perspective?

Interviewee – I think it should be both. The first thing is the offer of a university by having CI. I think it should have for the reasons I have already mentioned. Another thing is the university to use CI as a function. And I have also already enumerated the reasons and it is beneficial. The two should not be mixed: one thing is to teach and another is to do.

It should not be created a CI department for classes and to do CI; that is the greatest way for things not to work.

Interviewer – Yes, but can the department be divided?

Interviewee – No, because the part of the organisational CI must report to the higher representative in the university. The part of who is teaching CI should report to the academic part of the organisation and not the executive one.

CI at the function level, at the company level, has to report to the rector.

And another thing is if we are going to give CI as a course in a bachelor degree is one thing, if we give it in a Masters or even if we give a Master in CI, is another. For all of this, it could be a pedagogical group that would control how CI is given during the students' life at the university.

Interviewer – But the university should not have a way to control all CI, right?

Interviewee – Yes, I think this is a huge mistake. Because we are mixing the "to-do" , and here the focus is to look outside (know-to do); and then we have the others (know-know) looking inside. Ie, one is an external view for the most part of the time and the other is an inside view of how to teach. And mixing the two is not a good idea. That does not mean that the person that knows how to do it cannot give a class. My point here is that to do all in the same side is not a very good idea.

Interviewer – Thank you very much for the interview, it was an excellent and enlightening contribution.

Interviewee – Thank you for the invitation and good job, any doubt you may have, please let me know.

Interviewer – Thank you Professor.

7.2. Appendix II – Evolution of the questioner

Initially, the questionnaire was built based on eight major questions. With these eight questions the full scope of the research study would be addressed. However, and after the test interview, the need for a greater explanation of each question and also the necessity to target the respondents for the issues addressed, led to the creation of smaller questions within the 8 major topics and also the explanation of the same. The issue of Competitive Intelligence is very broad and because of that, it is necessary to narrow the respondent's answers to the subjects under scope. Therefore, in the end the questionnaire was presented to the respondents as below: (The 8 main questions are underlined)

1. In your opinion, what Competitive Intelligence is?

The aim is to have a succinct definition of the theme.

2. Does CI has a specific area of application or the topic has a wide scope?

Understand if CI can be applied to any organisation and/or area (in this, more specifically to the higher education institutions) or can only be used in some areas.

3. How do you see the theme of CI at universities? In your opinion is it possible to match the two? (in an academic and organizational way)

How do you perceive the theme of CI at universities, both in an academic and organizational way?

Academic - introduce CI in the offer of the university and CI as a research topic within the university. In the first case, does it make sense to offer CI to the students? If so, what are the main reasons? Plus, how should it be offered to the students and to what students? (how: as an optional course, as a supplementary course, as a another subject, among others?; students - undergraduate, master...? In the second case, is it an interesting and relevant topic for analysis within the university?

Organisational - introduce CI in the structure of the university.

4. What benefits and difficulties can a university have by using CI in its strategy? (organizational way)

What difficulties and benefits would it bring for an university to apply CI in its strategy and structure, from an organisational point of view?

For example, benefits - quick response to market changes, fluidity in the transmission of knowledge, among others. Difficulties - allocation of resources, among others.

5. And what benefits and difficulties, if any, can it bring to the university in an academic way?

From an academic point of view, what benefits and difficulties can CI bring to a university? For example, in terms of allocating resources.

6. And to its students?

Would somehow be beneficial for students to have CI courses, would employers appreciate it? In what ways, could it be beneficial and also detrimental (if that is the case) for students to understand and work with the theme of the IC at the universities?

7. Focusing on the core business of a University, how can the same organize their resources to, in a more effective way, use CI?

How should the university organise their resources to be able to, in a more efficiently and effectively way, use IC.

8. In your opinion, would it be beneficial for a university to create a CI Department that could be responsible for collecting, analyzing and applying the results in the university?

Evaluate the feasibility of setting up a CI department at a university (pros and cons).

However, if the CI department creation does not make sense but CI is beneficial in universities, how should the two be related? Additionally, at what point of the organisational structure of the university (ISCTE-IUL) would it make sense to put CI? (for this last question please use the organisational chart in the attachment).