Competitive Intelligence in the Tourism Sector, with special focus on Southern Europe
Inteligencia Competitiva en el Sector Turístico, con especial atención al Sur de Europa

Gisela Casado Salguero
University of Málaga, Department of Economics and Business Administration, 29013, Málaga, Spain, gisela_mlg@hotmail.com

José A. Jiménez Quintero
University of Málaga, Department of Economics and Business Administration, Campus El Ejido s/n. 29013, Málaga, Spain, jajq@uma.es

Abstract
The current organisational environment is characterised by rapid change. This means that if businesses want to survive, they must stay abreast of these changes so as to take the most appropriate and risk-minimizing decisions.

This can only be done if the decision makers have access to Intelligent Information. To obtain this information, it is necessary to have structured processes of Competitive Intelligence in place. Large businesses have been doing this for years, and now more and more small and medium businesses are doing it too.

In this paper, an analysis will be carried out of the implementation of these Competitive Intelligence processes in hotels in the Costa del Sol - a valued beach holiday destination on a European level. Despite strong competition from other such destinations, the Costa de Sol attracts millions of sun-seeking holiday-makers, as well as more and more visitors from other tourism sectors, such as sport and culture.

Keywords: Competitive intelligence, decision making, hospitality, environment, strategic management.

1. Introduction
The term ‘Competitive Intelligence’ is on the rise. Although it is not a recent concept, it has only been since relatively recently that it is becoming more widespread, not only in the academic field, but also in the business world.

In spite of the volume of books, doctoral theses and investigative research to be found about Competitive Intelligence, there is a noticeable void in its application to the tourism and accommodation sector. In Table 1 you can see relevant publications on Competitive Intelligence.

<table>
<thead>
<tr>
<th>Area</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational</td>
<td>García Alsina (2011); Heinrichs and Jeen-Su (2008); Calof and Wright (2008); Hughes and White (2006); Fleisher (2004).</td>
</tr>
<tr>
<td>Companies in general</td>
<td>Tamboura and Mamlouk (2009); Michael and Simon (2008).</td>
</tr>
<tr>
<td>Competitive Intelligence Professional Associations</td>
<td>Qiu (2008).</td>
</tr>
<tr>
<td>IT Businesses (technology-based businesses; specialized supplier; service companies).</td>
<td>Tanev and Baietti (2008); Dishman and Calof (2008).</td>
</tr>
<tr>
<td>Health insurer</td>
<td>Mélo and Medeiros (2007).</td>
</tr>
<tr>
<td>Small and medium-sized enterprises in general, seeking enhancements or processes re-engineering</td>
<td>Salles (2006); Groom and David (2001).</td>
</tr>
<tr>
<td>Commercial area of the enterprises</td>
<td>Le Bon (2006).</td>
</tr>
<tr>
<td>Food, hygiene and cleaning industry</td>
<td>Kurtz and Schuler (2003).</td>
</tr>
<tr>
<td>Hospitality</td>
<td>Cruz and Gadotti dos Anjos (2011); Jiménez Quintero, Arroyo Varela and Rodrigues (2008)</td>
</tr>
<tr>
<td>Product suppliers and industry</td>
<td>Jaworski, Macinnis and Kohl (2002).</td>
</tr>
<tr>
<td>Enterprises that represent 17 classifications of the industry</td>
<td>Vedder and Guynes (2001;2002).</td>
</tr>
<tr>
<td>How Competitive Intelligence allows enterprises to have knowledge of the business</td>
<td>Oubrich (2007).</td>
</tr>
</tbody>
</table>

Source: Compilation with information from Cruz (2010).
While it is true that some countries have researched the application of Competitive Intelligence to the tourism sector, for example that of Cruz and Gadotti dos Anjos (2011) in Brazil, in other highly-popular destinations there are no publications to be found.

One of these destinations, and the one on which this project will be focused, is the Western Costa del Sol, a beach holiday destination which has long since been at the heart of the national and international tourist market, and which still attract large numbers of holiday-makers. In this valued tourist destination we can only find one piece of research related to Competitive Intelligence, the one carried out by Jiménez Quintero, Arroyo Varela y Rodrigues (2008).

Research related to Competitive Intelligence is of great importance, given that these days, all businesses, whatever their sector, are bound to their environment, both influencing each other and being influenced. For this reason, it is vital for managers to know their sector in order to make the best, risk-minimizing decisions. This will lead to more well-informed decisions, which will in turn aid survival and success. This is where information comes into play. If the available information is not clear, relevant, trustworthy or useful, decision making will be compromised, endangering the future of the business.

If we add to this the importance of tourism as the motor of many countries’ economies, a study linking both fields is clearly justified: on the one hand tourism, and on the other hand outside information necessary for decision-making.

The aims of this project are:
- Measure the state of implementation of Competitive Intelligence in hotels in the Costa del Sol.
- Measure the importance that managers give to Competitive Intelligence.
- Determine the information sources used in Competitive Intelligence.

2. Literature

Competitive Intelligence has its foundation in the field of Strategic Management, particularly in the Environment School. It is worth noting that there are many definitions and opinions related to the concept of "environment" ever since it appeared in publications. Table 2 compiles some of these opinions.

<table>
<thead>
<tr>
<th>Table 2 - Points of view studied in the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
</tr>
<tr>
<td>It can be divided into specific and general, with the aim of establishing an organisation’s opportunities and threats.</td>
</tr>
<tr>
<td>It can be analysed through models of foresight and prospective.</td>
</tr>
<tr>
<td>It can be divided into macro-environment and micro-environment, the latter encompassing the company, its suppliers, marketing intermediaries, clients, customers, competitors and stakeholders.</td>
</tr>
</tbody>
</table>

Source: Author’s own.

Today, businesses find themselves operating in increasingly uncertain and complex environment (Zhang, Majid y Foo, 2010), due to rampant globalization, technological advances, economic crises, lifestyle changes, terrorist threats, political upheaval, epidemics and other natural disasters. These engender uncertainty, the level of which can be gauged by studying said environment.

It is precisely this uncertainty caused by a constantly shifting environment that drives businesses to carry out a growing number of information processing tasks (Culnan, 1983, Daft et al., 1988, Tushman, 1977, cited in Dishman and Calof, 2008). It is by this process of identification and adaptation that businesses can put in place mechanisms that will enable them to better collect and apply relevant information (Belich and Dubinsky, 1999). What’s more, the continuous and systematic examination of the environment allows businesses to avoid unwelcome surprises and to gain a competitive advantage over their rivals through strategic decision-making.

In order to develop strategies in keeping with the environment, business need the adequate tools to process information (Cloutier, 2013).

It was in 1980 that Porter expounded the necessity for a structured process of compiling information ‘to identify continuously and systematically opportunities and threats’ (Calof and Wright, 2008, cited in Cloutier, 2013). However, the term ‘Competitive Intelligence’ had already appeared in publications.

If Competitive Intelligence was to be characterised by any one defining trait, it would be its multidisciplinary nature. It has been applied to the fields of Marketing, IT, Computer Engineering and Business Management. The latter has seen three different applications: ‘observing the environment, systems and styles of leadership and analysis techniques’ Montserrat Garcia (2011).

Following on with the topic at hand, it is worth pointing out that the application of Competitive Intelligence to the business world is due to the growth and modernisation of competition, which has caused increasingly difficult challenges for strategists.

In spite of the fact that Competitive Intelligence is an emerging discipline, still in its formation stage, and that it lacks a solid theoretical body of work, there is a vast number of definitions given to this term ever since it first appeared in academia. Even so, no single one has been accepted by members of the scientific community.
Intelligence needs information, but information is not intelligence. As Kahaner (1996) explains, ‘information is based on data. It is numbers, statistics, data about people and businesses. Intelligence is information which has been filtered, distilled and analysed. Competitive Intelligence requires knowing the exact differences between information and intelligence. Intelligence, not information, is what leaders need to make decisions’. Fuld (1995) shares this opinion, stating that ‘It is not a case of having mountains of printed data. It is not necessary to have thick, dense reports. It is certainly not spying, stealing or hiding microphones. Basically, intelligence is analysed information’.

McGonagle and Vella (2002) state that Competitive Intelligence is a process which involves using public resources for the development of data relevant to competitors and the environment, and the later transforming this data into information that will be helpful in supporting a business’ decision-making process.

Agarwal (2006) maintains that this process plays a vital role in a company’s knowledge management, and in its decision-making, as it helps to form a future vision of the company and to anticipate its competitors’ moves.

On the other hand, Gray (2010) offers a broader vision, and points out that Competitive Intelligence should be more concerned with emerging technologies, changes in consumer preferences, the opening of new markets, demographic evolution and legislative changes, as all of these are elements that affect businesses and their competitors equally. He also adds that Competitive Intelligence should not be confused with the concept of a competitor’s intelligence, as this refers to only one rival company.

At times, Competitive Intelligence has been mistaken for espionage, which is a grave error. As Attaway (1998) states, ‘the difference between both is that Competitive Intelligence compiles information in an ethical, legal manner, information that is freely available to the public in most cases’.

One of comprehensive definitions of Competitive Intelligence is that formed by Rouach and Santi (2001), who affirm that it is ‘the art of gathering, processing and storing information in order to put it at the disposal of employees at all levels of a business, to help them envisage the future and protect themselves against their current competitors. It should be legal and ethical. It implies a transfer of information from the environment to the business, always within established norms’.

But the most frequently used definition is that proffered by the Society of Competitive Intelligence Professionals (SCIP): ‘It’s an ethical process of compilation, analysis and dissemination of trustworthy, relevant, useful, peremptory intelligence in relation to the current climate of the business world, the business itself and its competitors’. (Boncella, 2003, cited in Johns and Van Doren, 2010)

Many truths have been written about the importance of Competitive Intelligence to all types of businesses. Related to strategic management, Nasri (2001) states that Competitive Intelligence facilitates information on its competitors, that is, their strategies, goals, research, strengths, weaknesses etc., affording the business a better understanding of its own position with regards its competitors. For Myburgh (2004), the main objectives of Competitive Intelligence are, basically, to manage and reduce risk, obtain useful information, guarantee data protection and avoid an excess of material. The aim of these processes, as Qui (2008) explains, is for managers to get to know their clients and competitors better, thus gaining competitive advantages. Therefore, Competitive Intelligence is a vital part of strategic planning and management, which, through the compilation of diverse information, allows the business to anticipate market changes, due to the fact that it can determine what will happen in its environment.

Undoubtedly, and supported by all of the above, it can be safely said that Competitive Intelligence in a business is the collection of processes aimed at acquiring external information ethically and legally, in order to transform it into intelligent information which will help to make strategic decisions, and therefore contribute to the overall success and survival of the business.

According to Kahaner (1996), the process of Competitive Intelligence has four phases: Planning (identifying needs for information must be done along with decision-makers), Gathering (identify sources, compile and storage information), Analysis (verify, analyse, interpret, validate information and make suggestions; and transform information into intelligence); and Dissemination (bring the intelligence obtained to strategic decision-makers). To these four phases, the Society of Competitive Intelligence Professionals (2014) adds one more: Feedback, which is essential to measure the obtained results, to correct divergences and to make the process efficient (Figure 1).

**Figure 1 - Cycle of Competitive Intelligence**

Source: Compilation based on the Society of Competitive Intelligence Professionals (2014).

3. **Methodology**

The hypothesis of this project lies in the notion that the hotels of the Costa del Sol have well-structured processes of Competitive Intelligence. We arrive at this hypothesis by way of the following facts: the importance that the Costa del Sol has always had as a beach holiday destination, the fierce competition that exists with other similar destinations, the unstoppable advance of informatics and communications technology and its ever-increasing use in all sectors of the economy.
This project aims to achieve the following objectives:
- Measure the state of implementation of Competitive Intelligence in the Costa del Sol’s hotels.
- Gauge the importance that managers give to Competitive Intelligence.
- Examine information sources used in the process if Competitive Intelligence.

In order to do this, and basing our Strategic Management methodology on the Environment School, we will follow the steps below:
- **Stage 1**: Define parameters of investigation.
- **Stage 2**: Obtaining data from SABI.
- **Stage 3**: Analyse the cluster.
- **Stage 4**: Sample and surveys
- **Stage 5**: Data Mining

### 3.1 Stage 1: Define the parameters of the investigation

This project will focus on hotels in the western Costa del Sol, including Malaga City.

The reasons for this are:
- It has a wider range of accommodation than the eastern Costa del Sol.
- It is the area that welcomes most tourists in all of the Costa del Sol.

#### Accommodation

As stated in a report published by the Malaga Tourist Observatory, the western Costa del Sol is home to 80.4% of all tourist accommodation along Malaga’s coastline, increasing to 87.3% if we take Malaga City into account (Figure 2).

#### Figure 2 - Percentage of accommodation units in the Costa del Sol

![Figure 2 - Percentage of accommodation units in the Costa del Sol](image)

**Source:** Touristic Observatory of Malaga.

#### Visitor numbers

In order to define the area of study even further, to that of the most emblematic part of the western Costa del Sol, we have chosen Torremolinos, Mijas, Fuengirola and Marbella, as well as Malaga City, as the Costa del Sol Tourism Observatory 2011 signals them as the most visited places by tourists (Figure 3).

#### Figure 3 - Most visited towns in the Costa del Sol

![Figure 3 - Most visited towns in the Costa del Sol](image)

**Source:** Compilation with data from the Touristic Observatory of Costa del Sol (2011).

### 3.2 Stage 2: Obtaining data from SABI

SABI is a database that facilitates detailed analysis, statistics and comparisons of business and groups of businesses, as well as illustrative graphic of balance sheets and accounts. This allows us to follow a company’s financial trajectory compared to that of its competitors, and also market analysis and economic investigation in general. It includes information about more than 1.2 million Spanish businesses, and 400,000 Portuguese companies. This gives us access to the following data about hotels on the western Costa de Sol.
- Economic profit
- Financial profit
- Before tax profit
- Location

The search was done based on the 551 code of the CNAE (2009): Hotels and similar accommodation. The National Classification of Economical Activities or CNAE of Spain is a statistical ranking created by the National Institute of Statistics and has as an objective to facilitate the implementation of statistical analysis over the producing units (autonomous enterprises and businessmen) depending on the activity they practice.
Once all this data was obtained, it was exported to SPSS to conduct a cluster analysis and to extract from these surveys the necessary information which allowed us to shed some light on this investigation.

### 3.3 Stage 3: Cluster analysis

The aim of carrying out a cluster analysis is to find groupings of hotels that share common characteristics, to later choose the most representative of each cluster to survey, representative referring to the hotels that have the highest volume of staff, social capital and profits.

This stage was divided in turn in two steps:

**First Step:** The making of the cluster

Once the SABI data was exported, they were introduced into the SPSS statistical programme and they carried out a ranking cluster analysis with the following features:

- As variables there were: social capital, employees, export earnings, economical profit, financial profit, ordinary results before tax and the last exploitation revenue; the names of the hotels were used as labels.
- The clustering method was the links between groups.
- The Euclidian distance of the square was used as the interval measure.
- Used cluster: “cases”.

From said analysis, a total of 5 groups were obtained (Figure 4).

**Figure 4 - Dendrogram that uses a medium link (between groups). Cluster combination with re-escalated distance**

Source: Compilation with data from SABI and the statistical tool SPSS.
Second Step: Selection

Once the hotel groupings were determined, an Excel spreadsheet was made, with one page per cluster. In it, each hotel was identified as well as its corresponding SABI data. Highlighted were the four hotels with the most staff, the four with the most social capital and the four with the highest profits. In this way, the hotels who fulfilled most of these elements were chosen to be surveyed.

3.4 Stage 4: sample and surveys

The sampling used for this methodology was a non probabilistic sampling by quotas, as the respondents selected, given that we were already aiming higher, are the ones who gather certain features that affect the main focus of the investigation.

In regards to the design of the questionnaire, it is a semi-structured questionnaire with open and closed questions. In the closed questions, there are dichotomous questions, multiple choice, multiple answer and mixed.

Specifically, the questionnaire is formed of a total of 16 questions:
- 7 open answer questions
- 2 multiple choice
- 4 mixed
- 1 dichotomous
- 2 multiple answer

3.5 Stage 5: Data mining

Interviewee Profile

Of the four companies interviewed, three are in Marbella and one in Torremolinos. Only two of them belong to a hotel chain. One of the hotels is five-star luxury and two are four-star. All have been in business for between 30 and 70 years.

Our initial intention was to interview the General or Assistant manager, but this was only possible in one of the hotels. In the others, we asked to speak to the Sales Director, as according to the literature this is the person who carries out most Competitive Intelligence research. In only one hotel were we able to speak to the Sales Director: in the others we spoke to Sales Assistants.

Certifications

Competitive Intelligence and Technological Vigilance go hand in hand. That said, none of the hotels were certified in ISO 166006 of Technological Vigilance.

What’s more, none of them had any quality certifications.

Carrying Out Competitive Intelligence Processes

Lacking a specific department dedicated to Competitive Intelligence, the responsibility usually falls on:
- The commercial team
- Revenue department
- Assistant Manager

Information gathered externally to aid the decision-making process

Information gathered externally to aid the decision-making process is principally related to clients and competitors:
- Related to clients, the most common means of gathering information is through satisfaction surveys carried out in the hotel itself, as well as emails sent requesting that the clients rate their stay.
- As for competitors, information is mainly related to price and occupancy rates.

However, there are also other sources of information (Kotler and Armstrong, 2004), related to micro and macro environment:
- Related to micro environment, no importance was given to the information coming from suppliers or marketing intermediaries.
- Referring to macro environment, various factors that impact directly on tourist numbers must be taken into account, e.g. exchange rate, socio-demographic factors and political factors. However, these didn’t figure highly in the surveys.

Secondary to this would be:
- Information obtained from databases
- Information published in the press. Although everyone agreed that it is important to remain up to date, this information cannot always be trusted, and ought to be contrasted with other sources.
- Finally, a small number of those surveyed are influenced by information from specialist publications (Figure 5).

Figure 5 - External information for decision-making

Source: Elaborated by the authors.
Tools used to gather and process information:

Tools named in literature as being associated with processes of CI are:

- Critical success factors
- SWOT Analysis
- Benchmarking
- Balanced Scorecard
- Porter Five Forces Analysis
- TextAnalyst
- Brimstone Intelligence
- Microsoft Exchange
- Outlook
- Lotus Notes

The businesses only use Benchmarking, Microsoft Exchange, Outlook and, to a lesser extent, SWOT Analysis (Figure 6).

**Figure 6 - Tools used for Competitive Intelligence**

<table>
<thead>
<tr>
<th>Proposed by literature</th>
<th>Used by our sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Critical Success Factors</td>
<td>- Benchmarking</td>
</tr>
<tr>
<td>- SWOT Analysis</td>
<td>- Microsoft Exchange</td>
</tr>
<tr>
<td>- Benchmarking</td>
<td>- Outlook</td>
</tr>
<tr>
<td>- Balanced Scorecard</td>
<td>- SWOT Analysis</td>
</tr>
<tr>
<td>- Porter Five Forces Analysis</td>
<td>-</td>
</tr>
<tr>
<td>- Text Analyst</td>
<td>-</td>
</tr>
<tr>
<td>- Brimstone Intelligence</td>
<td>-</td>
</tr>
<tr>
<td>- Microsoft Exchange</td>
<td>-</td>
</tr>
<tr>
<td>- Outlook</td>
<td>-</td>
</tr>
<tr>
<td>- Lotus Notes</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Authors own elaboration.

**Social Media Presence**

Social Media presence is something that all the businesses have in common, but its principal objective is to inform, not to attract clients. In only one case was it used to obtain information about demand.

**Monitoring information**

With reference to the monitoring of external information, it is clear that information coming from clients and competitors is gathered daily while other external information which could affect decision-making is assessed weekly, or even monthly.

**Importance granted to Competitive Intelligence processes**

When asked if Competitive Intelligence is important within their businesses, the answer is a resounding ‘yes’ from all those surveyed, saying that it is vital to study their competition to determine their line of action. Especially important is to know prices and occupancy rates so as to fix their own pricing. Nobody commented on clients or other factors.

**Competitive Intelligence and Profitability**

All agree that if used effectively, Competitive Intelligence could improve profitability.

4. **Conclusions**

Change is happening at an ever-increasing rate around us, this being due to two major phenomena: the dizzying growth in new technology, and globalisation. These two factors have led to businesses having to operate in what is called a ‘turbulent environment’, which requires quick decision-making and a proactive stance when faced with these changes.

It is vital to have trustworthy and in-depth information to aid this process, to ensure that the decisions being made are the most suitable ones that will guarantee the company’s survival and success.

For this reason, many businesses use programs such as Business Intelligence, which allow them to see, in real time, what is happening within their own organisation. They avoid having to work with vast amounts of data and reports, and above all do not have to invest time in transforming this data into intelligent information.

But internal information is not sufficient when making decisions. External information is also vital. This information must be detailed, useful and trustworthy, ready to be used by the right person at the right time. What this means is that, as well as gathering internal intelligent information through years of applying programs such as Business Intelligence, companies must gather external information by using processes of Competitive Intelligence.

In order to do this, more and more businesses are applying formal processes of Competitive Intelligence in their organisations, with the aim of gathering and using external information which is relevant to decision-making, and which is readily available to the right person at the right time. In fact, huge companies like Nestle, Ericsson, Nokia, Ford, Toyota and Nissan have been using such processes for years now.

And yet, in our country, Competitive Intelligence is not very highly developed. However, it is true that more and more professionals from all fields are becoming aware of it, and are promoting its use.
Getting back to our study of the Costa del Sol’s hotels, we have to reject our starting hypothesis, given that they do not actually carry out well-structured processes of Competitive Intelligence. The reasons are:

- Non-structured practices of Competitive Intelligence. Within the hotels in Costa del Sol there is not a well-defined cycle of Competitive Intelligence.
- No specific department or person is dedicated exclusively to Competitive Intelligence, it is merely absorbed by other members of staff whose responsibilities lie elsewhere in the business.
- The most relevant information for decision-making comes from clients and competitors, and hardly any importance is given to other types of information that also affect the day-to-day and long-term running of a business.
- Of all the tools available for gathering and processing information for Competitive Intelligence, only a quarter are being used, if that.
- Resources are being invested in having a social media presence for informative purposes, not to get feedback from clients or potential clients.
- As for the monitoring of information, we noted that it was only daily as far as clients and competitors were concerned, and not for other environmental factors that could affect the business.

Therefore, we can conclude that:

Implementation of Competitive Intelligence in the hotels of the Costa del Sol is at a very early stage. As can be seen from our surveys, processes that follow the five phases described by SCIP are not being applied (Planning, Gathering, Analysis, Diffusion and Feedback). Gathering and information analysis techniques are hardly used, and information sources are mainly limited to clients and competitors.

Nevertheless, once the concept of Competitive Intelligence was explained, every one of the interviewees considered it vital to their company, and agreed that it could improve their profitability.

**Recommendations**

Decision makers, along with the team or staff members specialized in Competitive Intelligence, should clearly define what their information requirements are, so that those responsible for Competitive Intelligence later on will know exactly where to find this information and what tools to use to get it. Once the information has been obtained, the specialised team in Competitive Intelligence must be the ones to process it and put it at the disposition of the people who really need it.

Once decisions have been made, their efficacy and efficiency ought to be evaluated, to both establish future information requirements and to detect and correct any errors in the Competitive Intelligence cycle.

Technology plays a crucial role in this process, allowing us as it does to save money, time and superfluous resources.

In fact, there are certain aspects of gathering information that could be automated using the correct software. This would save time and effort, and decision-makers would have the relevant information at their fingertips, in real time. In this way, production companies, using the program Business Intelligence, could see on a screen, in real time, what their machines were producing, defective products, machine delays etc. Tourism-oriented businesses should do the same with external information that they could use systematically to improve their decision-making.

**Future lines of investigation**

Following this study, two connected areas of research have emerged, which would add to the scientific community’s knowledge of Competitive Intelligence, and would be of interest to professionals in the hotel sector. One the one hand, the most and least profitable hotels in each cluster could be studied to see what processes of Competitive Intelligence have been implemented. Then it could be seen if this accounted for the difference in profitability. Another possible area of research might be to carry out a study of the hotels already analysed in order to determine their real external information requirements, and see up to what point information gathering could be automated and processed using software. This would require a collaboration between one or more people with advanced skills in software and computer programming.

**References**


Cruz, D. F. (2010): Ferramentas de inteligência competitiva utilizadas pelas redes hoteleiras no Brasil como suporte à tomada de decisão. *Dissertação de Mestrado, Universidade do Vale do Itajaí, Balneário Camboriú*.


Article history:
Submitted: 16.10.2015
Received in revised form: 02.01.2016
Accepted: 06.01.2016