

# Market Intelligence

## A literature review

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### Abstract

The aim of this paper is to provide insights of market intelligence and answer to the question “*What is market intelligence?*” by reviewing existing literature of market intelligence. This study also aims to investigate the connection between market intelligence and Game theory, which is believed by the authors to create the foundation for market intelligence studies. The search of relevant material for this literature review was conducted by using the databases of Halmstad University and Google Scholar. Due to the lack of literature on market intelligence as an overall theory, also other literature, such as books, were utilized besides the articles. This study recognizes six theoretical connections based on the reviewed literature and Game theory. Also, a general definition of market intelligence was recognized as a result of the literature review.

**Keywords:** Market Intelligence, Game theory

### Introduction

Market intelligence is recognized as an important tool for organizations to compete and grow as a result of understanding their business environment by collecting information about strategically important topics to support organization’s decision-making (Hedin, Hirvensalo & Vaarnas, 2014). Even though market intelligence is found important, there is a lack of pervasive literature on market intelligence and the definition of market intelligence is used in many ways. Several researchers agree on the existing lack of clarity when defining market intelligence within the academic literature. Ross, McGowan &

Styger (2012), for instance, highlight the complexity and interchangeability of the definitions of market intelligence and marketing intelligence. This paper represents one of the very few literature reviews in the field of market intelligence. Purpose is to investigate what existing literature say about market intelligence, likewise the connections between the Game theory and market intelligence and aims to create an overview of the literature of market intelligence and find connections between market intelligence and the Game theory. So to say, this literature review provides general insights into market intelligence. The components of market intelligence or other areas related to market intelligence are not discussed in detail, such as competitive intelligence, business intelligence or marketing intelligence. Therefore, this review aims to answer a question: *What is market intelligence?*

### **Literature review on the definition of Market Intelligence**

This literature review reveals a great confusion concerning the definition of market intelligence. Ross, McGowan & Styger (2012) agrees on the complexity and interchangeability of the definitions of market intelligence. They state that there is a lack of clarity of definition of market intelligence, but at the same time the latter authors define market intelligence as an ambiguous term and argues market intelligence to be used interchangeably with other data collection terms (Ross, McGowan & Styger, 2012). Even though Ross, McGowan & Styger (2012) admit the confusion with the definition, they state market intelligence to be synonym terms for marketing intelligence and be used as the same in the literature. Jenster and Søylen (2009) present market intelligence as business activities, which also include public organizations participating in the markets and being “...active on different markets without engaging in any form of organization marketing activity (Jenster & Søylen, 2009, p.160). In their book about market intelligence, Jenster and Søylen (2009) refer to marketing intelligence as MI but the other

authors, such as Hedin, Hirvensalo and Vaarnas (2014) call MI market intelligence. In this literature review, we are going to refer to market intelligence with abbreviation MI. In short, market intelligence is a tool for organizations to compete and grow as a result of understanding their business environment by collecting information about strategically important topics to support organization's decision-making (Hedin, Hirvensalo & Vaarnas, 2014). Cornish (1997) confirms this by explaining MI to be constructed in detail of information about business environment in general, technology, competition, or research, or additionally information of consumer needs, preferences, attitudes and behaviours, as well as possible changes in the business environment that could affect buyers. Tan & Zafar (1999) cite Ettorre (1995) in their paper defining market intelligence as not spying on the competitors, but knowing what the competitors are doing and always staying one step ahead of them by information gathering, and then by information gathering designing short- and long-term strategic plans. The difference between spying the competitors is market intelligence involving ethical and legal gathering of information (Tan & Zafar, 1999). Moreover, Kotler & Armstrong (1997) describe market intelligence system as a set of procedures and sources, which managers use for obtaining information concerning essential developments in the marketing environment.

The authors of this review find unclearance in the use of definitions, especially between market intelligence and marketing intelligence. It is also common that the authors of the articles reviewed, did not clearly define what they mean by market intelligence or by marketing intelligence. For example, Li & Li (2013) wrote an article about deriving market intelligence from microblogs. The authors do not give clear definitions about MI or marketing intelligence but they state that "Marketing Intelligence (MI) is an important pillar of business intelligence (Li & Li, 2013, p. 206)." Later, in the findings of the study, Li & Li (2013) argue that "Research on market intelligence (MI) systems strives to gather,

analyze, and provide insightful knowledge for business decision-makers” (p. 215). This could indicate that Li & Li (2013) use the term market intelligence as marketing intelligence or that the definitions are overlapping. Tan & Zafar (1999), however, propose adopting the term market or competitive intelligence instead of business intelligence in their paper. This is justified by Tan & Zafar (1999) by citing Ettorre (1995) arguing that “Business intelligence, however, is a preferable term over market or competitive intelligence, as it is sometimes called, as business suggests the total external environment and all aspects of a company’s operation, not just what a competitor is doing” (Tan & Zafar, 1999, p. 16). Moreover, Hattula et al. (2015), sums up MI to include all the knowledge throughout the organization.

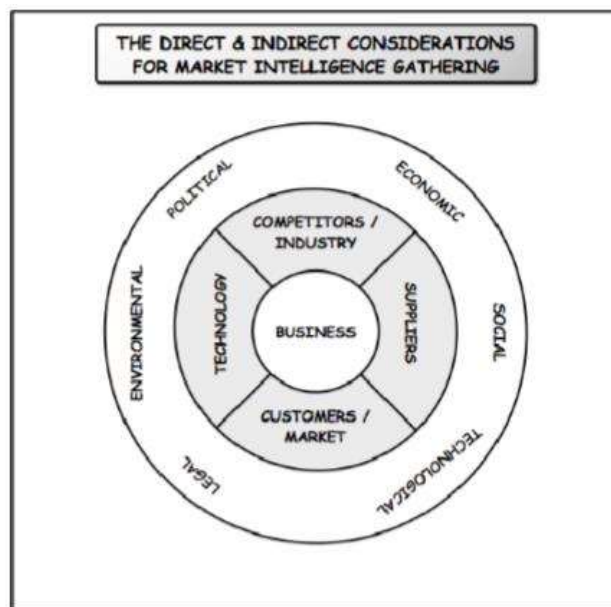
What is interesting to discover from the article of Wood (2001), is that Wood provides own definition of MI in the study of Internet use for market intelligence, stating that MI is introduced as data obtained only from external sources. Nevertheless, as a result of this literature review can be stated that majority of the definitions of MI acknowledge MI to be organization’s future-oriented activity consisting of both external and internal information.

### **Insights on theories of Market Intelligence**

*This review did set up some challenges for the authors in the sense of the lack of literature about MI as whole; meaning that existing literature of MI found, typically concerns very specific area of MI and therefore the aim of the following theories presented is to provide an insight into MI in its entirety as a theory.*

According to Jenster & Søylen (2009) most parts of MI are about business activities and additionally about public organizations participating in these markets. Therefore, business and competitive intelligence are the major areas of study in market intelligence,

as well as within private intelligence (Jenster & Søylen, 2009). Ross, McGowan & Styger (2012) have divided the key areas of MI into direct and indirect considerations. Presented as follows in the Table 1: Direct considerations include competitors/industry, customers/market, technology and suppliers. These direct considerations are further affected by indirect considerations, more commonly known as PESTEL model: political, economic, social, technological, environmental and legal considerations. (Ross, McGowan&Styger,2012).



*Figure 1: The direct and indirect considerations for market intelligence gathering. Adapted from McGee & Sawyerr (2003). (Ross, McGowan & Styger, 2012, p. 10)*

### **Sources of Market Intelligence:**

MI is used as a tool for describing the entire collection of internal and external business environmental data (Ross, McGowan & Styger, 2012). Jamil (2013) adds to this that besides external sources of information, the data and information gathered can be described as sectorial source of information, meaning that the data and information from sources is collected from similar kind of companies and organizations, which are related

to a commercial or marketing sector in order to meet more specific goal. MI is used within organizations for viable decision making of the current business market (Ross, McGowan & Styger, 2012). Hedin, Hirvensalo and Vaarnas (2014) agree on the latter by arguing that information from internal and external sources combined within a systematic intelligence process can capitalize on opportunities and avoid threats by serving decision-making with accurate and punctual MI. Ross, McGowan & Styger (2012) proposes organizations to implement own system for collecting, analyzing and disseminating information within an organization, and they call collecting the sources of information as business intelligence (referring to internal data) and competitive intelligence (referring to external data).

**Internal data** can be collected “...from sales and client records, human resource records, staff and owner/manager interaction with clients as well as their interaction with other stakeholders such as friends, family and acquaintances. The information can be sourced electronically, through internal business reports or by conversations and interviews (Ross, McGowan & Styger, 2012, p.7).” **External data** can be collected from the macro market and it includes data on product trends, business trends, competitor actions, financial market activities and social trends (Ross, McGowan & Styger, 2012). Other literature used for this review does not argue against the latter. However, according to Ross, McGowan & Styger (2012), literature on MI does not have lot of information to offer about personal collection of data through, e.g. networking on personal level and the existing literature concentrates more on large corporates with better resources to carry out MI activities, compared to small-medium sized enterprises, for instance.

### **Market intelligence sourcing and formats of acquiring information**

Formats for acquiring information can be written, spoken, electronic, visual or experiential (Ross, McGowan & Styger, 2012). These formats (see Table 2) acquire information through many processes: Formally (business reports, investigations, seminars and meetings), Informally (through staff, stakeholder or public conversations), Actively (by seeking or researching the information in publications and reports), Passively (by information freely available either within the business, in the media or the community), Groups (meeting, customers or demographic data), or Individuals (staff, individual customers or general data) (Ross, McGowan & Styger, 2012, p.10).” To distinguish market intelligence from marketing research is market intelligence’s rather systematic and continuous sourcing of data and analysis of the data (Tan & Zafar, 1999).

MI system is also designed to meet the needs of business manager by identifying threats and opportunities of market environment, help managers to gain information about the competitors and help prevent competitors actability in marketing decision making (Li & Li, 2013). The articles of this review also show that what comes to medium sized and small and medium sized enterprises, data collection, and especially interpersonal or electronically collected data is not usually planned in a formal way and the companies might not have a system for it (Ross, McGowan & Styger, 2012). In addition, Wood’s (2001) research finds that external business environment is the most investigated area what comes to customer needs and Makadok & Barney (2001) discuss strategy formulation to be something that managers should be truly able to work with.

Sources of Data for Market Intelligence			
Competitive Intelligence (external)		Business Intelligence (internal)	
Internet	Customer, Supplier, Industry and Competitor Websites Blogs E-Newsletters Social Media Platforms	Internal Business Systems	Client purchase trend reports Accounts system Sales Reports Customer logs Human resources Company Website feedback
Industry and Business Networks	Newsletters Expos and Training Events Magazines	Internal Stakeholders	Staff - meetings, project reports, problem solving sessions, their online and offline networks Friends Family
Media	TV Radio Documentaries		
Government	Standards Newsletters Policy changes		
External Stakeholders	Clients Community - Local Community - Regional Community - Global Suppliers Investors		
Financial	Banks Accountant and advisors Stock market		

*Table 1: Sources of Internal and External Market Intelligence data (Ross, McGowan & Styger, 2012, p. 8)*

## Game theory

Game theory can be described as a family of theories, grounded in mathematics, but often communicated as a reflection of how people, often referred to as players, may act in competitive situations involving decisions and actions of significant importance (Bueno de Mesquita, 2011).

Game theory can be described as the study of human conflict and cooperation within a competitive situation (Neshat & Amin-Naseri, 2014). Osborne (2000) defines Game theory as a tool to help understand situations in which decision-makers interact. Rubinstein (1991) and Camerer (2003) views Game theory as analysis of the concepts used in social reasoning when dealing with situations of conflict. It can be described further as an abstract inquiry of the patterns of behaviour regarding function of logic of



social intuitions. Viewing game theory as abstract and concrete, it is then vital according to Rubinstein (1991) to create a bridge between the abstract formal concepts of the theory and reality.

When studying game theory, the definition of game and its use becomes vital for deeper understanding and knowledge. According to Rubinstein (1991), the standard interpretation of a game form is that it represents a true and complete description of the expected physical rules of a specific situation. A game can also be described as a strategic interaction that contains the constraints on the actions that the players can take and the players interest without specifying the actions that the player do take (Osborne & Rubinstein, 1994). Player can in this context be defined as an individual but also a group of individuals making a decision. Every decision-maker must therefore anticipate the reactions and upcoming choices of those affected by the decision. Applying this to business means that the economic players must anticipate the reactions of other players, for example competitors, customers and other stakeholders (von Neumann & Morgenstern, 1944). Brandenburger & Nalebuff (1995) explains games through von Neumann and Morgenstern by referencing to their two types of games: rules-based games where players interact through specific rules of engagement and freewheeling games where players interact without external constraints.

For successful application of Game theory, interpreting a player's strategy, of the game, following knowledge is crucial: identity of actors and their preferences, their knowledge, their restrictions regarding actions and strategies, and how decisions may influence or result in outcomes of the game (Kreps, 1990). Camerer (1997) argues that timing has previously been assumed as irrelevant within Game theory, but actually is of great importance and linked to the need of information about players. There is a need and

importance to not only know about the action but also when it took place, it is the combination of these factors that creates value.

Game Theory is complex and includes many different levels and orientations of games (Osborne & Rubinstein, 1994). Osborne & Rubinstein (1994) divides games into three dimensions; *Noncooperative and Cooperative Games*, *Strategic Games* and *Extensive Games* and *Games with Perfect and Imperfect Information*. No single game or model fits all international affairs; they have to be adapted to every unique situation (Bueno de Mesquita 2011). The games could be described as clusters of games reflecting specific combination and aspects of constraints that act as potential barrier to any player getting what it wants (Bueno de Mesquita 2011). This literature review provides only general insights into the Game theory and therefore the games of the Game theory are not presented in detail.

## **Methodology**

This literature review aims to provide an insight of market intelligence and answer to a question “*What is market intelligence?*” This is done by reviewing literature of market intelligence. As this study also aims to investigate the connection between market intelligence and the Game theory, literature of the Game theory is also used for investigating the connection between market intelligence and the Game theory. Selection of the literature is done by the relevance of the literature. Some literature was left out as they could not provide accurate data of market intelligence or the Game theory. The articles excluded that mention market intelligence in the title of the paper, for instance, did not include relevant theory of market intelligence that could have been used for answering the question “What is market intelligence?” The search of relevant material was conducted by using the databases of Halmstad University and Google Scholar. The

search words used were “market intelligence” and “game theory”, as well as the names of the pioneers of the Game theory. Literature of this review is conducted of mainly academic papers but also of eBooks. No other literature reviews were found and therefore included, and few articles either, and therefore both books and articles about the topic are included to get as wide picture about the topic as possible. In total 66 articles were reviewed and 16 articles are used for this literature review. 12 books were reviewed but only six of them were used for this literature review. In addition, the website of Schools of Thoughts was used to gather data of Game theory. Also, two articles on market intelligence were excluded because they were not in English. Other articles excluded were excluded due to the irrelevancy of the content.

## Analysis

*The aim of the following analysis is to find connections between market intelligence and the Game theory. Table 2 is constructed to give explicit insights of the relations between market intelligence and the Game theory.*

<b>Connections</b>	<b>Market Intelligence</b>	<b>Game theory</b>
<b>Strategies</b>	Conducting strategic plans through information gathering	Interpreting a player's strategy, is crucial and may influence the result or outcomes of the game
<b>Knowledge</b>	External and internal information	Knowledge of the Game
<b>Decision-making</b>	Decision-making Information +individuals/culture	Actions within the game addressing individual decision-maker characteristics

<b>Configurable</b>	Not all the theories fit all the companies (different backgrounds, culture etc.)	No single game or model fits all international affairs.
<b>Future-oriented</b>	MI is future oriented activity.	Predicting future actions.
<b>Cluster</b>	Different parts of MI	Family of theories

*Table 2. The table indicating the connection between Market Intelligence and Game theory.*

In the following section, we are going to analyze the relationship between MI and Game theory based on the reviewed theory for this research. Table 2 was created based on our findings. The table above indicating the connections between Market Intelligence and Game theory presents the theoretical aspects of MI and Game theory by dividing matching theoretical aspects into six categories: Strategies, Knowledge, Decision-making, Configurable, Future-oriented and Cluster.

### **Strategies**

In market intelligence, it is very important to be aware of competitors' actions and stay one step ahead by information gathering and designing short-and long-term strategic (Tan & Zafar, 1999). The authors see this as a connection to Game theory's elements of strategic interaction, which defines the actions the players take (Osborne & Rubinstein, 1994). In Game theory, the players do not always have to specify the actions they take but that would be recommended for market intelligence though (Tan & Zafar, 1999; Osborne & Rubinstein, 1994). Although, in Game theory the expectations of others responding to players' actions can be taken into account, which would refer to similar

actions in market intelligence, when implementing strategies by utilizing the existing information (Hedin, Hirvensalo & Vaarnas, 2014).

### **Knowledge**

Market intelligence is foremost about collecting different data to compete and grow by understanding the business environment and therefore knowledge is found as a common factor in the relationship of market intelligence and Game theory (Hedin, Hirvensalo & Vaarnas, 2014; Cornish, 1997). Knowledge for market intelligence can be external or internal, and in Game theory, the knowledge comprehends interpreting a player's strategy, identify actors and their preferences, their knowledge, their restrictions regarding actions and strategies, and how decisions may influence or result in outcomes of the game (Kreps, 1990). For a successful application of game theory knowledge is crucial (Osborne, 2000).

### **Decision-making**

As market intelligence is used for decision-making via gathering, analyzing and providing useful knowledge corresponds it to Game theory at some level as Game theory emphasizes that the strategic interaction, which constraints on the actions that the player can take, and the players interest without specifying the actions that the player do take (Li & Li, 2013; Ross, McGowan & Styger, 2012; Osborne & Rubinstein, 1994).

### **Configurable**

Literature review shows that in market intelligence not all the theories are applicable to all situations, as it has been presented that for example, literature does not have comprehensive amount of information about personal collection of data via networking on personal level (Ross, McGowan & Styger, 2012). It has also been noted that most of

the theories are applicable for big corporates, but not necessarily to the strategies of small or medium sized companies (Ross, McGowan & Styger, 2012). This is of course the current situation of the theories and this might change in the future. In Game theory, however, no game or model fit all international affairs (Bueno de Mesquita, 2001). Classes of Games reflect rather specific combinations of limitations, which act as potential barriers for players to get whatever they want (Bueno de Mesquita, 2001).

### **Future-oriented**

As market intelligence is future-oriented activity, so is Game theory as well (Hedin, Hirvensalo & Vaarnas, 2014; von Neumann & Morgenstern, 1944). Game theory has a strong base on predicting future actions, meaning the ways how decisions might influence the game, and applying this to business means that the economic players should predict the reactions of other players as well (von Neumann & Morgenstern, 1944).

### **Cluster**

As Game theory is described as a family of theories, which are grounded in mathematics, but often communicated as a reflection of how players of the game may act in competitive situations involving decisions and actions of significant importance (Bueno de Mesquita, 2011). In a similar way, market intelligence is constructed of many business activities and there are other intelligence studies that belong to study areas of market intelligence, such as business intelligence and competitive intelligence (Jenster & Søylen, 2009).

### **Conclusion**

This literature review provided general insights into market intelligence and answered to the question: *What is market intelligence?* This review has created a general overview of the literature of market intelligence and found connections between market intelligence

and Game theory. The definitions found on market intelligence were discussed and as a result of this study, the author state that majority of the definitions of market intelligence acknowledge market intelligence to be organization's future-oriented activity consisting of both external and internal information. In addition, an overview of the general theories of market intelligence are discussed.

The authors see connections between Game theory and market intelligence and therefore believe Game theory to be influencing reason for the birth of the market intelligence theories. This is found on the result of the analysis of the relationship between market intelligence and Game theory. The connections between Market Intelligence and Game theory in this study present the theoretical aspects of market intelligence and Game theory by dividing matching theoretical aspects into six common categories within the theories: Strategies, Knowledge, Decision-making, Configurable, Future-oriented and Cluster.

### **Future research**

More specific selection of the literature reviewed might give more reliable results as the method for selecting the literature is taking into consideration only the main topic market intelligence, and not any other parts of market intelligence, which clearly creates limitations and influences of the reliability of this study. Conducting a new literature review including other parts of market intelligence would provide larger amount and more specific literature on the topic. The literature reviewed presented some research gaps, such as the need for implementing a system for collecting, analyzing and disseminating the information within an organization regarding small- and medium sized enterprises, as not all the theory fits all. Also, considering individual cultures of the businesses and business owners regarding market intelligence is recommended area of study by the

authors. Studies considering only market intelligence were either very specific about the topic and did not discuss market intelligence as a theory as whole, or they discussed theories in very general level, or only some parts of it. Therefore, the content discussed in this literature review might not be applicable for all the matters.

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