

KADİR HAS UNIVERSITY  
GRADUATE SCHOOL OF SCIENCE AND ENGINEERING  
PROGRAM OF MANAGEMENT INFORMATION SYSTEMS

**EXPLORING THE COMPETITIVE INTELLIGENCE  
PRACTICES OF AN AIRLINE COMPANY IN TURKEY**

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MASTER'S THESIS

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MASTER'S THESIS

Submitted to the Graduate School of Science and Engineering of Kadir Has University  
in partial fulfillment of the requirements for the degree of Master's in the Program of  
Management Information Systems

ISTANBUL, JANUARY, 2018

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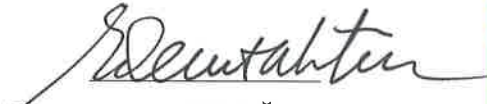
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# EXPLORING THE COMPETITIVE INTELLIGENCE PRACTICES OF AN AIRLINE COMPANY IN TURKEY

## ABSTRACT

Oil prices, political instabilities, travel legislations and many other competitive factors make it essential for any international airline with the instinct to survive in such a fierce competitive environment to be on constant watch. To meet this need, it is vital for international airline companies to integrate competitive intelligence into the strategy building process.

In this study, we create a typology of competitive intelligence practices of an international airline company in Turkey, based on the model developed by Wright et al. (2012). Furthermore, we explore how to increase competitive intelligence awareness and practice levels and build a guideline to lift the existing barriers.

**Keywords:** Competitive Intelligence, Airline Competition, Air Travel, Strategic Intelligence, Turkey.



# TÜRKİYE’DE BİR HAVAYOLU FİRMASINDA REKABETÇİ ZEKA UYGULAMALARININ İNCELENMESİ

## ÖZET

Petrol fiyatları, politik dengesizlikler, seyahate ilişkin kanunlar ve daha başka bir çok rekabet unsuru böylesi rekabetçi bir ortamda hayatta kalma güdüsüne sahip uluslararası havayollarının çevrelerini gözlem altında tutmalarını elzem hale getirmektedir. Bu ihtiyacı karşılamak için uluslararası havayolu firmalarının strateji oluşturma süreçlerine rekabetçi zeka uygulamalarını entegre etmeleri hayati önem taşımaktadır.

Bu çalışmada Türkiye’de bulunan uluslararası bir firmanın rekabetçi zeka uygulamalarının tipolojisi çıkartılmış olup, Wright ve diğerleri tarafından (2012) yılında geliştirilen model baz alınmıştır. Buna ek olarak rekabetçi zeka farkındalığının ve uygulama seviyelerinin nasıl artırılabilceği araştırılmış ve mevcut engellerin kaldırılması adına bir rehber oluşturulmuştur.

**Anahtar Sözcükler:** Rekabetçi Zeka, Rekabet İstihbaratı, Havayolu Rekabeti, Havacılık, Stratejik Zeka, Türkiye

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To my parents

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# 1. INTRODUCTION

Air travel industry is complex with various operations handled under it, starting from maintenance of aircrafts to serving food. Scores of factors affect the effectiveness of the job done and the pricing of a single seat. Although air travel is getting cheaper each year, competition is getting harsher. To survive in such a complex and competitive environment, air travel companies should be on a constant watch of technological developments, political situations, cost factors and more. This can be handled by the foundation and automation of competitive intelligence (CI) practices. How successfully it is done and how can it be improved are the focus of this study, taking an airline company in Turkey, whose name will be kept confidential throughout the text.

## 1.1 Study Focus

Air travel industry is among the most dynamic industries with more than 400 billion USD transaction volume including cargo, clearing house, financial systems and passenger carriage experienced in 2016 (IATA 2017). Number of unique city pairs are increasing every year, which has exceeded 18.400 in 2016, almost double compared to that of 20 years ago (IATA 2017). Ticket prices are very elastic, changing rapidly with respect to customer demand, but decreasing in average due to cost decreases via more efficient operations (IATA 2017). Political crises at the far end of the globe, including terrorist activities and militarized hostilities among countries might cancel several flights in an instant. Airlines have to be on a constant watch due to such irregularities. However, irregularities are not the only problem. Competitors' actions are rapid and although their effects are seen in a rather long time, sometimes they are irreversible. Hence, airline companies need to anticipate. Customers' interest also changes over time. Tourism boards hold marketing actions around an area and alter the travel decisions of customers from time to time. Offline travel agencies, especially where

ethnic populations or large enterprises exist, have the power to affect the decision making process of customers and this is mostly based on the incentive rates these agencies receive from airlines or airports. Air traffic taxes, fuel prices, exchange rates, results of sports matches and many other factors affect airline companies' decisions and strategy.

In Turkey, air travel is expanding at a rapid pace. At the end of 2014, number of planes belonging to the top five Turkish airline companies were only 369, which has increased by 30% to 477 planes at the end of 2016 (SHGM 2017). There is almost no competition in domestic Turkish market from foreign companies. However, international flights are nothing alike. Hub and direct connectivity of Istanbul Ataturk airport, which is the 6th most connected hub worldwide and 4th in Europe which has seen more than 500% growth in hub connectivity within last 10 years (ACI 2017), is a helpful factor that is lessening the harshness of competition. On the opposite side of coin, high fuel prices compared to that of Gulf and European carriers (IATA 2017), fluctuation of exchange rate, large number of competitors and political instability in the Middle East are increasing the risk factors for airlines based in Turkey.

In such an ever-challenging and ever-changing environment, Turkish airline companies have to be doing market surveillance; gathering, filtering, documenting and analyzing information to get intelligence and support the strategic decision making processes based on this knowledge. In order to meet this need, competitive intelligence processes and supporting tools are necessary. It is our aim to understand the levels at which competitive intelligence operations are conducted in a Turkish airline company and how can it be improved. For that purpose, we have used the typology created by Wright et al. in (2002) and further developed by Wright et al. (2012).

## **1.2 Objectives of the Study**

The objectives of this thesis are to diagnose where does the Airline Company stand with respect to the operation and behavior of competitive intelligence practices and then to understand if it is possible to increase its effectiveness and levels in all the relevant CI strands. For this purpose, it is necessary to explore at which levels of the six CI strands

that were created by Wright et al. in 2012, the Company is. Thus, we will provide a behavioural and operational diagnostic typology of competitive intelligence practice of the Airline Company. Furthermore, it is also important to analyze the general awareness of employees about the meaning of CI. Then, we will study if it is possible to improve the perception of CI by the help of a basic introduction to CI and provision of basic CI tools and systems. Thereafter, it could help to increase the effectiveness of competitive intelligence practices. To raise the awareness about CI and its tools should also lead to increase the support for the foundation of CI practices within the Company. However, in order to realize the main objective i.e. to create a roadmap to increase the levels of CI approach in each strand, to answer this question is not enough by itself. For this purpose, we have to understand the barriers that hold the company back, if there are any. Therefore, by the hints gathered from strand related questions and the answers to open ended questions about barriers, we create a list of important barriers that should be lifted.

Due to the lack of resources and time, it is not possible to create a real test environment to see if an increase of awareness leads to better CI practices and decisions that are more robust. As a main objective is to test if we can improve the perception of CI, it can only be tested on four of the strands Attitude, Location, IT Systems and Technology Support. Indeed, the other two strands, Gathering and Use concern implementation. However, they are expected to change through the variation of these four strands as they are in relation with each other's.

### **1.3 Methodology**

In order to evaluate the competitive intelligence capabilities of this Airline Company, a model firstly developed by Wright et al. (2002) and then further developed by Wright et al. (2012) was used as the core of the research with some minor changes on the definition of some strands. Since many researchers worldwide such as Bisson (2014) and Badr (2013) have used this methodology, it has been construed as a very robust CI model.



### **1.3.1 Literature review**

We have investigated the literature about the history of competitive intelligence, processes for effective CI, CI tools and their usage, the airline industry related CI applications and its developments in the airline industry.

### **1.3.2 Software to analyze results**

For the preparation and application of both surveys, Google Forms has been used online. In order to analyze and categorize the answers, we worked with Microsoft Excel. For cluster analysis based on Two Step methodology, we have used SPSS.

### **1.3.3 Outline of the study**

Chapter 2 of this research presents the literature about both competitive intelligence and airline industry.

Chapter 3 provides the methodology used including the sample profile of our survey.

Chapter 4 underpins our findings for each CI strand and they are discussed along with the conclusion.

## **2. BACKGROUND**

### **2.1 Competitive Intelligence**

Intelligence gathering is a centuries old phenomenon and can hardly be called a new discipline (Calof et al. 2015). Prescott (1995) claims that the early writings about intelligence can be found at Sun Tzu's infamous book the Art of War. He states that the national security needs and the militaristic intelligence gathering have increased during the World War II era, and the reflection of this increase could only make its effects felt in the business world during the 80s. This era's focus was mainly on Industry and Competitor Analysis but it soon evolved to "Competitive Intelligence for Strategic Decision Making." Competitive intelligence has become a necessity as Stefanikova et al. (2015) suggests, "competitive intelligence process should become an essential part of the infrastructure of organizations". Therefore, it would not be wrong to label the current situation of CI as "Core Capability" exactly as Prescott (1995) foresaw.

However, how important the CI is, most authors would agree that there is no universally accepted concept or definition of the term (Gaspareniene et al. 2013). Business Intelligence and Competitor Intelligence are among the expressions for the concept of CI (Sewdass 2012). However, as will be stated later, none of the mentioned expressions reflects the entire truth.

Prescott (1995) defines CI as "the process of developing actionable foresight regarding competitive dynamics and non-market factors that can be used to enhance competitive advantage". Underlying factors of this definition are the competitive dynamics: competitors, potential entrants, customers and stakeholders of the business. Non-market factors also cover many external factors such as regulations, economic fluctuations and socio-cultural diversities. However, the most important term used inside the definition

is “developing actionable foresight.” Amarouche et al. (2015) agree that CI should involve the research, information processing and analysis of enterprise market in order to prepare companies to future actions. Calof et al. (2015) and Bartes (2011) also point out that CI predicts the future risks and provides direction to decision makers based on these predictions. Therefore, it can be stated that CI mainly focuses on forecasting based on searches about competition factors, including but not limited to competitors (Stefanikova and Masarova 2014) and in this sense, competitive intelligence is separated from competitor intelligence. Wright et al. (2002) claim that competitive intelligence does not only consider the industry or competitors, but their responses to consumers’ needs and perceptions along with one’s own response along the strategic decision making process. In this approach, Wright et al. (2002) add the notion of action and response to the mere information gathering process.

Although some researches claim that CI is a process that involves Business Intelligence (BI) (Koseoglu et al. 2016), “engaging both internal and external environments”, Olszak (2015) points out “BI is aimed at the analysis of internal data and processes, while CI is focused on the monitoring of external environment”. Stefanikova and Masarova (2014) on the other hand think the opposite of Koseoglu et al. (2016) and state that BI involves internal and external environment, whereas “CI works mainly with information that is outside the company”. All authors, however, agree on the fact that there has to be external source of information for CI processes and in this sense, it differs from business intelligence. In addition, most of information by CI are non-structured, unlike BI as it uses only structured information.

The understanding of CI differs among authors as well. Some authors understand CI as a process (Bartes 2011, Agnihorti and Rapp 2011) focusing on how the process can be structured or made better (Pellissier and Nenzhelele 2013, Du Toit and Muller 2004). Whereas, some definitions consider CI as a tool to help the decision-making process and therefore act as a product. Gaspareniene et al. (2013) define CI under both of these concepts. They claim that when CI provides information about the competition, which is used as the main source of strategic decisions, it can be treated as a product. It can,

however, be classified as a process during which the gathered information is recorded, analyzed and planned.

Wright et al. (2002) created a typology to analyze the competitive intelligence effectiveness of firms under four categories: Attitude, Information Gathering, Use and Location. About ten years later, with the emergence of highly sophisticated tools, Wright et al. (2012) further developed this methodology by adding two new strands: Technology Support and IT Systems Support. Similar researches were conducted in the United States (Koseoglu et al. 2016), India (Adidam et al. 2012), Slovakia (Stefanikova et al. 2015), Iran (Safarnia et al. 2011), South Africa (Du Toit and Muller 2004) and Turkey (Wright et al. 2013). Bisson (2014) has adapted this model to explore for the first time the public sector and created a CI typology of their practices.

There are researches about the specific use cases of competitive intelligence. Rasekh (2015) has built a new search algorithm based on competitive intelligence. Amarouche et al. (2015) have focused on the application of product opinion mining, a sub branch of text mining, in the competitive intelligence field. Hu et al. (2015) have conducted a very similar approach to Amarouche et al. (2015) and created a case study out of the two largest retail chains in the world.

The only focus is not on the specific use cases but also around several industries. Badr et al. (2006) focused on the contribution of CI to the decision making process on the pharmaceutical industry. Some other researches are on agriculture (Bisson 2014), hospitality (Koseoglu et al. 2016), industrial estates (Safarnia et al. 2011) and SMEs (Wright et al. 2013).

## **2.2 The necessity of Competitive Intelligence**

It is obvious that “Parties need to gather data, information or knowledge from the environment in which they engage while they make decisions and implement them” (Koseoglu et al. 2016). Competitive intelligence aims at providing a help in decision-makings and leading to competitive advantages by monitoring the competitive environment and providing actionable intelligence (Pellissier and Nenzhelele 2013,

Safarnia et al. 2011). Amarouche et al. (2015) also focus on gaining competitive advantages, which is only possible if a company can understand its competitive environment. It is no surprise that many companies add “competitive intelligence units to their operations” (Colakoglu, 2011) since “a well-designed system of competitive intelligence can help businesses in the strategic planning process, as well as in determining the intent and ability of its competitors, and also to determine the extent of the risks to which enterprise may be exposed” (Stefanikova et al. 2015). In their research Adidam et al. (2012) claim that CI has developed to serve several business functions, converting information into knowledge in order to make strategic decisions. Badr et al. (2006) even suggested that “CI is not only useful, but also crucial to the strategic decision making process.” Bartes in his study (2011) states that CI is only meaningful if it helps the strategic decision-making process by predicting the future environment in which a company operates. CI, for him, takes into consideration the future steps of the competitors along with many variants in the industry and therefore is a version of “forecasting the future”.

The global survey conducted by the Growth Team Membership (Frost and Sullivan 2013) shows that 39% of 93 participant companies allocated more than 250.000 USD for Competitive intelligence in 2013. The average for all the attendant companies was 191.500 USD. The same survey shows that attendant companies had an average of two employees dedicated to competitive intelligence at 2013. What is not surprising is, as the level of awareness for competitive intelligence increased throughout the globe, “percentage of CI departments reporting to Executive Management has doubled” from 2012 to 2013. We see that at least 26% of all intelligence units directly reported either to Corporate Strategy or to Executive Management, strengthening the understanding of competitive intelligence as strategic intelligence. This is a key understanding as Du Toit and Muller (2004) stated, without the proper support of top management and the utilization of the intelligence gathered by the same people, all the CI process would be flawed.

Some global companies have benchmark operations of competitive intelligence (Du Toit and Muller 2004), allowing them to have early warning functionality and the

provision of a road map for their branch units. On the other hand, “increasing number of companies are adding competitive intelligence units to their operations” (Safarnia et al. 2011).

Based on the researches mentioned, one can deduct that competitive intelligence: i- help the decision-making process at a strategic level; ii- help to gain competitive advantages; iii- serve not only one business function, but several; iv- the level of awareness for CI is increasing throughout the globe. Therefore, it is only understandable that in order to increase companies’ effectiveness and stay alive in such a fierce competitive environment, companies should focus on competitive intelligence practices.

### **2.3 Airline Industry**

It is very surprising that there are very limited number of researches about competitive intelligence applications or usage so far in the airline industry, even though it is a “fiercely competitive” market (Smith et al. 2017). As CI is strategic, some confidentiality reasons might explain partly this. However, it appears that most of researches in the sector were more at the operational level rather than at tactical and strategic levels. One of the closest researches about the airline industry and competitive intelligence is focusing on the applications of business intelligence (Andorine 2015). This research does not limit BI as an internal intelligence process or tool but its focus is mostly on the tools that can analyze the big data of the airline industry, which is large in quantity, complex, unstructured and rapidly changing.

The airline industry should focus on competitive intelligence, mostly due to the fact that there are many competition factors including but not limited to “airport connectivity, inflight and airport services, brand image, frequent flyer program, monetary travel costs” (Grosche et al. 2017). New entrants to market such as Low Cost Carriers (LCC) or Ultra Low Cost Carriers (ULCC) (Bachwich and Wittman 2017), fuel prices, labor costs, capital stock, utilization of available seats (Scotti and Volta 2017) and many other factors contribute to competition. External factors such as 9/11 attacks, 2008 financial crisis and SARS epidemic have all effected the competition on airline industry in the past (Scotti and Volta 2017). Imposing or lift of travel related taxes from several

governments such as Norway, Italy or Australia, oil prices and currency fluctuations also have an impact on customer demand (IATA 2017) and therefore competition.

Although the airline profitability has increased in the last few years, it is still challenging (Smith et al. 2017) due to afore mentioned competition factors. IATA (2017) have announced that airlines could only make 9.13 USD profit per passenger in 2016, compared to a better profitability of 2015, which was 10.08 USD per passenger. What is surprising is on a global scale no profits were earned from African destinations.

In such a low margin environment where “high fixed cost structure, overleveraged balance sheets, low barriers to entry, high barriers to exit, network fragmentation, strong unions, cyclical macroeconomics, fluctuating fuel prices, a unique regulatory environment, and monopolistic/oligopolistic suppliers” (Smith et al. 2017) exist, competitive intelligence is the key to leverage decision makings and for sustainability.

Mysore and Lobo (2000) have so far made the most comprehensive analysis about CI in the airline industry. They have pointed out in their research in 2000 that United States based airlines indeed had competitive intelligence applications. They might not have labeled it as competitive intelligence and most of the time were unstructured in their approach of gathering and processing information. Most of CI efforts were uncoordinated, focusing on tactical needs rather than strategic purposes and were scattered across multiple business units. Reasons why CI was used by U.S. based airlines include the following:

- i- Monitoring competitor fares,
- ii- analyzing customer satisfaction of competitor services,
- iii- monitoring mergers and acquisitions,
- iv- building corporate strategy,
- v- new route analysis,
- vi- monitoring competitor financial performance,
- vii- monitoring code-sharing, interline and alliance agreements,
- viii- monitoring fuel costs,

ix- monitoring route capacity analysis (including types and frequency of aircrafts used),

x- analysis of frequent flyer programs.

Even though their analysis is showing how the U.S based airlines use competitive intelligence applications at a superficial level, it lacks the methodology of how the evaluation is performed and is lacking a clear guideline of how CI could be integrated in airline companies. Thus, it underlines the innovativeness and importance of this study.

In our research, we have created a typology of CI practices performed in an airline company in Turkey. We made a two rounds study by firstly evaluating the perceived understanding of CI and secondly by providing some guidelines, offering some solutions to increase the understanding and perception of CI practices.



### **3. OUTLINE OF THE STUDY**

#### **3.1 Survey**

Attendants from different departments which should be at the center of competitive intelligence activities received a survey with regards to: i- how they gather intelligence?; ii- where is the competitive intelligence unit, if there is any, positioned in the company?; iii- what is the attitude towards competitive intelligence?; iv- how the gathered intelligence is used?; v- at what degree is there a technological support for CI?; and vi- at what degree IT Systems are being used to manage intelligence? The answers gathered are reliant on the knowledge of attendees and therefore cannot be understood as the unquestionable truths. Many attendants have given contradicting answers especially as to if and how CI is being used in their departments. However since most of the questions have inter relations to understand the contradicting answers, most of the results have been re-analyzed as to reach a solid case and in the end some of the attendants see no level allocation to any specific strands. The sample size and the reflection of the employee perception provide sufficient information to analyze and understand the levels at which competitive intelligence is being conducted within the company. For each group of questions, the level at which the company stands in the Table 3.1 was determined based on the responses of the attendants.

Attendants were also asked general questions as to how long they have been in the company, what is their role in line of management and in which department they work to further analyze through clustering of competitive intelligence activities and/or silo type organizations.

Last set of questions in the survey asked to attendees if there are any limitations as to conduct effective competitive intelligence activities within the company, in order to further understand the root cause and barriers to higher CI levels.

Table 3.1 A Behavioral and Operational Typology of Competitive Intelligence Practice (Continued)

**Attitude**

<b>A1</b>	<b>Immune Attitude</b>	Company believes it is immune to competitive factors either because it is so small that it is not effected by the outside shocks, or it is very large that it dominates the markets and therefore competition is not existent at all. Management does not support competitive intelligence practices.
<b>A2</b>	<b>Task-Driven Attitude</b>	Departments conduct competitor intelligence activities by themselves when it is needed. Top management is not involved.
<b>A3</b>	<b>Operational Attitude</b>	Top management is also involved in the CI processes due to the potential benefits. Some processes fulfill tactical necessities but strategical approach is not there, only short term applications prevail.
<b>A4</b>	<b>Strategic Attitude</b>	Long term, strategic approach to CI by all departments and top management is existent. Future planning via war room meetings and possible scenarios are very frequent.

**Gathering**

<b>G1</b>	<b>Easy Gathering</b>	No other than common, easily accessible and free media are used to gather information. Mostly done by employees themselves. There is no funds available for in depth research or analysis.
<b>G2</b>	<b>Hunter Gathering</b>	Since strategic approach requires constant effort, there are people specifically tasked with CI processes who spend time, effort and funds to gather rare information. Immediate return is not expected; rather the knowledge or the instinct itself is valued.

### Location

<b>L1</b>	<b>Ad-hoc Location</b>	There is no unit tasked with CI activities within the company. Individual departments due to necessity do all the activities. Intercommunication with other departments also do not exist.
<b>L2</b>	<b>Designated Location</b>	There is a unit tasked with CI activities full time. This unit meets the strategic requirements, talks with all relevant departments and dissolves the bureaucratic barriers of communication.

### Technology Support

<b>TS1</b>	<b>Simple Tech Support</b>	Only free and easily accessible tools such as websites and already available office applications are used for the gathering and documentation of information. These tools almost do not require any training for use. There is no specific support at this level from the company.
<b>TS2</b>	<b>Average Tech Support</b>	Simple off the shelf products or free tools are used for scanning of the information such as specialized databases, web alerts or patent websites. There is barely some help from the company for such tools.
<b>TS3</b>	<b>Advanced Tech Support</b>	High-level information scanning, storage, analysis and dissemination are done by this kind of information systems automatically. Statistical analysis is conducted and there is strong integration within the company.
<b>TS4</b>	<b>High Tech Support</b>	Machine learning, text mining and semantic analysis are being used at this very high support level. Visualization of the results and mined information is available.

### IT Systems

<b>IT1</b>	<b>Dismissive IT Systems</b>	Almost no usage of IT systems for the gathered information's storage, scanning, sharing or analysis. People rely on their memories for all CI activities.
<b>IT2</b>	<b>Sceptic IT Systems</b>	Storage of the information is done on paper rather than IT systems, sceptic approach to IT due to mistrust or previous experience.

<b>IT3</b>	<b>Standardized IT Systems</b>	An of the shelf system is used for the CI activities. Either there is no need for customization or there is lack of funds.
<b>IT4</b>	<b>Hosted IT Systems</b>	A system managed by another company is used in a pay per use kind of approach.
<b>IT5</b>	<b>Tailored IT Systems</b>	Either an of the shelf or hosted system is purchased but then altered due to company's requests and needs. Developments occur by time with the increase of the overall experience of the company.
<b>IT6</b>	<b>Bespoke IT Systems</b>	In house developed system that is fully designed on company needs and requests. It has a fund available for updates.

### Use

<b>U1</b>	<b>Unaware User</b>	Occasional or non user. Will use CI activities because that is what everyone else is doing. Only adopts some CI related changes because it is the trend. Do not have a process or structure for CI and does not really understand what CI means.
<b>U2</b>	<b>Disconnected User</b>	This user acts on the information gathered by any means without analysis or validation with other departments. Leads to waste of resources and is subject to misguidance of the more aware competitors' actions.
<b>U3</b>	<b>Tactical User</b>	Aware of the importance of the competitive intelligence, however does not see value in the usage of CI on strategic level. Collaboration with the whole company is not existent. Constantly watches industry, regulations and competitors to understand the effects of the change on its own firm.
<b>U4</b>	<b>Strategic User</b>	Long-term approach involving all departments. War game scenarios, what if analysis and future planning based on all possible competitive factor changes are conducted frequently. Information sharing is very widespread and bureaucratic barriers are non-existent for CI.

After the analysis of the first set of surveys was completed, all the attendants were given brief information as why competitive intelligence is important, how can it be used to further increase company's performance and what methodologies can be used to strengthen competitive intelligence competency of employees and company altogether. A number of tools were introduced for gathering information and a basic communication tool for intelligence recording and sharing was created for the usage of attendants. After two weeks of this work aiming to increase the CI awareness, attendants were asked nine simple questions to understand: i- if they have found the tools and the interface useful and at what level?; ii- Should their company make funds available for similar tools?; iii- Should their company found a CI unit and if yes at what level and where?; iv- What are the most important barriers to CI within their company and how can they be lifted by the foundation of a CI unit and processes? These questions helped us to understand how the awareness has changed and what the ideal standpoint is for the employees of the company. In the end, the present situation of the perceived level of CI activities was compared with the demand or expectation from CI activities regarding Attitude, IT Systems, Technology Support and Location strands and the ideal cases were compared with each other. In addition, we have included some guidelines in order to be able to implement effective CI within the company.

### **3.2 Sample Profile**

Departments of the airline company, which should be at the center of competitive intelligence operations, received a survey to evaluate the levels of CI practices within the company. In the end, 91 people from various departments have participated in the survey. Of the 91 employees, 68 are from non-managerial work, 21 are from the middle management and only 2 people are from the top management. Although the low attendance of top management among the managerial positions is unfortunate, high percentage of attendance from the middle management covers this gap, providing valuable insights from the management as of how competitive intelligence is conducted in company.

Most participants were from the marketing department, with 42 people, followed by the sales with 18 people and the IT department with 11 people. All the remaining

departments had less than two digit numbers of participants, including corporate marketing, brand and corporate communication departments; both of them had their share of voice with more than five people. Other employees were from various departments such as revenue management, cabin services and CIP services.

**Table 3.2** Sample Profile

Level Of Management	
Non Managerial / Operational	68
Middle Management	21
Top Management	2
Department	
Marketing	42
Sales	18
Information Technologies	11
Corporate Marketing	9
Brand & Corporate Com.	5
Revenue Management	2
Administrative	1
Cabin Services	1
Cargo	1
CIP services	1
Years of Experience at Company	
2-4 Years	51
5-9 Years	27
0-1 Year	8
>10 Years	5

The high participations from marketing and sales are highly valued because as Agnihotri and Rapp (2011) point out, salespeople’s ability to respond to competitiveness is quite necessary for survival and success. They do not only execute the strategy provided, but also provide valuable information they gather from the field for analysis and strategy building.

## **4. RESULTS AND DISCUSSIONS**

### **4.1 Creation of a Typology of CI Practices**

#### **4.1.1 General awareness**

In our survey, it was our aim to analyze the perceived understanding of competitive intelligence practices within the company. Therefore, after the first three general questions concerning where do they work in the company, their level in the firm and for how long they have worked for the company, the three following questions focusing on the level of awareness about competitive intelligence were sent:

The first question was “Have you ever heard of the term competitive intelligence?” Although positive answers are not on a very promising level with only 44 people out of 91 saying “Yes” (48%), including the indecisive answers with another 23 people who answered “maybe”, the total number reaches to 67 (74%) who have at least some imagination about the term. This leads to optimistic thoughts for the future of the company since people have at least a slight idea about competitive intelligence processes and with enough push, this knowledge can be turned into a driving force. Large number of “maybe”s mostly stem from a level of confusion with more common terms like business intelligence. On the other side, there might also be a level of pride included in the answers, for people tend to hide their unawareness.

The second question related to understanding the general awareness had a connection with the first, since the answers to this question also showed if people really knew about competitive intelligence or if it was a hearsay knowledge. People were asked what kind of intelligence was related to CI and the answers were categorized under four tiers; four being the most comprehensive understanding and one being the most shallow, which

understands CI as competitor intelligence. It was a poor performance on behalf of the Airline, since only 16 people out of 91 (18%) truly understood the full scope of CI and were under level 4, whereas 26 people (29%) fell under level 1 and 30 people (33%) fell under level 2. What is more worrying is that 18% of those people (8 out of 44) who claimed to have heard of competitive intelligence were not found among the best followers of CI because they considered CI to be equal with competitor intelligence related activities only and fell under level 1. Only 12 people claimed to have heard of competitive intelligence and fell under level 4 of CI understanding, which is barely 13% of all the attendants.

The last set of the general overview questions asked attendants the perceived level of importance of competitive intelligence. This set was surprising for even though people did not seem to apprehend the scope of competitive intelligence, they seem to have converged on the idea that CI is at least “important”. 40 people (44%) said CI is “very important” even if it were just about competitor intelligence. When we combine this number with those 36 who said CI is “important”, we reached 84% of the full attendants and in turn, the results increased our optimistic thought that without major steps awareness of CI and its benefits can be increased within the Airline Company. This is also convenient because the number of people who think that it is not a necessary task to chase competitive intelligence practices, or in other words who think it is a waste of time is only 1 out of 91 (1%).

#### **4.1.2 Attitude**

We have evaluated the answers of those who have attended the questionnaire under four categories of Attitude towards competitive intelligence practices. The first category is the immune attitude (A1) where people believe their company does not have competitive intelligence practices. Under this strand, there is no support to CI from the top management or even other departments. The second category is task driven attitude (A2) where people think there are some competitive intelligence practices, which do not cover all of the company but rather departments. Which among each other lack cooperation and communication. At this level, people are more interested in CI practices than the top management and the needs are covered on an ad-hoc basis. Third category



is operational attitude (A3), which involves every part of the company including the top management for improvement of the quality of day-to-day operations rather than a strategic approach involving future planning. The last category under Attitude is the strategic attitude (A4), under which people believe their company's strategic planning involves competitive intelligence activity related outcomes. All of the company is aware of the importance and the processes of CI under this attitude including the top management. At this level, people are aware of the importance of the CI and they all believe that it is essential for the future of the company. All the evaluated categories with respect to attendant answers can be found in Table 4.1.

**Table 4.1** Perceived Attitude of Competitive Intelligence Practices at the Company

Department	Percentage				Overall
	A1	A2	A3	A4	Level
Administrative department					NA
Brand and Corporate Communication	100%	0%	0%	0%	A1
Cabin Services					NA
Cargo Data Analysis	0%	0%	100%	0%	A3
CIP services					NA
Corporate Marketing	25%	75%	0%	0%	A2
Information Technologies	33%	33%	33%	0%	A1
Marketing	50%	27%	23%	0%	A1
Revenue Management	0%	50%	50%	0%	A2
Sales	45%	45%	9%	0%	A1
Level of Management	A1	A2	A3	A4	Level
Middle Management	50%	31%	19%	0%	A1
Non Managerial / Operational	43%	35%	22%	0%	A1
Top Management	0%	50%	50%	0%	A3
Years of Experience	A1	A2	A3	A4	Level
0-1 Year	33%	33%	33%	0%	A1
10 Years and above	50%	0%	50%	0%	A1
2-4 Years	39%	36%	24%	0%	A1
5-9 Years	53%	35%	12%	0%	A1
<b>TOTAL</b>	<b>44%</b>	<b>35%</b>	<b>22%</b>	<b>0%</b>	<b>A1</b>

After the analysis of the responses, whoever claimed they do not know what kind of competitive intelligence practices are being done or if their department is doing CI practices, is not allocated to any levels. 36 out of 91 (40%) attendants are not considered as part of the allocation for this strand.

We see that, of the remaining 55 people, most allocated level is A1 with 24 people (44%). 19 people on the other hand (35%), fell under A2 level. It is very worrying to see that no one has an approach that falls under A4, the strategic attitude level, which implies that no department or no level of seniority believes the company is doing CI practices on a strategic perspective. Although there are 12 people (22%) who believe there is an operational attitude, it does not help to change the dominant negative characteristics.

When we look at departmental clusters that have more than two people, we see that the overall A1 level is mostly characteristic for the marketing department with a very dominant presence even though there is a large number of A3 available with the same department. Such diversity might be due to the complex and diverse structure of it, which has a number of sub departments that are responsible for different tasks. This dominant immune attitude is troublesome, for those under this department should be the masterminds of unique value propositions that should differ the product from those of the competitors, which is not possible without a proper competition analysis. Information Technologies (IT) also have a scattered approach, however when we consider the levels of other strands, it seems more suitable to allocate the IT team under A1 level. In an environment where important portion of costs stem from IT needs such as Global Distribution Systems, negligence of the competitive factors of industry is a serious drawback. While other airlines change their ticketing and distribution models, immune approach to such change would in time increase the costs compared to the competitors.

Finally yet importantly sales department also shares the same characteristic of the company. Although the number of people under A1 and A2 approaches are the same, there are people under A2 level who claim they do not have any idea on how their team gathers competitive intelligence. Such negligence moves the cursor towards A1 level. Considering how the sales teams operate in the field and interact with many stakeholders such as agencies, tourism boards, competitors and governments; their immune approach is a very serious drawback, as they are at the center of intelligence

gathering practice. Without sales teams' involvement, unique and rare information about competitors cannot be collected and the CI practices cannot be effective.

Only department that has an obviously higher level of Attitude is the corporate marketing with A2 level. This is not surprising to experience, since like the sales team, this department is also in interaction with the outside world. However, A2 level is also not sufficient to have a safety guard towards the competition, for this means it is not the company strategy to gather and analyze competitive intelligence, but it is rather the decision of the people under corporate marketing. Therefore, actions are not always possible based on the intelligence gathered. There is also the possibility that the gathered intelligence might be incomplete and misleading because it is not always possible to compare and combine the intelligence from other sources under this level.

It is surprising to see that the level of overall Attitude does not change with years of experience. Although there is a small diversity and confusion on 0-1 year experience and above 10 years' experience clusters, in both of them there are ambiguous answers to the intelligence gathering process of their departments. What stands most solid is the A1 answers and therefore these experience levels are considered as A1 as well.

When we look at the management levels, we see non-managerial and middle management positions share the same characteristic of the company. Although, it lacks participation in numbers, the top management has the most positive approach towards Attitude levels among every cluster. Even if the A2 and A3 numbers are the same, detailed analysis show that the A3 answers are more stable and therefore considered more valid than A2. This outlier approach might be due to an overvaluation or a self-defense of the top management people, simply because the Attitude questions were directly mentioning the approach of the top management. Pointing out to this fact, such a positive operational approach, although not ideal, is promising for the future of the company, as it shows there is an awareness at the top management and it is possible to further strengthen this attitude.

Overall, it is obvious that with some minor differences, company's attitude level falls under A1: Immune Attitude level. This result is very problematic but understandable to a degree. The Airline Company, which has its hub at the natural center of air traffic between Europe, Middle East, Asia, and Africa has a competitive advantage towards its rivals due to its connectivity. In addition, a big portion of its flights are inter-country (domestic) flights where there are only a handful of other carriers operate. Therefore, an abroad competition increase can be tolerated to a degree via domestic flights. This is an opportunity most of the European or Middle Eastern carriers do not have. Therefore, such an immune attitude might have comprised due to circumstances. However, this does not mean that the company is beyond competition. Today's terms might not always stay the same. A new technology that would enable to increase flight durations or a simple increase of costs would turn the tides. A1 attitude is harmful as it renders the company unable to react to competitor moves in good time. Furthermore, to anticipate becomes at stake in this sector like all the others. In order to avoid a disastrous future, the company should change its Attitude towards CI practices in good time.

#### **4.1.3 Gathering**

The responses to gathering related questions were categorized under two levels, which can be found at Table 4.2. At the first level, which is easy gathering (G1), perception of the attendants were classified as very simple methods to search for information. There is no committed information gathering approach for the company at this level. People rely on easily accessible, no-cost medium where information is widely available for those who just show an intention to have some knowledge about competitive factors. Their efforts are limited to industry related magazines, search engines on the web, industry related blogs, published industry analysis and various information sources that are publicly accessible. What is worrying in this scenario is, although those who are in G1 approach might spend some time for gathering information through mentioned medium, final results of their inquiry is most of the time no different than what every competitor with a slight interest in competitive information gathering has. Thus in the end, this level of activity does not bring competitive advantage. On the other hand, for the second level hunter gathering (G2), it is expected from the company to have people

and funds committed to the search of information. At this level, those who are dedicated with the task are willing to follow their instincts, spend time and money for gathering and analyzing the chunks of information, which is not easily accessible by simple methods. They evaluate even the simplest information that is hidden between the words, sometimes consulting to text mining methodologies among many other tools.

**Table 4.2** Perceived Level of Competitive Intelligence Gathering at the Company

Department	Percentage		Overall
	G1	G2	Level
Administrative department	100%	0%	G1
Brand and Corporate Communication	80%	20%	G1
Cabin Services	100%	0%	G1
Cargo Data Analysis	100%	0%	G1
CIP services	0%	100%	G2
Corporate Marketing	100%	0%	G1
Information Technologies	100%	0%	G1
Marketing	97%	3%	G1
Revenue Management	100%	0%	G1
Sales	100%	0%	G1
Level of Management	G1	G2	Level
Middle Management	95%	5%	G1
Non Managerial / Operational	97%	3%	G1
Top Management	100%	0%	G1
Years of Experience	G1	G2	Level
0-1 Year	100%	0%	G1
10 Years and above	100%	0%	G1
2-4 Years	96%	4%	G1
5-9 Years	96%	4%	G1
<b>TOTAL</b>	<b>97%</b>	<b>3%</b>	<b>G1</b>

The evaluation of the response of attendants show us that almost every person in the company is showing G1 (easy gathering) characteristics. Among the attendants, 84 people (92%) has given answers which align them under G1 category, meanwhile only 3 people (3%) provided answers in such a way that they are aligned with the G2 category. The remaining 4 people have given either contradicting answers or have no idea and therefore are not allocated to any specific level. At first glance to the cluster of the answers, it is understood that except the CIP services department, no cluster has a

G2 level. The CIP services department on the other hand is not an important indicator as it only has one participant under it.

Such dominant level of Easy Gathering approach is as surprising as it is troublesome for every department. Instead of looking into details and finding information that can bring added value and comparative advantage, every department is looking into sources that are widely available. Such an approach only helps to feel confident with the idea that there are knowledge gained even by simple methodologies. In reality, those who gather rare information gain competitive advantages in time. For instance IT department's Easy Gathering approach is problematic since G2 levels of gathering is in relation with advanced IT technologies including semantic analysis and text mining as (Amarouche et al. 2015) and (Hu et al. 2015) have put forward. Semantic analysis and text mining delivers information that is hidden in plain sight but is hard to extract. Customer complaints in social media and reviews on blogs can be mined and analyzed via these methodologies. Nevertheless, being at a G1 level deprives the company from such approaches. Finally yet importantly, although it lacks participation in numbers, the revenue management department has also showed similar poor performance here, indicating only easy gathering approach for critical tasks of "price comparison" and "revenue maximization".

When we look into the responses given in details, we notice the frequent usage of "competitors", "own employees", "market research", "agencies", "industry specific magazines" or "industry experts" answers. It is imperative to note that although "industry experts" or "agencies" might sound like rare sources of information; they are available and accessible for competitors as well. Therefore, an approach cannot be stated as G2 unless it has at least one of the effort, thought or money trio spent on it.

The evaluation of the other clusters or other details do not prove any further insight at this point and therefore are deemed redundant for this typology. Overall, it can be said that the general approach of the company towards Gathering competitive intelligence is at G1: Easy Gathering level.

#### 4.1.4 Location

Responses of the attendants for Location related questions were categorized under two levels. At first level which is L1 (Ad-hoc Location) there is no specifically tasked CI unit within the organization. Temporary task forces or employees do all CI activities for temporary needs. Communication between the departments who conduct short-term CI projects is at minimum. Therefore, it is not possible to talk about a companywide CI approach under L1 level. On the other hand, L2 (Designated Location) is the level where the company has a competitive intelligence unit or even a department which is responsible for all CI related work. At this level, companywide awareness of CI is very possible to increase and therefore the advantages of CI activities can be better understood.

**Table 4.3** Location of the Competitive Intelligence at the Company

	Percentage		Overall
Department	L1	L2	Level
Administrative department			NA
Brand and Corporate Communication	100%	0%	L1
Cabin Services			NA
Cargo Data Analysis			NA
CIP services			NA
Corporate Marketing	100%	0%	L1
Information Technologies	57%	43%	L1
Marketing	93%	7%	L1
Revenue Management	100%	0%	L1
Sales	77%	23%	L1
Level of Management	L1	L2	Level
Middle Management	93%	7%	L1
Non Managerial / Operational	84%	16%	L1
Top Management	50%	50%	L1
Years of Experience	L1	L2	Level
0-1 Year	100%	0%	L1
10 Years and above	100%	0%	L1
2-4 Years	77%	23%	L1
5-9 Years	95%	5%	L1
<b>TOTAL</b>	<b>85%</b>	<b>15%</b>	<b>L1</b>

When we analyze the answers of the participants we notice that a large number of people (36 people, 40%) are not allocated to any location level, either due to contradicting answers or because they do not have any idea. Of all the remaining 55 people, the results are very dominant for each cluster. 47 people (85%) are allocated under L1 (Ad-hoc Location), whereas only 8 people fell under the L2 level. All of the allocations can be found at Table 4.3. Large number of L1 presence is worrying especially because it is not possible to increase the flow of information and awareness of CI under the absence of dedication. Even the presence of a CI champion can help the companies increase the pace of information circulation among the departments. The absence of dedication to CI disrupts the processes, if there are any, and breaks the chain of “validation” and “combination” of the gathered pieces of information.

In the case of the company, only cluster that has a slightly better approach to location is the IT department with 3 people. This positive approach might have stemmed from a confusion with the business intelligence department that exists. However, there is no clear indication as to the reasoning behind. Apart from this, the top management cluster also has a 50% share of L1 and L2. However the person who fell under L2 has stated for the information gathering that “every employee gathers the intelligence by their own”, which contradicts with the L2 location. Therefore, only L2 candidate is also considered as an L1. Administrative department, cabin services, CIP services, and cargo data analysis could not be allocated to any level due to the answers provided.

Deep down analysis of the participant answers also provide no further clue. It is obvious that there is no dedicated CI unit within the Company and the Location strand is L1: Ad-hoc Location.

#### **4.1.5 Technology support**

Analysis of the answers to technology support related questions were categorized under four levels. Apart from the four levels of technology support, there were people who are not allocated to any level either because they stated, “I don’t know” or because they have provided contradicting answers. Thus, these 19 people were simply removed from



the evaluation of Technology Support strands. Remaining 72 answers are allocated to four strands according to answers given as shown at Table 4.4.

**Table 4.4** Technology Support Provided for CI within the Company

Department	Percentage				Overall
	TS1	TS2	TS3	TS4	Level
Administrative department					NA
Brand and Corporate Communication	40%	60%	0%	0%	TS2
Cabin Services	100%	0%	0%	0%	TS1
Cargo Data Analysis	0%	100%	0%	0%	TS2
CIP services	0%	0%	100%	0%	TS3
Corporate Marketing	20%	60%	20%	0%	TS2
Information Technologies	50%	25%	13%	13%	TS1
Marketing	42%	52%	6%	0%	TS2
Revenue Management	100%	0%	0%	0%	TS1
Sales	50%	50%	0%	0%	TS1
Level of Management	TS1	TS2	TS3	TS4	Level
Middle Management	45%	50%	5%	0%	TS2
Non Managerial / Operational	44%	46%	8%	2%	TS2
Top Management	50%	50%	0%	0%	TS2
Years of Experience	TS1	TS2	TS3	TS4	Level
0-1 Year	33%	67%	0%	0%	TS2
10 Years and above	40%	60%	0%	0%	TS2
2-4 Years	43%	43%	12%	2%	TS1
5-9 Years	50%	50%	0%	0%	TS1
<b>TOTAL</b>	<b>44%</b>	<b>47%</b>	<b>7%</b>	<b>1%</b>	<b>TS2</b>

At first level of Technology Support which is Simple Tech Support (TS1), people state that no pay for use tools for CI activities are used and there is either very weak or no support from the company. Only free tools, such as basic search engines, publicly available web sites or basic office tools are utilized for gathering and documentation purposes under this level. At the second level of Technology Support, which is called Average Tech Support (TS2), off the shelf pay for use or free tools are used for scanning of the information such as web alerts, specialized databases or patent websites. Company has little to medium support at this level for such tools. Third level of Technology Support is Advanced Tech Support (TS3) where people experience tools that can do statistical analysis of scanned and stored information automatically with a distribution capability among every department of the company. Integration of tech

support among departments is high. Fourth and highest level of the technology support that can be experienced is High Tech Support (TS4). At this level, CI processes are fully integrated with technology and semantic analysis is being conducted for gathering and analysis of information. This level of technology support eases the burden of monitoring competitors or the environment at such a level that for instance TS4 strand companies are able to summarize actionable information from thousands of customer comments within moments, whether done for their company or for one of their competitors. Results of analysis are also visualized at this level for easier understanding. Timely insights provide proactive opportunities instead of reactive actions, which are the products of cumbersome processes and tools.

When we look at the used tools provided by respondents, we notice that more than 60% of all attendants mentioned search engines and competitor websites. Although this is expected and up to a certain extent natural, it is worrying to notice that some other free tools such as alert mechanisms and social media search tools which are aligned with TS2 characteristics are much less mentioned (slightly more than 25%) than the most obvious ones. This is very much in line with the Easy Gathering (G1) characteristics. However, when asked for what kind of activities the competitive intelligence tools are being used, some people conflicted with their former thoughts and selected various answers among multiple choices: “Scan, Analyze, Gather and Document”. This conflict might have arisen due to unawareness of attendants about the true scope of Documentation or Analysis or even unawareness about the tools they have been using for such purposes. Otherwise, it is not possible to claim free search engines or competitor websites have the capability to analyze the gathered information. Bearing in mind the conflicted answers, we still need to make our deduction based on the data at hand because that is the perception of attendants.

Under this case, 34 people out of 72 (47%) fell under the TS2 level (Average Tech Support), followed by 32 (44%) under TS1 and 5 (7%) under TS3 as the level of technology support provided for CI related actions. Only 1 person (1%) who has 2-4 years' experience at IT department was associated with TS4 level. This might seem to be an overvaluation considering the Easy Gathering (G1) understanding of the

employees, and the Immune Attitude (A1), but since most of the TS2 tools are also free, it is understandable.

When we look at the clusters of departments, we notice that IT, revenue management and sales departments fall below overall company level. Low level of IT department is the most troublesome, as this department should oversee the usage of such tools. They should be leading rather than following the others under this typology. It is a question that if the IT department does not know how to implement and use highly sophisticated methodologies such as text mining, how one can expect other departments to use them? This negative level has its effects on the remaining of the company as well, for there is no single cluster, which has at least two people under it, with TS3 or above level. It is also problematic for sales and revenue management departments. For the TS1 level means that they only gather and document some information, if they do not rely on their memories for the documentation. There is no scanning or validation, not to mention analysis or visualization through IT systems. This brings a heavy work burden on these teams, which makes the efforts of CI very cumbersome and in the end unwanted.

It is important to note that although sales, top management and two of the experience clusters have a draw between TS1 and TS2 levels, by the thorough analysis of the answers it is noticed that some of the answers are contradicting with the allocated levels per person. Therefore, the most stable answers are counted and the allocation of these clusters is once again done based on this.

In the end, it can be said that the company's Technology Support level is at TS2: Average Tech Support. This is not contradicting with the A1, G1 and L1 approaches mostly because TS2 is also associated with some free tools and simple scanning methodologies. Such tools do not help with competitive advantage and can only help the company not to fall behind the competition at a rapid pace, in other words it can only slow down the inevitable failures. The company should ideally move towards TS4, but if that is not possible in good time, it should at least settle in TS3 level to start the analysis and dissemination of information at hand.

#### **4.1.6 IT Systems**

Responses of the attendants to IT Systems related questions were categorized under six different aspects. At first aspect, there is Dismissive IT Systems (IT1) where there appears no IT system used for any CI purpose (gathering, analysis, documentation, dissemination, decision making and such). People believe their memories will serve them and the company altogether, failing to comprehend the necessity to connect all the dots to see the big picture. Second aspect is Sceptic IT Systems (IT2), where people do not trust technology and instead rely on paper records. This might stem from former bad experience with IT systems or simply prejudice of insecurity towards them. Third aspect is Standardized IT Systems (IT3) where an off the shelf product is used without any customization because either there is no need, or it is not deemed necessary or possible to change the product. At the fourth aspect, Hosted IT systems (IT4), the company uses an elsewhere hosted IT system with a pay per use kind of approach. Software management does not belong to the company in this approach but the operation of it. Fifth aspect is Tailored IT Systems (IT5). At this level, company has an either hosted or an off the shelf system which is customized according to its needs and requests. While the level of experience within the company about CI related processes and IT Systems increase, need for customization also increases with various kinds of requests. Tailored IT Systems makes it possible to adopt the IT Systems based on needs in time. At the sixth and final IT Systems related allocation, there is Bespoke IT Systems (IT6). At this level, company has developed a complete CI system based on its own specific needs. There are resources allocated to this system and its further development.

When the responses were analyzed, it was noticed that 49 people simply replied, “I don’t know” or have given contradicting answers to the question “Do you use any IT systems to manage competitive information in your firm?” Strong dominance of this answer gives insights as to the negligence of the IT Systems used. Therefore, those 49 people were deducted from the analysis. One can notice at first glance in Table 4.5 that not a single person is under IT6, Bespoke IT Systems level. There is a dominance of IT1, Dismissive IT Systems level with 23 (55%) people. 2 people appearance (5%) of IT5 level (Tailored IT systems) is an insignificant value compared to the combination

of lower levels, which are 8 people at IT2 (19%), 2 people at IT3 (5%) and 7 people at IT4 (17%).

**Table 4.5** IT Systems Level for CI Purposes within the Company

Department	Percentage						Overall
	IT1	IT2	IT3	IT4	IT5	IT6	Level
Administrative department							NA
Brand and Corporate Communication	100%	0%	0%	0%	0%	0%	IT1
Cabin Services	0%	0%	0%	100%	0%	0%	IT4
Cargo Data Analysis	0%	0%	0%	0%	100%	0%	IT5
CIP services							NA
Corporate Marketing	67%	33%	0%	0%	0%	0%	IT1
Information Technologies	33%	17%	17%	17%	0%	0%	IT1
Marketing	56%	19%	6%	19%	0%	0%	IT1
Revenue Management							NA
Sales	62%	23%	0%	15%	0%	0%	IT1
<b>Level of Management</b>	<b>IT1</b>	<b>IT2</b>	<b>IT3</b>	<b>IT4</b>	<b>IT5</b>	<b>IT6</b>	<b>Level</b>
Middle Management	58%	17%	0%	25%	0%	0%	IT1
Non Managerial / Operational	55%	17%	7%	14%	0%	0%	IT1
Top Management	0%	100%	0%	0%	0%	0%	IT2
<b>Years of Experience</b>	<b>IT1</b>	<b>IT2</b>	<b>IT3</b>	<b>IT4</b>	<b>IT5</b>	<b>IT6</b>	<b>Level</b>
0-1 Year	75%	25%	0%	0%	0%	0%	IT1
10 Years and above	33%	33%	0%	33%	0%	0%	IT2
2-4 Years	41%	23%	9%	18%	0%	0%	IT1
5-9 Years	77%	8%	0%	15%	0%	0%	IT1
<b>TOTAL</b>	<b>55%</b>	<b>19%</b>	<b>5%</b>	<b>17%</b>	<b>5%</b>	<b>0%</b>	<b>IT1</b>

The dominance of IT1 level is very troublesome, since that means all the valuable information is destined to get lost within an uncertain period of time; leading way to the loss of corporate memory and the capability to estimate the future based on similar historical patterns. What is more troublesome is that those people who have the experience and the memory of the past might switch to a competitor and therefore take all the knowledge with themselves to there. Such loss would not be felt if there were higher levels of IT systems within the company. High value of IT1 also means that there is no intention whatsoever to document and combine the gathered information for strategic purposes, which is actually in line with the A1 Immune Attitude level. The next most prominent level of IT Systems in the company is IT2. It is imperative to note that although it has the second highest value, there is not a single cluster except the 10

years and above experience, that falls under this level. 10 years and above experience is considered as IT2, since other people allocated for this cluster has less consistent answers considering other typologies. There are a few IT4 and IT5 allocations for some clusters; however, they lack the participation in numbers and therefore cannot be counted as significant values.

In the end, although there are some appearances of higher levels such as IT4, it is inevitable to realize that the company is only at IT1 (Dismissive IT Systems) level where there is no documentation and no computerized system involved. What goes for the overall approach of the company is the same for every department, which means knowledge sharing within departments and preservation of intelligence is nothing but a dream.

#### **4.1.7 Use**

Attendants were asked questions regarding to the usage of CI practices within the company; whether they use CI and if so, at what level was the essence of those questions. Once the answers were gathered, they were evaluated under four levels of user strands. The first strand is Unaware User (U1), where the company has occasional CI operations, if at all, only because there are some other companies doing it. There is no CI unit, no process and no awareness about the essence of CI. This level of users only imitate their competitors. Second level is Disconnected User (U2). Disconnected users have some instinct to follow the competitive environment, but they do not have the systematic structure to do this properly. When disconnected users gather a piece of information they act on it, without analysis and most of the time even validation through the help of other departments. This level contains risks of being deceived by competitors through planting false information to the basic information sources. It also leads to waste of resources and inefficient outcomes in case the gathered information are false or incomplete. Third level is Tactical User (U3). Tactical users understand the value of CI, but either because they do not see value in it or because they lack the resources, they do not use it for strategic purposes. Necessary departments or people follow the industry and the competitive factors to understand the effects to their firm. They analyze, validate and plan their response to these changes. However, it is not for a

long term and not covering all of the company. Last level is Strategic User (U4). At this level, competitive intelligence practices cover the entire firm. Long term planning based on future predictions, which rely on analyzed intelligence, is the key. Strategic users do war game scenarios, SWOT analysis, what if predictions and many other dedicated CI practices to plan their strategy. All of these depend on the high level, flexible information sharing thanks to the absence of bureaucratic barriers. Allocation of the employees to Use Levels based on these definitions can be found in Table 4.6.

**Table 4.6** Use Levels of CI at the Company

Department	Percentage				Overall
	U1	U2	U3	U4	Level
Administrative department	0%	0%	100%	0%	U3
Brand and Corporate Communication	25%	25%	50%	0%	U3
Cabin Services	0%	0%	100%	0%	U3
Cargo Data Analysis	0%	0%	100%	0%	U3
CIP services	0%	100%	0%	0%	U2
Corporate Marketing	0%	17%	83%	0%	U3
Information Technologies	14%	43%	43%	0%	U3
Marketing	7%	48%	41%	3%	U2
Revenue Management	0%	100%	0%	0%	U2
Sales	15%	38%	38%	8%	U3
Level of Management	U1	U2	U3	U4	Level
Middle Management	20%	47%	27%	7%	U2
Non Managerial / Operational	6%	40%	51%	2%	U3
Top Management	0%	0%	100%	0%	U3
Years of Experience	U1	U2	U3	U4	Level
0-1 Year	0%	33%	67%	0%	U3
10 Years and above	0%	25%	75%	0%	U3
2-4 Years	6%	40%	51%	3%	U3
5-9 Years	18%	45%	32%	5%	U2
<b>TOTAL</b>	<b>9%</b>	<b>41%</b>	<b>47%</b>	<b>3%</b>	<b>U3</b>

When we analyze the responses for Use related questions, we notice that 27 people (30%) have stated that they have no idea or their answers were too contradicting to be allocated. Remaining allocations are mostly clustered around the central levels; U2 and U3. Most prominent allocation among the remaining is U3 (Tactical User) with 30 people (47% out of 64 people) and the second most allocated level is U2 (Disconnected User) with 26 people (41%). Low level of allocation among U1 (6 people, 9%) and U4

(2 people, 3%) is important since people seem to restrain from selecting the edges of “not doing CI practices” and “All out CI practices for strategic purposes”.

This comparatively high approach of Use levels is surprising, especially considering the low levels of every other strand. How could it be possible to be a tactical user without the support of a dedicated CI location and with the help of an only “Easy Gathering” approach is a question that should be twice asked. It is very apparent that people overvalue their efforts as “tactical approaches” to competitive environment, which gives clue to the understanding of CI methodologies within the company. However, it should be noted that these are the perceptions of people and there is no wrongs or rights in their approach. Therefore, it is considered as the fact and it shows that most of the clusters have the same overall approach to being the user of CI practices with a few deviations and a few narrow escapes.

Most important among the high participant departments is marketing, especially for it is under the U2 level, which is more problematic than being under L1 or G1 levels of Location and Gathering typologies respectively. Being a disconnected user for marketing means that this department is taking action on information that is not validated or analyzed in detail. Combination of U2 with G1 approach is adding more problems to this fact, for the information that is gathered would most definitely be an easily accessible one, which might have been planted by competitors for deception and misguidance. Detailed analysis of this department’s actions would probably show that there are many “failed” operations based on competitors’ moves.

Although lacks numbers in participation, U2 level of the revenue management department is also problematic. Competitors, thanks to its disconnected approach, can manipulate fare levels of the company. In case it was a higher level of Use approach, this department would have analyzed the information, validated it with other pieces of knowledge from other sources to understand if the planted information was fraud or not and then would have taken action as a counter measure.



IT and sales departments are narrow escapes for U3 level. Sales department is considered as an U3 simply because those who advocated U2 level were either not allocated in Attitude approach or considered the Attitude as A1. This is contradicting with a U2 approach, which is not the case for the answers around U3 level. Similar consideration was done for IT department as well.

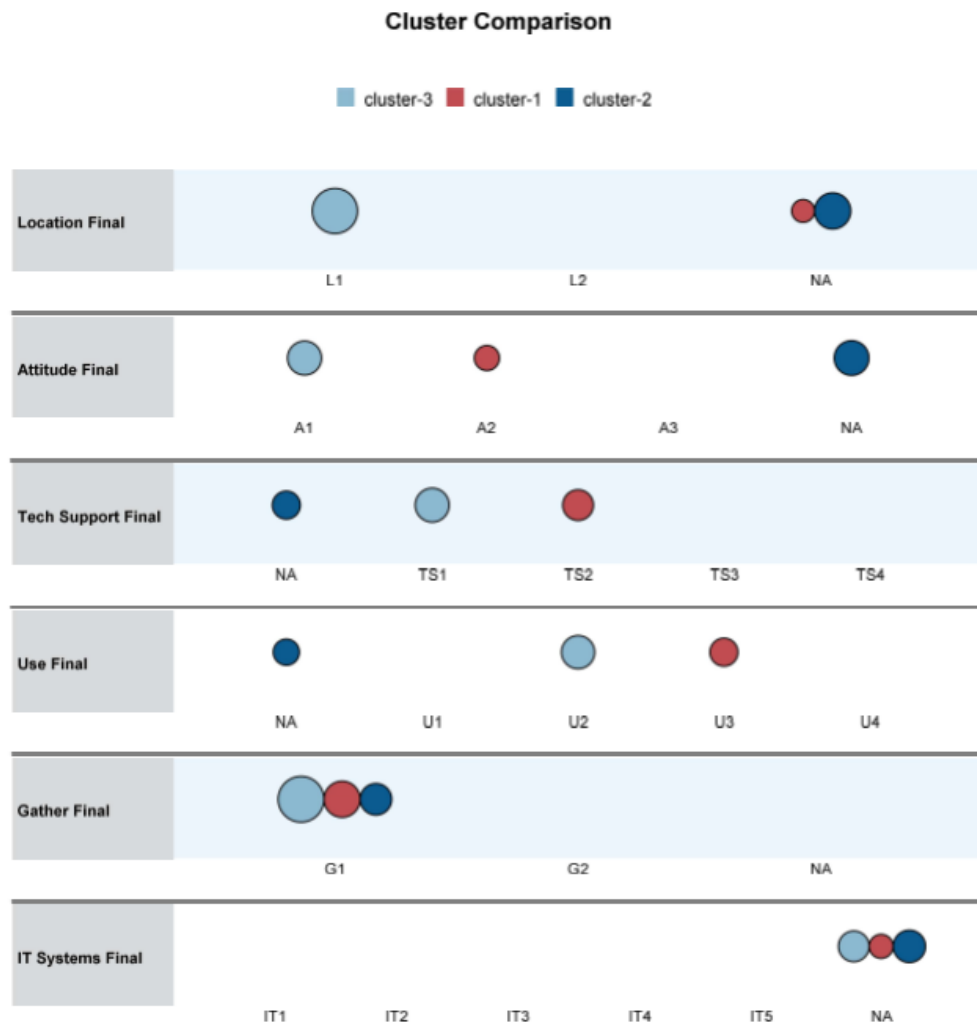
What is troublesome is the U2 level that is slightly high for middle management. When we double-check the reasons behind this low level, we notice that it is mostly due to the middle management of the marketing department. A very dominant characteristic of disconnected user level for this cluster is influencing the overall of the middle management as well. What might have caused such a clustering under this specific department and management combination is a problem that should be further evaluated. Further analysis of the remaining CI clusters do not bring any additional value to our research and it can be said with ease that the overall approach of the company for Use strand is U3: Tactical User.

#### **4.2 Two Step Cluster Analysis**

Apart from the analysis of the strand levels per natural clusters, it was important to understand if there are hidden clusters that change the way of thinking within the company. For this purpose, cluster analysis on our data via SPSS tool was conducted based on the level of strands per attendant. K-means analysis was the first used method but it proved no meaningful results. Therefore, we did Two Step cluster analysis. In the end, most meaningful results were found on three different clusters, which can be found in Figure 4.1.

It is possible to define these clusters based on their combination of answers. 1st cluster has above average but below ideal allocations for some of the CI strands within the company and therefore is named as “mediocre”. Those who belong to this cluster seem inconsistent in their answers. They are not allocated even under Location strand yet at the same time believe themselves to be Tactical Users (U3) and to have a Task Driven Attitude (A2). It can be told that they are either optimistic about their company or in the

best case; they do some CI practices under their own departments. Attendants from top management fell under this cluster.



**Figure 4.1** Cluster Allocation per CI Strand

Second cluster is mostly composed of people who were not allocated to any strand levels, due to the apparent unawareness of them about CI practices. Those who belong to this cluster is named as “Unaware” and their answers are mostly “I don’t know”. A small ratio of those who belong to this cluster have very inconsistent answers to questions, implying that they randomly selected their answers. It is very positive to see that only two people from Middle Management and none from the Top Management fell under this cluster.

Third cluster is the most consistent cluster in terms of its answer distribution. People under this cluster have pessimistic thoughts and are allocated to first and lowest levels under almost every strand. It has a tendency towards a higher user level being Disconnected User and are not allocated to any levels at IT Systems. Remaining levels show that they are not supported enough with Technology Support or a dedicated CI unit and therefore are named as “Unsupported”. What is surprising is that almost two thirds of middle management falls under this cluster. For any other cluster, there is no convergence of departmental, experience based or level of management based approaches.

### **4.3 Barriers of Effective CI: Diagnostics**

It was our aim to not only understand where does the company stand with regards to CI related aspects but also to analyze what barriers hold or can hold the company back from doing effective CI. Low level of attitude and IT support are apparently important barriers that are found by the typology evaluation questions. Low level of gathering related with low economic support for CI activities is also considered as an important barrier. However, there might be some other barriers that hinder effective CI practices. Therefore, apart from strand related questions, one open-ended question was asked to attendants with their level of priority in order to understand if there are any other restrictions that can effect CI processes. Answers to the open-ended question revealed some other hidden barriers, which have been hinted by our analysis of six strands, but could not be uncovered for sure without the existence of this question.

First and most mentioned barrier is the “lack of awareness”. 17 people have chosen answers either directly saying lack of awareness or hinting it out as their first barrier. 5 other people also mentioned it as a barrier either as their second or third answer. 20 people have selected “lack of relevant IT tools”, 7 as their first answer, as a hindrance. Third most prominent answer was “lack of support”, mentioned by 16 people. Some of these answers only stated “top management” instead of giving some details. However, it can only mean that the top management is not meeting some demands, which equals to the absence of enough support and therefore considered alike. Next barrier was “lack of budget”, which includes answers like “managers don’t want to pay for software” or

“high costs affiliated with research”. 14 people joined these answers, 8 of which as their first choice.

It is important to note that all of these four categories of answers mentioned (lack of awareness, lack of IT tools, lack of support and lack of budget) were covered by the questions related to CI strands. It is therefore a suspicion if the survey questions triggered these emphases or to the contrary if the survey questions hit the right area of focus. Remaining answers however, are of utmost importance, since they lead to some other problems on the road to an effective CI. For instance fifth most given answer is “Lack of strategic vision”, under which lies answers such as “lack of global perspective”, “inability to reimagine the business” and “inadequate strategy”. These groups of answers hint towards two possible yet serious drawbacks; first one being the real absence of strategy building. Although it is the understanding of employees, this probably is not the case, for even if there is no CI related approach within the strategy building, there has to be a strategic vision within the company. Second possibility is more likely, being that even if there is a strategy it is not reflected to the mission of the company and not instilled with employees. Therefore, people do not know for which ultimate goal they struggle to achieve and therefore are clueless to how they can truly participate towards that vision. This of course effects the efficient CI processes, people should understand their share of mission and start their information scanning and analysis based on that expectation. In the absence of such expectation, the start of CI activities are also clueless and, needless to say, without a point.

“Lack of experienced people with skills” with 12 people is a close follower. Although this answer is mostly a second or third thought in people’s minds, it is providing unique insight as to the demands for employees that can conduct fruitful CI activities. In the absence of skillful people who can collate the CI tools and the most delicate parts of intelligence gathering processes, workload of people would increase and efficiency would certainly fall. For this specific reason, even if there are no dedicated CI teams within companies, there should at least be a CI champion, who can guide people to get most out of their intelligence gathering activities.

Next one is “Lack of communication between departments”, which is of course a very serious drawback, for a small piece of information gathered by an employee might be useful for others in different departments and even be of strategic importance. If the communication channels are not strengthened enough, flow of information is interrupted and intelligence gathering is weakened. Moreover, pieces of information can be in relation with each other and might never be combined in case of the lack of communication.

The eighth barrier mentioned is the “bureaucracy” within the company, which is a different version of the “lack of communication” barrier that hinders the flow of information and disrupts the timeliness factor of the gathered information. In the end, information is not relevant anymore for prompt action.

Some other barriers mentioned by the attendants include but not limited to “lack of motivation” for 6 people, “lack of dedicated CI unit” and “company culture” for 5 people and “personal ego” for 4 people. Although “lack of motivation” was given as a different answer, one can deduct that it is also related to the support given by the management because loss of motivation is a result of the unsupported and eventually failed trials. However, the lack of a dedicated CI unit is another issue. The absence of a specifically tasked CI unit leads to ambiguous processes, which results in inefficient efforts and results and therefore is an important barrier for successful CI practices. Company culture and personal ego are ambiguous terms, which might be symptoms for some other barriers such as management blockage towards CI related work. However, there is no clear indication on what is implied.

Irrelevant information, government interference, lack of analysis and centralization were also among the barriers mentioned by less than three attendants.

Overall, we can conclude that the lack of awareness about CI practices, lack of budget, lack of top management support and strategic planning and lack of IT tools are among the most important barriers for effective CI within the company. These main barriers

are further strengthened by the lack of experienced people about CI, bureaucracy and the absence of communication between departments.

#### **4.4 Tackling the Lack of Awareness Concerning CI Importance**

As soon as the results of the first survey were gathered, a presentation telling what CI is, including examples of free tools that can be used to gather competitive intelligence and a spreadsheet to disseminate the gathered information within the company was distributed to 91 employees who have attended the first survey. The presentation is reminded to attendants on a regular basis to make sure that it is well read and understood. After two weeks, a second set of survey was distributed to understand the opinion of people about CI tools, activities and the presence of a CI unit within the company.

79 employees have attended the second survey. However, 14 of those have indicated that they could not find enough time to go through the presentation and therefore 65 valid attendants remained. This means 71% of those 91 who have attended the first survey.

32 attendants (50%) could not use the presented tools nor could use the interface provided. 26 attendants (40%) used at least a tool and 20 (31%) have used the interface. Only 13 people (20%) could use both the interface and at least one of the presented tools. Low level of interaction with the tools and the interface might be due to the mismatch of the selected tools with the departments of the attendants or simply the lack of motivation to chase an almost non-existent topic (A1, G1 and L1 are the clues to existence) within the company. However low level of interaction does not mean that the attendants do not know these tools. Since they were also mentioned in the presentation, reading the presentation have also increased the knowledge and awareness about such tools to an extent.

#### 4.4.1 Attitude

People were asked Attitude related questions after they have read the presentation. These set of questions involved “If they have found the CI tools helpful and if so at what level?”, “If they have found the CI interface helpful and if so how they believe such an interface would help them?” and “What kind of a CI team the company needs if any?” Allocation of the answers were most surprising, as it showed us that there was significant increase in the overall approach of Attitude as it can be found in Table 4.7.

**Table 4.7** Expected Change of Attitude Levels

Department	Percentage				Overall	
	A1	A2	A3	A4	After	Before
Administrative department	0%	0%	100%	0%	A3	NA
Brand and Corporate Communication	0%	0%	50%	50%	A4	A1
Cabin Services					NA	NA
Cargo Data Analysis	0%	0%	100%	0%	A3	A3
CIP services	0%	0%	0%	100%	A4	NA
Corporate Marketing	0%	0%	33%	67%	A4	A2
Information Technologies	0%	0%	50%	50%	A4	A1
Marketing	0%	14%	45%	41%	A3	A1
Revenue Management	0%	0%	100%	0%	A3	A2
Sales	0%	7%	57%	36%	A3	A1
<b>Level of Management</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>	<b>After</b>	<b>Before</b>
Middle Management	0%	7%	36%	57%	A4	A1
Non Managerial / Operational	0%	9%	52%	39%	A3	A1
Top Management	0%	0%	100%	0%	A3	A3
<b>Years of Experience</b>	<b>A1</b>	<b>A2</b>	<b>A3</b>	<b>A4</b>	<b>After</b>	<b>Before</b>
0-1 Year	0%	0%	60%	40%	A3	A1
10 Years and above	0%	0%	50%	50%	A4	A1
2-4 Years	0%	11%	50%	39%	A3	A1
5-9 Years	0%	6%	47%	47%	A4	A1
<b>TOTAL</b>	<b>0%</b>	<b>8%</b>	<b>50%</b>	<b>42%</b>	<b>A3</b>	<b>A1</b>

After the usage of CI tools and interface and the foundation of a CI unit, which would sign the start of proper CI processes within the company, there is significant change expectation in almost every cluster’s Attitude level. Overall level changes from A1 to a dominant A3 characteristic, followed in second by the Strategic Attitude. Some

departments such as IT and corporate marketing expect to make jumps that are more surprising, achieving A4 level. Remarkable result that can be seen is the complete extinction of A1 approach. It should also be noted that only 12 people out of 65 who attended both surveys are not allocated to a new attitude level (18%), all of which had at least A2 level or were not allocated at all in the beginning. Therefore, it can be said that the foundation of CI units and the usage of CI related tools and interfaces would change the Attitude towards competitive intelligence with 82% success.

What this change would bring is also important. Overall Attitude level change from A1 to A3 is the sign of a new era where top management is involved with CI practices. Although CI outputs are not yet the inputs of strategic decision making at this level, lots of tactical proactive decisions are taken thanks to them. The Company is aware about the competition that is in the air and is taking precaution against the changes in the competitive environment. Therefore, it is not expected for the company to be caught off guard anymore under A3 level.

#### **4.4.2 Location**

Another set of questions asked the attendants their expectation towards the level of Location of a possible CI unit if there is any need at all. Again as in the Attitude level, there is a significant uplift with this strand as can be seen in Table 4.8.

When the first survey was commissioned, only 8 people believed that there was a dedicated CI unit. With the provision of the documents and the tools, expectation of people for the location strand showed the need for a dedicated unit. Out of the 65 people who have attended both surveys, 58 believe that there should be a dedicated CI team reporting to various levels of management units. All of the clusters' levels increased from L1 or NA to L2. Only somewhat ambiguous increase is the one of top management's. Since it is a draw with same number of people for both L1 and L2, we considered replies of the attendants to other questions and found out that L2 approach has a higher validity compared to L1. Only cluster that did not change is the cabin services, who have not attended the second survey at all.



Only 11 people's allocation out of the 65 (17%) have not changed, whom can be called the "Pro-Status Quo". Thus, we can conclude that the simplest provision of information to employees helped them to understand the importance of a dedicated CI unit with 83% success.

**Table 4.8** Expected Change in Location Levels

Department	Percentage		Overall	
	L1	L2	After	Before
Administrative department	100%	0%	L1	NA
Brand and Corporate Communication	0%	100%	L2	L1
Cabin Services			NA	NA
Cargo Data Analysis	0%	100%	L2	NA
CIP services	0%	100%	L2	NA
Corporate Marketing	0%	100%	L2	L1
Information Technologies	13%	88%	L2	L1
Marketing	14%	86%	L2	L1
Revenue Management	0%	100%	L2	L1
Sales	0%	100%	L2	L1
Level of Management	L1	L2	After	Before
Middle Management	0%	100%	L2	L1
Non Managerial / Operational	10%	90%	L2	L1
Top Management	50%	50%	L2	L1
Years of Experience	L1	L2	After	Before
0-1 Year	0%	100%	L2	L1
10 Years and above	0%	100%	L2	L1
2-4 Years	13%	87%	L2	L1
5-9 Years	6%	94%	L2	L1
<b>TOTAL</b>	<b>9%</b>	<b>91%</b>	<b>L2</b>	<b>L1</b>

Importance of this change is mostly undervalued. Dedicated CI units can be considered as gateways or bridges that connect otherwise unconnected islands of data and information. Especially in the case of the Airline Company, where lack of communication among departments is an important barrier, foundation of a dedicated CI unit is among the first problem solvers. Bureaucratic barriers and communication problems can be eliminated with the existence of a CI unit, since it has the flexibility and authority to collect information and pass it through upper management levels without obstruction.

#### 4.4.3 Technology support

Since we have provided some CI tools and similarly a basic frame of how CI software can help to obtain helpful documents and to share the gathered information, there has been some changes to the expectation of people about Technology Support and the IT Systems. People were asked if their company should provide support for similar tools and dashboards. It can be read from the Table 4.9 that there are significant level increases in almost all clusters.

**Table 4.9** Expected Change in Technology Support Levels

Department	Percentage				Overall	
	TS1	TS2	TS3	TS4	After	Before
Administrative department					NA	NA
Brand and Corporate Communication	0%	0%	0%	100%	TS4	TS2
Cabin Services					NA	TS1
Cargo Data Analysis	0%	0%	0%	100%	TS4	TS2
CIP services					NA	TS3
Corporate Marketing	0%	17%	17%	67%	TS4	TS2
Information Technologies	0%	14%	14%	71%	TS4	TS1
Marketing	0%	10%	17%	72%	TS4	TS2
Revenue Management	0%	0%	50%	50%	TS4	TS1
Sales	7%	21%	14%	57%	TS4	TS1
<b>Level of Management</b>	<b>TS1</b>	<b>TS2</b>	<b>TS3</b>	<b>TS4</b>	<b>After</b>	<b>Before</b>
Middle Management	0%	14%	7%	79%	TS4	TS2
Non Managerial / Operational	2%	13%	20%	64%	TS4	TS2
Top Management	0%	0%	0%	100%	TS4	TS2
<b>Years of Experience</b>	<b>TS1</b>	<b>TS2</b>	<b>TS3</b>	<b>TS4</b>	<b>After</b>	<b>Before</b>
0-1 Year	0%	20%	20%	60%	TS4	TS2
10 Years and above	0%	0%	0%	100%	TS4	TS2
2-4 Years	3%	14%	14%	70%	TS4	TS1
5-9 Years	0%	12%	24%	65%	TS4	TS1
<b>TOTAL</b>	<b>2%</b>	<b>13%</b>	<b>16%</b>	<b>69%</b>	<b>TS4</b>	<b>TS2</b>

Out of the 65 people, 4 people were not allocated to any TS levels, either because they stated “they don’t know” or their answers were contradicting with each other. Of the remaining 61 people, 42 (69%) have been allocated to TS4, 10 (16%) were allocated to TS3 and 8 (13%) were allocated to TS2 due to their expectations. It is very good to notice that only 1 person (2%) remained under TS1 level. Cabin services and CIP services departments are not allocated to any levels at all.

Most important change in this approach is the overall level increase from TS1 to TS4, where there is High Tech Support. Under this level, it is possible to monitor the competitive environment with minor efforts and people can find time for the relatively more important tasks of analysis and strategy building. For instance monitoring of competitor prices via web crawling technologies would be a simple addition to many other possibilities and then visualization of the price changes through trend lines would make it simple for the revenue management department to understand the price fluctuations of competitors including seasonality.

In case one of the competitors bring a new functionality to their web site or mobile app, it would be a simple task to analyze the customer reviews without having to go through every customer message in social media or customer forums. Semantic analysis tools would filter out every customer message about the new functionality; separate positive and negative comments, create statistics and come up with a summary of the total customer feedback. Such a leap from TS1 to TS4 makes the life of CI team much simpler and the effectiveness of researches much higher. It is imperative to compare this horizon with the TS1 capabilities, which are manual and dependent on the human brain rather than machine capabilities.

When we look at every person's decision change, we notice that 11 people have not changed their approach at all (17%). Only two people (3%) who were allocated to TS1 and TS3 have not been allocated to any level after the second survey. If we deduct both of these groups, we find out that the success level of increase for this strand is 80%.

#### **4.4.4 IT systems**

IT Systems expectations are similar to that of Technology Support. It is important to remember that the lack of IT Systems is a serious drawback considering the competitive environment. Present situation IT1 is causing problems such as the loss of experience and competitive information. In order to increase this approach, all the attendants were provided with a simple, spreadsheet format CI interface and were asked if they would find it necessary to have a more sophisticated version of such an interface. 60 people out of 65 who have read the presentation were allocated to a level after the second

survey. 5 of them were not allocated either due to their lack of knowledge or due to their contradicting answers. Of the remaining 60 people, 27 (45%) are expecting a level that would allocate them to IT5, 14 people (23%) to IT6, 11 people (18%) to IT3, 5 people (8%) to IT4 and 3 people(5%) to IT2. All of these results are very promising, but what is more beneficial is the total elimination of IT1 level. All of the results can be read from Table 4.10.

**Table 4.10** Expected Change in IT Systems

Department	Percentage						Overall	
	IT1	IT2	IT3	IT4	IT5	IT6	After	Before
Administrative department	0%	0%	0%	0%	0%	100%	IT6	NA
Brand and Corporate Communication	0%	0%	0%	0%	100%	0%	IT5	IT1
Cabin Services							NA	IT4
Cargo Data Analysis	0%	0%	0%	0%	100%	0%	IT5	IT5
CIP services							NA	NA
Corporate Marketing	0%	0%	33%	0%	50%	17%	IT5	IT1
Information Technologies	0%	14%	14%	0%	57%	14%	IT5	IT1
Marketing	0%	7%	10%	14%	45%	24%	IT5	IT1
Revenue Management	0%	0%	50%	0%	0%	50%	IT6	NA
Sales	0%	0%	31%	8%	38%	23%	IT5	IT1
Level of Management	IT1	IT2	IT3	IT4	IT5	IT6	After	Before
Middle Management	0%	7%	14%	7%	50%	21%	IT5	IT1
Non Managerial / Operational	0%	5%	20%	9%	41%	25%	IT5	IT1
Top Management	0%	0%	0%	0%	100%	0%	IT5	IT2
Years of Experience	IT1	IT2	IT3	IT4	IT5	IT6	After	Before
0-1 Year	0%	0%	20%	20%	20%	40%	IT6	IT1
10 Years and above	0%	0%	0%	0%	100%	0%	IT5	IT2
2-4 Years	0%	6%	19%	3%	53%	19%	IT5	IT1
5-9 Years	0%	6%	18%	18%	29%	29%	IT6	IT1
<b>TOTAL</b>	<b>0%</b>	<b>5%</b>	<b>18%</b>	<b>8%</b>	<b>45%</b>	<b>23%</b>	<b>IT5</b>	<b>IT1</b>

Elimination of IT1 is a very important sign showing people's demand of documentation of information and necessary CI systems. However, it can be questioned why people do not initiate such an approach, since IT2 level would not require any monetary investment at all and is only up to the usage of a simple spreadsheet. It can be thought that either it is the lack of motivation that was mentioned among the barriers to an

effective CI, or there are other reasons that keep people from the information documentation.

It is also great to note that the overall level of IT Systems expectation within the company is IT5 (Tailored IT Systems). This level is very crucial, since development based on company requirements can be handled by the software vendor at this level. In other words, if the company requires a new methodology added to its IT Systems, it can be done. This provides the freedom to increase the CI capabilities within time. Preservation of information and its dissemination through such tailor made IT Systems will enable the company to speed up the CI processes and generate a historical trend, which would enable to foresee the future actions of competitors or changes in the competitive environment.

There are no clusters that significantly differ from the overall approach of the Company and therefore it is not necessary to deep dive in the clusters. Only cluster that is noticed is the revenue management department, which has the same number of people between IT3 and IT6 levels. However, it is decided as IT6 in the end, because IT3 selection was based not on the usage of tools but rather only through the reading of the presentation, meanwhile IT6 allocation is done by the evaluation of the person who has used the tools.

Overall, we can say that the huge leap to IT5 is a most promising news, even if there is no real integration. Carefully designed IT Systems would eliminate the bureaucratic obstacles towards information sharing and analysis with the support of a CI unit. One other benefit of such systems would be the lessening of communication barriers. Interface of a CI system would meet people with information relevant to other departments and start the discussion of further information or analysis sharing within good time. Although changes in the Gathering and Use levels could not be evaluated because there was no real integration, and it could not be tested in the short frame of this research; other changes should be considered as the readiness and demand of the employees. Therefore, we can say that it is very possible to make huge increase with CI processes as long as the barriers to effective CI are lifted.

#### 4.4.5 Cluster Change

Natural clusters; level of experience, management level and departments, have all seen positive growth in most of the strand levels as can be seen in Table 4.11. Expected Location and Technology Support levels have increased to ideal positions in overall. Some departments do not expect to increase to ideal levels in all strands, most prominent among them being sales and marketing. However, these departments expect to reach ideal levels in other strands and the aforementioned strands are expected to increase to the second highest level. In other words, although they do not expect to reach ideal cases in all scenarios, they have very high expectations that can meet most of the need. Therefore, excluding those departments that have one person, it can be concluded that the departments will all experience a CI practice level improvement.

**Table 4.11** Change of Strand Levels per Natural Cluster

Department	Attitude		Location		Tech Support		IT Systems	
	Before	After	Before	After	Before	After	Before	After
Administrative department	NA	A3	NA	L1	NA	NA	NA	IT6
Brand and Corporate Communication	A1	A4	L1	L2	TS2	TS4	IT1	IT5
Cabin Services	NA	NA	NA	NA	TS1	NA	IT4	NA
Cargo Data Analysis	A3	A3	NA	L2	TS2	TS4	IT5	IT5
CIP services	NA	A4	NA	L2	TS3	NA	NA	NA
Corporate Marketing	A2	A4	L1	L2	TS2	TS4	IT1	IT5
Information Technologies	A1	A4	L1	L2	TS1	TS4	IT1	IT5
Marketing	A1	A3	L1	L2	TS2	TS4	IT1	IT5
Revenue Management	A2	A3	L1	L2	TS1	TS4	NA	IT6
Sales	A1	A3	L1	L2	TS1	TS4	IT1	IT5
Level of Management	Before	After	Before	After	Before	After	Before	After
Middle Management	A1	A4	L1	L2	TS2	TS4	IT1	IT5
Non Managerial / Operational	A1	A3	L1	L2	TS2	TS4	IT1	IT5
Top Management	A3	A3	L1	L2	TS2	TS4	IT2	IT5
Years of Experience	Before	After	Before	After	Before	After	Before	After
0-1 Year	A1	A3	L1	L2	TS2	TS4	IT1	IT6
10 Years and above	A1	A4	L1	L2	TS2	TS4	IT2	IT5
2-4 Years	A1	A3	L1	L2	TS1	TS4	IT1	IT5
5-9 Years	A1	A4	L1	L2	TS1	TS4	IT1	IT6
<b>TOTAL</b>	<b>A1</b>	<b>A3</b>	<b>L1</b>	<b>L2</b>	<b>TS2</b>	<b>TS4</b>	<b>IT1</b>	<b>IT5</b>

Most remarkable issue about the expected changes in strands is the status quo position of top management concerning Attitude. They do not expect to have any change with their current Operational Attitude, which means there is no Strategic approach towards CI at least in the short run or they do not expect the CI tools or integration of processes would change this level unless some other changes occur. There are no other attention grabbing differences among any strand levels in natural clusters. On the clusters based on Two Step cluster analysis however, there is a different picture, which can be seen from the Table 4.12.

**Table 4.12** Change of Level in Two Step Clusters

		Before	After
<b>Cluster1 (Mediocre)</b>	Attitude	A2	A3
	Location	NA	L2
	IT Systems	NA	IT5
	Tech Support	TS2	TS4
<b>Cluster2 (Unaware)</b>	Attitude	NA	NA
	Location	NA	L2
	IT Systems	NA	NA
	Tech Support	NA	NA
<b>Cluster3 (Unsupported)</b>	Attitude	A1	A4
	Location	L1	L2
	IT Systems	NA	IT5
	Tech Support	TS1	TS4

1st cluster (Mediocre) and the 3rd (Unsupported) have experienced growth in every CI level just like the natural clusters. 2nd (Unaware) cluster on the other hand have not experienced an overall growth in these four strands except Location. Although a number of people within this cluster have an improved allocation, this does not change the weighted average of the total. It appears that even though they have read the informative documents, 73% of them have not used the tools and therefore, they have not developed enough awareness to answer the questions of the second survey. In other words, those who were ignorant chose to stay ignorant towards CI and most probably done the survey for the sake of doing it. The reason behind this approach can be explained by the lack of motivation, which was mentioned among the barriers. A further research can be conducted on how to motivate such unaware employees.

How natural clusters can increase, while Unaware cluster stays almost the same with the former position is a question that might come to the mind. It is important to note that there is almost a homogenous distribution of people under Unaware cluster and the natural clusters. Therefore, their status quo approach does not affect the overall change in natural clusters.

#### **4.4.6. How to lift the barriers**

The last question of the second survey asked the attendants “What barrier to an effective CI can be lifted by the foundation of a CI unit and processes?” It was expected from the participants to select the answer that they believe as the most affected. Firstly, it came the answer “coordination among departments” with 20 people (31%). It is important to notice that it was the seventh most mentioned “barrier”, but is the first that people believe would be solved by CI practices with the foundation of a CI unit. Second barrier that people believe would be eliminated is “lack of awareness” with being the first choice of 15 people (23%). It was the most mentioned barrier for effective CI practices within the company and thus it is a positive sign to see that employees believe it can be lifted by the foundation of CI units. Third most mentioned barrier is a shared position with bureaucracy and top management support, both selected by 7 employees (11%). As mentioned before, bureaucracy is a form of barrier that affects communication speed and the pace of the work that is being done. The elimination of bureaucracy is important, since by its elimination; timeliness of CI would be increased, increasing the quality and efficiency of the work. The top management support barrier is another issue. The foundation of a CI unit reporting to top management would of course increase the awareness and the support of the top management. However, without the support of the top management in the first phase, a CI unit cannot be founded. Therefore it is vital to firstly increase the awareness of the top management to an extend where they would found the CI unit or at least start CI operations with the help of a CI champion. Next barrier that is expected to be lifted is the “technology support”. 6 people (9%) selected this option which can be connected with the second most mentioned barrier “Lack of IT Tools”.



One can deduct that employees expect CI tools and processes to solve some of the most important barriers that came to their mind such as lacks of: awareness, support, communication among departments and IT tools. On the other hand, none of the employees mentioned “lack of strategic vision” or “lack of experienced people.” This is also rational, for both of these barriers are intrinsic problems, which cannot be lifted immediately by the foundation of a CI unit and strategy. However on the long term, the usage of CI practices and processes as a routine would increase the awareness and strategic approach. Those who are in the CI team and those who support the processes would in time become skilled with these tasks and lift the aforementioned barriers by themselves.

The lack of motivation is another barrier that should be lifted with no help from the direct interference of the CI unit and processes but through the means of motivators. As a suggestion, an airline company can provide to its employees who support CI processes and the intelligence gathering practices with unique gifts such as loyalty points that can be redeemed as flight tickets or some other products. This would involve people with the CI practices and increase the successful operations that bring competitive advantage, which in turn would become another motivator factor.

Overall, it can be seen that employees’ expectation from CI tools, CI interface and the foundation of a CI unit are increasing the Attitude strand from A1 to A3, Location strand from L1 to L2, Technology Support strand from TS2 to TS4 and IT Systems strand from IT1 to IT5. If the management decides to support CI to a level where strategy building is dependent on its activities, then those mentioned strands could increase further. Needless to say, an increase in the levels of these strands would affect the Use and Gathering strands as well. Because these strands are connected with each other, all of them feeding firstly from the attitude, which is mostly based on the approach of company management to CI practices. For instance, a TS4 level would mean that the company could use text-mining tools to scan and gather valuable information, which would immediately increase the Gathering level to G2. Table 4.13 shows a summary of the current, ideal and what would be the levels of the four CI

strands that are evaluated in case of the integration of CI tools, interfaces and processes.

**Table 4.13** Comparison of the Strand Levels

	<b>Current Level</b>	<b>Expected Level After Integration</b>	<b>Ideal Level</b>
<b>Attitude</b>	A1	A3	A4
<b>Location</b>	L1	L2	L2
<b>Technology Support</b>	TS2	TS4	TS4
<b>IT Systems</b>	IT1	IT5	IT6

## **5. CONCLUSION**

The findings of our research can be summed in two different aspects. First aspect is the evaluation of the current situation of the Airline with respect to its CI practices and approach. The company can at best be defined as “unaware” of CI. All the CI related activities are done on low-level budget, with the initiative of some employees and without any communication among departments. Such approach leaves the company weak against competitive threats, even if it considers itself immune to them. There is no intention and dedication to reach to valuable, rare information that can help the company gain competitive advantages towards others or plan its strategy for the long run. Time is an enemy for the company, since all the information, the corporate memory, is destined to get lost because there are no records and every knowledge is locked in individuals rather than in computerized systems. Information gathered by simple means are not documented and although claimed to be used for tactical purposes, without enough technological support and dedication of a task force, it is done ineffectively.

The persistence of such ignorant approach towards competitive factors and the processes to deal with them would mean “defeat” against its competitors and therefore should be changed as early as possible.

This research shows that if some simple steps are taken by the foundation of a small and dedicated CI unit, equipped with even simple interfaces and IT tools, it is very possible to increase the company’s approach towards CI practices. The unaware stand that currently exists, making the company an inefficient Tactical User of CI, can increase to a level of Strategic User by the integration of simple IT Systems and support. The same is true for the Attitude, Gathering, Location, Technology Support and IT Systems strands. However, reaching the ideal level is only possible with the strategic approach

and belief of the top management. In order to go further, the top management of the company can lift some of the barriers that stands in the way of higher level of competitive intelligence practices.

First of these barriers is the lack of awareness towards CI. This task is a simple one for spreading knowledge and increasing the awareness towards CI is possible if the benefits can be shown. As long as the awareness of top management is there, remaining tasks will also be easier. Eliminating the communication barriers is a hard task, because it is understood from our research that there are silo type departments that do not work in line or communicate with others. However if the management can found a CI unit that becomes the bridge among the departments and cultivates the field of information, this task would turn out to be easier. This unit and its stakeholders need to be motivated either through rewards like loyalty points or through showing the success that can be brought in case practices and processes are followed properly. Such a dedicated CI team should be further supported by allocating enough budget that is needed to gather rare information via specially commissioned sector experts and to purchase or develop IT tools that can help with the gathering, recording and analysis of such information. Given enough time, this unit will create the expertise that is needed to do effective, proper CI practices that can prepare the company for future via predictive analysis and war game scenarios.

In the end, it can be concluded that strategical or even tactical level of CI approach can only be implemented with the support of the top management and the foundation of a dedicated CI unit in this company. Any other methodology will crash against the barriers that exist currently and will fail to capture the essence of the proper CI activities.

### **5.1 Suggestions for Further Work**

This research has been able to identify the perceived level of CI practices and barriers against the proper usage of them within a large Airline Company and find solutions that can increase the competitive power of it. The second phase of this work compared to the “if implemented according to employee expectations” CI levels with the current

situation and made suggestions for further increase. A longitudinal study that can be conducted for similar scale companies where CI tools and methods would be implemented and its results measured would provide factual results rather than expectations.

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