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Competitive Intelligence: A Self Diagnostic Tool Applied in the Telecom Industry

(MBA THESIS – FINAL DRAFT)

Submitted By: David Thomas

Date Submitted: Thursday, Aug 8, 2000

Student Number: 1578563

Supervisor: Dr. Jonathan Calof

Institution: University of Ottawa

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ABSTRACT

In collaboration with the University of Ottawa, a tool has been produced to evaluate the Competitive Intelligence Process exercised by a practitioner/team/corporation. Accepted principles of CI (as determined by extensive literature review and consultation with CI experts) have been incorporated into a survey and used to quantify the process as a whole, as well as break down the process into manageable parts and identify specific areas of strength and/or weakness.

Face validation of the tool has been demonstrated through its application on four large firms (a sample of convenience) operating in the telecommunications industry. Analysis of strengths and weaknesses of the firm's CI process were highlighted and summarized in a concise report. The capability of the tool for industry characterization was demonstrated, as well as the potential for effective benchmarking against best CI practices.

Finally, areas of future focus and development have been highlighted.

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GLOSSARY

CI	Competitive Intelligence
CI Practitioner	Employee engaged in CI on a full-time or part-time basis
CI Team	Team of one or more CI Practitioners
CI Process	The CI process outlined in this paper
CIP	Competitive Intelligence Program
Outer Loop	Loop in the CI process involving the DM's and the CI team
Inner Loop	Communication loop in the CI process involving activity specific to the CI team
SBI	Strategic Business Intelligence
Knowledge Continuum	Levels of knowledge ranging from ignorance to total understanding
CS	Competitive System
Decision-Makers	Those in the firm who require intelligence to make effective decisions.
R&D	Research and Design
HR	Human Resources
S&M	Sales and Marketing
IT	Information Technology
SCM	Supply Chain Management
CEO	Chief Executive Officer
CFO	Chief Financial Officer
VP	Vice President
LOB	Line of Business
BU	Business Unit
BIC	Best In Class
Variable	The variables used to determine ratings for the CIF's
CIF	The CI factors used to determine the ratings for each CI process step
Reference Corporation	Corporation in the software industry used for comparison purposes
Sample Average	The average of all four Test Cases analyzed in this paper
Sample BIC	The ratings of the Best-In-Class firm of the four Test Cases analyzed in this paper

1.0 INTRODUCTION

1.1 Purpose

This report is written to successfully address the MBA Thesis Project requirements as defined by the University of Ottawa. The subject matter of the paper is Competitive Intelligence, and the field of application is the telecommunications industry. The objectives of the project can be broken down into the following:

1. Acquire an in-depth understanding of the Competitive Intelligence (CI) field.
2. Produce a self-diagnostic tool useful for gauging the degree to which the CI process within an organization follows generally accepted CI principles.
3. Establish the face validity of the tool through its application on randomly selected firms within the telecommunications industry.

1.2 Motivation

As technology propels us forward and the competitive landscape becomes more volatile, there is an ever-increasing need for a firm to predict and anticipate this behavior in a timely manner. Competitive Intelligence (CI) can be defined as the formal process by which fragments of useful information is combined into a coherent format effective in predicting future outcomes, and subsequently disseminated to corporate decision-makers (DM's). CI addresses directly this need to anticipate and predict changes to the competitive landscape, and when combined with the core competencies of the firm is a useful tool for not only maintaining competitive position but also shaping the landscape itself in such a way that complements the firm.

The Futures Group¹ observes 60% of firms in the US maintain a CI system, while this figure lies at >80% for large corporations (greater than ten billion \$US revenue/year). As CI continues to gain recognition and acceptance as a standard element in business, there are very few tools in existence useful for measuring the process against well-established CI principles. There exists an opportunity to add value to the CI community and firms alike through the creation of such a tool.

¹ "Ostriches & Eagles 1997"; The Futures Group; http://www.tfg.com/pubs/docs/O_EIII-97.html ; 1997

1.3 Approach

A review of existing literature on the subject of Competitive Intelligence (CI) was undertaken. Modern CI processes were reviewed and consolidated into a single all-purpose CI process. Thirteen Competitive Intelligence Factors (CIF's) extracted from the literature as being important for the CI process were identified, as well as specific variables useful for measuring the presence and effectiveness of the CIF's. A self -diagnostic CI assessment tool was created that utilized the variables as the core questions of a survey. Upon completion of the survey a quantitative evaluation for the variables was calculated automatically and subsequently 'rolled up' to quantify the CIF's, and the CIF's were subsequently 'rolled up' to measure each step of the overall CI process. The quantitative assessment serves not only to identify the strengths and weaknesses of the CI process, but also (via low scoring variables and/or CIF's) highlight very specific areas in need of improvement.

The effectiveness and face validity of the tool was verified through direct application on, and engagement with CI practitioners and CI experts in an industry setting. Four of eight firms approached agreed to participate in the final stages of development of the CI assessment tool - three from the telecommunications industry, and one from the software industry. Eight CI professionals (ranging from Analyst to Director level) from the four participating firms agreed to assist in the final development stages of the tool through participation in the survey, offering feedback, and participating in personal interviews in order to ensure the information collected was handled suitably. The final analysis results of each of the four firms were processed into a report highlighting its strengths/weaknesses (including recommendations), and delivered to each survey participant as an incentive for their cooperation.

Each firm studied in this paper has elected to remain anonymous, and as such are referred to as Case A, Case B, Case C, and Case D respectively. Out of respect for the anonymity request, a less complete version of the actual survey responses has been included in the Appendix, as well as the assessment tool output for each respondent. Detailed information describing each corporation has been kept vague and to a minimum in order that trace-ability is reduced.

1.4 Limitations

Face validity and usefulness of the CI assessment tool have been established in this paper; the validity and reliability of the questionnaire has not been rigorously verified through broad sampling and statistical analysis techniques. Though the results of this paper originate from firms in the telecommunications industry; they are by no means truly representative of industry averages, cross-industry comparisons, or high-tech industry characteristics. The said elements are beyond the scope of this paper, though in some cases may have been included for demonstrate of the tool's capabilities.

2.0 CI LITERATURE REVIEW

2.1 Introduction

This section describes the business environment within which Competitive Intelligence exists, compares and contrasts well-established accepted CI processes, identifies the Competitive Intelligence Factors (CIF's) associated with successful application of these processes, and reveals specific variables which may be used to evaluate the CIF's within a specific firm.

2.2 Business Environment

To appreciate how Competitive Intelligence fits into the corporate decision-making process, one must first step back and view all the interrelated elements that can effect the competitive position of a firm. The tool chosen here for illustrative purposes is the Competitive System (CS) shown in Figure 2-1. The CS is broken into three sub-systems, namely the Operations, the Local Environment, and the External Environment.

At the center of this system are the Operations, which are defined here as the engine(s) within a firm that transform raw materials into finished goods or services. This includes primary activities such as manufacturing, SCM, S&M, and customer service... as well as the supporting activities such as HR, R&D, IT... The Operations segment here is analogous to Porter's Value Chain².

The Operations subsystem is not an independent entity – it is very much affected by the second subsystem – the firm's Local Environment. The Local Environment can be viewed as the capability boundaries of the firm and includes all of the firm characteristics that can impact a particular element (e.g. leadership style, management capability, organizational culture, stakeholders, life cycle of the firm, other divisions in the firm, the firm's core competencies...). Regardless of how well a particular Operation is designed, the Local Environment must be compatible and fully support any initiative before optimal success may be achieved.

The Operations and the Local Environment represent the firm as a whole, but of course the firm is not an independent entity from its surrounding environment. The external environmental elements impacting on a firm's competitive position include far more than the firm's competitors. Of equal importance (and in some cases more important) are the industry characteristics, the economic and political climate, customers, suppliers, and even social or demographic factors.

The Competitive Intelligence process is designed to collect information related to every element of the Competitive System, but also to add value by analyzing their interdependencies such that the overall effect of any change to any element can be expressed in the context of the firm's competitive position. Thus, CI becomes useful for assisting the decision-making process that is likely to effect the competitive position of the firm.

² "Marketing Management; Analysis, Planning, Implementation, and Control"; Kotler, Philip & Turner, Ronald; Prentice-Hall Canada Inc.; Ninth Edition; 1998

Figure 2-1: Competitive System

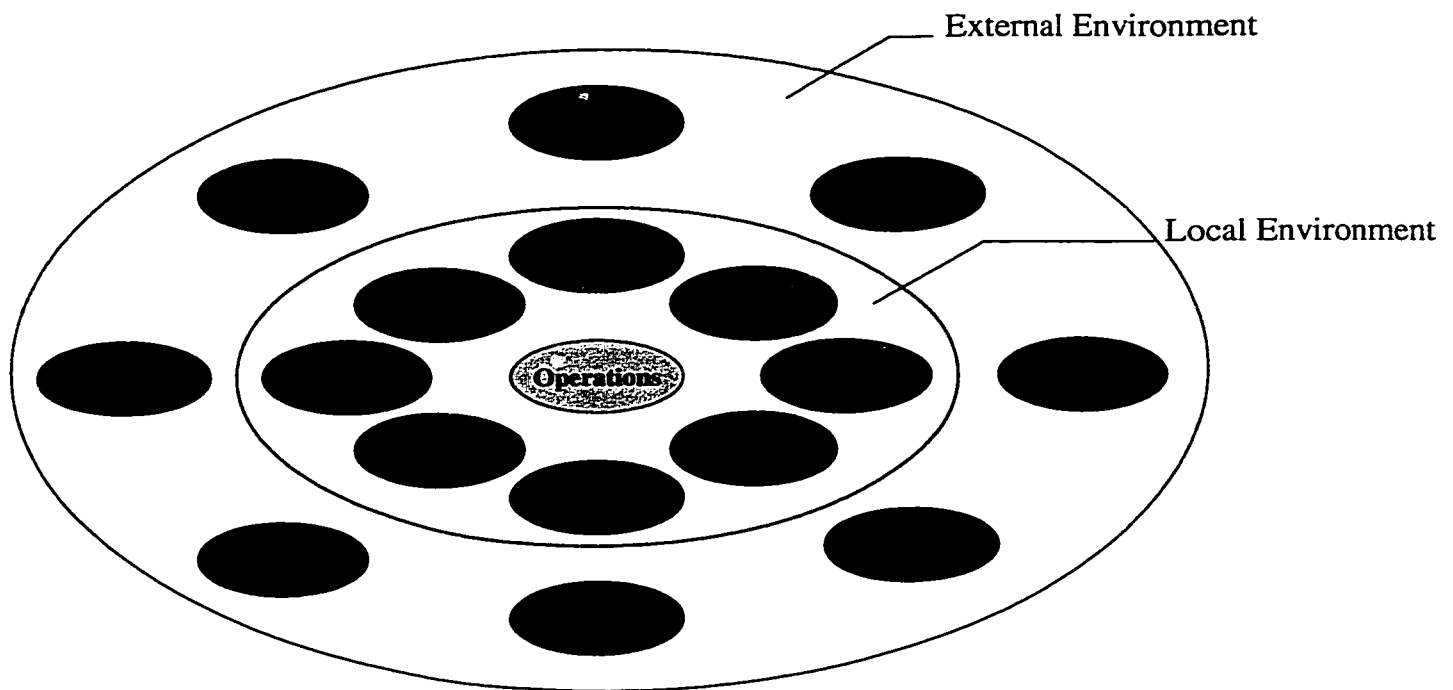
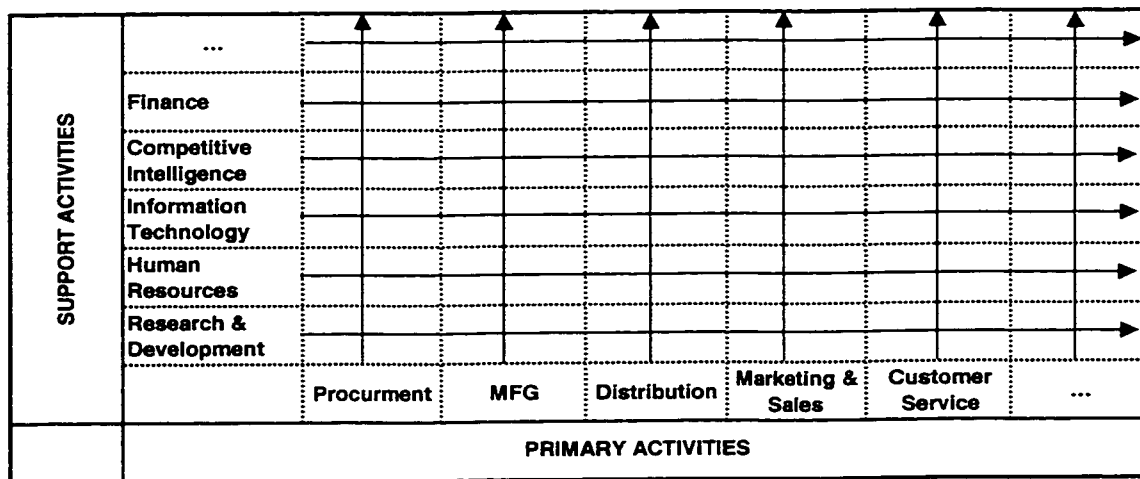


Figure 2-2: Operations Subsystem



2.3 Competitive Intelligence Process

Information vs. Intelligence

CI can be defined as the formal process by which fragments of useful information are combined into a coherent format effective in predicting future outcomes, and subsequently disseminated to corporate Decision Makers. Prior to any detailed discussion describing the process by which this occurs, it is important to note the distinction between information and intelligence. Bohn³ describes eight stages of knowledge ranging from complete ignorance to total understanding. These stages have been reformatted here into six levels, which are defined as the Knowledge Continuum:

Level 0 – Unaware of the output from a given process.

Level 1 – Aware of the output, but unaware of the factor variables determining the output.

Level 2 – Aware of the factor variables, but unaware of the 'mix' necessary for 'tuning' the output.

Level 3 – Aware of the 'mix' necessary for 'tuning' the output, but unaware of the mechanism by which this happens.

Level 4 – Aware of the mechanisms by which variables affect the output, allowing one to predict future outcomes.

Level 5 – Total understanding and control over future outcomes.

In this context, information alone grants access to Levels 0, 1, and 2 of the Knowledge Continuum. For instance, no data whatsoever would leave one at Level 0. Some raw data can provide insight into the effect of an 'event' (Level 1), and possibly the variables required to produce a desired effect (Level 2), but little understanding is acquired on the mechanism by which this occurs.

Intelligence (or knowledge) reflects an evolution to Levels 3, 4, and 5. Experience interpreting raw data and information yields the correct recipe for producing a desired effect (Level 3). Further experience leads to an understanding of the mechanism by which the factor variables interact in the system to produce the desired effect, allowing for the prediction of future system outcomes given a particular event.

Companies who have not fully engaged in a CI initiative are likely operating in the Level 2/3 range, i.e. they likely have information at their disposal, but the lack of an organized function to consolidate all available information and put it in a meaningful context prevents the firm from optimizing their ability to predict (or better yet shape) their competitive environment. In contrast, a firm who invests heavily in acquiring and processing information will more likely develop the understanding of the interrelationships that make up the competitive system, and be in a position to predict the outcome of current events. This ability to predict and/or change future events creates enormous value to the firm, and represents the essence what a Competitive Intelligence process strives to produce.

³ "Measuring and Managing Technological Knowledge"; Bohn, Roger E.; University of California; Sloan Management Review; 1994

CI Processes

There are many different Competitive Intelligence process descriptions currently utilized by both consultants and firms that seek to highlight the steps to effective CI. They range in complexity, but in most cases they are built on the foundation of four key activities: planning/managing the initiative, collecting information, analyzing information (i.e. turning information into actionable intelligence), and disseminating intelligence to those who will use it (see for example InfoSearch Zurich⁴, Kahaner⁵ shown in Figures 2-3 and 2-4). The key players involved in this process are the Decision-Makers (DM's) and the CI team. The DM's represent any in the firm who require intelligence to improve the decision making process; most commonly included in this group are the Strategic Planners, Corporate Executives, General Managers, Functional Managers, Product Line Managers, Sales Force, etc... The CI team is defined here as the formal department(s) created to manage the CI process, and meet the intelligence needs of the firm. In all CI methodologies researched, the process is illustrated as a continuous loop, suggesting a continuous self-propagating cycle encouraging feedback between the DM's and the CI team.

Figure 2-3: Intelligence Cycle (InfoSearch Zurich Ltd.⁶)

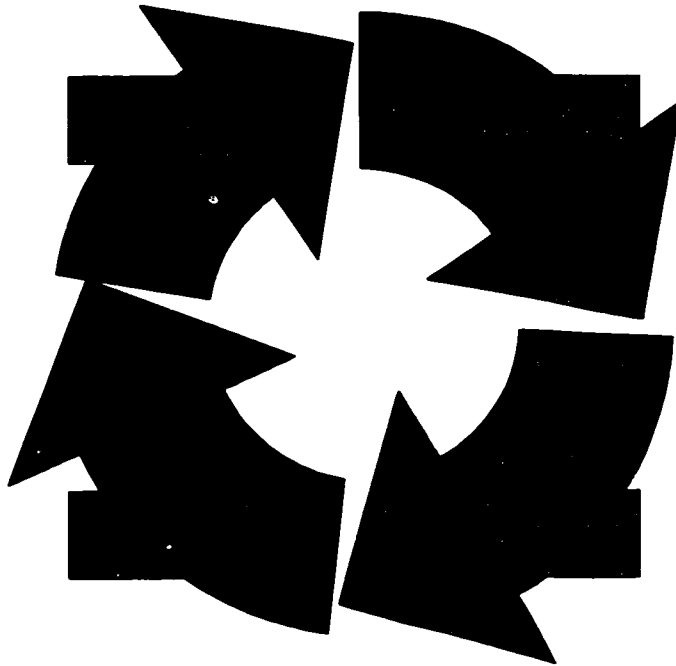
The Intelligence Cycle: InfoSearch Zurich Ltd.	
Step	Action
1. Directing	Define Key Questions to be answered, Plan the research process.
2. Collecting	Gather data from a variety of integrated sources.
3. Processing	Evaluate, verify, analyze data. Create "Intelligence".
4. Using	Communicate the results and integrate feedback. Close the loop.

⁴ "Competitive /Business Intelligence (C.I.)"; InfoSearch Zurich Ltd.; <http://www.infosearch.ch/ci.html> ; 1998

⁵ "Competitive Intelligence – How to gather, analyze, and use information to move your business to the top"; Kahaner, Larry; Simon & Schuster; 1996

⁶ "Competitive /Business Intelligence (C.I.)"; InfoSearch Zurich Ltd.; <http://www.infosearch.ch/ci.html> ; 1998

Figure 2-4: Intelligence Cycle (Kahaner⁷)



The Phoenix Consulting Group has added to this fundamental framework and chooses to emphasize the importance of Information Security and Counter Intelligence activities. CI professionals possess an excellent understanding of what (and how) information can be used to a firm's detriment, and therefore find themselves in a unique position to take on an advisory role in defining the security and counterintelligence measures.

The Phoenix Consulting Group claims the Collection step in the CI process is successful due to a few simple-underlying principles⁸:

- People's willingness to provide information about their corporation for reasons ranging from simply wanting to be helpful to purposefully damaging the firm.
- The exchange of information that usually occurs with the exchange of money.
- The tendency of researchers/scientists to share their progress in a life's work.
- The tendency of a firm to maintain a "gates and guards, guns and dogs" security orientation (which does not suffice to protect information and intelligence.)

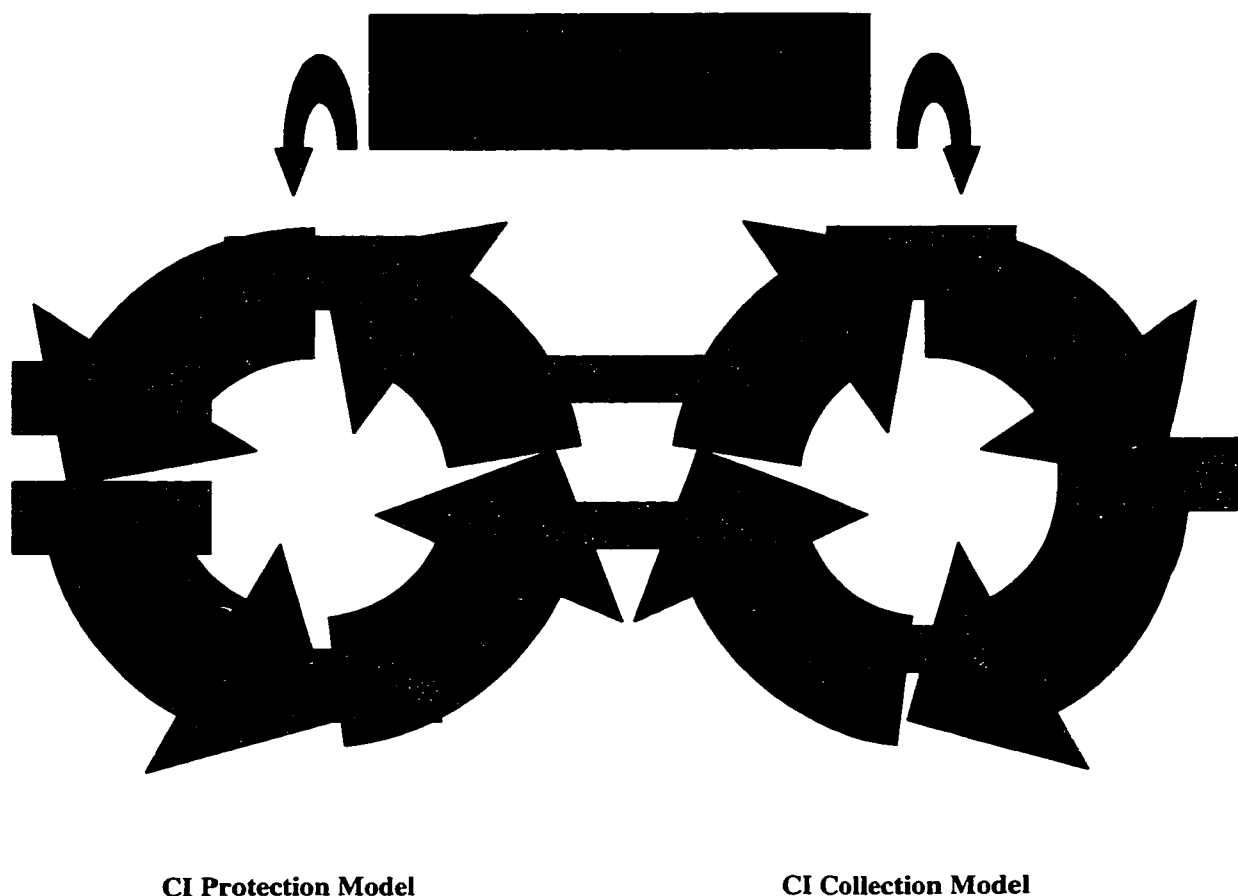
⁷ "Competitive Intelligence – How to gather, analyze, and use information to move your business to the top"; Kahaner, Larry; Simon & Schuster; 1996

⁸ "Getting to Know Your Competition Without Them Getting To Know You"; Nolan, John A; Phoenix Consulting Group, 1997

It is with a mandate for furthering the competitive advantage of the firm coupled with the understanding of why CI Collection is successful that the Phoenix Consulting Group integrates counter-intelligence measures into their overall CI process. They accommodate this with their Competitive Intelligence Protection Model, and amalgamate this with the Competitive Intelligence Collection Model (the generic CI process) to produce a combined process as shown in Figure 2-5.

The CI Protection Model introduces the following additional process steps: Assessing the Competition, Estimating Vulnerabilities, and Developing Countermeasures. The output of this activity is then merged with the Analysis and Dissemination steps found in the CI Collection Model and continuously looped into the Define Requirements step.

Figure 2-5: CI Collection and Protection Model (Phoenix Consulting Group⁹)



⁹ "Is Somebody Dulling Your Competitive Edge"; Nolan, John A; Phoenix Consulting Group

The CI Process – A New Model

Recognizing the importance of all the elements discussed in the processes above as well their limitations, a slightly reformatted process is presented here that is referred to from this point as *the* CI process (See Figure 2-6). The elements of the CI process consist of the following:

1. Identify the intelligence needs of the Decision-Makers (Planning).
2. Determine what information is required to generate this intelligence (Planning).
3. Acquire the necessary information (Collection).
4. Transform the information into the required intelligence (Analysis).
5. Disseminate the intelligence to the Decision-Makers (Dissemination).
6. Actively promote the utilization of intelligence in the decision-making process (Utilization).
7. Actively develop and advise on the Security/Counter Intelligence needs of the firm (Security).

In addition to the DM's and the CI team present in the Kahaner¹⁰ model, the Information Technology (IT) group is considered an important player and has been integrated into the process. The IT group is defined here as the formal department(s) created to meet the communication infrastructure and information security needs of the firm. (The involvement and importance of the IT group will be discussed in greater detail within the Collection, Analysis, and Dissemination sub-sections.)

As shown in Figure 2-6, the CI process consists of two communication loops. The Outer Loop illustrates the continuous communication between the Decision-Makers and the CI group. As actionable intelligence is produced and delivered, new intelligence requirements are constantly generated. The loop allows for continuous bi-directional feedback between DM's and the CI team.

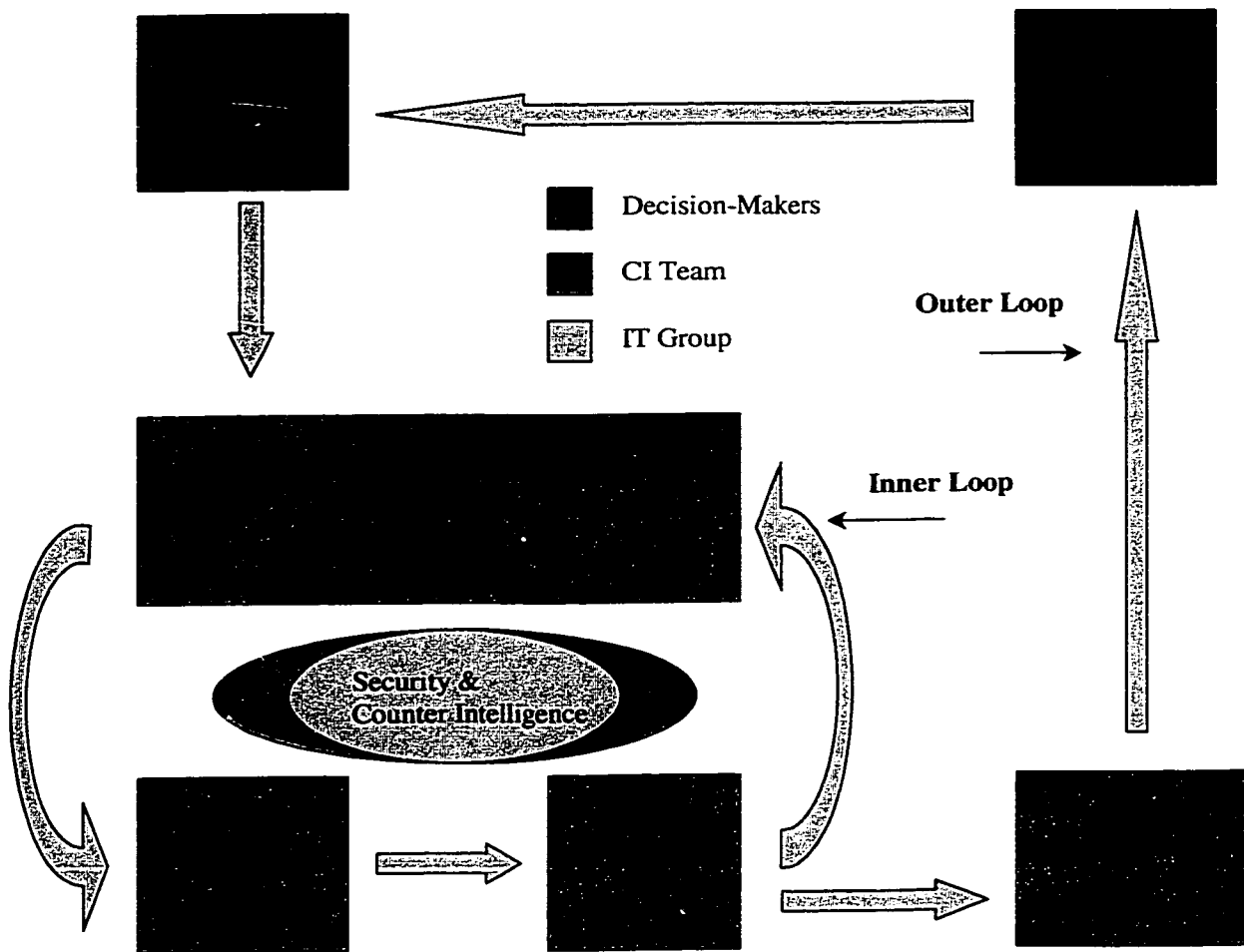
The Inner Loop primarily involves the CI team. It reflects the iterative process of translating intelligence needs to information needs, collecting the information, and producing the intelligence required. This section also includes the activities surrounding Intelligence Security and Counter Intelligence.

The color code represents ownership. Though in every step there will be involvement between two or more of the three groups, the ultimate responsibility for the deliverable of that step lies with the owner. As can be seen by the color code legend, the IT group, CI group, and the DM's own Intelligence Security/Counter Intelligence jointly. The DM's owns Utilization, and Identifying Intelligence Requirements. Translating Intelligence Needs to Information Needs, Collection, and Dissemination are owned by the CI team. The CI team is responsible for managing the overall end-to-end process.

Each element in the process is important to the success of the overall function. The strength and effectiveness of the whole process will be limited by the weakest link, and therefore each step should be given appropriate resources.

¹⁰ "Competitive Intelligence – How to gather, analyze, and use information to move your business to the top"; Kahaner, Larry; Simon & Schuster; 1996

Figure 2-6: Competitive Intelligence Process



Planning

Recall that Competitive Intelligence serves two primary purposes:

1. To translate 'events' in the Competitive System (whether factual or simulated) into an impact statement regarding the competitive position of the firm.
2. To translate internal firm decisions (whether real or simulated) into an impact statement regarding the competitive position of the firm.

The CI group exists to meet the needs of the Decision-Makers. It is the DM's who initiate the CI process by expressing what intelligence is required in order that they are equipped to make the most effective decisions. It is critical that this communication be clear, and non-ambiguous. It is at this point that all restrictions or boundary conditions are expressed, for instance the time sensitivity of the request (perhaps the cycle-time needed to acquire the intelligence exceeds the window within which the intelligence will be useful).

The Planning step not only initiates the CI process, but also includes managing the end-to-end process, as well as acting as the forum for feedback between the CI group and Decision-Makers. This junction provides the opportunity for revisions to the original intelligence request as well as constructive feedback on the deliverables of previous requests facilitating a continuous improvement atmosphere.

It should be noted here that the CI process ideally is not a reactive one – i.e. the CI team does not wait for each individual intelligence request to arrive, and then respond. The CI group will constantly monitor the Competitive System and process incoming information regularly in anticipation of Decision-Makers needs. They will raise flags to the Decision-Makers as events occur which threaten the competitive position of the firm. Scenario and sensitivity analysis should be a constant background activity in the CI group.

When the intelligence requirements are understood by the CI group, the next step involves transforming the intelligence requirements into information requirements (the reciprocal of the Analysis function). The CI group must determine what fragments of intelligence already exists and which need to be acquired. Then they must then determine what information will be required to provide this intelligence. Perhaps some of this information already exists, perhaps not – the CI team must determine what additional information is required and proceed to acquire it.

This process involves rationalizing the intelligence request and scouring the databases and previous intelligence reports for useful segments before a decision is made to invest in a formal information acquisition initiative. Under normal circumstances the information sought after will already have been collected and reside in a database waiting for constructive use. (In these circumstances, the next step in the process is to analyze the information.)

Collection

It is normal practice to establish a mechanism by which information perceived as even remotely useful is constantly acquired and stored in a centralized, easily accessible location. Thus, in most cases the information (once identified as necessary to meet an intelligence request) can be accessed immediately and fed into the Analysis step.

In the event that the information sought has not already been collected via an automated collection mechanism, then an initiative must be undertaken to acquire it. There are numerous approaches to acquiring information and/or intelligence. To name just one, Gembiki and Shaker¹¹ describe the 'Quarterback' process which focuses on a technique orientated around acquiring information from the 'Target' in a conference or convention setting. They recommend the creation of a coordination center ('War Room') at the conference that acts as a hub for all incoming and outgoing information/intelligence, facilitates the briefing/debriefing sessions, and enables real-time transmissions back to the corporation.

InfoSearch Zurich¹² suggests the most important tools for effective Collection are the following:

- Professional Online Information Services
- Interviewing Techniques
- The Internet and World Wide Web
- International Network – targeted at the effective and timely collection of business intelligence
- Electronic, Human, and Conventional print sources
- Top Management Support - goals, missions, and budget

There are literally thousands of sources of information available. Some common primary sources include government agencies, SEC filings, employees (of both the firm and the firm's competitors), suppliers, customers, conferences, conventions, ... Some common secondary sources include magazines, TV, radio, analyst reports, and professional CI firms¹³. It is important to note the necessity for creativity and innovation in the acquisition – one must assume the firm's competitors also have an effective CI group including an initiative to keep potentially useful information from their competitors. The quality of the analysis will be directly proportional to the accuracy, quantity, and uniqueness of the information, and the competitive edge enjoyed by the firm can be directly proportional to the quality of the analysis.

¹¹ "The War Room Guide to Competitive Intelligence"; Shaker, Steven; Gembiki, Mark; McGraw-Hill; 1999

¹² "Competitive /Business Intelligence (C.I.)"; InfoSearch Zurich Ltd.; <http://www.infosearch.ch/ci.html> ; 1998

Also important to note here is the relationship with the IT group. The infrastructure required for supporting the acquisition, processing, and maintenance of the information/intelligence is significant. One of the greatest sources of information comes from the employees of the firm itself; therefore an effective communication infrastructure must exist to support the acquisition of this information. Also, as discussed in Section 2.1, Decision-Makers using the intelligence will span to all ends of the firm and require access rights. The IT group should be very much involved with the CI initiative and support their unique needs to the best of their ability.

Though the Collection phase involves gathering and sorting staggering volumes of information, this is not where the bulk of the CI value lies – it is widely felt the Analysis of this information that should dominate CI resources. It is expected that the Collection process will fully exploit the IT technological capabilities (perhaps even drive the advancements in this field) to such a degree that the majority of the CI team's effort is directed toward Analysis. (This will be discussed in greater detail in Section 2.4).

Analysis

Analyzing information and converting it to intelligence is felt by many to be the most important step in any CI process ("evaluation and analysis of raw data are critical steps of the CIP"¹⁴). It is here that meaning is attached to volumes of information and put in the context the Decision-Makers require for effective decision-making. Not only must the analysis predict the impact of an event on the Competitive System (and the subsequent impact on the competitive position of the firm), but must also gauge the accuracy of the prediction and the weight the Decision-Makers should place on the prediction. When done effectively, the CI output itself becomes a core competency to the firm i.e. the CI deliverables themselves will be a source of sustainable competitive advantage.

Trained personnel experienced and effective in analysis are rare. Sifting through information and weaving it into a meaningful context while observing the harmonics of the perturbation created from the interaction and interdependencies of the CS elements requires a unique set of skills and training. It is critical to this process step that suitable staffing exist with appropriate support. Due to the complexity of this task, commercial or customized in-house software should be considered. It is the Analysis that differentiates the CI practitioner from a generic news reporter, and it is the Analysis that is responsible for adding value to the firm through enhancing the effectiveness of the decision-making management team.

Typical analysis techniques include: Porter's Five Forces, SPACE, SWOT, ... and can be found in most CI or Strategic Management texts. The analysis technique of choice depends largely on the nature of the CI – E.g. tactically centered or strategically centered etc...

¹³ A more exhaustive list of sources of information can be found via reference to "Competitive Intelligence" by Larry Kahaner, or "The WarRoom Guide to Competitive Intelligence" written by Gembiki and Shaker.

¹⁴ "Competitive Intelligence Programs: An Overview"; Malhotra, Yogesh; [WWW document], @BRINT Research Institute (www.brint.com) <http://www.brint.com/papers/ciover.htm>; 1996

Dissemination

Though straightforward enough in principle, disseminating the intelligence to the Decision-Makers can present some problems. The first is time – DM's are under considerable pressure to make quick decisions. Perfect intelligence does little good if it arrives too late to be included in the decision making process. There is an inherent trade-off between taking the time to provide intelligence with greater accuracy vs. providing the intelligence as quickly as possible; a balance must be struck. It is critical that agreement on this topic during the Planning step is observed.

In some cases, the dissemination occurs via face-to-face debriefing, while in other cases the intelligence must be transmitted to remote locations. It is critical that the communication infrastructure exists to support these variants.

The presentation technique adopted for the dissemination is also very important. Most Decision-Makers are under considerable time constraints and must make very quick decisions – leaving very little time for lengthy discussions around the intelligence generated. Though effective communication dictates customizing the content and technique to suit the audience, it is particularly important in this instance as a great deal could be at stake and the intelligence to be communicated can be very complex. "Packaging of intelligence can many times make or break a key strategic or tactical decision. As such, we can never assume that good analysis stands on its own."¹⁵

Utilization

This step may seem so obviously important to the whole CI effort that it is hardly worth mentioning – yet unfortunately does require mentioning. 'A vast volume of intelligence is generated, but only a fraction of it can be tied directly to decision making.'¹⁶ Often there is an inherent conflict between what the Decision-Makers want to hear and what the CI group have to say. Though one would like to think that all Decision-Makers act in the best interests of the firm as a whole, the reality is some don't. In some cases the intelligence may be rejected in order to save face, in other cases it may be rejected due to a negative effect on the Decision-Maker's BU/LOB. In some other cases, the Decision-Maker simply may not recognize the value CI adds to the firm and reject the intelligence on that principle. In other cases still the DM's may appear to be ignoring the intelligence recommendations provided, but have actually made the correct decision based on factors outside the scope of the CI team's research.

It is the contention here that the onus lies on the CI practitioner to take the initiative and do everything in his/her power to ensure the intelligence provided is used. A failure for the DM to factor the intelligence provided into the decision-making process should be considered as a failure of the CI team. Great efforts to establish a very positive relationship with the DM's should be undertaken such that a mutual respect and understanding of each other's contribution to the business is achieved.

¹⁵ "Perfectly Legal Competitor Intelligence – How to get it, use it, and profit from it"; Bernhardt, Douglas; Pitman Publishing; 1993; page 101

¹⁶ "Competitive Intelligence: Creating Value for the Organization"; Jaworski, Bernard; Wee, Lang; SCIP; 1993; page 12

Information Security/Counter Intelligence

Another function of the CI group involves advising on Information Security and Counter Intelligence requirements. Given the CI groups natural skills in identifying what information is useful for generating intelligence and what intelligence has the greatest impact on the Competitive System, few in the firm are more qualified to advise on what needs to be protected and to what degree. In addition to the relationship necessitated by the need to have an effective IT infrastructure to aid in Collection, Analysis, and Dissemination, the CI and IT groups with the Decision-Makers should work very closely defining the information/intelligence security and counter intelligence requirements. One must presume one's own competitors also maintain a CI group, and insufficient security on sensitive information can negate the competitive advantage spawned by the firm's own CI initiatives. "Critical to maintaining your company's competitive edge is knowing what the competition knows about you and how they got it."¹⁷

Another important role of the Information Security/Counter Intelligence section is to filter the incoming information from the Collection step and screen according to relevance. It is not uncommon for a competitor to initiate their own counter intelligence initiatives and attempt to mislead their competitors from their actual strategy with confusing or irrelevant 'leaks'.

2.4 Competitive Intelligence Factors

Section 2.3 prescribes the structure and dynamics of the CI process itself, but does not break down the system into factors that are associated with the successful application of these processes. The literature review, discussions with industry practitioners, and reviews with CI experts have yielded thirteen such Competitive Intelligence Factors (CIF's).

Each of the 13 Competitive Intelligence Factor will be discussed in turn as they appear against the headings shown in Figure 2-7. The discussion includes: a brief description of the CIF, the CI process steps impacted, and variables that may be used for measurement.

Corporation Support

Corporation Support is defined here as the receptiveness of the corporation to the presence of a formal CI process, and its cooperation with respect to assisting and contributing to the overall success of the program. Corporation Support is not linked specifically to any CI process step, but impacts the whole CI effort, and as such appears in Figure 2-7 under the Local Environment section. Recall from Section 2.2 the Local Environment includes the management style, leadership style, stakeholders, organizational culture, other divisions, the life cycle of the firm, the core competencies of the firm, as well as the structure of the organization.

When asked to quote three principle elements necessary for the successful collection and production of intelligence, the Phoenix Consulting Group¹⁸ responded as follows:

1. Senior Leadership Buy-In
2. Active Employee Involvement
3. Ongoing Anticipatory (Proactive) Measures

Both senior leadership buy-in and active employee involvement are considered in the Corporation Support CIF. (Note: the support provided specifically by the Decision-Makers and the relationship shared with the CI team are considered sufficiently important that they are not included in this CIF, but stand alone as independent CIF's.)

Referring to Figure 2-7 the Corporation Support CIF can be evaluated through a closer look at the organizational structure, the organizational culture (i.e. is knowledge sharing encouraged or discouraged within the corporation?), and the level of financial support (i.e. budget as a % of annual revenue). The alignment of the organizational structure to the CI process can be broken down further into the following:

- How long has a formal CI team existed? Is the concept of CI relatively new to the firm? Is the CI team still trying to justify their existence? Has the CI process had an opportunity to mature into a well-accepted and well-utilized tool?
- How many CI practitioners exist throughout the corporation? To what extent does the corporation recognize the value contributed by the CI practitioners?
- How high in the organizational hierarchy do CI professionals reside? Does CI representation exist at the officer level via Chief Intelligence Officer or Chief Knowledge Officer?
- To what degree is the CI process centralized? Is the effort coordinated and consolidated at the corporate level, or dispersed and disjointed at the LOB/BU level? Will a CI team without a corporate branch still be in a position to effectively assess the impact of an event on the competitive position of the firm as a whole or only the LOB/BU exclusively? Will there be an incentive to look at the firm as a whole with a decentralized CI system?

Relationship with Decision-Makers

The relationship the CI team has with the Decision-Makers is very important. As seen in Figure 2-7 it impacts the Planning stage (i.e. Identifying Intelligence Needs), the Dissemination stage, and Utilization stage. As depicted by Figure 2-7 continuous unsolicited feedback and a solid relationship are necessary for the Outer Loop to function. In order to take a proactive stance and understand customer requirements, communication must be clear and frequent.

¹⁷ "Is Somebody Dulling Your Competitive Edge"; Nolan, John A; Phoenix Consulting Group

¹⁸ "Now That You Know How They're Getting It, What Do You Do Next?"; Nolan, John A; Phoenix Consulting Group, 1996

The relationship can sometimes be strained due to the conflicting agendas - it is not unusual (particularly if a centralized CI group is servicing a decentralized BU) that the intelligence provided does not meet the needs of the BU, but does maximize the return for the firm as a whole. It is also conceivable that the DM may lose face if the CI intelligence conflicts directly with a strategy or tactic committed to in the past, or the CI team feel ineffective when the DM appears to completely ignore the intelligence report and recommendations provided. In most cases the high level executives have only a few minutes to peruse any proposal due to their heavy schedule, and it becomes quite important to understand what presentation format allows them to receive as much information as possible in the shortest amount of time. Managing the relationship with the DM's toward a win-win synergistic partnership is a must for effective CI. The CI professional should strive to become a trusted advisor to the Decision -Makers and seek to establish a mutual respect for one another. A strong relationship is the foundation for improvement.

As illustrated in Figure 2-7 the DM Relationship is a function of the rapport shared between the CI team and the DM's plus the effectiveness of their communication with one another. The rapport between the CI team and the DM's can be evaluated through a direct inquiry, and also indirectly through the hierarchical level of the DM's serviced by the CI team. (If the DM's reach the Director/VP/Pres or even the Officer level, then one can presume that the value of CI to these individuals is apparent and the relationship strong.)

Communication can be evaluated through the following:

- How frequently do the CI team and DM's conduct meetings? Does the mechanism exist for frequent bi-directional feedback? Does the frequency of meetings allow for a mutual involvement in the Planning phase?
- How frequently do CI practitioners spontaneously attend DM meetings? Does the CI team actively attempt to understand the 'hot' issues facing the DM's and pre-empt the intelligence request? Can the inner workings of the DM meetings provide some feedback on how the CI process might be optimized further?
- How frequently do the DM's spontaneously attend the CI meetings? Do the CI practitioners actively promote attendance by the DM's to facilitate feedback and continuous improvements?
- How wide is the variety of communication media? Do the CI practitioners have at their disposal and regularly use customized presentation techniques to suit a particular DM?

Experience

The experience of the CI practitioners themselves is another important element as it is a determining factor in the quality of the CI team output. Though it affects every step of the CI process, the talent of the CI team has the most impact where the most value to the business is produced i.e. the Analysis. It also impacts the Planning stage (translating intelligence requirements into information requirements) as this is the inverse of Analysis and relies very much on the same skill sets. Translating an event in the Competitive System into a tangible effect on the competitive position of the firm is not a trivial task, and the importance of a highly skilled CI team cannot be underestimated.

As depicted in Figure 2-7, the Experience of the CI team is a function of the following variables:

- What percentage of the CI practitioners has received formal training? Do they have advanced business degrees such as MBA's? Have they taken specialized courses at CI conferences? Have they specialized in CI at a postgraduate level?
- What percentage of the CI practitioners are members of a CI Society? Do the practitioners make use of the educational CI resources available? Are they keeping abreast of the leading edge CI practices? Have they established a network of expertise outside of their firm that complements the Collection, Analysis, etc...?
- What percentage of the CI practitioners has had prior experience in the CI field? What percentage can bring fresh ideas to the CI process? What percentage may have a more rounded and mature view of CI?
- What is the average year's experience of the CI practitioners? What percentage can bring seasoned time-tested Analysis techniques to fruition? How many individuals are available to mentor the less experienced?

IT Infrastructure

The importance of a strong IT infrastructure which facilitates the easy collection, storage, and manipulation of incoming information/outgoing intelligence should not be underestimated. The volume of information and intelligence necessary can overwhelm an inferior system; typically the most effective CI team will have the most sophisticated IT system.

As seen in Figure 2-7, the IT Infrastructure impacts quite significantly the Collection, Analysis, and Dissemination processes. The following variables can be used to measure the robustness of the IT Infrastructure and the support it provides the CI process:

- To what degree is the Collection of information and intelligence automated? Staggering amounts of data must be mined and filtered according to accuracy and relevance. This is an extremely resource-intensive activity. Properly customized IT tools facilitating this will not only free up CI team resources for 'value-added' activities such as Analysis, but also improve the quantity of useful information. As information will not always be accurate (particularly secondary information), additional information from alternative sources can improve the intelligence not only through added credibility, but also to through the inclusion of gems of information that may otherwise have been missed.
- To what degree is the information/intelligence centralized? The degree of centralization can be used to gauge the efficiency of the Collection process. Centralized systems tend to support a controlled, end-to-end, well-coordinated initiative. Are separate LOB's/BU's operating in silos completely independently from one-another? Is it possible they each re-invent the wheel rather than building on the tools and knowledge databases already in existence in another group? Much like the advantages of economies of scale to a global firm who centralizes operations, a great deal of efficiencies can be realized from centralizing CI.
- To what degree is the information/intelligence accessible? Accessibility is critical for two primary reasons: first, it allows information to be entered from virtually everywhere by virtually anyone, and second it provides users of intelligence full access to assist in the decision-making process. The infrastructure must span all employees in the firm as these employees represent one of the largest knowledge pools available, with keen awareness of events both internal and external to the firm. As stressed in Section 2.1, intelligence users are not restricted to high-level Marketing/Strategic executives - the intelligence generated reaches all decision-makers in the business. E.g. a manufacturing operations manager may see the results of an intelligence report suggesting a competitor's cost of goods sold has been reduced by 5% due to the adoption of automated manufacturing equipment. The report might also suggest increased sales to the competitor would result due to subsequent cost reductions passed on to the customer. The operations manager might then reprioritize and accelerate an existing plan facilitating automation in their plant, and interface with the appropriate branch of the CI team on this activity so as to gauge the impact. (Note: there is an inherent trade-off between accessibility and Security that must be weighted...)
- To what degree is the information/intelligence scalable? As previously mentioned, the volume of information/intelligence to be handled can be considerable, and is likely increasing. The IT system architecture must be scalable to accommodate these increases in volume.
- Does the IT-suite include professional or customized CI software? The CI team may wish to use professional software packages on the market to help manage CI processes, for which an appropriate supporting infrastructure must exist.

Creativity/Innovation

Closely linked to the Experience of the CI team members is their utilization of creative and innovative means to acquire information and translate this to intelligence. The vast majority of information necessary for effective CI is public. E.g. if a competitor is planning to expand, they must register with the government for building permit. If a competitor wishes to patent a design, it becomes publicly available in the US Patent Office etc.... Multiple sources must be monitored and scoured regularly for a more complete understanding of the surroundings. A lack of creativity and innovation can severely limit the usefulness of the information collected, and will therefore also limit the value of the intelligence that is derived from this information.

As seen in Figure 2-7, the level of creativity and innovation can be evaluated with the following variables:

- What is the scope of source medium employed? E.g. voice, Internet, face to face, etc... For instance: acquiring all information through the Internet can be limiting – in some cases physically locating yourself in the environment of interest and interviewing people face to face can provide a much deeper insight into the reality of the situation.
- What is the split between primary source usage and secondary source usage? (Primary sources are defined here as those that are original and have not been ‘filtered’ through another intelligence unit e.g. SEC filings, patent filings...and tend to be more factual or information based. Secondary sources have been processed through an external intelligence unit e.g. New Reports, Analyst Reports...) Primary information is preferred over secondary for two reasons. Firstly secondary information may not be accurate as it has been processed and potentially biased by another individual/organization. Secondly, secondary information tends to be widely available, and therefore by itself is not sufficient to differentiate the value-added by the CI team relative to that of their competitors. (Granted, the most value is derived from the Analysis of the information, but nonetheless unique information cannot lead to anything but unique Analysis.) Research by Calof¹⁹ suggests the optimal split between primary vs. secondary sources is 80%/20%.
- Is a wide scope of sources utilized during the collection of information and intelligence? I.e. for primary sources, is liberal use made of Government documents, Conferences, SEC filings, competitor employees, suppliers, and customers...? Regarding secondary sources, is there liberal use made of newspapers, magazines, books, TV, radio, analyst reports, CI consultants...?

¹⁹ “For King and Country ...and Company”; Calof, Jonathan; Ivey Business School; 1996

Focus:

The focus of effort by the CI team is one of the most critical of the CIF's identified in this paper. The purpose of the CI group is not to report minute-by-minute news to the DM's, but to add value to the information through expressing it in a context meaningful to the DM (whether strategic or tactical in nature). In this context, the CI group maximizes their value to the firm through investing the majority of their effort in the Analysis stage of the CI process. If crucial resources are utilized on non-value-add activity, then the CI group may not be optimizing their contribution to the business. Figure 2-7 evaluates the Focus of the CI group based on the following variables:

- Percent of time spent on the steps of CI. I.e. the actual split between Planning, Collection, Analysis, Dissemination, Utilization, as well as Security/Counter Intelligence. For effective CI it is assumed that the IT capabilities are fully leveraged, and the majority of effort occurs in the Analysis rather than in the Collection step. Research by Calof²⁰ yielded specific recommendations for the split of effort as illustrated on the left hand side of the table below. Upon translation to the CI process cycle outlined in this paper, and the inclusion of effort towards Security, we obtain the targets highlighted on the right hand side of the table below.

Planning	10-15%		Planning	20%
Collection	20-30%		Collection	25%
Analysis	25-35%	→	Analysis	40%
Dissemination	10-15%		Dissemination	10%
Management	15-25%		Security	5%

- Scope of intelligence acquired. Recall the concept of the Competitive System, and the impact the interrelationships between all the system/subsystem elements can have on the competitive position of the firm. It is important that the CI effort not be focused exclusively on monitoring the activity of the competitors. Equally important are the events occurring with the Suppliers and Customers, within the Political, Industrial, Economic, and Social arenas, and within the firm itself. The split of effort depends very much on the nature of the CI team; for instance if a CI group is focused on the product and tactical level some these factors may be less important relative to the CI group looking after the corporate and strategic level. Nonetheless, each will still play some role and the CI team must maintain some minimum level of awareness.

Ethical Behavior:

Ethical behavior is mentioned often in the literature. Though it does not directly contribute to the deliverables, a lawsuit (successful or not) can cost the firm considerable amounts in both dollars and reputation. The value the CI has brought to the firm may be undone, and the potential value in the eyes of the corporation diminished.

²⁰ "For King and Country ...and Company"; Calof, Jonathan; Ivey Business School; 1996

As depicted in Figure 2-7, the ethics held by the CI group can be measured by the presence of a Code of Conduct specific to CI. The CI team should have a clear understanding of the relevant laws pertaining to private information, and should operate by a visible code of ethics to minimize the probability of detrimental legalities. Though the impact of ethical CI behavior will affect the whole CI process, it is evaluated within the Collection step, as this is where most problems can be avoided given an appropriate understanding of the laws.

IT Relationship:

The relationship the CI team has with the IT group is another important factor. As seen in Figure 2-7 it impacts the Collection stage as well as the Security/Counter Intelligence stage. Much like the relationship with the decision-makers, the CI team should develop a solid relationship with the IT group with a mutual understanding and respect of each other's needs. Unlike the CI/DM relationship, there likely will be less conflicting agendas and the relationship will evolve into a more standard client/server relationship. It is critical that the CI team recognizes the importance of establishing and maintaining this relationship such that the services offered by the IT group can be leveraged to their full advantage.

As illustrated in Figure 2-7 the IT Relationship is a function of the rapport between the CI team and the IT group plus the effectiveness of the communication between the two. The rapport between the CI team and the IT group can be evaluated through a direct inquiry. Communication can be evaluated through the following:

- How frequently do the CI team and IT group conduct meetings? I.e. does the mechanism exist for frequent bi-directional feedback? Does the frequency of meetings allow for a mutual involvement in the Collection strategies?
- How frequently do CI practitioners spontaneously attend IT group meetings? I.e. does the CI team actively attempt to understand and influence the technical direction of the information system? Can details of the IS architectures provide some feedback on how the CI process might be further optimized?
- How frequently do the IT group members spontaneously attend the CI meetings? I.e. do the CI practitioners actively promote attendance by the IT group to facilitate feedback and continuous improvements? Representatives of the IT group should be encouraged to sit in on CI meetings such that they may share their expertise. It is conceivable that an IT representative may be instrumental in the shaping of the CI operations due to the potential and/or limitations of existing information technology.

Response Time:

The importance of adequate response time is referenced frequently in the literature. Much like the Ethical Behavior CIF, if not observed it can significantly impact the value of the intelligence deliverable. Particularly applicable in the high tech industry, the rate of technological advancements and change implies an event and its consequences to the competitive position of the firm can occur virtually instantaneously. Of course there will be CI work that requires weeks or months of development, but the CI team must be able to demonstrate an ability to respond very quickly (<1day) if the need arise. Key to this is a very proactive stance where the needs of the DM's are anticipated; information should be gathered and analysis scenarios completed prior to an event occurrence. In fact, when asked to quote the top three principle elements necessary for the successful collection and production of intelligence, the Phoenix Consulting Group²¹ ranked proactive behavior as number three.

The Response Time CIF can be assessed via a direct inquiry as to the best-case possible response time on an intelligence request (See Figure 2-7). The three CI stages most likely to introduce unacceptable delays are Collection, Analysis, and Dissemination.

Influence on Decision-Makers

As noted in Section 2.3, the intelligence provided by the CI team cannot benefit the firm if it is not utilized in the decision-making process. A necessary requirement for this (in addition to the DM Relationship) is the influence the CI team has on the Decision-Makers (see Figure 2-7).

The level of influence the CI team exerts on the DM's can be gauged as follows:

- What is the perceived level of influence?
- What percentage of the time is the intelligence provided utilized in the decision-making process? Is it used at all? What weight is allocated to the intelligence recommendations relative to other factors the DM's must consider?
- What percentage of the time are specific intelligence recommendations followed?

Influence on IT:

The influence the CI group can exert on the IT group will determine the extent to which the IT infrastructure may be customized to the needs of the CI process. It reflects the ability for the CI group to implement positive change to the existing Collection process, as well as to the Security/Counter Intelligence programs. As highlighted in the IT Infrastructure CIF, the CI group should strive to influence the development of IT infrastructure in such a way that complements the activities of the CI team and enables them to focus on the value-added aspects of Collection and Analysis. As depicted in Figure 2-7, the variable assigned to evaluate this is a direct inquiry as to the perceived level of influence currently enjoyed.

²¹ "Now That You Know How They're Getting It, What Do You Do Next?"; Nolan, John A; Phoenix Consulting Group, 1996

Continuous Improvement:

A fundamental need of any group within a corporation is a Continuous Improvement program. The structure and dynamics of the group itself must lend itself to continuous learning in order that a competitive advantage or core competency of any kind last a reasonable length of time. Effective CI can offer a firm a considerable competitive advantage, and as highlighted earlier in this paper the potential value of CI to a business has not been fully exploited leaving significant room for improvement.

The presence of a continuous improvement mentality will impact all stages of the CI process, and as such has been included in Figure 2-7 under the general heading CI Team Dynamics. Also noted in the figure are the following variables for assessing the presence of a Continuous Improvement program:

- Proactive Behavior – The percentage of time engaged in proactive vs. reactive behavior will provide insight into the overall responsiveness of the CI team to issues. Do they tend to wait for an event and then react, or do they tend to anticipate, prepare, and/or preempt a situation? The same mentality may be turned inwards to the CI group's evolution - does the team wait for a negative event to inspire change, or will they actively engage in understanding their weaknesses (prior to the effect being felt by the firm) and address them?
- Does an internal metric system exist for the purpose of internal process control? An internal process control system answers the question 'how do I know the CI process is operating as designed?' This could be characterized by the presence of metrics tracking such things as response cycle time, audience reach, prediction accuracy rate, etc...
- Does an external metric system exist for the purpose of external process control? An external process control system answers the question 'how do I know the CI team is delivering value to the DM's?' Tracking metrics in this case may be the intelligence utilization, market/financial goals met, new products/lead generated, annual budget increases, growth rate of new intelligence requests...
- What continuous improvement initiatives are undertaken regularly? Do the CI team use ESAT (Employee Satisfaction) surveys to gauge the satisfaction of the CI professionals, and solicit ideas for improvement? Is a CSAT (Customer Satisfaction) survey used for the Decision-Makers to explicitly gauge the value of the service offered? Are 'post mortems' utilized to dissect a missed opportunity or loss in competitive position such that the key weaknesses are addressed and avoided in the future? Is benchmarking employed by the CI team to understand what the best in class CI professionals' employee as their methodology or CI process?

Performance Record:

The performance record of the CI team is the final CIF highlighted in this paper. Perhaps there are intrinsic flaws in the CI process that limit the capabilities of the CI team. Perhaps poor performance in the past has damaged the reputation and credibility of the CI team to the degree where the DM's have lost confidence in the intelligence provided, and consequently they do not weight it heavily in their decision-making.

The performance record of the CI team can affect each CI process stage, and as such appears (as does the Continuous Improvement CIF) under the CI Team Dynamics section in Figure 2-7. The Performance Record will be a function of the following variables:

- Influence on the DM's – though this appears itself as a CIF, it reflects the critical components for evaluating past performance. Recall, the Influence CIF is determined by the perceived influence the CI team exerts on the DM's, the percent utilization of the CI intelligence in the decision-making process, and the percent utilization of specific CI intelligence recommendations.
- Percent utilization of CI potential – Past performance will be a function of how well the CI team perceives themselves to have done to this point, i.e. to what extent have they maximized their potential.
- Perceived CI ROI – Similar to the 'Percent Utilization of CI Potential' variable, this variable reflects the perceived value of the CI team to the business as a whole in terms of ROI. Naturally, a higher ROI translates into greater value, and better past performance.

Figure 2-7: CI Process/CI Factor/Variable Conversion Table

CI Process/CI Factor/Variable Conversion Table			
Area/CI Process Step	CI Factor	Level 1 Variables	Level 2 Variables
Local Environment	Corporation Support	Org Structure	Age of group
			Qty CI Practitioners
			Position on hierarchy
		Org Culture Financial	Centralization
			Sharing orientation Budget (% Rev)
Identifying Intelligence Needs	Relationship with DM's	Report with DM's	Hierarchical level of DM's serviced
			Perceived Report with DMs
		Communication with DM's	Frequency of meetings
			Presence of CI at Decision-Maker meetings Presence of Decision-Maker at CI meetings
(Planning)			
Translating Intell. into Information	Experience of CI Staff	Formal training	
		Member of Society (SCIP)	
		Prior Experience	
		Avg Years Experience	
(Planning)	Focus	% of effort allocated to Planning	
Gathering Information (Collection)	IT Infrastructure	Automation	
		Centralization	
		Accessibility	
		Scalability	
	IT Influence		
	Creativity/Innovation	Source Medium (voice, internet, face to face)	
		Primary vs. Secondary Sources	
		Sources of information	Primary Secondary
	Focus	Scope of CI targets (competitors, industry, ...)	
		% of effort allocated toward Collection	
	Ethical behavior	Code of Conduct	
		Report with IT group	
		Communication with IT	
			Frequency of meetings Presence of CI at IT meetings Presence of IT at CI meetings
	Response time	Timely Information Acquisition	
Analyzing Information	Experience of CI Staff		
	Focus	% of effort allocated toward Analysis	
	IT Infrastructure	Use of professional or customized software	
	Response time	Timely Analysis	
Disseminating Intelligence	Response time	Timely dissemination	
	Relationship with DM's	Report with DM's	
		Communication with DM's	Array of presentation techniques
	IT Infrastructure	Degree of Accessibility	
(Dissemination)	IT Influence		
	Focus	% of time allocated toward Dissemination	
Using Intell. Provided	Relationship with DM's		
	Influence on DM's	Perceived Influence	
		% intelligence utilization	
		% recommendations followed	
(Utilization)			
Security & Counter Intel.	Relationship with IT		
	Focus	% of effort allocated toward Security	
	IT Influence		
CI Team Dynamics	Continuous Improvement	Proactive Behavior	
		Metric tracking system - internal	
		Metric tracking system - external	
		Continuous Improvement Initiatives	
	Performance Record	Influence on DM's	
		% Utilization of CI potential Perceived ROI CI brings	

3.0 CI ASSESSMENT TOOL

3.1 Introduction

The CI literature review in Section 2 has yielded the CI process, the CI Factors associated with the successful application of the CI processes, and variables that can be used to measure the CIF's within the CI process of a firm. It is the purpose of this section to illustrate the process followed for incorporating this information into a tool useful for gauging the degree to which the CI process within an organization follows generally accepted CI principles. Also covered in this section are the methods utilized to establish face validity and the usefulness of the tool.

3.2 CI Assessment Tool Construction

The methodology utilized in creating the CI assessment tool is as follows:

1. Generate a closed survey where each question correlates to one of the CIF variables described in Section 2.4.
2. Incorporate into the tool an algorithm for rating each variable based on the answer selected and its proximity to the 'ideal' solution as identified in Section 2.
3. Formally establish within the tool the relationship between variable, CIF, and CI process step.
4. Configure the tool to utilize the relationship defined in step 3 and the rating acquired in step 2 to calculate a rating for each CIF, CI process step, and the overall CI process. Display the output in a user-friendly manner.

Step 1 and 2 were accomplished through the creation of a questionnaire within a Microsoft Excel worksheet (see Figure 3-1). The survey begins with 13 generic questions collecting general information on the participant (name, date, etc...) as well as general information on the firm (size, growth rate, industry ranking...). Next are 45 core questions, each of which correlate to one CIF variable discussed in Section 2.4. For each question, the available answers are arranged from left to right by their proximity to the 'best' answer as derived from the literature review. A rating for each question is assigned according to where the user places text indicating their answer of choice i.e. if the user chooses the left most selection a rating of zero results, while if they choose the right most selection a rating of 10 results. Selections between the left and right most are calculated via linear interpolation. Comments in the survey are encouraged, and accommodated with room beside each CI question as well as at the end of the questionnaire. A legend exists at the bottom of the questionnaire to aid the respondent with any terminology that may be unfamiliar.

Figure 3-1: CI Survey

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY QUESTIONNAIRE						
Name	Years of Service with Firm					
Firm size	Years of Service as CI Professional					
Position	Member of SCIP (Y/N)					
Date						
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
		x				
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
			x			
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA
		x				
Firm leadership position	1	2	3	4	>4	NA
				x		
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA
			x			
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA
				x		
Length of time a formal CI team has existed	No Group	0-1 years	1-3 years	3-5 years	>5 years	NA
		x				
CI Practitioners	None	1-5	5-20	20-50	>50	NA
		x				
Degree of representation exists in the hierarchy	Staff Mgmt	Director	Vice Pres	President	Officer	NA
		x				
Degree of centralization within the corporation	Staff	Functional	Divisional/BU	Regional	Corporate	NA
		x				
Degree of visibility in the corporate culture	None	Little	Some	A lot	Great Deal	NA
		x				
Budget allocated to CI team (as % of Revenue) including personnel	<1%	1-3%	3-6%	6-12%	>12%	NA
		x				
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA
					x	
Repor between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA
				x		
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA
				x		
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
		x				
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
		x				
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA
		x				
% of CI Practitioners who are members of CI Society (e.g. SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA
		x				
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA
		x				
Average years experience of a CI Practitioner	<1 yr.	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA
		x				
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
		x				
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA
				x		
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA
				x		
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
		x				
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA
	40%			60%		
% Utilization of Primary vs. Secondary information sources	Primary	Secondary	-	-	-	NA
	30%	70%				

Must add to 100%.
Other - please specify

Figure 3-1: CI Survey Con't

% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/Customers	NA	Must add to 100%. Other - please specify
		33%		33%	33%		
% utilization of the following Secondary information Sources:	Newspaper	Magazine/Books	TV/Radio	Analysts Reports	CI Specialists /Consultants	NA	Must add to 100%. Other - please specify
	10%	20%	10%	40%	20%		
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/ Demographic	Must add to 100%. Other - please specify
	70%		20%	10%			
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Report between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
				x			
% of CI effort directed towards the following:	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security/Counterintelligence	NA	Must add to 100%. Other - please specify
	60%	40%	40%	10%	30%		
Use of Commercial In-House software tools assisting information/analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the intelligence analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
					x		
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
	30%	20%	10%		40%		
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
	x						
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
	x						
% Intelligence provided is used by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs. reactive effort	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI team process controls	No Metrics in Place	Accuracy of Intel	Response Cycle Time	Audience Reaction		NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/Financial Goals Met	New Leads/Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
		100%					
% Utilization of the following techniques for CI team self-improvement	None	ESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
				50%	50%		
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
				x			
Estimated value (in terms of ROI) the CI Team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	
Additional Comments:	LEGEND CI-FT = Employee practicing CI Full-Time CI-PT = Employee practicing CI Part-Time CI-Team = Formal group of 1 or more CI-FT CI Practitioner = Any CI practitioner (CI-FT or CI-PT) ESAT = Employee Satisfaction Survey CSAT = Customer Satisfaction Survey SCIP = Society for Competitive Intelligence Prof.						

Step 3 is addressed with the CI Process/CIF/Variable Conversion Table shown in Figure 3-2. The conversion table illustrates clearly the Area and/or CI process step, the CI Factors impacting each process step, and the variables measuring each the 13 CIF's. The figure also highlights the relevant survey question quantifying that variable, and the rating (ranging from 0-10) the variable receives according to the answer in the survey (the ratings found in Figure 3-2 are fictitious and for illustrative purposes only).

The variables are broken down into two levels reflecting the instances where a second set of variables is required to fully characterize the first. Also, some CIF's reflect a strength or weakness in one or more CI process step while some others affect the whole CI process yet cannot be linked exclusively to one or more process steps. It is for this reason that two additional headings were added i.e. the Local Environment, and the CI Team Dynamics. The Local Environment refers to the environment within which the CI process operates (as defined in Section 2.2), while CI Team Dynamics refers to the way the team operates and manages itself outside of any specific CI process step.

It should also be pointed out that the CIF's are not unique to each Area/CI process step, i.e. as discussed in Section 2.4 a CIF may (and more than likely do) impact more than just one process step. CIF's that have been repeated appear in Figure 3-2 in italics.

Figure 3-2: CI Process/CIF/Variable Conversion Table

CI Process/CIF/Variable Conversion Table					
Area/CI Process Step	CI Factor	Level 1 Variables	Level 2 Variables	#	Survey Rating
Local Environment	Corporation Support	Org Structure	Age of group	1	10
			Qty CI Practitioners	2	2.5
			Position on hierarchy	3	0
		Org Culture	Centralization	4	5
			Sharing orientation	5	7.5
			Budget (% Rev)	6	2.5
Identifying Intelligence Needs (Planning)	Relationship with DM's	Repor with DM's	Hierarchical level of DM's serviced	7	10
			Perceived Repor with DMs	8	7.5
	Communication with DM's		Frequency of meetings	9	7.5
			Presence of CI at Decision-Maker meetings	10	2.5
			Presence of Decision-Maker at CI meetings	11	2.5
Translating Intell. into Information (Planning)	Experience of CI Staff	Formal training		12	10
		Member of Society (SCIP)		13	7.5
		Prior Experience		14	5
		Avg Years Experience		15	2.5
	Focus	% of effort allocated to Planning		31	7.5
Gathering Information (Collection)	IT Infrastructure	Automation		16	2.5
		Centralization		17	7.5
		Accessibility		18	7.5
		Scalability		19	2.5
	IT Influence			37	0
	Creativity/Innovation	Source Medium (voice, internet, face to face)		20	5
		Primary vs. Secondary Sources		21	2.5
		Sources of information	Primary Secondary	22	5
				23	10
	Focus	Scope of CI targets (competitors, industry, ...)		24	5
		% of effort allocated toward Collection		31	5
	Ethical behavior	Code of Conduct		25	7.5
	Relationship with IT group	Repor with IT group		26	
		Communication with IT	Frequency of meetings Presence of CI at IT meetings Presence of IT at CI meetings	27 28 29	0 0 0
	Response time	Timely Information Acquisition		30	7.5
Analyzing Information (Analysis)	Experience of CI Staff			31	10
	Focus	% of effort allocated toward Analysis		32	7.5
	IT Infrastructure	Use of professional or customized software		33	7.5
Disseminating Intelligence (Dissemination)	Response time	Timely dissemination		34	10
	Relationship with DM's	Repor with DM's	Array of presentation techniques	35	7.5
		Communication with DM's			
	IT Infrastructure	Degree of Accessibility			
Using Intell. Provided (Utilization)	IT Influence			31	10
	Focus	% of time allocated toward Dissemination			
Security & Counter Intel.	Relationship with DM's	Perceived Influence		36	5
	Influence on DM's	% intelligence utilization		38	10
		% recommendations followed		39	7.5
CI Team Dynamics	Relationship with IT	Focus	% of effort allocated toward Security	31	10
		IT Influence			
	Continuous Improvement	Proactive Behavior		40	5
		Metric tracking system - internal		41	0
		Metric tracking system - external		42	2.5
		Continuous Improvement Initiatives		43	5
Performance Record	Influence on DM's				
		% Utilization of CI potential		44	7.5
		Perceived ROI CI brings		45	7.5

Regarding step 4, the tabular output of the CI assessment tool is divided into four segments:

- CI Process Assessment
- CI Factor Assessment
- CI Process/CI Factor Analysis
- CI Variable Analysis

Each of these will be discussed in turn.

CI Process Assessment

The assessment tool provides a high level assessment of the CI process as a whole. As illustrated in the example provided in Figure 3-3, each step in the process receives an overall rating ranging from 0 to 10 (10 implies no room for improvement, 0 implies things could not be worse) that has been calculated from the individual CIF variable ratings according to the relationship highlighted in Figure 3-2. The rating can be interpreted as the alignment of the CI group to best practice (as identified in the literature review) given the CI system currently in place. The ratings for each CI process step are averaged to produce an overall CI process rating.

It becomes very easy looking at the ratings to determine the relative strengths and weaknesses of the CI process. For instance, in Figure 3-2 the strengths (highlighted in green) are Analysis, Dissemination, and Collection while the weaknesses (highlighted in red) are Security, Utilization, and Planning. The overall rating is 5.9 (or 59%) while the CI group believes themselves to have achieved 83% of their potential.

Figure 3-3: CI Process Assessment

CI Process Assessment - Case X				
Metric	Survey 1	Survey 2	Survey 3	Average
Planning	6.0	5.7	5.8	
Collection	5.8	6.4	5.6	
Analysis	7.0	8.6	8.4	
Dissemination	7.0	7.6	6.7	
Utilization	6.3	5.0	3.8	
Security	6.5	2.0	1.5	8.3
Perceived Effectiveness	7.5	7.5	10.0	
Total				5.9

CI Factor Assessment

At this point the key strengths and weaknesses of the CI process are visible, and one would like to know more specifically what is wrong (or right) with the process, i.e. a breakdown of the issues. This can be found through examination of the CI Factor Assessment example illustrated in Figure 3-4. Here one can find the thirteen Competitive Intelligence Factors discussed in Section 2.4, each with a rating calculated from the relationship between CIF's and variables illustrated in Figure 3-2. The rating ranges from 0-10 and it becomes relatively easy to identify strengths vs. weaknesses. In figure 3-4 the five strongest CIF's have been highlighted green while the five weakest CIF's have been highlighted red as a visual aid.

Figure 3-4: CIF Assessment

CI Factor Assessment - Case X				
Metric	Survey 1	Survey 2	Survey 3	Average
Corporation Support	7.9	6.7	6.7	5.4
DM Relationship	6.6	5.0	4.1	
DM Influence	5.8	5.0	3.8	
Experience	4.4	5.6	6.3	
Creativity/Innovation	5.6	5.0	5.0	
Focus of Effort	6.8	4.5	4.5	6.5
Ethical Behavior	10.0	7.5	10.0	
Response Time	6.9	8.1	8.1	
Continuous Improvement	7.5	3.8	2.5	
Past Performance	6.3	6.3	6.9	
IT Infrastructure	6.3	8.8	7.5	5.0
IT Influence	6.0	9.0	7.0	
IT Relationship	3.3	3.3	5.0	
Total				6.1

CI Process/CI Factor Analysis

Figure 3-3 highlights the relative strengths and weaknesses of the CI process, while figure 3-4 highlights the relative strengths and weaknesses of the CIF's. Prior to determining which areas require attention and/or corrective action, a firm may also be interested in its strengths and weaknesses relative to their competitors in the field. For this reason a Deviation Score has been developed that compares the ratings against a sample average, sample best in class (BIC), and against a perfect rating of 10. The Deviation Score is calculated as follows: Rating – Benchmark. For example, in Figure 3-3 the Planning CI process rating is 5.8 and the perfect rating is 10, therefore the Deviation Score against a perfect rating is $(5.8-10) = -4.2$. Similarly, in Figure 3-4 the Corporation Support CIF rating is 7.1 and the perfect rating is 10, so the Deviation Score is $(7.1-10) = -2.9$.

A negative Deviation Score implies a weak rating relative to the benchmark of choice, while a positive score denotes a strong rating relative to the benchmark of choice. The absolute value of the Deviation Score allows one to rank the strengths and weakness according to impact. For instance, given limited resources available for corrective action (not an uncommon situation), one can choose to invest effort in the area with the lowest Deviation Score against a sample average, BIC, or perfect rating. For instance, if a firm is a clear leader in the CI field and would like to maintain its leadership, it would likely reference the perfect rating Deviation Score. If a firm has some strengths and some weakness, it might want strive to match or beat the BIC. (Note: for the cases analyzed in Sections 4 through 7, the average and BIC are calculated from the firms analyzed in this paper i.e. a sample set of four firms. The purpose in this paper is to demonstrate the scalability of the tool beyond simply benchmarking against a perfect score as opposed to drawing any statistically significant conclusions from an industry/cross-industry comparison.)

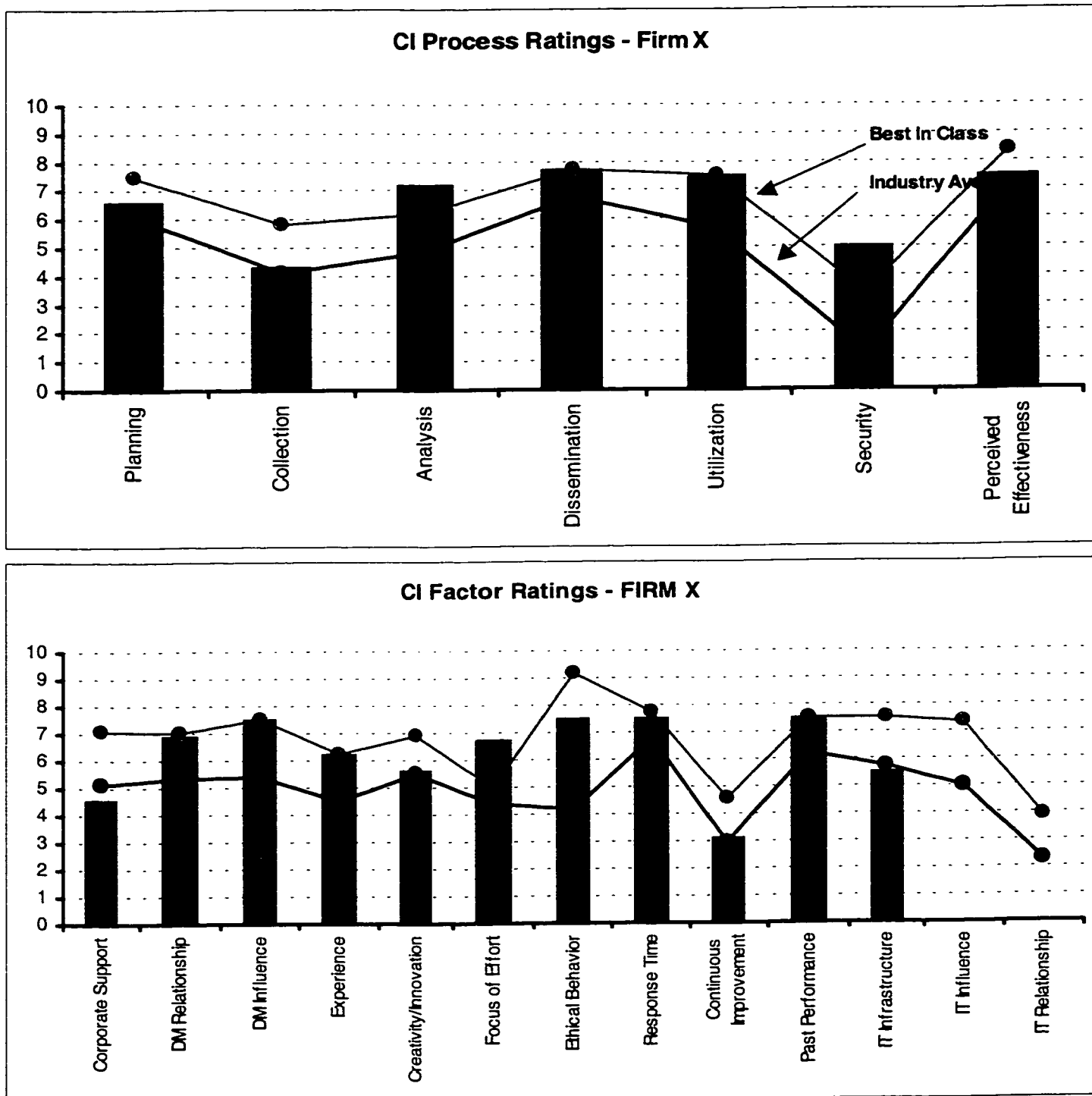
Figure 3-5 calculates the Deviation Scores for each of the CI process steps as well as the Competitive Intelligence Factors. The worst three CI process steps have been highlighted and the character 'X' have been placed in the recommendation column as recommended areas of focus. The worst five CIF's have also been highlighted, again noted with the character 'X' placed against those in particular that should receive focus. If the assessment tool is used as in automatic mode (i.e. the results are not reviewed by a consultant and customized with a more in depth study) then the character 'X' will automatically appear beside any negative Deviation Score as referenced to the perfect score.

Figure 3-5: CI Process/CIF Analysis

CI Process/CI Factor Analysis - Case A				
CI Process/CI Factor	Average	BIC	Perfect	Recc
Planning	0.16	-0.83	-4.19	X
Collection	1.56	0.00	-4.07	
Analysis	1.80	0.00	-1.98	
Dissemination	0.28	-0.67	-2.93	
Utilization	-0.63	-2.50	-5.00	X
Security	2.04	0.00	-6.67	X
Competitive Intelligence Factors				
Corporation Support	1.94	0.00	-2.92	
DM Relationship	-0.10	-1.77	-4.79	X
DM Influence	-0.52	-2.64	-5.14	X
Experience	0.94	-0.83	-4.58	
Creativity/Innovation	-0.31	-1.67	-4.79	X
Focus of Effort	0.19	-0.50	-4.75	X
Ethical Behavior	5.00	0.00	-0.83	
Response Time	0.94	0.00	-2.29	
Continuous Improvement	1.61	0.00	-5.42	X
Past Performance	0.26	-1.04	-3.54	
IT Infrastructure	1.75	0.00	-2.50	
IT Influence	2.31	0.00	-2.67	
IT Relationship	1.62	0.00	-6.11	X

The assessment tool summarizes Figures 3-2, 3-3, and 3-4 graphically, as shown in Figure 3-5.

Figure 3-6: Assessment Tool Output – Graphics (Sample Only)



CI Variable Analysis

Though there is value in knowing which CI process steps are weak vs. strong and which CI Competitive Intelligence Factors require attention, most firms are looking for specific actions that may be taken to address the situation. The assessment tool provides this added level of resolution, as this is how the ratings for the CIF's and process steps were generated in the first place. Referring to Figure 3-2, one can use the CI Process/CIF/Variable Conversion Table to isolate exactly which variables have contributed to the low score. The last column in the table (labeled Survey Rating) denotes the rating each variable received based on the answer provided in the survey. The survey question itself can then be referenced if necessary, to determine what specifically can be done to improve the rating.

For instance, referring to the Corporation Support CIF in Figure 3-6, one can see that a particularly low scoring variable is the level at which CI representation exists in the firm hierarchy. As previously discussed, the general algorithm for scoring the survey questions is as follows: from left to right, answer 1 scores zero, answer 2 scores 2.5, answer 3 scores 5, answer 4 scores 7.5 and answer 5 scores 10 (NA carries no rating and is not included in the calculations). A score of zero on the survey rating for this question therefore implies that CI representation only exists at the senior manager level in the firm hierarchy (see Figure 3-1), vs. an ideal representation at the officer level.

This ease in extracting specific low-rating variables as well as the direction required for improvement becomes very helpful while drafting the recommendations for a particular firm, and leads the firm well on its way toward strengthening the CI process and enhancing its overall effectiveness.

3.3 CI Assessment Tool Validation

The effectiveness and face validity of the tool was verified through direct application on, and engagement with CI practitioners and CI experts in an industry setting. Four of eight firms approached agreed to participate in the final stages of development of the CI assessment tool - three from the telecommunications industry, and one from the software industry. Criteria for firm selection included location (Ottawa area), industry (primarily telecommunications), and the presence of an internal CI group. Though the firms analyzed represent a convenience sample, they were targeted to deliver the following:

1. Feedback on the usage of the tool for incorporation as improvements.
2. Demonstration of some of the features and capabilities of the tool.

At the request of the four firms assessed each will remain anonymous throughout this paper, and as such are referred to as Case A, B, C, and D respectively (Case D being the reference corporation outside of the telecom industry market segment).

Eight CI professionals (ranging from Analyst to Director level) from the four participating firms agreed to assist in the final development stages of the tool through participation in the survey, offering feedback, and participating in personal interviews in order to ensure the information collected was handled suitably. Feedback from this manual assessment of each firm was then incorporated into the final version of the tool. The final analysis results of each of the four firms were processed into a report highlighting its strengths/weaknesses (including recommendations), and delivered to each survey participant as an incentive for their cooperation.

For the largest firms studied (Case A and B) three CI professionals filled out the survey and the results were averaged. For the two smaller firms (Case C and D), only one individual represented the firm's CI process. Their respective positions in the firms were as follows:

Case A – Director SBI, Senior Manager Knowledge Management, Senior Manager CI

Case B – Manager CI, Market Analyst, Research Analyst CI

Case C – VP Marketing

Case D – Senior Manager CI

It is not the purpose of this paper to generate an accurate industry average with respect to the CI assessment or to identify a best-in-class CI leader (the statistical significance of the test case sampling obviously does not permit this). What is demonstrated in this paper is the potential of the tool (should it be applied more broadly across an industry with much larger sampling) to produce the sample average, identify the BIC CI leader, and draw some effective comparisons across industry segments as well as the state of CI in the high-tech industry in general.

Sections 4, 5, 6, and 7 summarize the survey responses, assessment tool output, and the subsequent analysis of cases A, B, C, and D respectively.

Figure 3-7: Industry Standings (Case A, B, C, D)

	Case A	Case B	Case C	Case D
Industry Growth Rate	12% - 24%	6% - 12%	24% - 48%	24% - 48%
Firm Growth Rate	12% - 24%	12% - 24%	12% - 24%	24% - 48%
Firm Market Share	6% - 12%	6% - 12%	12% - 24%	-
Firm Leadership Position	2	4	4	1
Number of Employees	>50,000	1000 - 10000	1000 - 10000	1000 - 10000
Annual Revenue (\$US)	>10 B	1 - 10 B	1 - 10 B	100 - 500 M

4.0 CASE A – CI ASSESSMENT

4.1 Corporation Background

Case A is the largest firm analyzed in this study with more than 50,000 employees located world-wide and annual revenue in excess of 10 Billion US\$. In its telecommunications market space, they rank #2 with an annual expected growth rate of between 12% and 24%.

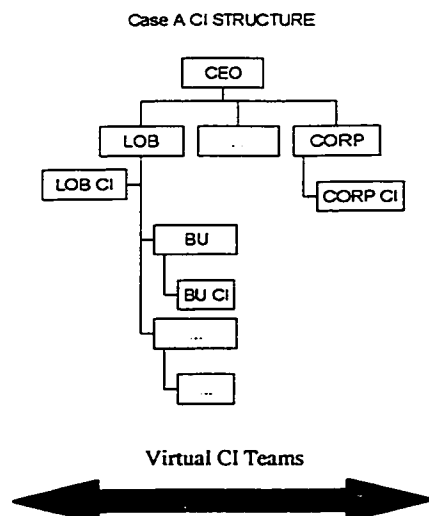
4.2 CI Group

The structure of the CI team can be seen in Figure 4-1. Case A maintains a corporate level CI team reporting in to the VP of Business Planning and hence through to the CFO. CI units are also created to support each Line of Business, and as well each Business Unit. Transcending the entire corporation are virtual CI teams who are mandated to coordinate and foster cross-LOB cooperation and sharing of information and intelligence.

A formal group has existed more than five years, with greater than 50 CI practitioners (actually greater than 400 if one considers the scope of the virtual teams), which translates into roughly 0.5% of the employee population. CI representation exists to the director level in the corporate hierarchy, (a VP position is currently being generated) servicing the needs of everyone up to and including a presidential level in the corporation. The group receives an annual budget ranging from 1-3% of annual revenues, and the degree of sharing in the corporate culture is considered to be 'A Lot'.

50% - 75% of the CI practitioners have received formal CI training in the past, 25% - 50% are a member of a professional society such as SCIP, and 25% - 50% have had CI experience prior to their current position. The average year's experience of a CI practitioner is three to five years. The CI group believe the Decision-Makers utilize the intelligence 25%-50% of the time, and specific intelligence recommendations are followed 25% - 50% of the time. They believe they have reached approximately 80% of their potential effectiveness, and bring to the firm a ROI in excess of 20% (though admittedly a difficult number to provide).

Figure 4-1: CI Structure (Case A)



4.3 Assessment Tool Results

Figure 4-2 tabulates the overall assessment of the CI process. As shown, Case A receives an average rating of 5.9 while the CI practitioner's assessment of its effectiveness lies at 8.3. Relative strengths are Dissemination, Collection, and Analysis. Relative Weaknesses are Security, Utilization, and Planning. The difference between the perceived effectiveness vs. that computed from this survey comes largely from weaknesses sighted above, and are addressed in greater detail in the CIF analysis.

Figure 4-2: CI Process Assessment (Case A)

CI Process Assessment - Case A				
Metric	Survey 1	Survey 2	Survey 3	Average
Planning	6.0	5.7	5.8	
Collection	5.8	6.4	5.6	
Analysis	7.0	8.6	8.4	
Dissemination	7.0	7.6	6.7	
Utilization	6.3	5.0	3.8	
Security	6.5	2.0	1.5	
Perceived Effectiveness	7.5	7.5	10.0	8.3
Total				5.9

Figure 4-3 tabulates the CIF ratings. The top five strengths (highlighted green) are Ethical Behavior, Response Time, IT Infrastructure, IT Influence, and Corporation Support. The top five or six weaknesses (highlighted red) are flagged as IT Relationship, Continuous Improvement, Focus of Effort, DM Influence, Creativity/Innovation, and DM Relationship.

Figure 4-3: CI Factor Assessment (Case A)

CI Factor Assessment - Case A				
Metric	Survey 1	Survey 2	Survey 3	Average
Corporation Support	7.9	6.7	6.7	5.4
DM Relationship	6.6	5.0	4.1	
DM Influence	5.8	5.0	3.8	
Experience	4.4	5.6	6.3	
Creativity/Innovation	5.6	5.0	5.0	
Focus of Effort	6.8	4.5	4.5	
Ethical Behavior	10.0	7.5	10.0	6.5
Response Time	6.9	8.1	8.1	
Continuous Improvement	7.5	3.8	2.5	
Past Performance	6.3	6.3	6.9	
IT Infrastructure	6.3	8.8	7.5	
IT Influence	6.0	9.0	7.0	
IT Relationship	3.3	3.3	5.0	
Total				6.1

Figure 4-4 tabulates the CI process strengths and weaknesses relative to the sample average, sample Best-In-Class (BIC)²², and a perfect score of 10 (i.e. the Deviation Score as explained in Section 3.2). Displayed graphically in the CI Process Rating Evaluation (Figure 4-2), one can see immediately that Case A rates above average in all cases with the exception of the Utilization step of the CI process. In fact, of the six CI process evaluation areas, Case A is equivalent to the Best-In-Class (BIC) on three (Collection, Analysis, and Security). Relative to the sample average, the single CI process area in need of attention is the Utilization. Relative to the sample BIC, Planning, Dissemination, and Utilization are highlighted. Relative to a perfect score all stages are less than ideal and the weakest areas are the Security, Utilization, and Planning steps. Because Case A is a global leader and currently enjoys the BIC on three of six CI processes, in order to maintain and further enhance their CI effectiveness relative to the industry, they should be deriving the areas in need of improvement from the perfect score. It is thus recommended Case A focus particularly on improving their Security, Utilization, and Planning.

Figure 4-4 also tabulates the CIF strengths and weaknesses relative to the sample average, sample BIC, and a perfect score (i.e. the Deviation Score), which is also displayed graphically in Figure 4-2. Referencing the perfect score column and ranking in according to impact, the following CIF's have been identified as important in addressing the CI process weaknesses:

1. IT Relationship
2. Continuous Improvement
3. Focus
4. DM Influence
5. Creativity/Innovation
6. DM Relationship

²² Sample Average and Sample BIC are calculated from the four firms analyzed in this paper.

Figure 4-4: CI Process/CIF Analysis (Case A)

CI Process/CI Factor Analysis - Case A				
CI Process/CI Factor	Average	BIC	Perfect	Recc
Planning	0.16	-0.83	-4.19	X
Collection	1.56	0.00	-4.07	
Analysis	1.80	0.00	-1.98	
Dissemination	0.28	-0.67	-2.93	
Utilization	-0.63	-2.50	5.00	X
Security	2.04	0.00	-6.67	X
Corporation Support	1.94	0.00	-2.92	
DM Relationship	-0.10	-1.77	-4.79	X
DM Influence	-0.52	-2.64	-5.14	X
Experience	0.94	-0.83	-4.58	
Creativity/Innovation	-0.31	-1.67	-4.79	X
Focus of Effort	0.19	-0.50	-4.75	X
Ethical Behavior	5.00	0.00	-0.83	
Response Time	0.94	0.00	-2.29	
Continuous Improvement	1.61	0.00	-5.42	X
Past Performance	0.26	-1.04	-3.54	
IT Infrastructure	1.75	0.00	-2.50	
IT Influence	2.31	0.00	-2.67	
IT Relationship	1.62	0.00	-6.11	X

4.4 Recommendations

Referring to Figure 4-6 (CI Process/CIF/Variable Conversion Table for Case A), one can identify which surveyed areas led to a low CIF rating. Each CIF highlighted above will be discussed in turn, with some recommended actions presented.

IT Relationship

As shown in Figure 4-6, Case A scored particularly low on the impromptu presence of CI practitioners at IT meetings (0.8 vs. 0.4 sample average and 0.8 sample BIC), the impromptu presence of IT representatives at CI meetings (0.0 vs. 0.0 sample average and 0.0 sample BIC), as well as the frequency of scheduled meetings between the CI and IT group (2.5 vs. 1.1 sample average and 2.5 sample BIC). It is therefore recommended that frequency of scheduled meetings is increased from quarterly to monthly, and the frequency of impromptu attendance to each other's meetings is increased from virtually never to quarterly.

Continuous Improvement

As shown in Figure 4-6, there is room for improvement on all the variables used to measure the presence of a continuous improvement atmosphere. Presence of metrics gauging the value delivered to the firm by the CI team scored 2.5 vs. the sample average of 2.1 and sample BIC of 3.3. Emphasis on proactive vs. reactive behavior scored 4.2 vs. the sample average of 4.7 and sample BIC of 5.0. Presence of metrics gauging the successful internal operations of the CI team scored 5.0 vs. the sample average of 3.6 and sample BIC of 5.0. Though Case A clearly has a number initiatives in place to facilitate continuous improvement such as ESAT, CSAT, 'Post Mortems' etc... it is recommended that they install (across all the CI teams in the firm) some regular tracking of the following metrics:
External – Project Solicitation Growth and Utilization of Intelligence by DM's
Internal – Average Response Time and Accuracy Rate

Focus

The primary issue with respect to focus of CI effort is the scope of intelligence activity (i.e. competitor, industry, economy, politics, internal operations, social/demographics etc...). Against this variable Case A scored 3.3 vs. the sample average of 4.1 and sample BIC of 5.0. Case A tends to restrict their focus primarily to the industry and competitors, with a slight interest in internal operations, and as explained in Sections 2.1 and 2.3 the strong interaction of the elements in the Competitive System require intelligence on every element. It is therefore recommended that Case A invest some resources in acquiring information and processing intelligence in these areas, with particular attention on internal operations, economic, and political events.

DM Influence

As shown in Figure 4-6 DM Influence has been measured by the 'perceived influence', 'percent of time intelligence provided by the CI team is used by the DM's', and 'percent of the time specific CI recommendations have been followed' variables. The score for each is 5.0 (vs. 5.0 sample average and 5.0 sample BIC), 5.0 (vs. 7.1 sample average and 10 sample BIC), and 5.0 (vs. 6.0 sample average and 7.5 sample BIC) respectively. It is recommended that Case A invest a significant amount of time in attempting to understand what exactly the DM's are looking for in terms of intelligence, and for what reasons they may not be using the intelligence provided. The CI team may wish to re-focus the intelligence delivered base on the feedback. (It should be noted, that Case A results were not homogeneous i.e. some CI teams scored low on DM Influence while some CI teams were well within industry standard. This should be leveraged and the CI team with low DM Influence should consider consulting other CI teams on the subject.)

Creativity/Innovation

As shown in Figure 4-6, Case A relies too heavily on secondary sources vs. primary sources, with only 25%-50% primary source usage against the recommended split of 80% primary and 20% secondary (reference Section 2-4). As such, a score on the primary vs. secondary split variable scores a 0.8 vs. the sample average of 1.9 and sample BIC of 5.0.

In terms of the scope of primary and secondary sources utilized, Case A scored a 5.0 (vs. sample average of 5.9 and BIC of 7.5) and a 5.9 (vs. the sample average of 7.2 and sample BIC of 10) respectively. Though Case A covers the majority of primary information sources, it does not appear to exploit the wealth of information available from the Government. As discussed previously a great deal of competitor activity must be formally registered with the local Government, most of which is publicly available. Case A may need to modify the Collection process and the IT infrastructure to support a greater emphasis on (and scope of) primary sources.

Once again, the responses from Case A were non-homogeneous and while some CI teams scored very well on the scope of primary and secondary sources, some others scored poorly and dragged the average down.

DM Relationship

As shown in Figure 4-6, Case A rated particularly low on the 'spontaneous presence at each others meetings' metric. For impromptu CI practitioner attendance at DM meetings a score of 0.8 was achieved vs. the sample average of 1.9 and sample BIC of 3.3. For impromptu DM attendance at CI meetings a score of 2.5 was achieved vs. the sample average of 2.1 and sample BIC of 2.5.

Case A CI representatives should make more of an effort to sit in on DM meetings, and similarly invite DM's to sit in on CI meetings. This will improve understanding of the other's operation and promote ideas for improvements while strengthening the overall relationship. Case A should also consider scheduling more frequent meetings between CI and DM representatives; perhaps increase the frequency from quarterly/monthly to monthly/biweekly.

Summary

Case A - Assessment Summary		
Strengths	Weaknesses	Recommended Focus
Collection	Security	Security
Analysis	Utilization	Utilization
Dissemination	Planning	Planning
Ethical Behavior	IT Relationship	IT Relationship
Response Time	Continuous Improvement	Continuous Improvement
IT Infrastructure	Focus of Effort	Focus of Effort
IT Influence	DM Influence	DM Influence
Corporate Support	Creativity/Innovation	Creativity/Innovation
	DM Relationship	DM Relationship

Figure 4-5: CI Process & CIF Rating (Case A)

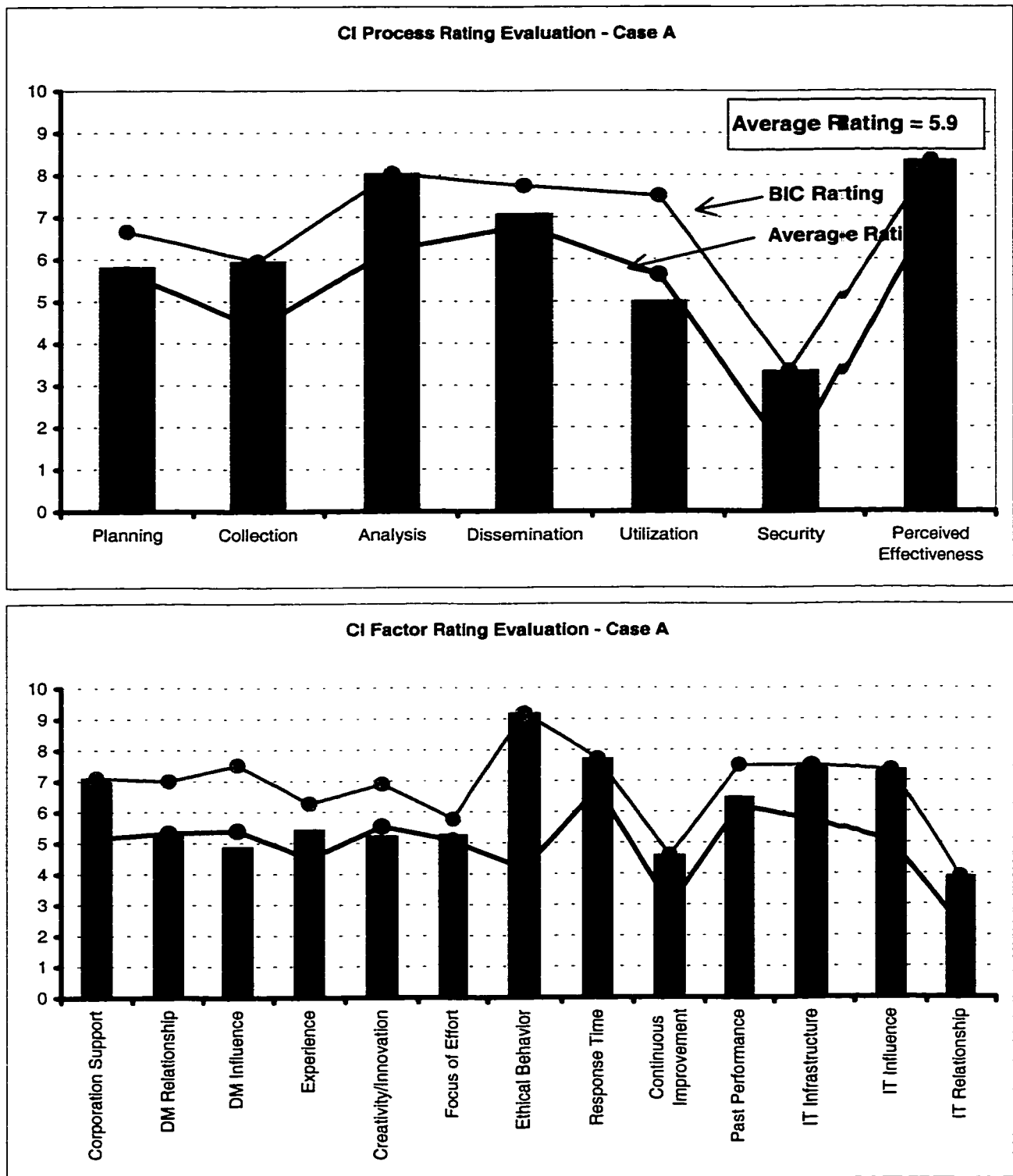


Figure 4-6: CI Process/CIF/Variable Conversion Table (Case A)

CI Process/CI Factor/Variable Conversion Table							
Area	Key Success Factor	Level 1 Variables	Level 2 Variables	#	Case A	Avg	BIC
Local Environment	Corporation Support	Org Structure	Age of group	1	10.0	9.1	10.0
			Qty CI Practitioners	2	10.0	5.3	10.0
			Position on hierarchy	3	2.5	1.6	5.0
			Centralization	4	10.0	8.1	10.0
		Org Culture	Sharing orientation	5	7.5	6.9	7.5
			Budget (% Rev)	6	2.5	1.8	2.5
Identifying Intelligence Needs	Relationship with DM's	Rapport with DM's	Hierarchical level of DM's serviced	7	7.5	7.8	10.0
			Perceived Rapport with DMs	8	5.8	6.6	10.0
		Communication with DM's	Frequency of meetings	9	5.8	6.4	7.5
			Presence of CI at DM meetings	10	0.8	1.9	3.3
			Presence of DM at CI meetings	11	2.5	2.1	2.5
Translating Intelligence into Information	Experience of CI Staff	Formal training		12	6.7	6.6	10.0
		Member of Society (SCIP)		13	5.8	5.9	7.5
		Prior Experience		14	4.2	4.1	5.0
		Avg Years Experience		15	5.0	4.1	7.5
		Focus	% of effort allocated to Planning	31	7.5	7.8	10.0
Gathering	IT Infrastructure	Automation		16	7.5	5.0	7.5
		Centralization		17	7.5	7.5	10.0
		Accessibility		18	9.2	7.5	9.2
		Scalability		19	5.8	3.8	5.8
		IT Influence		37	6.7	2.9	6.7
	Creativity/Innovation	Source Medium (voice, internet, face to face)		20	9.2	7.5	10.0
		Primary vs. Secondary Sources		21	0.8	1.9	5.0
		Sources of information	Primary	22	5.0	5.9	7.5
			Secondary	23	5.8	7.2	10.0
	Focus	Scope of CI targets (competitors, industry, ...)		24	3.3	4.1	5.0
		% of effort allocated toward Collection		31	5.8	5.3	10.0
	Ethical behavior	Code of Conduct		25	9.2	6.3	9.2
	Relationship with IT group	Rapport with IT group		26	6.7	5.0	6.7
		Communication with IT		27	2.5	1.1	2.5
			Frequency of meetings	27	2.5	1.1	2.5
			Presence of CI at IT meetings	28	0.8	0.4	0.8
			Presence of IT at CI meetings	29	0.0	0.0	0.0
	Response time	Timely Information Acquisition		30	9.2	7.2	9.2
Analyzing Information	Experience of CI Staff			31	10.0	8.8	10.0
	Focus	% of effort allocated toward Analysis		31	10.0	8.8	10.0
	IT Infrastructure	Use of professional or customized software		32		7.5	
	Response time	Timely Analysis		33	9.2	7.8	9.2
Disseminating Intelligence	Response time	Timely dissemination		34	8.3	9.1	10.0
	Relationship with DM's	Rapport with DM's		35	5.8	6.3	7.5
		Communication with DM's	Array of presentation techniques	35	5.8	6.3	7.5
	IT Infrastructure	Degree of Accessibility					
	Focus	% of time allocated toward Dissemination		31	9.2	9.4	10.0
Using Intelligence Provided	Relationship with DM's			36	5.0	5.0	5.0
	Influence on DM's	Perceived Influence		38	5.0	7.1	10.0
		% intelligence utilization		39	5.0	6.0	7.5
Intelligence Security	Relationship with IT						
	Focus	% of effort allocated toward Security		31	3.3	1.3	3.3
CI Team Dynamics	Continuous Improvement	Proactive Behavior		40	4.2	4.7	5.0
		Metric tracking system - internal		41	5.0	3.6	5.0
		Metric tracking system - external		42	2.5	2.1	3.3
		Continuous Improvement Initiatives		43	10.0	5.4	10.0
	Performance Record	Influence on DM's		44	8.3	7.5	8.3
		% Utilization of CI potential		45	10.0	8.0	10.0
		Perceived ROI CI brings		45	10.0	8.0	10.0

5.0 CASE B – CI ASSESSMENT

5.1 Corporation Background

Like Case A, Case B is a global firm though considerably smaller with between 1,000 - 10,000 employees located worldwide. Annual revenue lies between 1 and 10 Billion US\$, and ranking #4 in its telecommunications market space, it is experiencing 12% - 24% growth corporate growth in a market segment growing only at 6% - 12%.

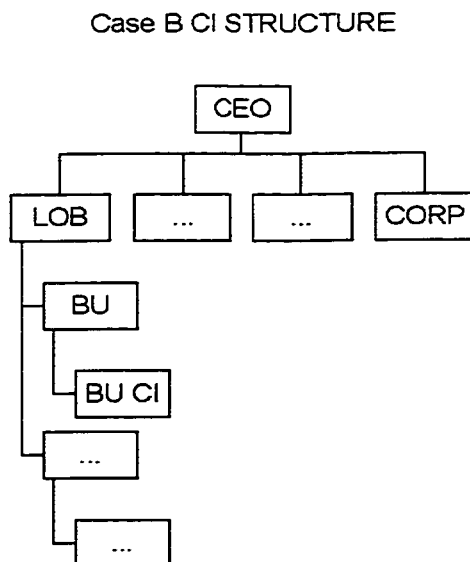
5.2 CI Group

The structure of the CI group can be seen in Figure 5-1. Case A maintains a Business Unit level CI team with no team dedicated to supporting the CI needs at a Line Of Business or Corporate Level.

A formal group has existed for more five years with between one and five CI practitioners, which translates into roughly 0.1% of the employee population. CI representation exists only to the manager level in the corporate hierarchy, servicing the needs of everyone up to and including the officer level with whom they have a 'Very Good' rapport. The group receives an annual budget ranging from 1-3% of annual revenues, and the degree of sharing in the corporate culture is considered to be 'A Lot'.

75% - 100% of the CI practitioners have received formal CI training in the past, 50% - 75% are a member of a professional society such as SCIP, and 25% - 50% have had CI experience prior to their current position. The average year's experience of a CI practitioner is one to three years. The CI group believe the Decision-Makers utilize the intelligence 75% - 100% of the time, and specific intelligence recommendations are followed 50% - 75% of the time. They believe they have reached 50% - 75% of their potential effectiveness, and bring to the firm a ROI ranging from 10% - 20%.

Figure 5-1: CI Structure (Case B)



5.3 Assessment Tool Results

Figure 5-2 tabulates the overall assessment of the CI process. As shown, Case B receives an average rating of 5.6 while its CI practitioner's assessment lies at 7.5. Relative strengths (highlighted green) are Analysis, Dissemination, and Utilization. Relative weaknesses (highlighted red) are Security, Planning, and Collection. The difference between the perceived effectiveness vs. that computed from this survey comes largely from weaknesses sighted above, and are addressed in greater detail in the CIF analysis.

Figure 5-2: CI Process Assessment (Case B)

CI Process Assessment - Case B				
Metric	Survey 1	Survey 2	Survey 3	Average
Planning	6.6	6.8	6.6	
Collection	4.3	4.6	4.3	
Analysis	7.2	7.2	7.2	
Dissemination	7.7	7.8	7.7	
Utilization	7.5	7.5	7.5	
Security	0.0	0.3	0.0	7.5
Perceived Effectiveness	7.5	7.5	7.5	
Total				5.6

Figure 5-3 tabulates the CIF ratings. The top five strengths (highlighted green) are Past Performance, Response Time, Ethical Behavior, DM Influence, and DM Relationship. The top five weaknesses (highlighted red) are flagged as IT Relationship, IT Influence, Continuous Improvement, Corporation Support, and IT Infrastructure.

Figure 5-3: CI Factor Assessment (Case B)

CI Factor Assessment - Case B				
Metric	Survey 1	Survey 2	Survey 3	Average
Corporation Support	4.6	5.0	4.6	6.3
DM Relationship	6.9	7.2	6.9	
DM Influence	7.5	7.5	7.5	
Experience	6.3	6.3	6.3	
Creativity/Innovation	5.6	7.5	5.6	
Focus of Effort	5.8	5.8	5.8	5.8
Ethical Behavior	7.5	7.5	7.5	
Response Time	7.5	7.5	7.5	
Continuous Improvement	3.1	5.0	5.0	
Past Performance	7.5	7.5	7.5	
IT Infrastructure	5.5	5.5	5.5	
IT Influence	4.0	4.0	4.0	0.0
IT Relationship	0.0	1.3	0.0	
Total				5.7

Figure 5-4 tabulates the CI process strengths and weaknesses relative to the sample average, sample Best-In-Class (BIC)²³, and a perfect score of 10 (i.e. the Deviation score as explained in Section 3.2). Displayed graphically in the CI Process Rating Evaluation (Figure 5-2), one can see immediately that Case B rates above average in every step of the CI process with the exception of Security. Of the six CI process evaluation areas, Case B is equivalent to the Best-In-Class (BIC) on three (Planning, Dissemination, and Utilization). Relative to the average, the CI process area in need of attention is Security. Relative to the BIC, Analysis, Collection, and Security are highlighted. Relative to a perfect score all stages are less than ideal and the weakest areas are the Security, Collection, and Planning steps. While ranked fourth in its market segment, Case B is clearly a leader in the CI community and enjoys the BIC on three of six CI processes. In order to maintain and further enhance its CI effectiveness relative to the industry, Case B should be deriving the areas in need of improvement from the perfect score. It is thus recommended Case B focus particularly on improving the Planning, Collection, and Security stages.

Figure 5-4 also tabulates the CIF strengths and weaknesses relative to the sample average, sample BIC, and a perfect score (i.e. the Deviation Score), which is also displayed graphically in Figure 5-2. Referencing the perfect score column and ranking in according to impact, the following CIF's have been identified as important in addressing the CI process weaknesses:

1. IT Relationship
2. IT Influence
3. Continuous Improvement
4. Corporation Support
5. IT Infrastructure

²³ Sample Average and Sample BIC are calculated from the four firms analyzed in this paper.

Figure 5-4: CI Process/CIF Analysis (Case B)

CI Process/CIF Factor Analysis - Case B				
CI Process/CIF Factor	Average	BIC	Perfect	Recc
Planning	0.99	0.00	-3.36	X
Collection	0.01	-1.55	-5.62	X
Analysis	0.96	-0.83	-2.81	
Dissemination	0.95	0.00	-2.27	
Utilization	1.88	0.00	-2.50	
Security	-1.21	-3.25	-9.92	X
Corporation Support	-0.42	-2.36	-5.28	X
DM Relationship	1.67	0.00	-3.02	
DM Influence	2.12	0.00	-2.50	
Experience	1.77	0.00	-3.75	
Creativity/Innovation	0.73	-0.63	-3.75	
Focus of Effort	0.69	0.00	-4.25	
Ethical Behavior	3.33	-1.67	-2.50	
Response Time	0.73	-0.21	-2.50	
Continuous Improvement	1.41	-0.21	-5.63	X
Past Performance	1.30	0.00	-2.50	
IT Infrastructure	-0.25	-2.00	-4.50	X
IT Influence	-1.02	-3.33	-6.00	X
IT Relationship	-1.85	-3.47	-9.58	X

5.4 Recommendations

Referring to Figure 5-6 (CI Process/CIF/Variable Conversion Table), one can see which areas in particular led to a low CIF rating. Recommendations for each CIF highlighted above will be discussed in turn.

IT Relationship

As shown in Figure 5-6, Case B scored 0 from a possible 10 on all aspects of IT Communication; i.e. they have virtually no relationship whatsoever. This relative to the sample average of 1.1, 0.4, and 0.0 and sample BIC of 2.5, 0.8, and 0.0 for the frequency of scheduled CI/IT meetings, impromptu CI attendance at IT meetings, and impromptu IT attendance at CI meetings respectively. It is highly recommended that Case B begin to schedule regular meetings (weekly or biweekly) to discuss IT strategy and implementation. It is also recommended that CI representatives attend IT meetings and CI members encourage IT representatives to sit in on CI meetings in order that an appreciation of how they can help one another begins to flourish.

Case B must also get involved very closely with the IT group in establishing the information/intelligence security needs of the firm.

IT Influence

As shown in Figure 5-6, Case B scored a 0.0 on IT Influence vs. the sample average of 2.9 and a sample BIC of 6.7. This is not surprising given the relationship the CI team shares with the IT group. It is recommended here that Case B work very hard (primarily via developing the IT Relationship) to establish a positive relationship with the IT group and begin to leverage what they have to offer towards improving the Collection phase of the CI process.

Continuous Improvement

As shown in Figure 5-6, Case B scores particularly low on the Continuous Improvement Initiatives variable, pulling in a 4.2 vs. the sample average of 5.4 and a BIC of 10. With emphasis on 'post mortems' and benchmarking, Case B does not appear to make extensive use of customer satisfaction surveys or employee satisfaction surveys. It is recommended both are issued and processed on a semi-annual basis in order to solicit ideas for improvement. (Note, though there may be a corporate-wide ESAT or CSAT, it is recommended here that the CI team utilize surveys customized specifically to the DM's and CI practitioners.)

Corporation Support

As shown in Figure 5-6, Case B rated particularly low in the 'hierarchical level CI representation exists' section, collecting a rating of 0.0 vs. the sample average of 1.6 and sample BIC of 5.0. Case B has CI representation only to a managerial level vs. an optimal target of officer level. Case B also scored low in the Quantity of CI practitioners (1-5 vs. target of greater than 50 for that size of corporation) as well as the budget allocated to the CI group (1-3% of annual Revenue). The scores received for each were 2.5 (vs. 5.3 sample average and sample BIC of 10) and 2.5 (vs. 1.8 sample average and 2.5 sample BIC) respectively.

It is recommended that the CI team aggressively promote the value they add to the business, and attempt to secure a presence higher up the corporate ladder. Case B should aim to establish a corporate group, preferably with a VP or presidential level in the hierarchy. Success in this will also increase the probability of a larger budget and larger CI headcount.

IT Infrastructure

With respect to IT Infrastructure there are two primary areas of weakness. Firstly is the level of automation. As shown in Figure 5-6, Case B rates 2.5 vs. the sample average 5.0 and the sample BIC of 7.5. Second is the scalability on which Case B rates 2.5 vs. the sample average of 3.8 and the sample BIC of 5.8.

It is recommended Case B works closely with their IT group towards implementing an infrastructure which both would groups would agree maintains a great deal of scalability and automation vs. the 'Little' in existence today.

Summary

Case B - Assessment Summary		
Strengths	Weaknesses	Recommended Focus
Dissemination	Security	Security
Analysis	Collection	Collection
Utilization	Planning	Planning
Past Performance	IT Relationship	IT Relationship
Response Time	IT Influence	IT Influence
Ethical Behavior	Continuous Improvement	Continuous Improvement
DM Influence	Corporate Support	Corporate Support
DM Relationship	IT Infrastructure	IT Infrastructure

Figure 5-5: CI Process & CIF Ratings (Case B)

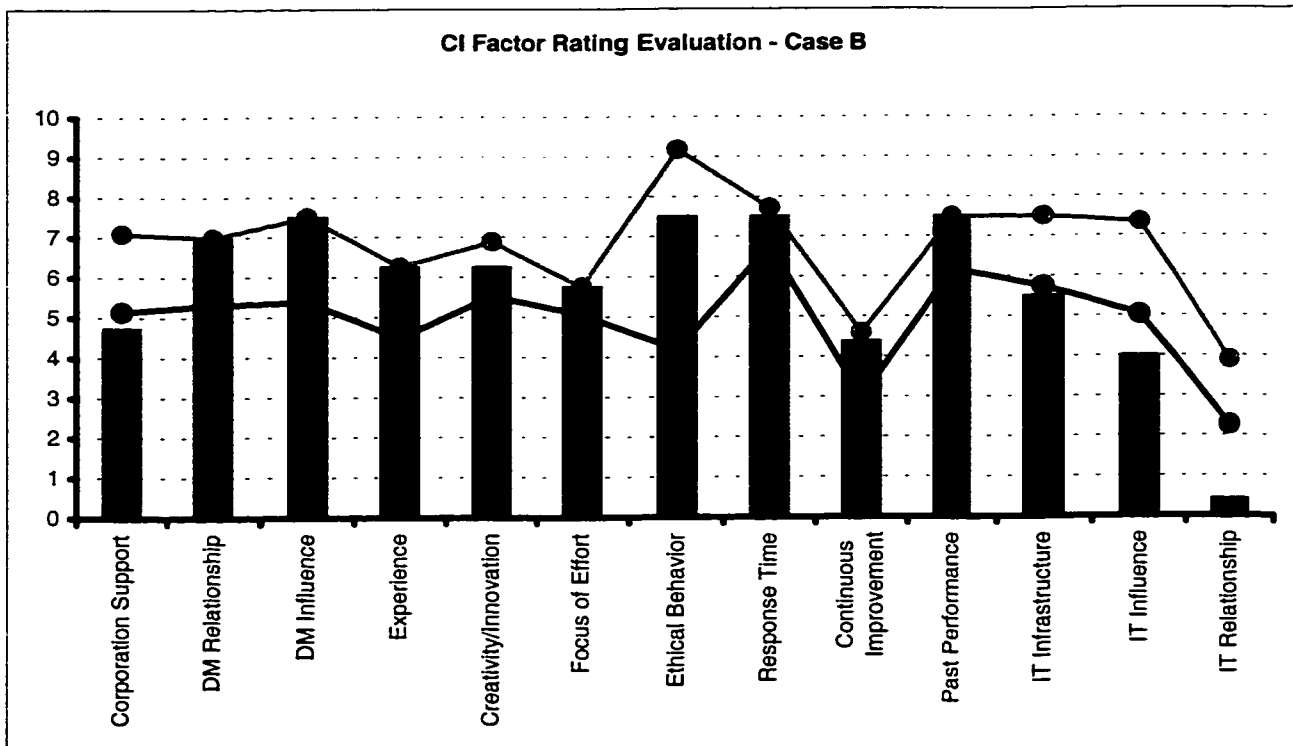
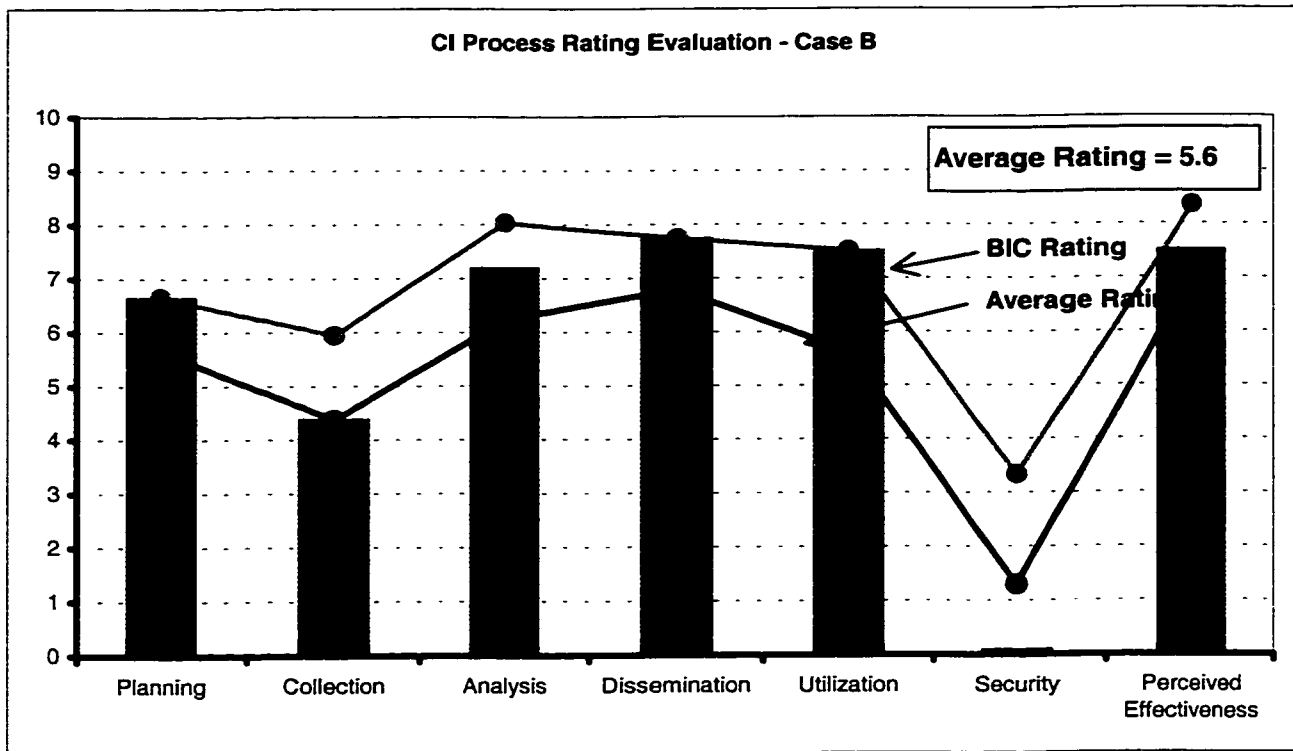


Figure 5-6: CI Process/CIF/Variable Conversion Table (Case B)

CI Process/CI Factor/Variable Conversion Table								
Area	Key Success Factor	Level 1 Variables	Level 2 Variables	#	Case B	Avg	BIC	
Local Environment	Corporation Support	Org Structure	Age of group	1	10.0	9.1	10.0	
			Qty CI Practitioners	2	2.5	5.3	10.0	
			Position on hierarchy	3	0.0	1.6	5.0	
			Centralization	4	5.0	8.1	10.0	
		Org Culture	Sharing orientation	5	7.5	6.9	7.5	
			Financial	6	2.5	1.8	2.5	
Identifying Intelligence Needs	Relationship with DM's	Rapport with DM's	Hierarchical level of DM's serviced	7	10.0	7.8	10.0	
			Perceived Rapport with DMs	8	7.5	6.6	10.0	
		Communication with DM's	Frequency of meetings	9	7.5	6.4	7.5	
			Presence of CI at DM meetings	10	3.3	1.9	3.3	
			Presence of DM at CI meetings	11	2.5	2.1	2.5	
Translating Intelligence into Information	Experience of CI Staff	Formal training		12	10.0	6.6	10.0	
		Member of Society (SCIP)		13	7.5	5.9	7.5	
		Prior Experience		14	5.0	4.1	5.0	
		Avg Years Experience		15	2.5	4.1	7.5	
		Focus	% of effort allocated to Planning	31	7.5	7.8	10.0	
Gathering	IT Infrastructure	Automation		16	2.5	5.0	7.5	
		Centralization		17	7.5	7.5	10.0	
		Accessibility		18	7.5	7.5	9.2	
		Scalability		19	2.5	3.8	5.8	
				37	0.0	2.9	6.7	
	IT Influence	Source Medium (voice, internet, , face to face)		20	5.8	7.5	10.0	
		Primary vs. Secondary Sources		21	2.5	1.9	5.0	
		Sources of information	Primary	22	6.7	5.9	7.5	
		Secondary	23	10.0	7.2	10.0		
	Focus	Scope of CI targets (competitors, industry, ...)		24	5.0	4.1	5.0	
		% of effort allocated toward Collection		31	5.0	5.3	10.0	
	Ethical behavior	Code of Conduct		25	7.5	6.3	9.2	
	Relationship with IT group	Rapport with IT group		26	2.5	5.0	6.7	
		Communication with IT	Frequency of meetings	27	0.0	1.1	2.5	
			Presence of CI at IT meetings	28	0.0	0.4	0.8	
			Presence of IT at CI meetings	29	0.0	0.0	0.0	
			30	7.5	7.2	9.2		
Analyzing Information	Experience of CI Staff							
	Focus	% of effort allocated toward Analysis		31	10.0	8.8	10.0	
	IT Infrastructure	Use of professional or customized software		32	7.5	7.5	0.0	
	Response time	Timely Analysis		33	7.5	7.8	9.2	
Disseminating Intelligence	Response time	Timely dissemination		34	10.0	9.1	10.0	
	Relationship with DM's	Rapport with DM's	Array of presentation techniques					
		Communication with DM's		35	7.5	6.3	7.5	
	IT Infrastructure	Degree of Accessibility						
	IT Influence							
Focus	% of time allocated toward Dissemination		31	10.0	9.4	10.0		
Using Intelligence Provided	Relationship with DM's							
	Influence on DM's	Perceived Influence		36	5.0	5.0	5.0	
		% intelligence utilization		38	10.0	7.1	10.0	
		% recommendations followed		39	7.5	6.0	7.5	
Intelligence Security	Relationship with IT							
	Focus	% of effort allocated toward Security		31	0.0	1.3	3.3	
	IT Influence							
CI Team Dynamics	Continuous Improvement	Proactive Behavior		40	5.0	4.7	5.0	
		Metric tracking system - internal		41	5.0	3.6	5.0	
		Metric tracking system - external		42	3.3	2.1	3.3	
		Continuous Improvement Initiatives		43	4.2	5.4	10.0	
	Performance Record	Influence on DM's						
		% Utilization of CI potential		44	7.5	7.5	8.3	
		Perceived ROI CI brings		45	7.5	8.0	10.0	

6.0 CASE C – CI ASSESSMENT

6.1 Corporation Background

Very similar to Case B, Case C is a global firm with between 1,000 - 10,000 employees. Annual revenue lies between 1 and 10 Billion US\$, and ranking #4 in their telecommunications market space, they are experiencing 12% - 24% growth corporate growth in an industry segment growing at a phenomenal 24% - 48%.

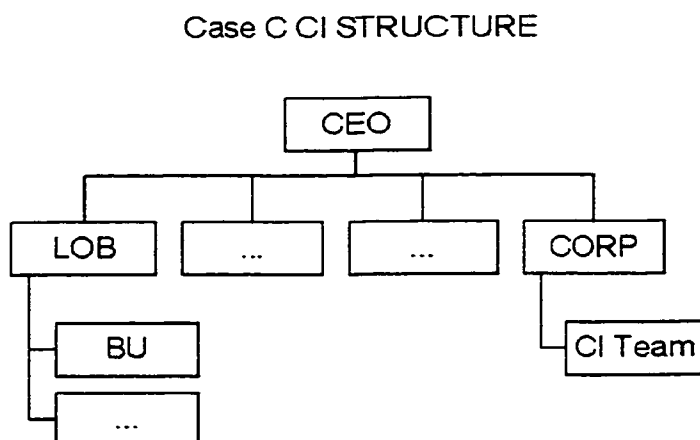
6.2 CI Group

The structure of the CI group can be seen in Figure 6-1. Case C maintains a corporate level CI team with no team dedicated to supporting the CI needs at a Line Of Business or Business Unit level.

A formal group has existed for one to three years with between one and five CI practitioners, which translate into roughly 0.1% of the employee population. CI representation exists only to the manager level in the corporate hierarchy, servicing the needs of everyone up to and including the manager level with whom they have a 'Reasonable' rapport. The group receives an annual budget less than 1% of annual revenues, and the degree of sharing in the corporate culture is considered to be 'Little'.

None of the CI practitioners have received formal CI training in the past, 1% - 25% are a member of a professional society such as SCIP, and 1% - 25% have had CI experience prior to their current position. The average year's experience of a CI practitioner is one to three years. The CI group believe the Decision-Makers utilize the intelligence 25% - 50% of the time, and specific intelligence recommendations are followed 10% - 25% of the time. They believe they have reached 25% - 50% of their potential effectiveness, and bring to the firm a ROI ranging from 10% - 20%.

Figure 6-1: CI Structure (Case C)



6.3 Assessment Tool Results

Figure 6-2 tabulates the overall assessment of the CI process. As shown, Case C receives an average rating of 3.4 while their assessment of their own effectiveness lies at 5.0. Relative strengths (highlighted green) are Dissemination, Utilization, and Planning. Relative weaknesses (highlighted red) are Security, Collection, and Analysis. The difference between the perceived effectiveness vs. that computed from this survey comes largely from weaknesses sighted above, and are addressed in greater detail in the CIF analysis.

Figure 6-2: CI Process Assessment (Case C)

CI Process Assessment - Case C				
Metric	Survey 1	Survey 2	Survey 3	Average
Planning	3.7			
Collection	2.3			
Analysis	2.7			
Dissemination	5.6			
Utilization	5.0			
Security	1.3			
Perceived Effectiveness	5.0			5.0
Total				3.4

Figure 6-3 tabulates the CIF ratings. The top four strengths (highlighted green) are Past Performance, Response Time, Focus, and DM Influence. The top four weaknesses (highlighted red) are flagged as Ethical Behavior, Continuous Improvement, Experience, and DM Relationship.

Figure 6-3: CI Factor Assessment (Case C)

CI Factor Assessment - Case C				
Metric	Survey 1	Survey 2	Survey 3	Average
Corporation Support	3.8			3.8
DM Relationship	3.1			
DM Influence	4.2			
Experience	1.9			
Creativity/Innovation	3.8			3.8
Focus of Effort	4.0			
Ethical Behavior	0.0			
Response Time	4.4			
Continuous Improvement	1.7			
Past Performance	5.0			
IT Infrastructure	3.8			3.8
IT Influence	3.8			3.8
IT Relationship	-			-
Total				3.3

Figure 6-4 tabulates the CI process strengths and weaknesses relative to the sample average, sample Best-In-Class (BIC)²⁴, and a perfect score of 10 (i.e. the Deviation Score as explained in Section 3.2). Displayed graphically in the CI Process Rating Evaluation (Figure 6-2), one can see immediately that Case C rates above average in none of the CI process. Neither is Case C considered equivalent to the Best-In-Class (BIC) in any of the CI process areas. Relative to the sample average, the CI process areas in need of attention are Analysis, Collection, and Planning. Relative to the BIC, Analysis, Collection, and Planning are also highlighted. Relative to a perfect score all stages are less than ideal and the weakest areas are the Security, Collection, and Analysis steps. While ranked fourth in their market segment, Case C is clearly a follower in the CI community. It is thus recommended Case C focus particularly on improving the core process steps of Analysis, Collection, and Planning stages, though recognizing significant improvement is required everywhere.

Figure 6-4 also tabulates the CIF strengths and weaknesses relative to the sample average, sample BIC, and a perfect score (i.e. the Deviation Score), and is also displayed graphically in Figure 6-2. Recognizing the fact resources may not exist to address all the CIF's in need of attention, it is recommended that the following be addressed as a starting point:

1. Ethical Behavior
2. Continuous Improvement
3. Experience
4. DM Relationship
5. Corporation Support
6. IT Infrastructure
7. Creativity/Innovation

²⁴ Sample Average and Sample BIC are calculated from the four firms analyzed in this paper.

Figure 6-4: CI Process/CIF Analysis (Case C)

CI Process/CI Factor Analysis - Case C				
CI Process/CI Factor	Average	BIC	Perfect	Recc
Planning	-1.97	-2.96	-6.32	X
Collection	-2.08	-3.64	-7.71	X
Analysis	-3.57	-5.36	-7.34	X
Dissemination	-1.20	-2.15	-4.42	
Utilization	-0.63	-2.50	-5.00	
Security	-0.04	-2.08	-8.75	
Corporation Support	-1.39	-3.33	-6.25	X
DM Relationship	-2.19	-3.85	-6.88	X
DM Influence	-1.22	-3.33	-5.83	
Experience	-2.60	-4.38	-8.13	X
Creativity/Innovation	-1.77	-3.13	-6.25	X
Focus of Effort	-1.06	-1.75	-6.00	
Ethical Behavior	-4.17	-9.17	-10.00	X
Response Time	-2.40	-3.33	-5.63	
Continuous Improvement	-1.30	-2.92	-8.33	X
Past Performance	-1.20	-2.50	-5.00	
IT Infrastructure	-2.00	-3.75	-6.25	X
IT Influence	-	-	-	
IT Relationship	-	-	-	

6.4 Recommendations

Referring to Figure 6-6 (Conversion Table Summary of Results), one can see which areas in particular led to a low CIF rating. Recommendations for each CIF highlighted above will be discussed in turn.

Ethical Behavior

As shown in Figure 6-6, Case C does not have any guidelines regarding appropriate behavior of the CI practitioners scoring a 0.0 vs. the sample average of 6.3 and sample BIC of 9.2. Given the often-murky legalities of CI and the potential damage of a lawsuit, it is recommended here that Case C develop a code of ethics specifically addressing CI and subsequently train the CI staff on this subject.

Continuous Improvement

As shown in Figure 6-6, Case C scored a zero against the presence of a system tracking metrics intended to monitor the internal CI process as well as the value delivered to the customer (the Decision-Makers). The sample average for these two variables was 3.6 and 2.1 respectively, while the sample BIC was 5.0 and 3.3 respectively. It is recommended that Case C set up a system that tracks the following:

Internal CI process Metrics: Accuracy Rate and Response Cycle Time

External CI process Metrics: Utilization of Intelligence and Repeat Business

Experience

Case C scored very low on all aspects of CI experience (See Figure 6-6). With no members with formal CI training, 1-25% of the members with previous CI experience, and an average of only 1-3 years experience per CI practitioner, Case C desperately needs to recruit in some experience. It is recommended that Case C pull in some experienced CI professionals such that the 50% - 75% of the team have had previous CI Experience, and the average years experience increase to 5 – 10 years. It is also recommended that the existing CI practitioners engage in an aggressive training and CI conference attendance (e.g. SCIP...).

DM Relationship

As shown in Figure 6-6, Case C scored very low on the variables used to gauge the relationship shared with the Decision-Makers. With a score of 0.0 on the 'hierarchical level of DM's serviced' (vs. the 7.8 sample average and sample BIC of 10) Case C clearly has not established much of a presence in the corporation. (A score of zero implies the CI activity addressees the needs of lower management but no one further up the corporate ladder. This is particularly unusual given that the CI group exists exclusively as a corporate group without LOB/BU units.) In addition to this, there is a very low perceived rapport with the DM's (score of 2.5 vs. 6.6 sample average and 10 sample BIC), and very little in the way of regular communication with the DM's.

At the very least, Case C should consider the following:

- Sit in on monthly high-level DM meetings and acquire an understanding of their intelligence needs.
- Set-up monthly meetings with high-level DM's in the firm to discuss what the CI team can do to address the DM intelligence needs.
- Invite the DM's to sit in on monthly CI meetings.

A great deal of effort and time needs to be invested in earning a place at the DM's side as a respected advisor.

Corporation Support

Case C rated 2.5, 0, 2.5, and 0 on Quantity of CI practitioners, CI Representation in Hierarchy, Sharing Orientation, and CI Budget respectively. The sample average lies at 5.3, 1.6, 6.9 and 1.8 respectively, while the sample BIC lies at 10, 5.0, 7.5, and 2.5. With only 0.01 to 0.1% of the workforce practicing CI, it is recommended Case C increases their CI headcount by a factor of 2 at the very least (for reference, the CI practitioner ratio for the BIC is approximately 0.5% of the workforce). The CI team should strive to have representation extending far above the management level and extend into the director or VP regime. With this in place, the CI team might be more successful in acquiring a larger budget that is currently lying at less than 1% of annual revenues. The CI team should be actively lobbying for executive support and promoting the potential value CI brings to the firm.

IT Infrastructure

As shown in Figure 6-6, Case C has a weak IT infrastructure. Scoring lower than the sample average (and by necessity lower than the BIC) on all variables, it is clear investment into this area is required. With 'some' automation, 'some' centralization, 'little' accessibility, and 'little' scalability, Case C needs to draw the IT group into the problem and brainstorm some solutions. One option may be to consider outsourcing the infrastructure to an external firm specializing in the IT tools required for effective CI.

Creativity/Innovation

Referring to Figure 6-6, the variable with the most significant effect on the rating for Creativity and Innovation is the split between primary and secondary sources. Case C relies far too heavily on secondary sources vs. primary sources scoring a 0.0 on this variable vs. the sample average of 1.9 and sample BIC of 5.0. With only 20% primary source usage against the recommended split of 80% primary and 20% secondary (reference Section 2-4), it is recommended that Case C rely more heavily on Government Documents, SEC Filings, Conferences, Employees, Suppliers, Customers etc. rather than Newspapers, Magazines, Television, and Analyst Reports. This change in focus will require significant modifications to the Collection methodology, and quite possibly the supporting IT Infrastructure.

Summary

Case C - Assessment Summary		
Strengths	Weaknesses	Recommended Focus
Dissemination	Security	Collection
Utilization	Collection	Analysis
Planning	Analysis	Planning
Past Performance	Ethical Behavior	Ethical Behavior
Response Time	Continuous Improvement	Continuous Improvement
Focus of Effort	Experience	Experience
DM Influence	DM Relationship	DM Relationship
		Corporate Support
		IT Infrastructure
		Creativity/Innovation

Figure 6-5: CI Process & CIF Ratings (Case C)

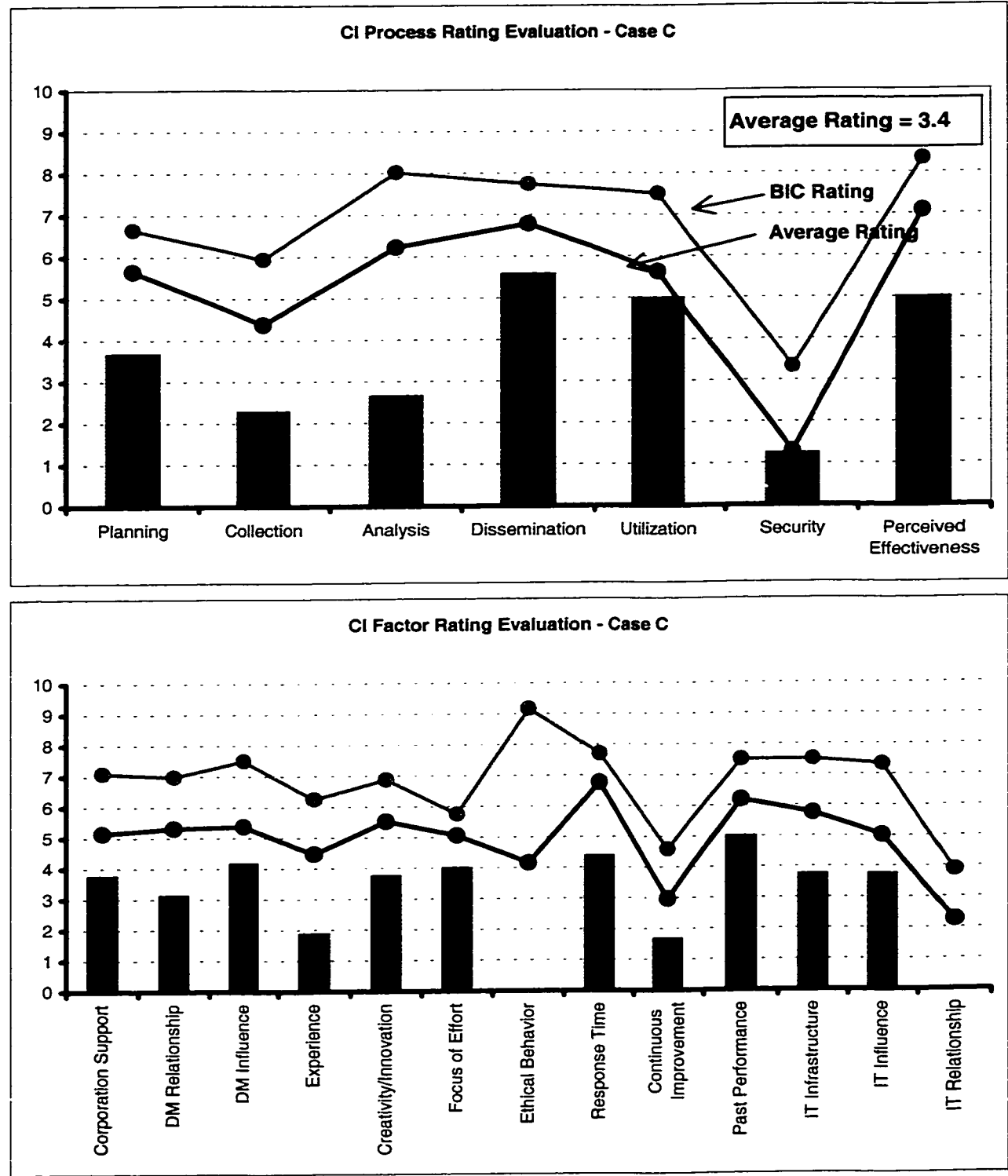


Figure 6-6: CI Process/CI Factor/Variable Conversion Table (Case C)

CI Process/CI Factor/Variable Conversion Table							
Area	Key Success Factor	Level 1 Variables	Level 2 Variables	#	Case C	Avg	BIC
Local Environment	Corporation Support	Org Structure	Age of group	1	7.5	9.1	10.0
			Qty CI Practitioners	2	2.5	5.3	10.0
			Position on hierarchy	3	0.0	1.6	5.0
			Centralization	4	10.0	8.1	10.0
		Org Culture	Sharing orientation	5	2.5	6.9	7.5
			Budget (% Rev)	6	0.0	1.8	2.5
Identifying Intelligence Needs	Relationship with DM's	Rapport with DM's	Hierarchical level of DM's serviced	7	0.0	7.8	10.0
			Perceived Rapport with DMs	8	2.5	6.6	10.0
	Communication with DM's		Frequency of meetings	9		6.4	7.5
			Presence of CI at DM meetings	10	2.5	1.9	3.3
			Presence of DM at CI meetings	11		2.1	2.5
Translating Intelligence into Information	Experience of CI Staff		Formal training	12	0.0	6.6	10.0
			Member of Society (SCIP)	13	2.5	5.9	7.5
			Prior Experience	14	2.5	4.1	5.0
			Avg Years Experience	15	2.5	4.1	7.5
	Focus	% of effort allocated to Planning		31	7.5	7.8	10.0
Gathering	IT Infrastructure		Automation	16	5.0	5.0	7.5
			Centralization	17	5.0	7.5	10.0
			Accessibility	18	2.5	7.5	9.2
			Scalability	19	2.5	3.8	5.8
				37		2.9	6.7
	Creativity/Innovation	Source Medium (voice, internet, face to face)		20	5.0	7.5	10.0
			Primary vs. Secondary Sources	21	0.0	1.9	5.0
			Sources of information	22	5.0	5.9	7.5
	Focus	Scope of CI targets (competitors, industry, ...)	Primary	23	5.0	7.2	10.0
			Secondary	24	5.0	4.1	5.0
				31	0.0	5.3	10.0
			% of effort allocated toward Collection	25	0.0	6.3	9.2
	Ethical behavior	Code of Conduct		26	2.5	5.0	6.7
	Relationship with IT group	Rapport with IT group	Frequency of meetings	27		1.1	2.5
			Presence of CI at IT meetings	28		0.4	0.8
			Presence of IT at CI meetings	29		0.0	0.0
	Response time	Timely Information Acquisition		30	0.0	7.2	9.2
Analyzing Information	Experience of CI Staff			31	0.0	6.8	10.0
	Focus	% of effort allocated toward Analysis		32		7.5	0.0
	IT Infrastructure	Use of professional or customized software		33	5.0	7.8	9.2
Disseminating Intelligence	Response time	Timely Analysis		34	7.5	9.1	10.0
	Relationship with DM's	Rapport with DM's	Array of presentation techniques	35	7.5	6.3	7.5
	IT Infrastructure	Degree of Accessibility					
Using Intelligence Provided	IT Influence			31	7.5	9.4	10.0
	Focus	% of time allocated toward Dissemination					
Intelligence Security	Relationship with DM's	Perceived Influence		36	5.0	5.0	5.0
	Influence on DM's	% intelligence utilization		38	5.0	7.1	10.0
		% recommendations followed		39	2.5	6.0	7.5
CI Team Dynamics	Relationship with IT						
	Focus	% of effort allocated toward Security		31	0.0	1.3	3.3
CI Team Dynamics	Continuous Improvement						
	Performance Record	Influence on DM's					
CI Team Dynamics	Continuous Improvement	Proactive Behavior		40	5.0	4.7	5.0
				41	0.0	3.6	5.0
				42	0.0	2.1	3.3
				43		5.4	10.0
CI Team Dynamics	Performance Record	Influence on DM's					
CI Team Dynamics	Continuous Improvement	Proactive Behavior		44	5.0	7.5	8.3
				45	7.5	8.0	10.0

7.0 CASE D – CI ASSESSEMENT

7.1 Corporation Background

Case D was chosen as a reference point within the high-tech industry but outside the telecom industry. Case D is a software firm similar in size to Cases B and C (1,000 – 10,000 employees) though with less annual revenue (100 – 500M). It occupies a market space that is growing between 24% and 48% annually, and the firm's revenue is keeping pace. Case D is ranked number one in its market space.

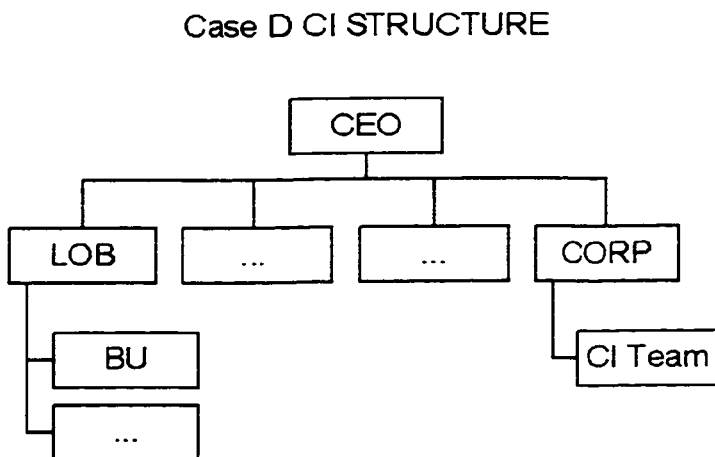
7.2 CI Group

The structure of the CI group can be seen in Figure 7-1. Case D maintains a corporate level CI team with no team dedicated to supporting the CI needs at a Line of Business or Business Unit level.

A formal group has existed for more three to five years with between one and five CI practitioners, which translate into roughly 0.1% of the employee population. CI representation exists to the Vice President level in the corporate hierarchy, servicing the needs of everyone up to and including the Officer level with whom they have an 'Excellent' rapport. The group receives an annual budget less than 1% of annual revenues, and the degree of sharing in the corporate culture is considered to be 'A Lot'.

1% - 25% of the CI practitioners have received formal CI training in the past, 25% - 50% are a member of a professional society such as SCIP, and 1% - 25% have had CI experience prior to their current position. The average year's experience of a CI practitioner is five to ten years. The CI group believe the Decision-Makers utilize the intelligence provided 25% - 50% of the time, and are unaware of how frequently specific intelligence recommendations are followed 50% - 75%. They believe they have reached 50% - 75% of their potential effectiveness.

Figure 7-1: CI Structure (Case D)



7.3 Assessment Tool Results

Figure 7-2 tabulates the overall assessment of the CI process. As shown, Case D receives an average rating of 5.1 while their CI practitioner assessment lies at 7.5. Relative strengths (highlighted green) are Dissemination, Planning, and Analysis. Relative weaknesses (highlighted red) are Security, Collection, and Utilization. The difference between the perceived effectiveness vs. that computed from this survey comes largely from weaknesses sighted above, and are addressed in greater detail in the CIF analysis.

Figure 7-2: CI Process Assessment (Case D)

CI Process Assessment - Case D				
Metric	Survey 1	Survey 2	Survey 3	Average
Planning	6.5			
Collection	4.9			
Analysis	7.0			
Dissemination	6.8			
Utilization	5.0			
Security	0.5			
Perceived Effectiveness	7.5			7.5
Total				5.1

Figure 7-3 tabulates the CIF ratings. The top four strengths (highlighted green) are Response Time, Creativity/Innovation, IT Infrastructure, DM Relationship, and Past Performance. The top five weaknesses (highlighted red) are flagged as Ethical Behavior, Continuous Improvement, IT Relationship, Focus, and Experience.

Figure 7-3: CIF Assessment (Case D)

CI Factor Assessment - Case D				
Metric	Survey 1	Survey 2	Survey 3	Average
Corporation Support	5.0			5.0
DM Relationship	5.9			
DM Influence	5.0			5.0
Experience	4.4			
Creativity/Innovation	6.9			
Focus of Effort	5.3			5.3
Ethical Behavior	0.0			
Response Time	7.5			
Continuous Improvement	1.3			
Past Performance	5.8			
IT Infrastructure	6.3			
IT Influence	5.0			5.0
IT Relationship	2.5			
Total				4.7

Figure 7-4 tabulates the CI process strengths and weaknesses relative to the sample average, sample Best-In-Class (BIC)²⁵, and a perfect score of 10 (i.e. the Deviation Score as explained in Section 3.2). Displayed graphically in the CI Process Rating Evaluation (Figure 7-2), one can see immediately that Case D rates equal to or above the sample average in four of six CI process steps (Planning, Collection, Analysis, and Dissemination), and rates equivalent to the sample BIC for none of the steps. Relative to the sample average, the CI process areas in need of attention are Dissemination, Utilization, and Security. Relative to the sample BIC, Collection, Utilization, and Security are also highlighted. Relative to a perfect score all stages are less than ideal and the weakest areas are the Security, Utilization, and Collection steps. Case D is a global leader in their field, and have a 'middle of the road' CI group. In order to maintain and further enhance their CI effectiveness relative to their peers in the high-tech industry, Case D should be deriving the areas in need of improvement from the perfect score. It is thus recommended Case D focus particularly on improving the Security, Collection, and Utilization stages.

Figure 7-4 also tabulates the CIF strengths and weaknesses relative to the sample average, sample BIC, and a perfect score (i.e. the Deviation Score), and is also displayed graphically in Figure 7-2. Referencing the perfect score column and ranking in according to impact, the following CIF's have been identified as important in addressing the CI process weaknesses:

1. Ethical Behavior
2. Continuous Improvement
3. IT Relationship
4. Focus
5. Experience

²⁵ Sample Average and Sample BIC are calculated from the four firms analyzed in this paper.

Figure 7-4: CI Process/CIF Analysis (Case D)

CI Process/CI Factor Analysis - Case D				
CI Process/CI Factor	Average	BIC	Perfect	Recc
Planning	0.81	-0.18	-3.54	
Collection	0.50	-1.06	-5.13	X
Analysis	0.81	-0.99	-2.97	
Dissemination	-0.03	-0.98	-3.25	
Utilization	-0.63	-2.50	-5.00	X
Security	-0.79	-2.83	-9.50	X
Corporation Support	-0.14	-2.08	-5.00	
DM Relationship	0.63	-1.04	-4.06	
DM Influence	-0.38	-2.50	-5.00	
Experience	-0.10	-1.88	-5.63	X
Creativity/Innovation	1.35	0.00	-3.13	
Focus of Effort	0.19	-0.50	-4.75	X
Ethical Behavior	-4.17	-9.17	-10.00	X
Response Time	0.73	-0.21	-2.50	
Continuous Improvement	-1.72	-3.33	-8.75	X
Past Performance	-0.36	-1.67	-4.17	
IT Infrastructure	0.50	-1.25	-3.75	
IT Influence	-0.02	-2.33	-5.00	
IT Relationship	0.23	-1.39	-7.50	X

7.4 Recommendations

Referring to Figure 7-6 (CI Process/CIF/Variable Conversion Table), one can see which areas in particular led to a low CIF rating. Recommendations for each CIF highlighted above will be discussed in turn.

Ethical Behavior

As shown in Figure 7-6, Case D does not have any guidelines regarding appropriate behavior of the CI practitioners scoring a 0.0 vs. the sample average of 6.3 and sample BIC of 9.2. Given the often-murky legalities of CI and the potential damage of a lawsuit, it is recommended here that Case D develop a code of ethics specifically addressing CI and subsequently train the CI staff on this subject.

Continuous Improvement

As shown in Figure 7-6, Case D scored a zero against the presence of a system tracking metrics intended to monitor the internal CI process and the value delivered to the customer (the Decision-Makers), as well as the presence of any continuous improvement initiatives. The sample average for these three variables was 3.6, 2.1, and 5.4 respectively, while the sample BIC was 5.0, 3.3, and 10 respectively.

It is recommended that Case C set up a system that tracks the following:

Internal CI process Metrics: Accuracy Rate and Response Cycle Time

External CI process Metrics: Utilization of Intelligence and Repeat Business

It is recommended both Employee Satisfaction surveys and Customer Satisfaction Surveys are issued and processed on a semi-annual basis in order to solicit ideas for improvement. (Note, though there may be a corporate-wide ESAT or CSAT, it is recommended here that the CI team utilize surveys customized specifically to the customers and CI practitioners.)

Finally, it is recommended that time be taken for such activities as benchmarking and post-mortems.

IT Relationship

As shown in Figure 7-6, Case D scored 0 from a possible 10 on all aspects of IT Communication; i.e. they have virtually no relationship whatsoever. This relative to the sample average of 1.1, 0.4, and 0.0 and sample BIC of 2.5, 0.8, and 0.0 for the frequency of scheduled CI/IT meetings, impromptu CI attendance at IT meetings, and impromptu IT attendance at CI meetings respectively. It is highly recommended that Case D begin to schedule regular meetings (weekly or biweekly) to discuss IT strategy and implementation. It is also recommended that CI representatives attend IT meetings and CI members encourage IT representatives to sit in on CI meetings in order that an appreciation of how they can help one another begins to flourish.

Case D must also get involved very closely with the IT group in establishing the information/intelligence security needs of the firm. (Case D invests no effort into addressing the Security or Counter Intelligence needs of the firm as indicated by the score of 0.0 vs. the sample average of 1.3 and sample BIC of 3.3.)

Focus

The primary issue with respect to focus of CI effort is the scope of intelligence activity (i.e. competitor, industry, economy, politics, internal operations, social/demographics etc...). Case D restricts its focus primarily to the industry and competitors, ignoring the potential impact of the political, economical, social, and demographic events as well as those occurring in the firms own internal operations. It is recommended that Case D direct some activity towards acquiring information and producing intelligence stimulated in particular by event occurring in the political, economical, and internal operations sectors.

Experience

As shown in Figure 7-6, Case D rated low on the Formal Training, Member of a Society, and the Previous Years Experience metric. (Scores were 2.5, 5.0, and 2.5 respectively, vs. sample averages of 6.6, 5.9, and 4.1 respectively, and sample BIC of 10, 7.5, and 5.0 respectively.) With only up to 25% of the CI practitioners leveraging previous CI experience, and only up to 25% with any formal CI training, Case D should enhance their CI capabilities through recruiting more experienced professionals from the field. Case D should strive for > 75% of the team having had previous CI experience, and virtually 100% of the team with some form of formal training. Both existing and new CI practitioners should make a point of attending CI conferences and training with short courses etc. (e.g. SCIP...).

Summary

Case D - Assessment Summary		
Strengths	Weaknesses	Recommended Focus
Dissemination	Security	Security
Planning	Collection	Utilization
Analysis	Utilization	Collection
Response Time	Ethical Behavior	Ethical Behavior
Creativity/Innovation	Continuous Improvement	Continuous Improvement
IT Infrastructure	IT Relationship	IT Relationship
DM Relationship	Experience	Experience
Past Performance		

Figure 7-5: CI Process & CIF Ratings (Case D)

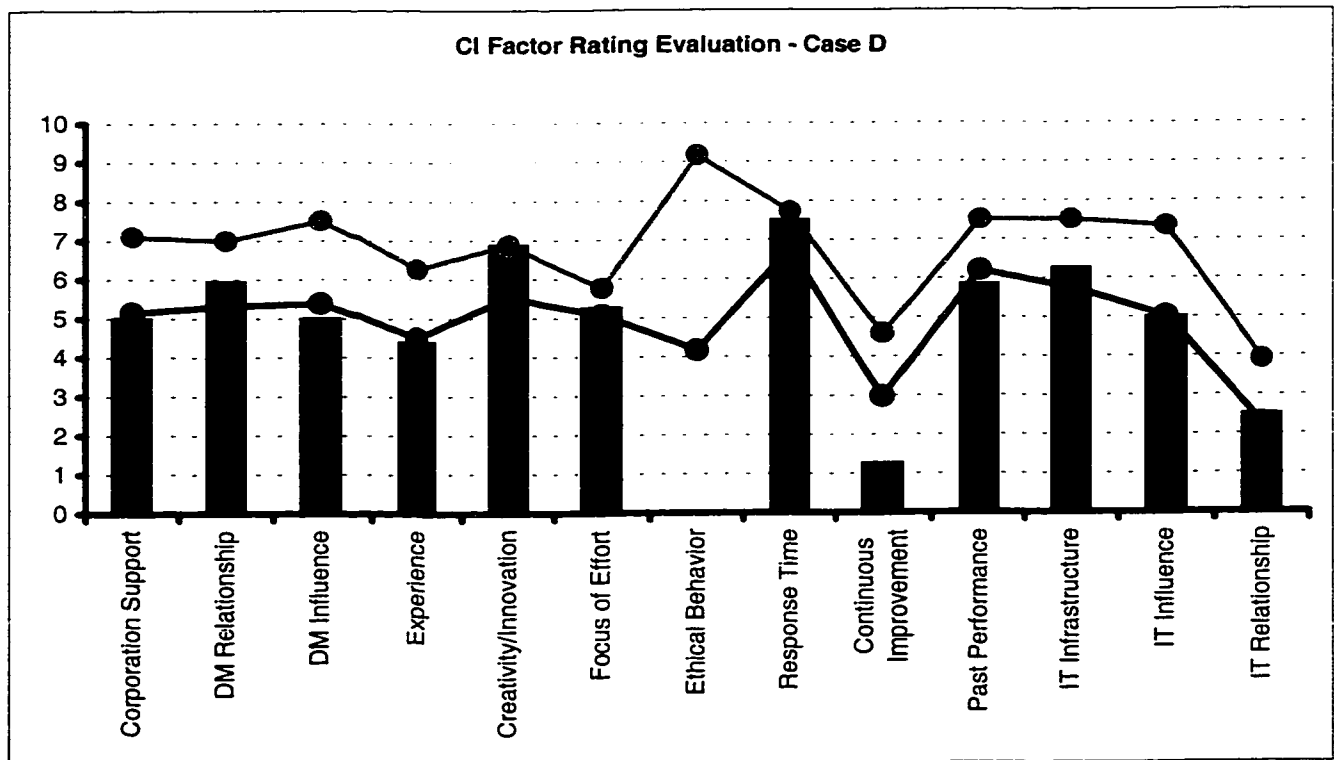
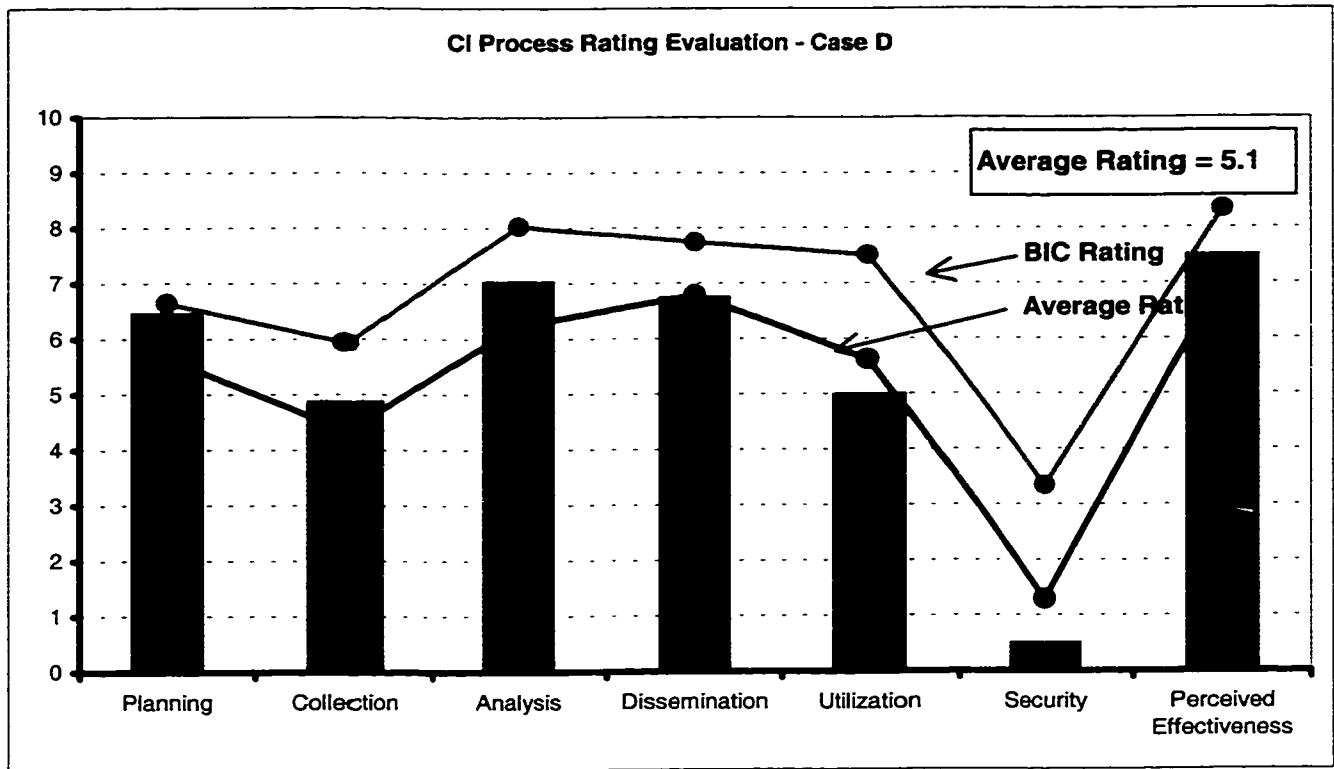


Figure 7-6: CI Process/CIF/Variable Conversion Table (Case D)

CI Process/CI Factor/Variable Conversion Table							
Area	Key Success Factor	Level 1 Variables	Level 2 Variables	#	Case D	Avg	BIC
Local Environment	Corporation Support	Org Structure	Age of group	1	5.0	9.1	10.0
			Qty CI Practitioners	2	2.5	5.3	10.0
			Position on hierarchy	3	5.0	1.6	5.0
			Centralization	4	10.0	8.1	10.0
		Org Culture	Sharing orientation	5	7.5	6.9	7.5
			Budget (% Rev)	6	0.0	1.8	2.5
Identifying Intelligence Needs	Relationship with DM's	Rapport with DM's	Hierarchical level of DM's serviced	7	10.0	7.8	10.0
			Perceived Rapport with DMs	8	10.0	6.6	10.0
		Communication with DM's	Frequency of meetings	9	5.0	6.4	7.5
			Presence of CI at DM meetings	10	0.0	1.9	3.3
			Presence of DM at CI meetings	11	0.0	2.1	2.5
Translating Intelligence into Information	Experience of CI Staff	Formal training		12	2.5	6.6	10.0
		Member of Society (SCIP)		13	5.0	5.9	7.5
		Prior Experience		14	2.5	4.1	5.0
		Avg Years Experience		15	7.5	4.1	7.5
		Focus	% of effort allocated to Planning	31	10.0	7.8	10.0
Gathering	IT Infrastructure	Automation		16	5.0	5.0	7.5
		Centralization		17	10.0	7.5	10.0
		Accessibility		18	7.5	7.5	9.2
		Scalability		19	2.5	3.8	5.8
		IT Influence		37	0.0	2.9	6.7
	Creativity/Innovation	Source Medium (voice, internet,, face to face)		20	10.0	7.5	10.0
		Primary vs. Secondary Sources		21	5.0	1.9	5.0
		Sources of information	Primary	22	7.5	5.9	7.5
	Focus	Scope of CI targets (competitors, industry, ...)	Secondary	23	5.0	7.2	10.0
				24	2.5	4.1	5.0
				31	10.0	5.3	10.0
	Ethical behavior	Code of Conduct		25	0.0	6.3	9.2
				26	5.0	5.0	6.7
				27	0.0	1.1	2.5
	Relationship with IT group	Rapport with IT group	Frequency of meetings	28	0.0	0.4	0.8
			Presence of CI at IT meetings	29	0.0	0.0	0.0
			Presence of IT at CI meetings	30	7.5	7.2	9.2
Analyzing Information	Experience of CI Staff	Timely Information Acquisition		31	10.0	8.8	10.0
				32	7.5	7.5	0.0
				33	7.5	7.8	9.2
				34	10.0	9.1	10.0
Disseminating Intelligence	Response time	Timely dissemination		35	2.5	6.3	7.5
	Relationship with DM's	Rapport with DM's	Array of presentation techniques	36	10.0	9.1	10.0
	IT Infrastructure	Communication with DM's		37	10.0	9.4	10.0
	IT Influence	Degree of Accessibility		38	10.0	9.4	10.0
	Focus	% of time allocated toward Dissemination		39	10.0	9.4	10.0
Using Intelligence Provided	Relationship with DM's	Perceived Influence		40	5.0	5.0	5.0
		% intelligence utilization		41	5.0	7.1	10.0
		% recommendations followed		42	5.0	6.0	7.5
Intelligence	Relationship with IT	% of effort allocated toward Security		43	0.0	1.3	3.3
	IT Influence			44	0.0	1.3	3.3
CI Team Dynamics	Continuous Improvement	Proactive Behavior		40	5.0	4.7	5.0
		Metric tracking system - internal		41	0.0	3.6	5.0
		Metric tracking system - external		42	0.0	2.1	3.3
	Performance Record	Continuous Improvement Initiatives		43	0.0	5.4	10.0
		Influence on DM's		44	7.5	7.5	8.3
		% Utilization of CI potential		45	7.5	8.0	10.0
		Perceived ROI CI brings					

8.0 RELATIVE COMPARISONS

8.1 Relative Comparison (Case A, B, C, D)

Figure 8-1 depicts the average ratings for Cases A through D. One can see that Case A maintains the highest average rating followed by Case B, D and C. As discussed in Sections 4 through 7 and displayed graphically in Figure 8-2, Case A's weaknesses lie in Security, Utilization, and Planning. Case B's weaknesses lie in Security, Planning, and Collection. Case C's weaknesses lie in Collection, Analysis, and Planning. Case D's weaknesses lie in Security, Collection, and Utilization.

Though Case A scores the Best-In-Class (BIC) for total CI effectiveness of 5.9, a noteworthy metric is the benchmark of 6.8. The benchmark is determined by averaging the BIC CI process Rating. The difference between the BIC and the Benchmark represents the room for improvement should the BIC firm adopt a benchmarking strategy on a CI process resolution, and successfully optimize each of the CI process steps according to the best practice currently utilized in the sample. I.e. one could say that the 'state of the art' at this point for CI in the telecommunications industry (as determined by this CI assessment tool on a limited sample) lies only at 68% of its potential.

Figure 8-1: Relative Average Ratings (Case A, B, C, D)

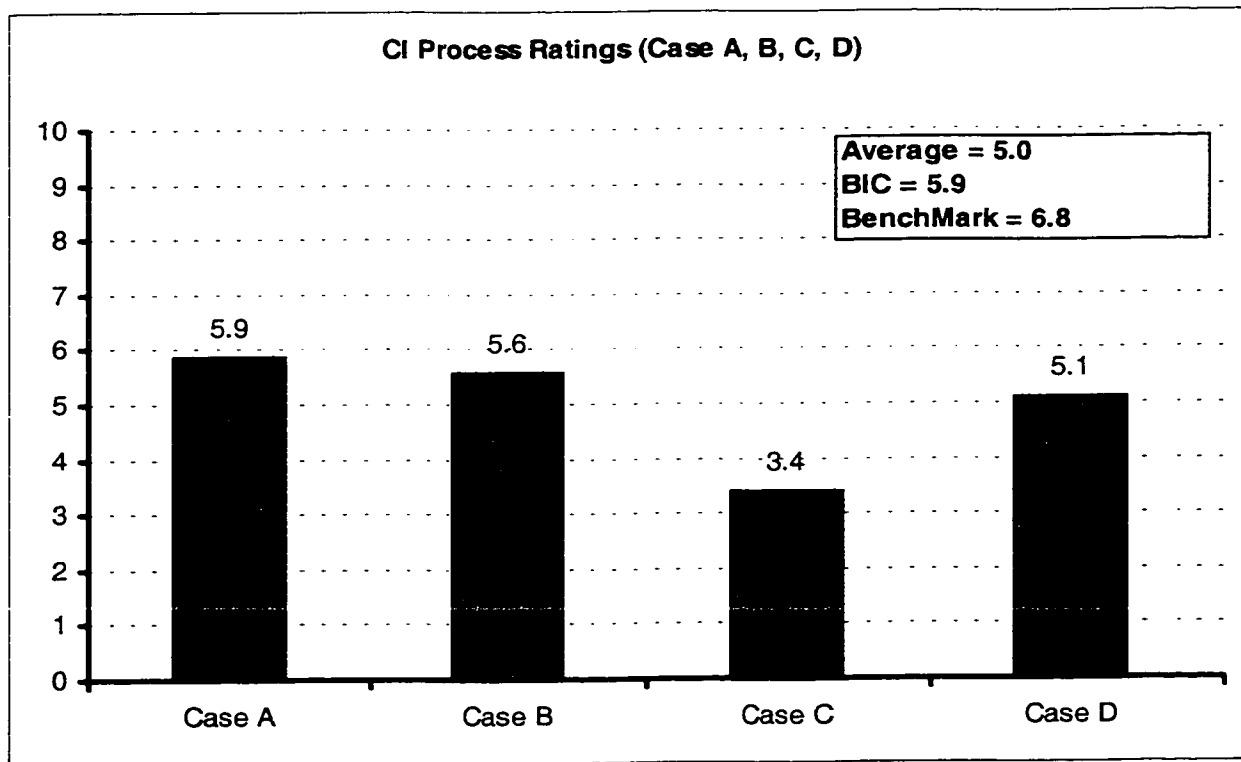


Figure 8-2: Relative CI Process Ratings (Case A, B, C, D)

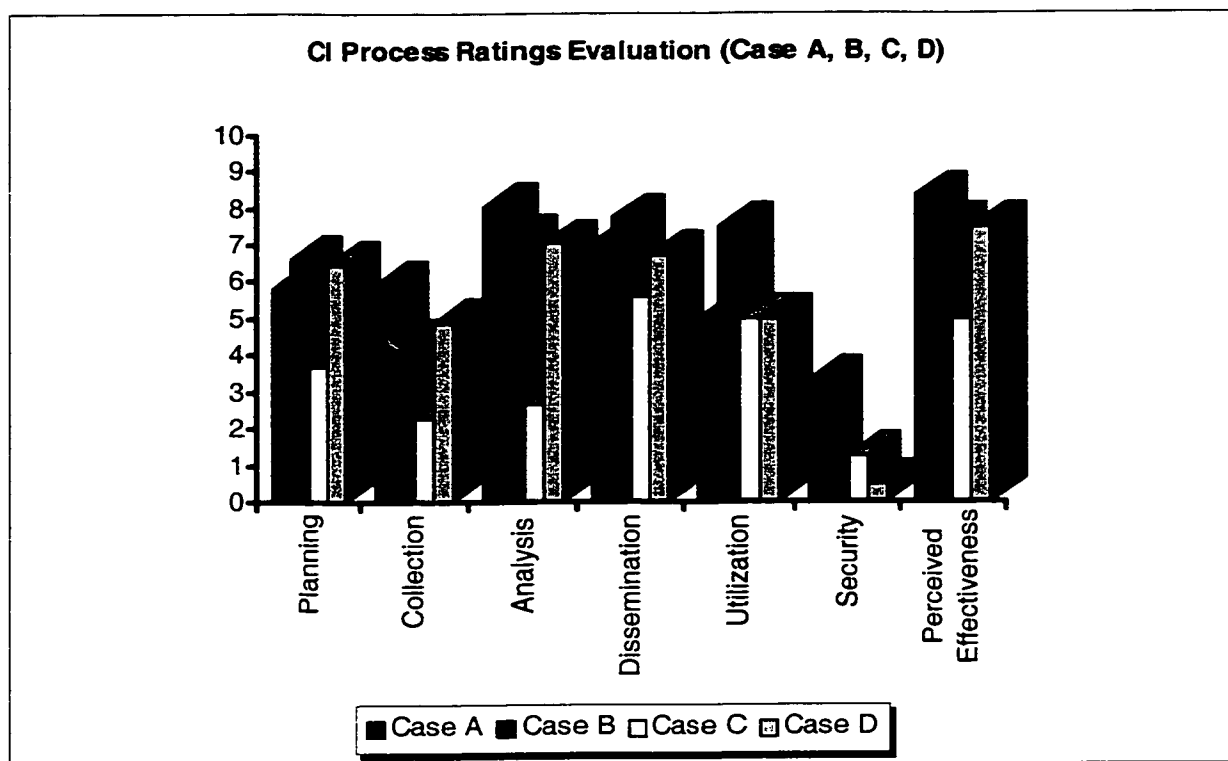


Figure 8-3 illustrates the relative CIF ratings vs. case studied. While the strong and weak CIF's for each case have been discussed in depth in Sections 4 through 7, it is interesting to note the range of ratings for each CIF across the cases studied. This is illustrated graphically in Figure 8-4 where one can see that the range is surprisingly well behaved (averaging approximately 3.3) with the exception of the Focus and Ethical Behavior CIF's. In the case of the Focus CIF the ratings were much more tightly distributed, with a range of only 1.8. (Recall, the focus CIF refers to the allocation of CI effort across each of the CI processes coupled with the scope of CI targets.) In the case of the Ethical Behavior CIF, the range is an enormous 9.2. This is most likely due to the binary nature of the question i.e. a firm will either have a policy looking after ethical considerations of CI, or they will not. Overall, an average range of 3.3 (though consistent) is quite large when one thinks of the rating as the percent of the potential of that particular CIF that has been realized (i.e. a range of 33% across the cases studied for each CIF).

Figure 8-3: Relative CI Factor Ratings (Case A, B, C, D)

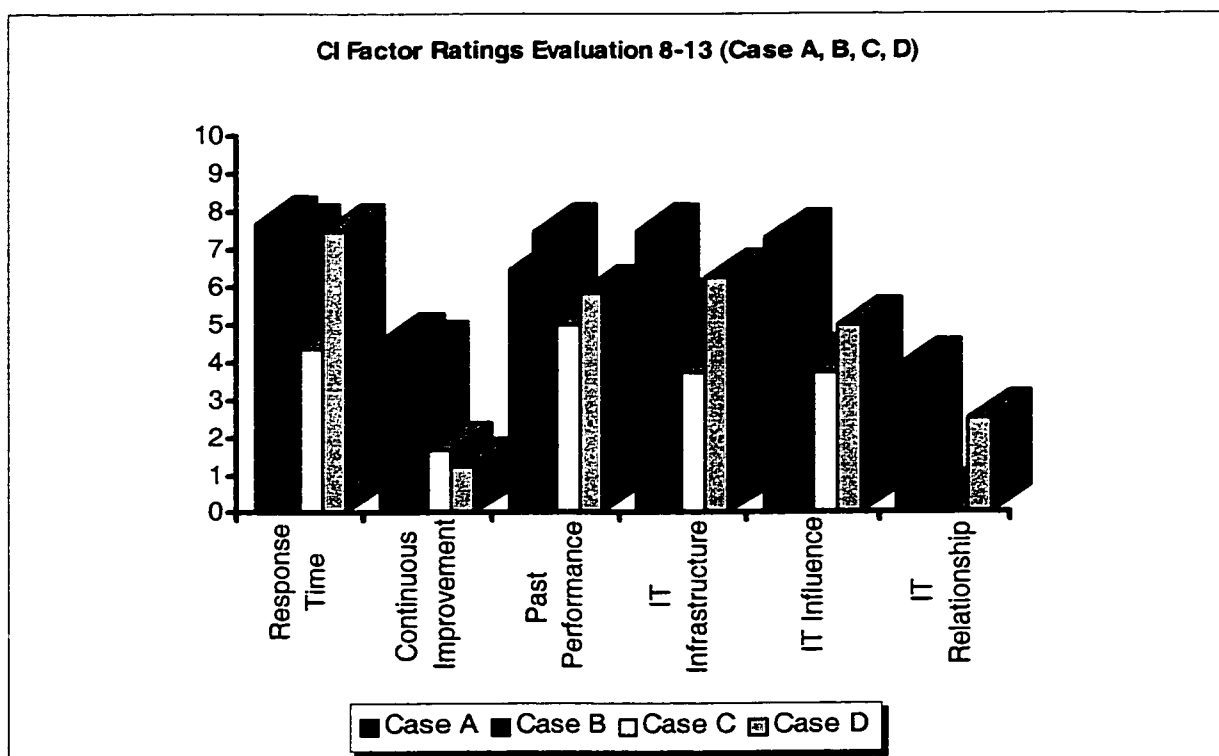
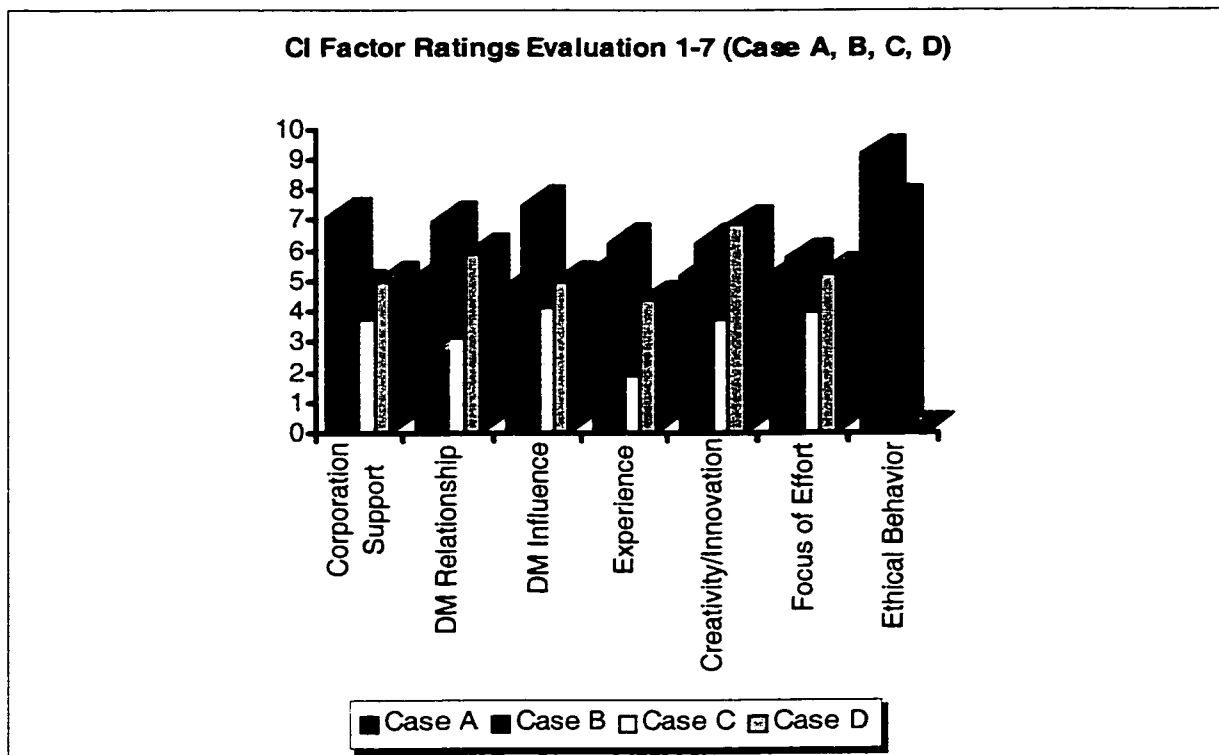
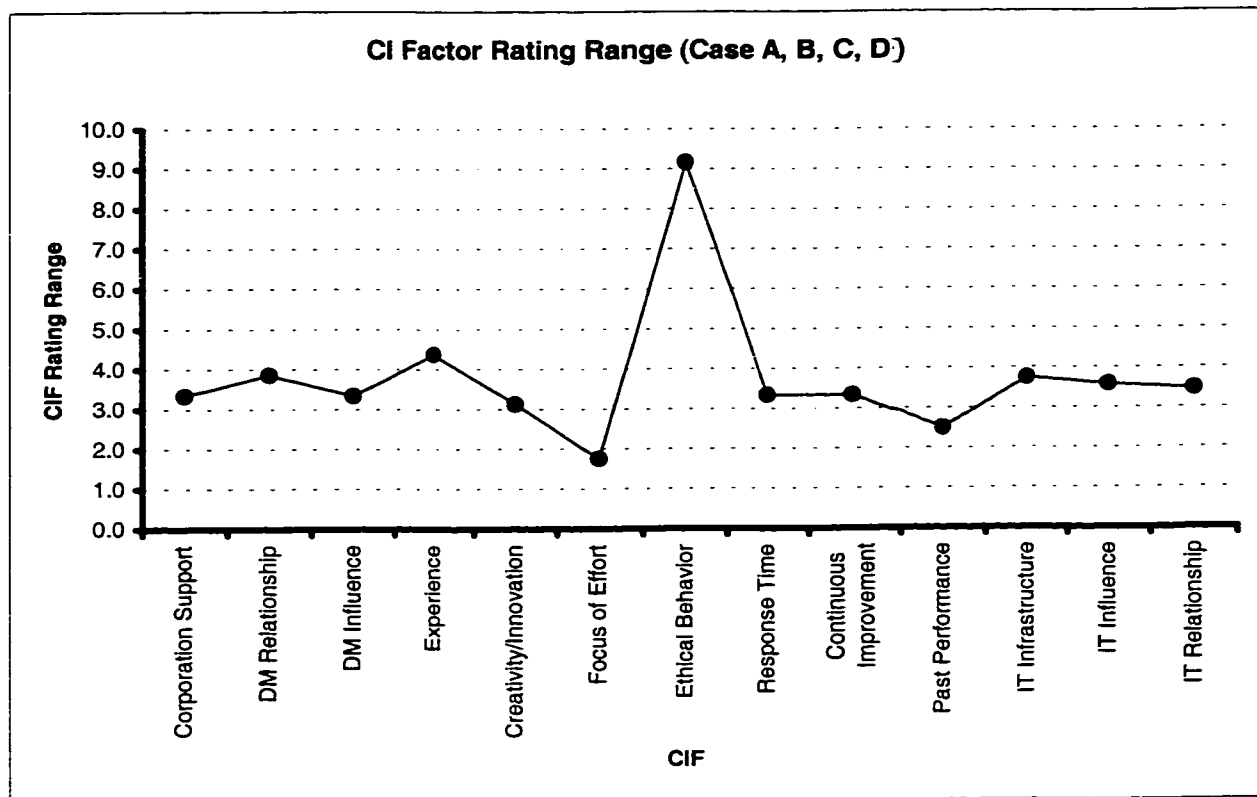


Figure 8-4: CIF Rating Range (Case A, B, C, D)



Figures 8-5 and 8-6 look more closely at the Variable ratings used to calculate the CIF ratings, and how they vary across the cases studied. Similar to Figure 8-4, Figure 8-6 plots the rating range for each variable assessed making it easy to identify those that have a tight distribution vs. those without.

Those variables with a tightly distributed rating are:

- Proactive behavior (~ rating of 5)
- Perceived DM influence (~ rating of 5)
- Presence of IT reps at CI meetings (rating of 0)
- Presence of CI reps at IT meetings (~ rating of 0.25)

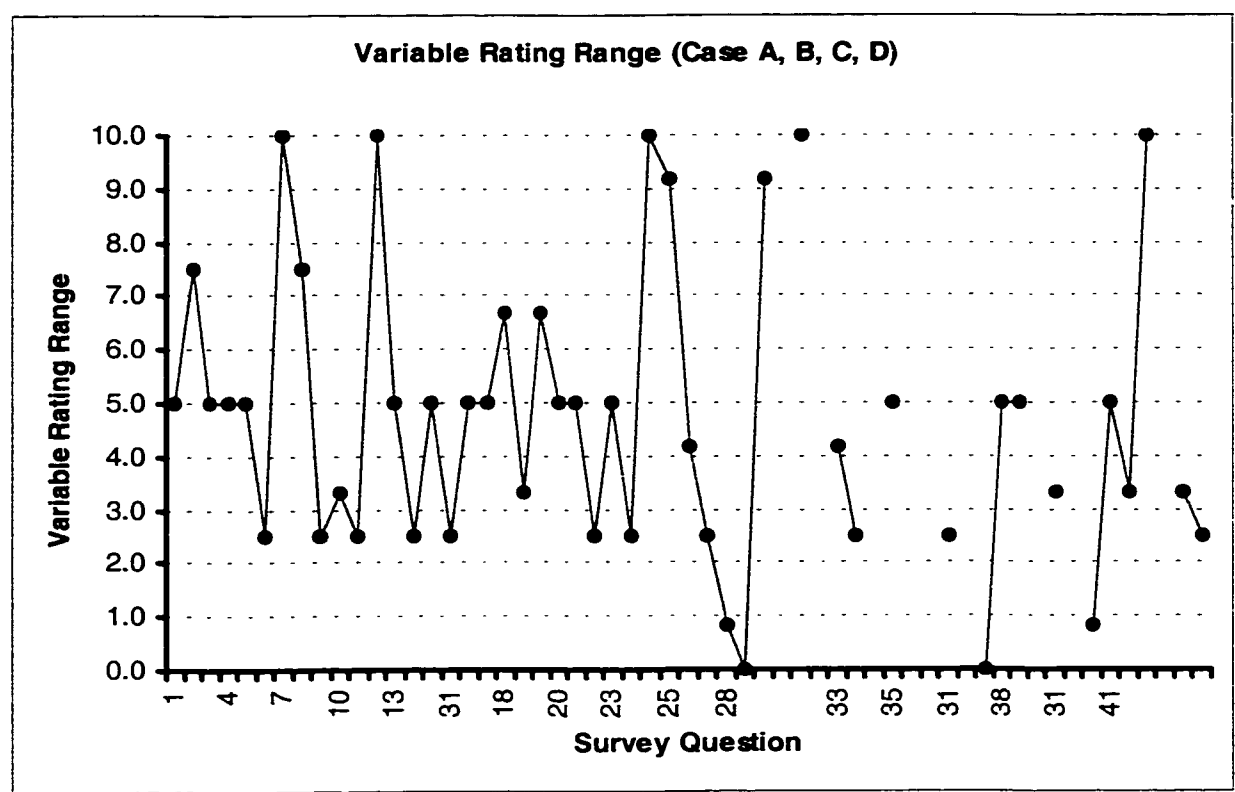
Those variables with a widely distributed rating are:

- Quantity of CI practitioners
- Level in hierarchy of the DM's who are serviced
- Perceived rapport with DM's
- Extent of formal CI training within the CI team
- Code of conduct specifically referencing CI
- Response time of the collection activity
- Presence of continuous improvement initiatives

Figure 8-5: CI Process/CIF/Variable Conversion Table (Case A, B, C, D)

CI Process/CI Factor/Variable Conversion Table								
Area	Key Success Factor	Level 1 Variables	Level 2 Variables	#	Case A	Case B	Case C	Case D
Local Environment	Corporation Support	Org Structure	Age of group	1	10.0	10.0	7.5	5.0
			Qty CI Practitioners	2	10.0	2.5	2.5	2.5
			Position on hierarchy	3	2.5	0.0	0.0	5.0
			Centralization	4	10.0	5.0	10.0	10.0
		Org Culture	Shaming orientation	5	7.5	7.5	2.5	7.5
			Budget (% Rev)	6	2.5	2.5	0.0	0.0
Identifying Intelligence Needs	Relationship with DM's	Rapport with DM's	Hierarchical level of DM's service	7	7.5	10.0	0.0	10.0
			Perceived Rapport with DM's	8	5.8	7.5	2.5	10.0
		Communication with DM's	Frequency of meetings	9	5.8	7.5		5.0
			Presence of CI at DM meetings	10	0.8	3.3	2.5	0.0
			Presence of DM at CI meetings	11	2.5	2.5		0.0
Translating Intelligence into Information	Experience of CI Staff	Formal training		12	6.7	10.0	0.0	2.5
			Member of Society (SCIP)	13	5.8	7.5	2.5	5.0
			Prior Experience	14	4.2	5.0	2.5	2.5
			Avg Years Experience	15	5.0	2.5	2.5	7.5
			% of effort allocated to Planning	31	7.5	7.5	7.5	10.0
Gathering Information	IT Infrastructure	Automation		16	7.5	2.5	5.0	5.0
			Centralization	17	7.5	7.5	5.0	10.0
			Accessibility	18	9.2	7.5	2.5	7.5
			Scalability	19	5.8	2.5	2.5	2.5
				37	6.7	0.0		0.0
	IT Influence	Source Medium (voice, internet, face to face)		20	9.2	5.8	5.0	10.0
			Primary vs. Secondary Sources	21	0.8	2.5	0.0	5.0
			Sources of information	22	5.0	6.7	5.0	7.5
	Focus	Scope of CI targets (competitors, industry, ...)	Primary	23	5.8	10.0	5.0	5.0
			Secondary	24	3.3	5.0	5.0	2.5
			% of effort allocated toward Collection	31	5.8	5.0	0.0	10.0
	Ethical behavior	Code of Conduct		25	9.2	7.5	0.0	0.0
				26	6.7	2.5	2.5	5.0
	Relationship with IT group	Rapport with IT group		27	2.5	0.0		0.0
			Frequency of meetings	28	0.8	0.0		0.0
			Presence of CI at IT meetings	29	0.0	0.0		0.0
			Presence of IT at CI meetings	30	9.2	7.5	0.0	7.5
Response time			Timely Information Acquisition					
Analyzing Information	Experience of CI Staff	% of effort allocated toward Analysis		31	10.0	10.0	0.0	10.0
	Focus			32				
	IT Infrastructure		Use of professional or customized software	33	9.2	7.5	5.0	7.5
Disseminating Intelligence	Response time	Timely dissemination		34	8.3	10.0	7.5	10.0
	Relationship with DM's	Rapport with DM's	Array of presentation techniques	35	5.8	7.5	7.5	2.5
	IT Infrastructure	Communication with DM's						
IT Influence	Degree of Accessibility							
Using Intelligence Provided	Focus	% of time allocated toward Dissemination		31	9.2	10.0	7.5	10.0
	Relationship with DM's	Perceived Influence		36	5.0	5.0	5.0	5.0
			% intelligence utilization	38	5.0	10.0	5.0	5.0
			% recommendations followed	39	5.0	7.5	2.5	
Intelligence Security	Relationship with IT	% of effort allocated toward Security		31	3.3	0.0	0.0	0.0
	Focus							
CI Team Dynamics	Continuous Improvement	Proactive Behavior		40	4.2	5.0	5.0	5.0
			Metric tracking system - internal	41	5.0	5.0	0.0	0.0
			Metric tracking system - external	42	2.5	3.3	0.0	0.0
			Continuous Improvement Initiatives	43	10.0	4.2		0.0
	Performance Record	Influence on DM's		44	8.3	7.5	5.0	7.5
			% Utilization of CI potential	45	10.0	7.5	7.5	
			Perceived ROI CI brings					

Figure 8-6: Variable Rating Range (Case A, B, C, D)



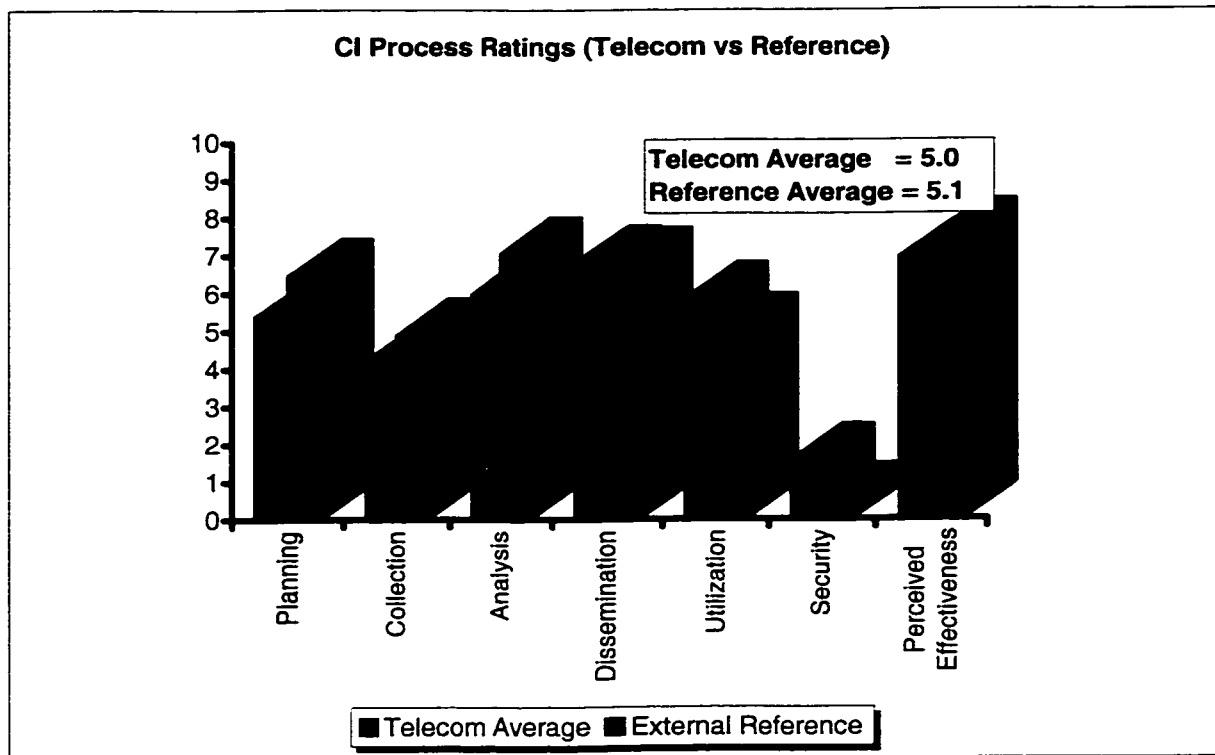
8.2 Relative Comparison (Telecom vs. Reference Corporation)

Though statistics are relatively weak and really only apply to a relatively large, global corporations in the telecommunications industry, it is worth pointing out the cross-industry analysis capability of the tool by illustrating the contrasts between the telecom industry and the reference corporation (Case D) operating in the software industry.

CI Process & CIF Ratings

The CI process ratings for the telecom industry and reference corporation are illustrated in Figure 8-7. There is remarkably little difference in the average rating of each (5.0 and 5.1 respectively). Looking at the CI process steps individually, there is little difference in the ratings with the exception of Security. Though neither the telecom industry nor the reference corporation appear to be lending their expertise towards Security or Counter Intelligence, the telecom industry has achieved a slightly higher CIF effectiveness of ~15% vs. 5% respectively.

Figure 8-7: CI Process Ratings (Telecom vs. Reference)



Though the CI process ratings did not highlight any major differences between the telecom corporations and the reference corporation, there were significant differences in a few of the CIF's. Figure 8-8 illustrates the relative ratings of the CIF's, while Figure 8-9 graphs the range of the ratings across the CIF's. As shown, Ethical Behavior, Continuous Improvement, Creativity/Innovation, and Response Time had the largest rating difference. The telecom industry rated significantly better than the reference corporation with the Ethical Behavior (5.6 vs. 0.0) and Continuous Improvement (3.5 vs. 1.0) CIF's. The reference corporation rated considerably better with the Creativity/Innovation (6.9 vs. 5.1) and Response Time (7.5 vs. 6.5) CIF's.

Figure 8-8: CIF Ratings (Telecom vs. Reference)

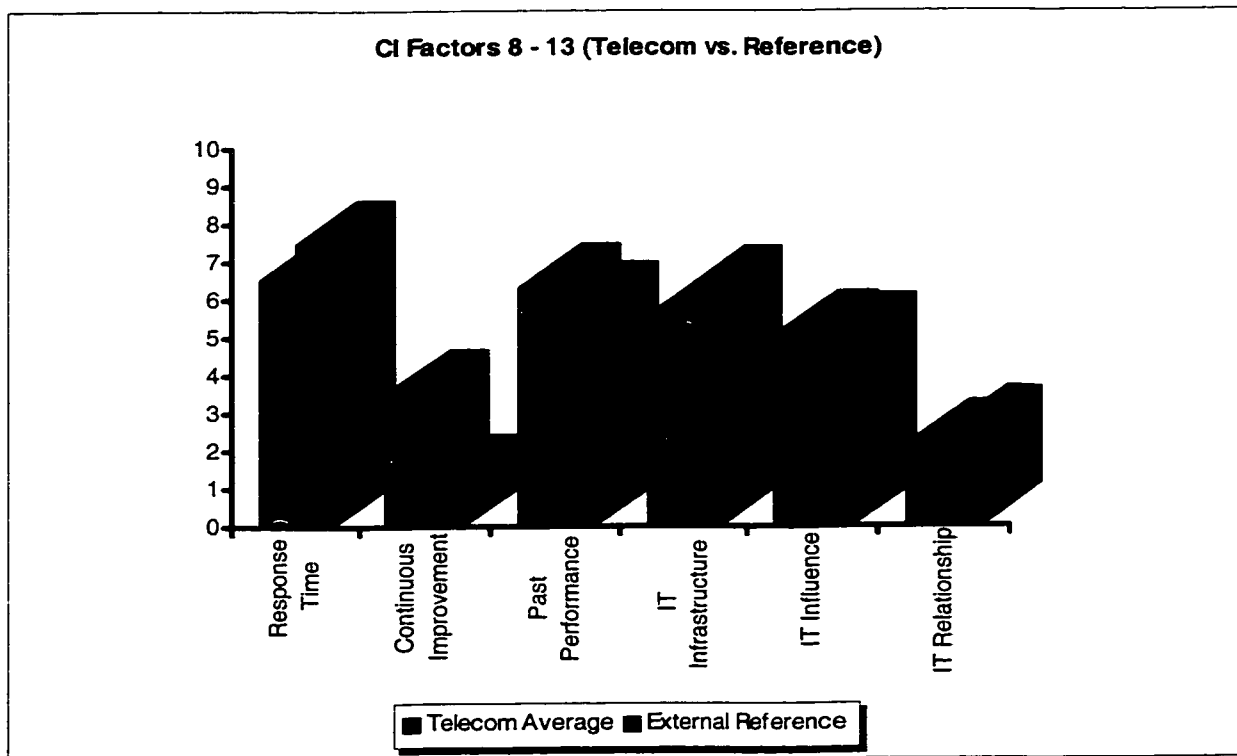
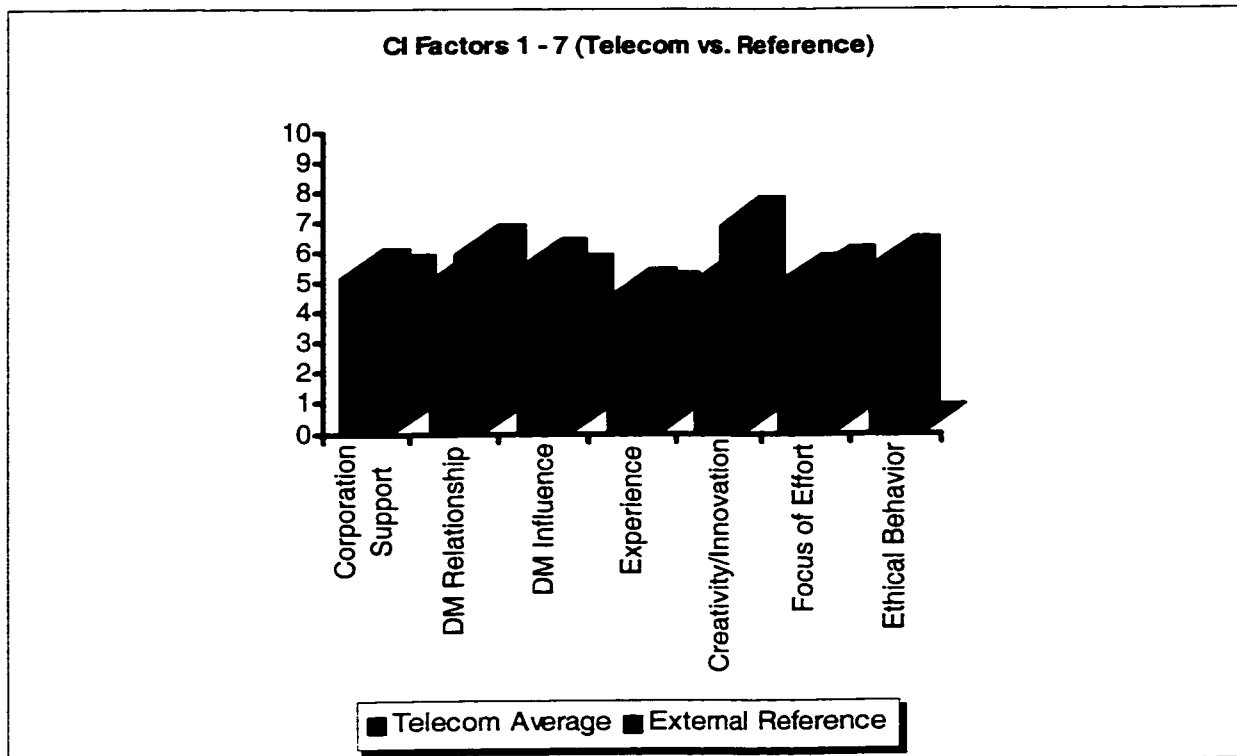


Figure 8-9: CIF Rating Range (Telecom vs. Reference)

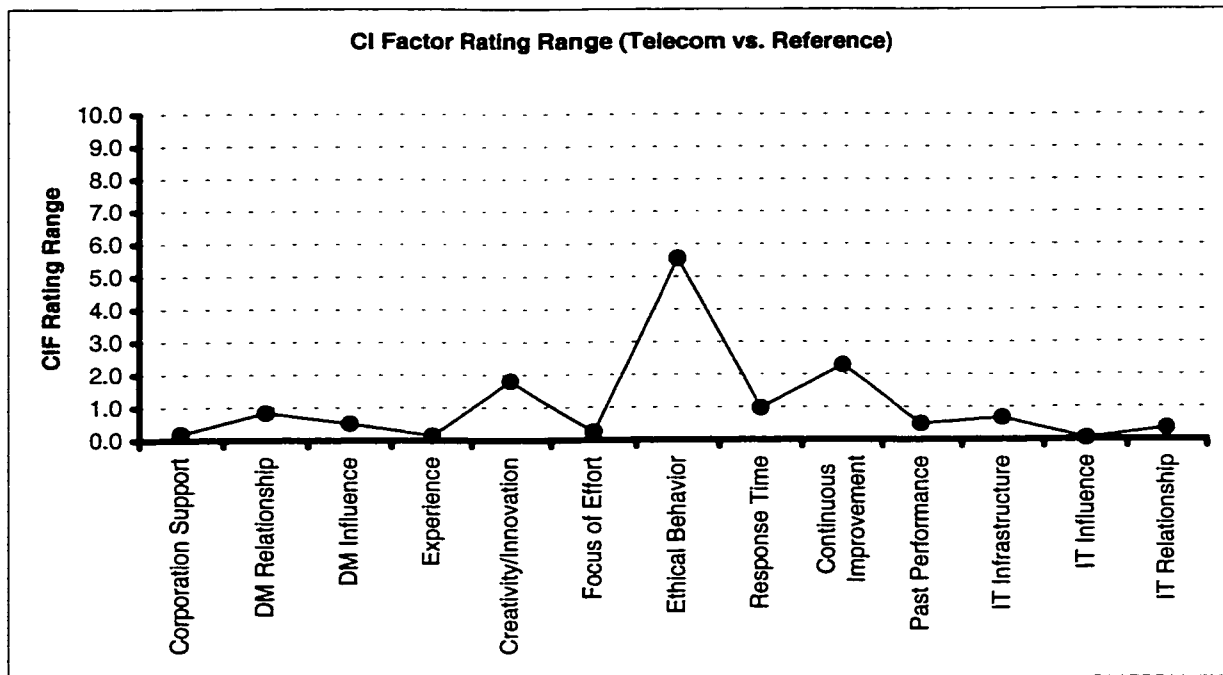


Figure 8-10 and 8-11 break the comparison down further to the variable resolution. The following was observed:

Those variables with a tightly distributed rating are:

- Membership in professional societies (~ rating of 5.2)
- IT automation (~ rating of 5.0)
- Percent of effort towards analysis (~ rating of 2.1)
- Timely analysis (~ rating of 7.3)
- Proactive behavior (~ rating of 4.9)
- Percent of CI potential realized (~ rating of 7.2)

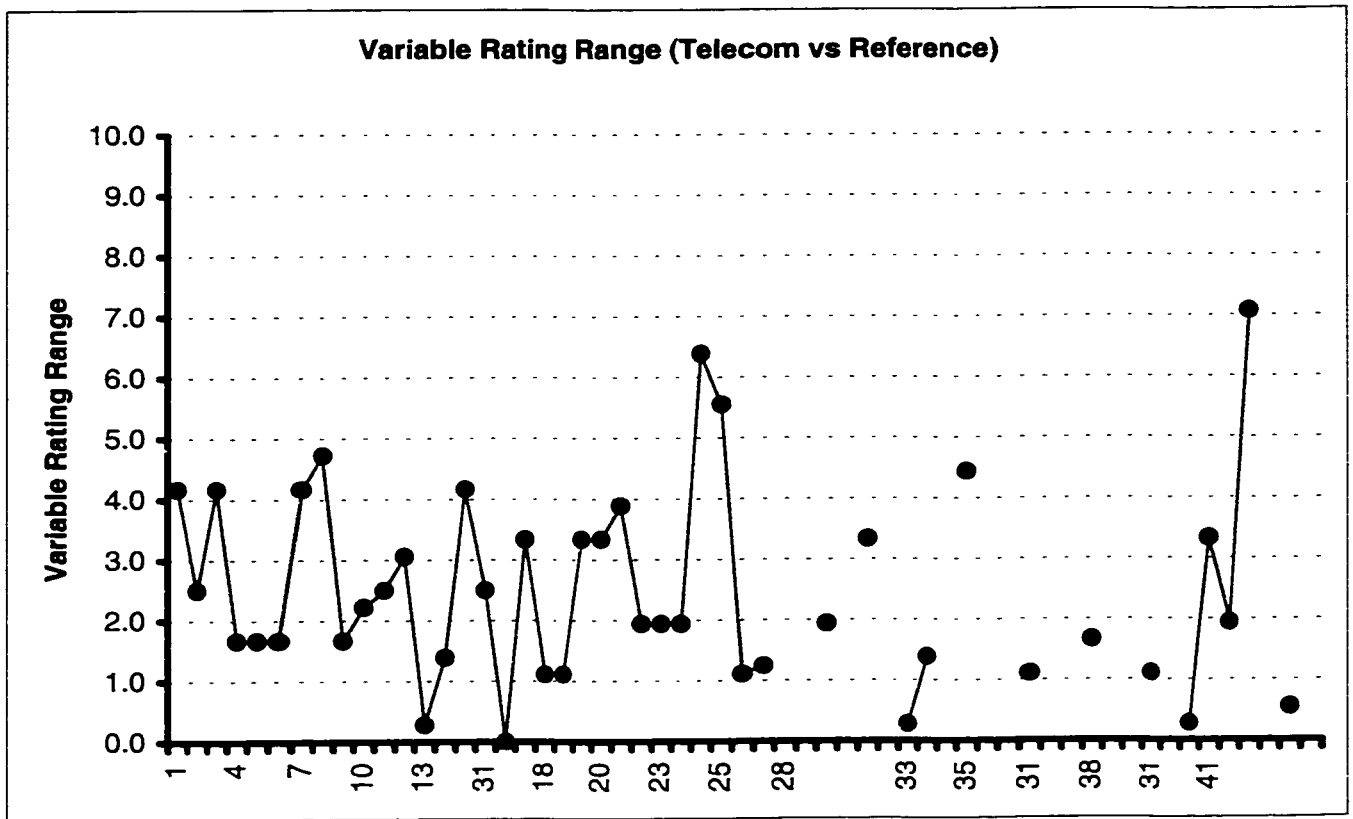
Those variables with a widely distributed rating are:

- Continuous improvement
- Presentation techniques for dissemination
- Code of conduct
- CI practitioner: average years experience
- Rapport with DM's
- Hierarchical position of DM's serviced
- Hierarchical position of CI practitioners
- Age of CI team

Figure 8-10: CI Process/CI Factor/Variable Conversion Table (Telecom vs. Reference)

CI Process/CI Factor/Variable Conversion Table						
Area	Key Success Factor	Level 1 Variables	Level 2 Variables	#	Telecom	Ref Corp
Local Environment	Corporation Support	Org Structure	Age of group	1	9.2	5.0
			Qty CI Practitioners	2	5.0	2.5
			Position on hierarchy	3	0.8	5.0
			Centralization	4	8.3	10.0
	Financial	Org Culture	Sharing orientation	5	5.8	7.5
		Financial	Budget (% Rev)	6	1.7	0.0
Identifying Intelligence Needs	Relationship with DM's	Rapport with DM's	Hierarchical level of DM's serviced	7	5.8	10.0
			Perceived Rapport with DMs	8	5.3	10.0
	Communication with DM's		Frequency of meetings	9	6.7	5.0
			Presence of CI at DM meetings	10	2.2	0.0
			Presence of DM at CI meetings	11	2.5	0.0
Translating Intelligence into Information	Experience of CI Staff	Formal training		12	5.6	2.5
		Member of Society (SCIP)		13	5.3	5.0
		Prior Experience		14	3.9	2.5
		Avg Years Experience		15	3.3	7.5
	Focus	% of effort allocated to Planning		31	7.5	10.0
Gathering Information	IT Infrastructure	Automation		16	5.0	5.0
		Centralization		17	6.7	10.0
		Accessibility		18	6.4	7.5
		Scalability		19	3.6	2.5
				37	3.3	0.0
	IT Influence	Source Medium (voice, internet, face to face)		20	6.7	10.0
		Primary vs. Secondary Sources		21	1.1	5.0
		Sources of information	Primary Secondary	22	5.6	7.5
	Focus	Scope of CI targets (competitors, industry, ...)		23	6.9	5.0
		% of effort allocated toward Collection		24	4.4	2.5
				31	3.6	10.0
	Ethical behavior	Code of Conduct		25	5.6	0.0
				26	3.9	5.0
	Relationship with IT group	Rapport with IT group		27	1.3	0.0
		Communication with IT	Frequency of meetings	28	0.4	0.0
Analyzing Information	Response time	Timely Information Acquisition	Presence of CI at IT meetings	29	0.0	0.0
			Presence of IT at CI meetings	30	5.6	7.5
	Experience of CI Staff			31	6.7	10.0
	Focus	% of effort allocated toward Analysis		32		
	IT Infrastructure	Use of professional or customized software		33	7.2	7.5
Disseminating Intelligence	Response time	Timely dissemination		34	8.6	10.0
	Relationship with DM's	Rapport with DM's	Array of presentation techniques	35	6.9	2.5
		Communication with DM's				
	IT Infrastructure	Degree of Accessibility				
	IT Influence			31	8.9	10.0
Using Intelligence Provided	Focus	% of time allocated toward Dissemination				
	Relationship with DM's	Perceived Influence		36	5.0	5.0
		% intelligence utilization		38	6.7	5.0
Intelligence Security		% recommendations followed		39	5.0	
	Relationship with IT					
	Focus	% of effort allocated toward Security		31	1.1	0.0
CI Team Dynamics	Continuous Improvement	Proactive Behavior		40	4.7	5.0
		Metric tracking system - internal		41	3.3	0.0
		Metric tracking system - external		42	1.9	0.0
		Continuous Improvement Initiatives		43	7.1	0.0
	Performance Record	Influence on DM's				
		% Utilization of CI potential		44	6.9	7.5
		Perceived ROI CI brings		45	8.3	

Figure 8-11: Variable Rating Range (Telecom vs. Reference)



8.3 General Observations

Observations regarding competitive intelligence in the high-tech industry are summarized in this section. Figure 8-12 and 8-13 portray the average high tech CI process and CI factor ratings (across our sample size of four firms), while Figure 8-14 highlights the most frequently noted strengths/weaknesses on a competitive intelligence factor resolution. Most frequently note strengths were Response Time and Past Performance, while the CIF's most frequently noted as a weakness were Continuous Improvement and IT Relationship. It is also worth mentioning Experience emerged as a weakness in 50% of the cases studied, while it emerged as strength in 0% of the cases.

Overall, the strengths and weaknesses of CI can be generalized as follows:

Strengths

- Formal CI teams have existed within the firms studied on average 3-5 years.
- In 75% of the cases studied, a CI group exists at the corporate level of the business.
- Most of the firms studied have a centralized IT infrastructure for information/intelligence management.
- Most firms studied do not rely exclusively on one source medium (e.g. electronic), but recognize the importance of a variety of mediums.
- Most firms studied have an acceptable cycle time for Dissemination.
- Most firms studied have did not spend too much (or too little) time on the Dissemination phase.
- All firms felt that the ROI of the CI group exceeded 10%.

Weaknesses

- Generally CI representatives did not rise to high levels on the corporation's hierarchy (mgr/director on average).
- Most firms allocate less than 3% annual revenue to support the CI groups.
- There is virtually no spontaneous presence at CI or DM meetings by the opposite party.
- There tends to be too much reliance (greater than 75%) on secondary sources of information vs. primary.
- Virtually no formal relationship existed between the CI group and the IT group. Even regularly scheduled meetings between the two are non-existent or quarterly at best. Only 25% of the firms studied considered themselves to have any influence on the IT group.
- Only 25% of the firms studied invested any effort into Security or Counter Intelligence.
- All firms studied had a relatively weak concept of internal and external continuous improvement metrics to quantify success and promote continuous improvement.

Figure 8-12: CI Process Evaluation (High Tech Industry)

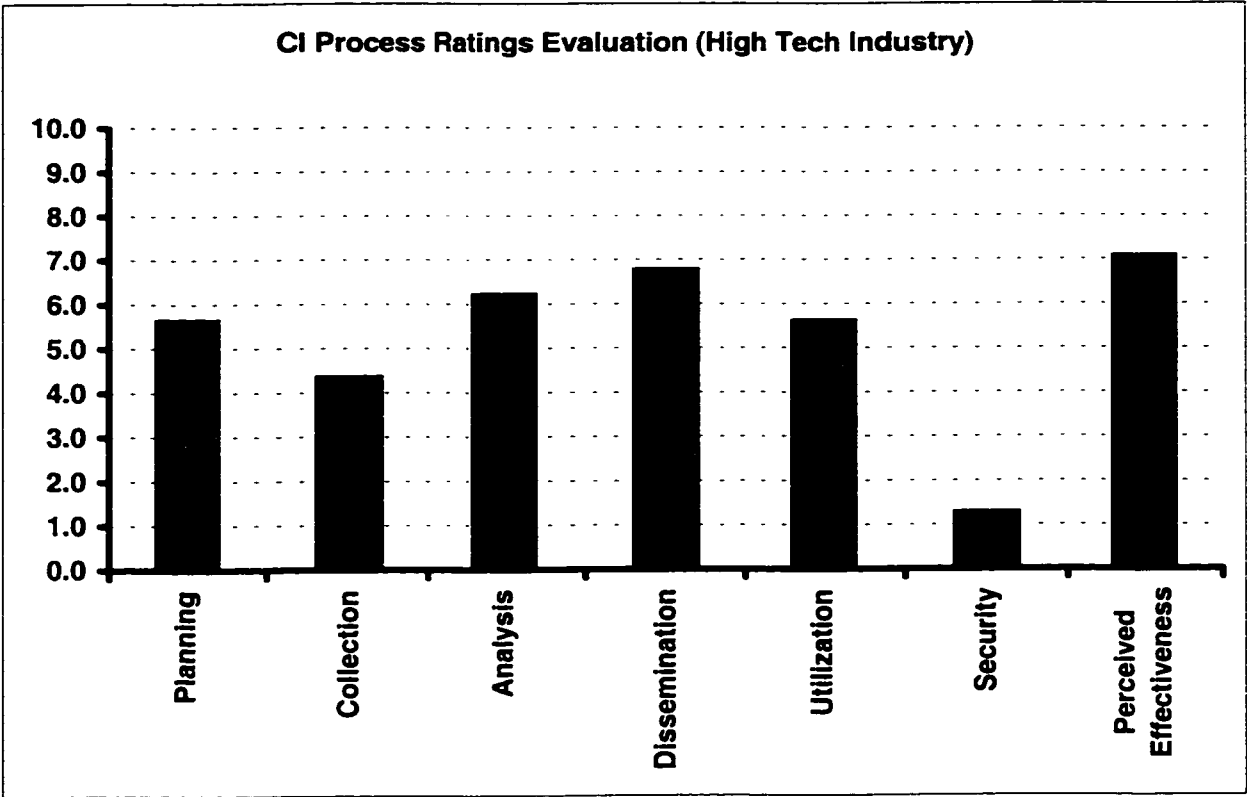


Figure 8-13: CI Factor Evaluation (High Tech Industry)

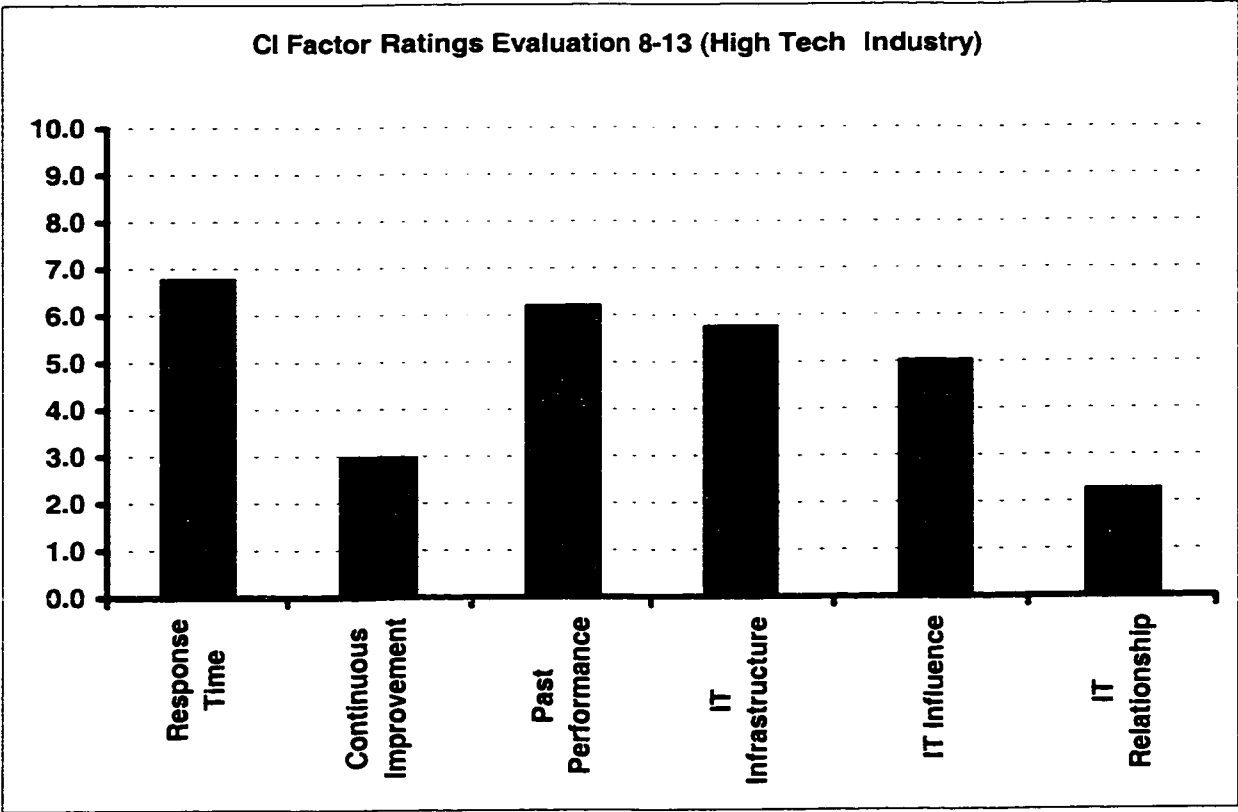
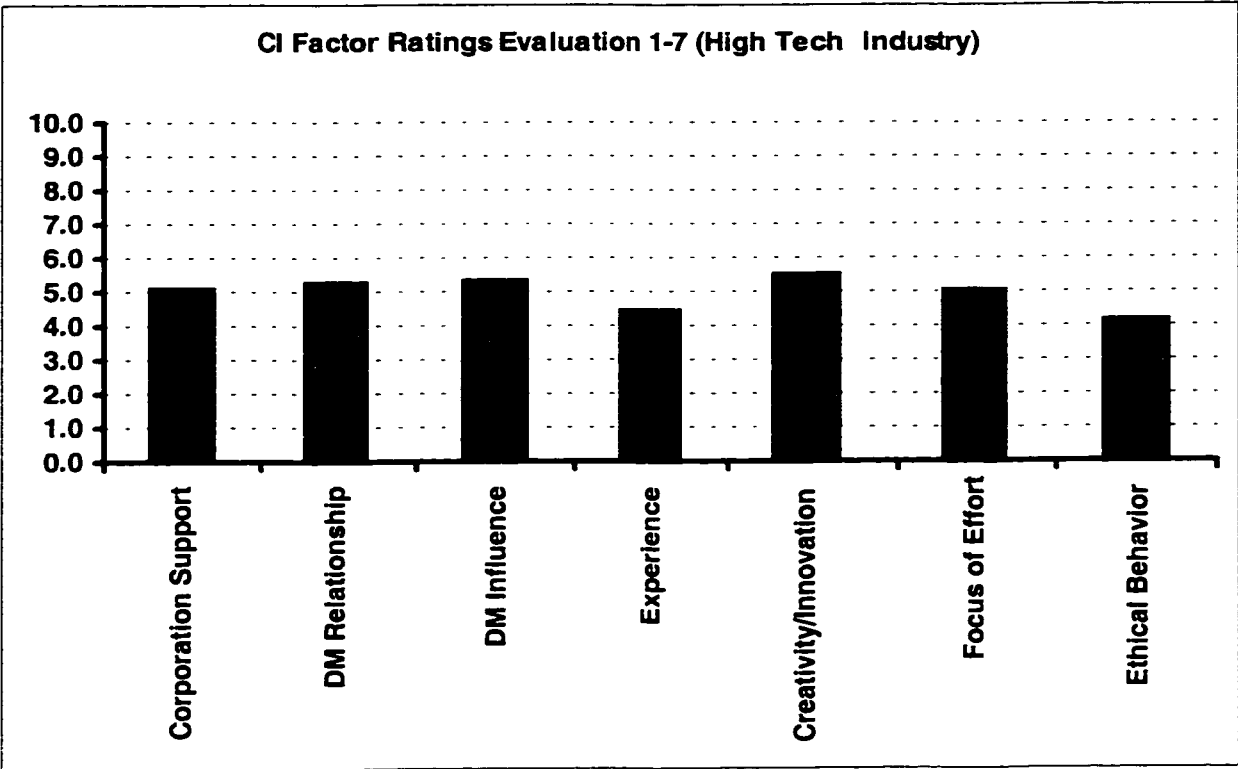
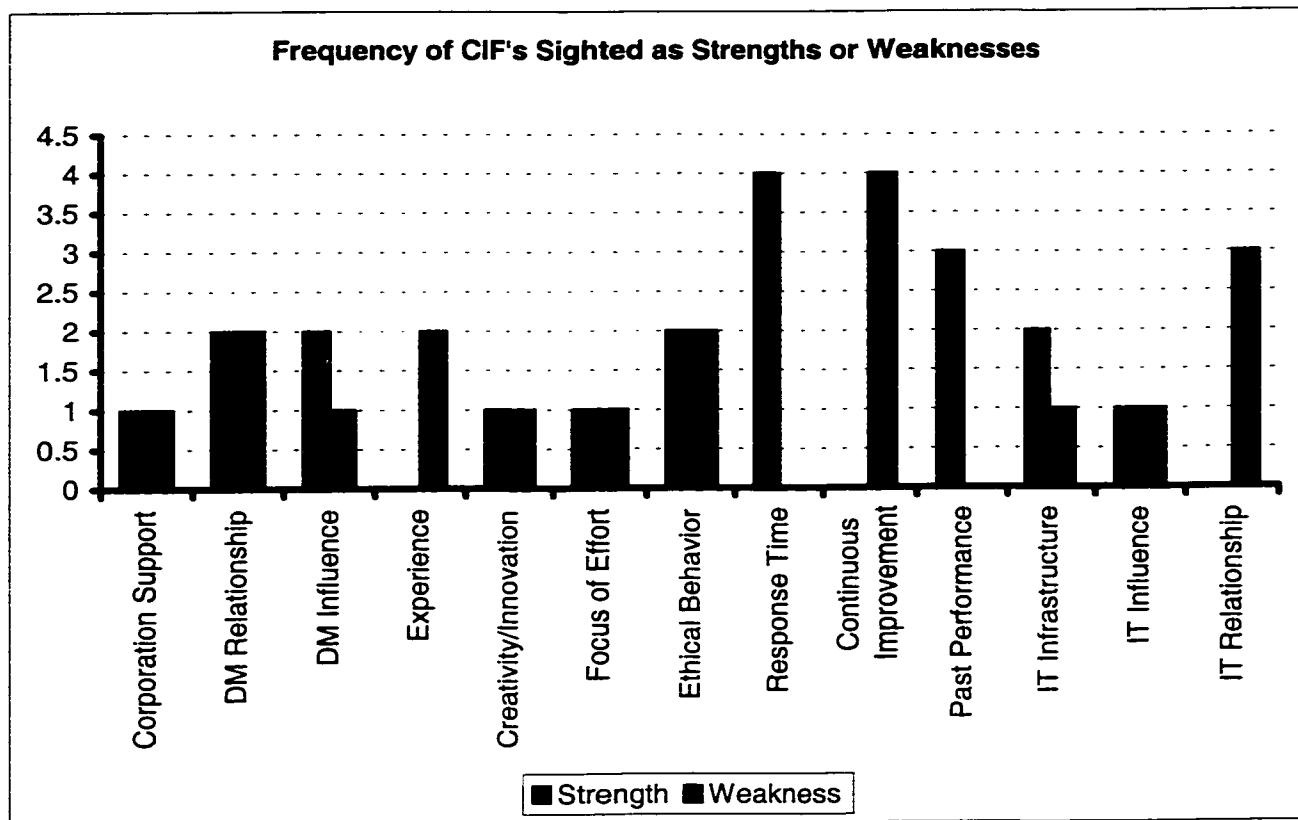


Figure 8-14: Frequency CIF's Sighted as a Strength or Weaknesses



9.0 CONCLUSIONS

The objectives of this report were as follows:

1. Acquire an in-depth understanding of competitive intelligence field.
2. Produce a self-diagnostic tool useful for gauging the degree to which the CI processes within an organization follow generally accepted CI principles.
3. Establish the face validity of the tool through its application on randomly selected firms within the telecommunications industry.

A detailed CI literature review was conducted. Emerging from this review was a CI process aggregating expert opinions and accepted CI principles. Also emerging from the literature review were thirteen competitive intelligence factors associated with the successful application of the CI process, and 45 variables that may be used to measure the CI factors.

The self-diagnostic CI assessment tool was created targeting the individual/s responsible for the CI system within a firm. The tool includes a closed survey where each question correlates to one of the variables, and an algorithm for rating each variable based on the answers proximity to the 'ideal' solution as identified in the literature review. The relationship between variable, CIF, and CI process step was formally established, and the tool was configured to utilize this relationship and the variable rating to calculate a rating for each CIF, CI process step, and the CI process overall. The tool has been programmed to output these results (both tabular and graphically) - plus highlight the strengths and weaknesses on both a CI process and CIF resolution.

The face validity and usefulness of the tool has been established through direct application on firms within the telecommunications industry, and interaction with CI experts. Eight CI professionals representing three firms in the telecommunications industry and one firm in the software industry responded to the questionnaire, and participated in interviews as appropriate to ensure the tool algorithm handled incoming data appropriately and addressed sufficiently the areas necessary to map out the CI process.

The power and versatility of the tool was highlighted. Reports for each firm in the study were generated highlighting the strengths and weaknesses of the CI process, followed by specific recommendations presented to address the weaknesses. Detailed CI comparison/contrasts were made across the firms within the telecommunications industry, and across the telecom and software industries themselves. Finally, observations regarding competitive intelligence in the high-tech industry as a whole were produced.

The scope of the objectives does not include rigorously verifying the validity and reliability of the survey through broad sampling and statistical analysis techniques. Nor does the scope of the objectives extend to include accurate industry averages, cross-industry comparisons, or high-tech industry characteristics. What has been produced is a self-diagnostic tool that may be used by a CI professional to help assess the CI process within an organization, but also holds the potential to deliver considerably more value.

Looking forward, the following areas of research and development will considerably augment the value the CI assessment tool offers to the CI community and firms alike:

1. Apply the tool more broadly across the telecommunications industry. Follow this with a rigorous verification of the validity and reliability of the survey questions via statistical analysis techniques such as Cronback's Alpha, Factor Analysis, etc... The output of this exercise will ensure the survey questions measure what they are intended to measure and do so in an accurate, repeatable, and unbiased fashion. Also emerging from this activity will be a complete CI characterization of the telecom industry, facilitating a more rich analysis of individual firms while contributing significantly to the CI community at large.
2. Apply the tool across other industries to verify its ubiquitous nature and facilitate cross-industry comparisons. The tool (though augmented through interaction with telecommunication industry practitioners) is founded on generally accepted CI principles and as such will be useful to characterize CI in any industry. The cross-industry comparisons will allow one to establish best-in-class CI execution on a CI process, CI factor, or CI variable resolution.
3. Develop weighting factors for the CI process steps and the CI factors; possibly customized to specific industries, industry segments, etc... On a CI process resolution, one might argue successfully that Analysis is more important than Security/Counter Intelligence and thus elect to weight that particular step more heavily while analyzing the ratings. Similarly, at a CI factor resolution one might argue Corporation Support is more important than Ethical Behavior. A simple algorithm for accomplishing this involves assigning a percentage to each step such that the sum is equal to 100% and multiplying with the rating derived in the tool as it currently exists – the sum of the weighted scores for each step will yield an overall rating also on a scale of 0-10. Developing and verifying the weighting factors for industry and/or industry sub-segments would thus enhance the accuracy and power of the tool.
4. Couple with the CI assessment tool a means to quantify the value of the CI process from the perspective of the Decision Makers, and incorporate this in the results and recommendations for CI improvement. Though the tool does insist the CI team establish external 'continuous improvement' metrics including a customer satisfaction survey geared to the decision makers, such a survey would make a potentially useful add-on to the tool. The subsequent ratings blended into the overall CI analysis of the firm not only provide direct feedback to the CI team on their value added, but provide an additional means for validating the generally accepted CI principles.

5. Extend the scope of application of the tool to include firms with no formal CI initiative in place, allowing the tool to function as a guide for creating and establishing a CI process. Though geared exclusively toward firms with established CI processes in place, the tool has been derived from sound theoretical CI principles tempered with industry experience, and as such provides the foundation ingredients for producing a CI initiative from the ground up.
6. Investigate the application of prescriptive vs. descriptive techniques in developing the CI process. The model utilized in the CI assessment tool is very much prescriptive. An alternative (and/or addition) to the derivation of the CI process steps and CI factors principally from literature includes a broad body of descriptive research illustrating how CI is actually done across an industry or industry segment. This combined with an accurate assessment of the value added by the CI group (e.g. as described in point four above) could very well redefine CI theoretical best practices as defined in literature today, and subsequently redefine the variables and algorithms of the tool.
7. Modify the tool consistently to reflect leading edge CI concepts. Naturally CI is not a static entity, and as effective CI redefines itself over time, the tool must keep abreast of these developments in order to retain or enhance its value to firms and the CI community.

Following through with the above will allow a quantification of the competitive intelligence process with much higher accuracy. Armed with these statistics, the tool would then be an ideal instrument for consulting individual firms, facilitating BIC benchmarking, and guiding CI teams toward achieving their full potential.

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APPENDIX A – CI Survey (Case A-1)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY: QUESTIONNAIRE							
Name:						Years of Service with Firm:	15
Firm:						Years of Service as CI Professional:	2
Position:	Director Business Intelligence					Member of SCIP: (Y/N)	Y
Date:	1/15/15						
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
			x				
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
			x				
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA	
		x					
Firm leadership position	1	2	3	4	>4	NA	
		x					
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA	
					x		
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA	
					x		
Percent of time a formal CI Team has existed:	Not Grouped	0-1 years	1-3 years	3-5 years	>5 years	NA	
# CI Practitioners	None	1-5	5-20	20-50	>50	NA	
Degree of CI representation exists in the firm hierarchy:	Strategic	Director	Vice Pres	President	Officer	NA	
Degree of CI efforts centralized within the Corporation:	Staff	Functional	Divisional/BU	LOB	Corporate	NA	
Degree of sharing in the corporate culture:	None	Little	Some	A lot	Great Deal	NA	
Budget allocated to CI team (as % of Revenue) including personnel:	<1%	1-3%	3-6%	6-12%	>12%	NA	
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA	
				x			
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA	
			x				
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
				x			
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who are members of CI Society (e.g. SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA	
Average Years' experience of a CI Practitioner	<1 yrs	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA	
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
					x		
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA	
					x		
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA	
					x		
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
			x				
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA	Must add to 100%.
	1%	1%	1%	1%			Other - please specify

APPENDIX A – CI Survey (Case A-1 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 25%	Secondary 75%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/Customers	NA	Must add to 100%. Other - please specify
% utilization of the following Secondary information Sources:	Newspaper	Magazine/Books	TV/Radio	Analysts Reports	CI Specialists /Consultants	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/ Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Repor between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% Overall CI effort directed towards the following	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security/CounterIntell	NA	Must add to 100%. Other - please specify
Use of Commercial/Off-House software tools for assessing Information/Analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the Information/Analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs. reactive effort	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI Team process control	No Metrics in Place	Accuracy Rate	Response Cycle/Time	Audience Reach		NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/Financial Goals Met	New Leads/Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI control improvement	None	ESA	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI Team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	

APPENDIX A – CI Survey (Case A-2)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY - QUESTIONNAIRE							
Name:						Years of Service with Firm:	6
Firm:						Years of Service as CI Professional:	4
Position:	Sr Manager - Knowledge Management					Number of SCIP (Y/N):	Y
Date:							
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
				x			
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
				x			
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA	
					x		
Firm leadership position	1	2	3	4	>4	NA	
			x				
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA	
				x			
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA	
				x			
Length of time a formal CI team has existed	No Group	0-1 year	1-3 year	3-5 year	>5 year	NA	
# of CI Practitioners	None	1-5	5-20	20-50	>50	NA	
Degree of CI representation in the firm hierarchy	Sr Mgmt	Director	Vice Pres	President	Officer	NA	
Degree of CI centralization within the corporation	Staff	Functional	Divisional/BU	LOB	Corporate	NA	
Degree of sharing in the corporate culture	None	Little	Some	A lot	Great Deal	NA	
Budget allocated to CI team (as % of Revenue) including personnel	<1%	1-3%	3-6%	6-12%	>12%	NA	
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA	
				x			
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA	
				x			
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
				x			
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
		x					
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
			x				
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who are members of CI Society (e.g. SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA	
Average years experience of a CI Practitioner	<1 yrs	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA	
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
			x				
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA	
				x			
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA	
				x			
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
			x				
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA	Must add to 100%.
	40%	5%	5%	10%			Other - please specify

APPENDIX A – CI Survey (Case A-2 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 15%	Secondary 85%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/ Customers	NA	Must add to 100%. Other - please specify
% utilization of the following Secondary information Sources:	Newspaper	Magazine/ Books	TV/Radio	Analysts Reports	CI Specialists /Consultants	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/ Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Report between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% Overall CI effort directed towards the following:	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security/ Counter Intel	NA	Must add to 100%. Other - please specify
Use of Commercial off-the-shelf software tools assisting Information/Analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the Information/Analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs. reactive effort	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI team process	No Metrics in Place	Accuracy Rate	Response Cycle time	Audience Reached		NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/ Financial Goals Met	New Leads/ Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI team self-improvement	None	ESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	

APPENDIX A – CI Survey (Case A-3)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY: QUESTIONNAIRE						
Name	Year of Service with Firm					
Firm	Year of Service as CI Professional					
Position	Member of SCP (Y/N)					
Date						
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm leadership position	1	2	3	4	>4	NA
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA
Long (10+ years) formal CI team has been in place	No Group	0-10 years	11-20 years	21-30 years	31-40 years	>40 years
CI Practitioners	None	1-5	6-10	11-20	21-50	>50
Degree of representation in the firm hierarchy	Sr. Mgr.	Director	Vice Pres.	President	Officer	NA
Degree of CI effort centralized within the corporation	Staff	Functional	Divisional/BU	EOB	Corporate	NA
Degree of sharing in the corporate culture	None	Little	Some	A lot	Great Deal	NA
Budget allocated to CI team (as % of revenue) including personnel	<1%	1-3%	3-6%	6-12%	>12%	NA
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
% of CI Practitioners who have received formal training	Zero	1-25%	25-50%	50-75%	75-100%	NA
% of CI Practitioners who are members of CI Society (e.g. SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA
Average years experience of a CI Practitioner	<1 yrs	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA
	70%	20%		10%		Must add to 100%. Other - please specify

APPENDIX A – CI Survey (Case A-3 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 50%	Secondary 50%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/Customers	NA	Must add to 100%. Other - please specify
% utilization of the following Secondary information Sources:	Newspaper	Magazine/Books	TV/Radio	Analysts Reports	CI Specialists /Consultants	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/ Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Report between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% Overall CI effort directed towards the following	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security/Counter Intelligence	NA	Must add to 100%. Other - please specify
Use of Commercial In-House software tools assisting Information Analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the information analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	0-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	0-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs reactive effort	0-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI Team process control	No Metrics in Place	Accuracy/Rate	Response Cycle Time	Audience Reach		NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/Financial Goals Met	New Leads/Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI Team self improvement	None	ESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI Team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	

APPENDIX A – CI Survey (Case B-1)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY - QUESTIONNAIRE							
Name						Years of Service with Firm	14.5
Firm						Years of Service as CI Professional	4.0
Position	Market Analyst					Number of SCIP (Y/N)	Y
Date							
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
		x					
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
			x				
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA	
		x					
Firm leadership position	1	2	3	4	>4	NA	
				x			
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA	
			x				
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA	
				x			
Range of time firm CI team has existed	Not Grouped	0-1 years	1-3 years	3-5 years	>5 years	NA	
# of CI Practitioners	None	1-5	5-20	20-50	>50	NA	
Current CI representation exists in the firm hierarchy	Strategic	Director	Vice Pres.	President	Officer	NA	
Current CI system centralized within the corporation	Not Staffed	Functional	Divisional/BU	Logistics	Corporate	NA	
Degree of training in the corporate culture	None	Little	Some	A lot	Great Deal	NA	
Budget allocated to CI team (as % of revenue) including personnel	<1%	1-3%	3-6%	6-12%	>12%	NA	
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA	
					x		
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA	
				x			
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
				x			
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
		x					
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
		x					
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who are members of CI Society (and SCIP) members	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA	
Average years experience of a CI Practitioner	<1 yr	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA	
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
		x					
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA	
				x			
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA	
				x			
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
		x					
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA	Must add to 100%.
	40%			60%			Other - please specify

APPENDIX A – CI Survey (Case B-1 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 30%	Secondary 70%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/Customers	NA	Must add to 100%. Other - please specify
% utilization of the following Secondary information Sources:	Newspaper	Magazine/Books	TV/Radio	Analysts Reports	CI Specialists/Consultants	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Report between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% Overall CI effort directed towards the following:	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security/Counterintelligence	NA	Must add to 100%. Other - please specify
Use of Commercial/In-House software tools assisting information/analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the information/analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs. reactive effort	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI team process control	No Metrics in Place	Accuracy Rate	Response Cycle Time	Audience Reach		NA	Database exists for tracking CI requests and solutions
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/Financial Goals Met	New Leads/Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI team self-improvement	None	RESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	

APPENDIX A – CI Survey (Case B-2)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY QUESTIONNAIRE							
Name:						Years of Service with Firm:	15
Firm:						Years of Service as CI Professional:	15
Position:	Competitive Manager					Member of SCIP (Y/N):	Yes
Date:							
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA	
Firm leadership position	1	2	3	4	>4	NA	
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA	
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA	
Length of time CI Team has existed	No Group	0-1 years	1-3 years	3-5 years	5-10 years	NA	
CI Team size	None	1-5	5-20	20-50	>50	NA	
Degree of representation within the hierarchy	No	Staff	Director	Vice Pres	President	NA	
Degree of CI effect on corporate strategy	Strategic	Functional	Divisional/BUS	Product/LOB	Corporate	NA	
Degree of sharing within corporate culture	None	Little	Some	A lot	Great Deal	NA	
CI Team focused on CI Team (as opposed to primary personnel)	<1%	1-3%	3-6%	6-12%	>12%	NA	
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA	
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who are members of CI Society (e.g. SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA	
Average years experience of CI Practitioners	<1yr	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA	
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA	
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA	
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
% utilization of the following communication medium:	Internet 40%	Audio	Video	In Person 60%	-	NA	Must add to 100%. Other - please specify

APPENDIX A – CI Survey (Case B-2 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 30%	Secondary 70%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/Customers	NA	Must add to 100%. Other - please specify
		33%		33%	33%		
% utilization of the following Secondary information Sources:	Newspaper	Magazine/Books	TV/Radio	Analysts Reports	CI Specialists/Consultants	NA	Must add to 100%. Other - please specify
	10%	30%	10%	30%	20%		
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/Demographic	Must add to 100%. Other - please specify
		70%	20%	10%			
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Report between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
				x		x	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
	x						
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
				x			
Overall CI effort directed towards the following:	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security/Counter Intel	NA	Must add to 100%. Other - please specify
	100%	40%	40%	10%			
Level of Commercial Intelligence software tools assisting information analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the information analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
				x			
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
	30%	20%	10%		40%		
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
	x						
% Intelligence provided is used by Decision Makers	<1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	<1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive efforts vs. reactive effort	<1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI team process:	No Metrics in Place	Accuracy/Rate	Response/Cycle Time	Audience/Reach		NA	Must add to 100%. Other - please specify
			50%	75%			
% Utilization of the following metrics for gauging CI effectiveness:	No Metrics in Place	Utilization of Intelligence	Market/Financial Goals Met	New Leads/Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
		100%					
% Utilization of the following techniques for CI team self-improvement:	None	ESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
				50%	50%		
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
				x			
Estimated value (in terms of ROI) the CI team brings to the firm:	Negative	0-5%	5-10%	10-20%	>20%	NA	
				x			

APPENDIX A – CI Survey (Case B-3)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY: QUESTIONNAIRE						
Name	Years of Service with Firm					1-5
Firm	Years of Service as CI Professional					1-6
Position	Member of SCIP (Y/N)					N
Date						
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm leadership position	1	2	3	4	>4	NA
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA
Length of time a formal CI Team has existed	Not Group	0-1 years	1-3 years	3-5 years	>5 years	NA
CI RE Power	Not None	1-5%	5-20%	20-50%	>50%	NA
Degree of representation in the hierarchy	Not Mgmt	Director	Vice Pres	President	>60%	NA
Degree of centralization within the organization	Not State	Functional	Division/BU	Global/CO	Corporate	NA
Degree of visibility of the Corporate Culture	Not None	Little	Some	A lot	Great Deal	NA
Degree of access to CI (e.g. per Org. Security) among personnel	<10%	10-30%	30-60%	60-75%	>75%	NA
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA
% of CI Practitioners who are members of CI Society (e.g. SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA
Average years experience of a CI Practitioner	<1 yr.	1-3 yrs.	3-5 yrs.	5-10 yrs.	>10 yrs.	NA
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA
	60%	10%		30%		Must add to 100%. Other - please specify

APPENDIX A – CI Survey (Case B-3 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 30%	Secondary 70%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents 6%	Conferences 30%	SEC Filings 4%	Employees 30%	Suppliers/Customers 30%	NA	Must add to 100%. Other - please specify
% utilization of the following Secondary information Sources:	Newspaper 10%	Magazine/Books 30%	TV/Radio 10%	Analysts Reports 30%	CI Specialists/Consultants 20%	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations 70%	Competitors 20%	Industry 20%	Economy 10%	Politics 10%	Social/Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Repair between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% Overall CI Effectiveness	Planning 10%	Gathering Information 40%	Analyzing Information 40%	Disseminating Information 10%	Security/Clearance 10%	NA	Must add to 100%. Other - please specify
Level of Commercial Intelligence Software Tools assisting Information Analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only 30%	Presentation 10%	Voice Message 10%	Video 10%	E-Mail 50%	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on the Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	0-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	0-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive efforts reactive efforts	0-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI team process control	No Metrics in Place	Accuracy 50%	Response 50%	Audience 50%	Reach 50%	NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence 50%	Market/Financial Goals Met 50%	New Leads/Products Generated 50%	Repeat Business 50%	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI Team Self Improvement	None	ESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI Team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	

APPENDIX A – CI Survey (Case C-1)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY: QUESTIONNAIRE							
Name						Years of Service with Firm	10
Firm						Years of Service as CI Professional	
Position	VP Marketing					Member of SCIP (Y/N)	N
Date							
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
				x			
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA	
			x				
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA	
			x				
Firm leadership position	1	2	3	4	>4	NA	
				x			
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA	
			x				
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA	
				x			
Length of time formal CI Team has existed	No Group	0-1 years	1-3 years	3-5 years	5+ years	NA	
CI Practitioners	None	1-5	5-10	10-20	20-60	>60	NA
Degree CI representation exists in the firm hierarchy	Sr. Mgmt	Director	Vice Pres	President	Officer	NA	
Degree CI efforts centralized within the corporation	Staff	Functional	Divisional/BU	LOB	Corporate	NA	
Degree of sharing in the corporation	None	Little	Some	A lot	Great Deal	NA	
Degree of access to CI Team (as a result of position/parameters)	<15%	15-30%	30-50%	50-75%	>75%	NA	
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA	
	x						
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA	
		x					
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
				x			
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
		x					
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
					x		
% of CI Practitioners who have received formal CI training in the firm	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who are members of CI Society (or SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA	
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA	
Average years experience of a CI Practitioner	<1 yrs	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA	
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
			x				
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA	
			x				
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA	
		x					
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA	
		x					
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA	Must add to 100%.
	75%			25%			Other - please specify

APPENDIX A – CI Survey (Case C-1 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 20%	Secondary 80%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Government Documents	Conferences	SEC Filings	Employees	Suppliers/Customers	NA	Must add to 100%. Other - please specify
% utilization of the following Secondary information Sources:	Newspaper	Magazine/Books	TV/Radio	Analysts Reports	CI Specialists /Consultants	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors	Industry	Economy	Politics	Social/ Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never	Sometimes	Usually	Very Often	Always	NA	
Repor between CI Practitioners and IT group	Poor	Reasonable	Good	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% Overall CI effort directed towards the following:	Planning	Gathering Information	Analyzing Information	Disseminating Intelligence	Security Countermeasures	NA	Must add to 100%. Other - please specify
Use of Commercial In-House software for processing information/Analysis	None	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the information Analysis process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation	Voice Message	Video	E-Mail	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on Decision Makers	None	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Unspecific CI recommendations are followed by Decision Makers	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs. reactive	1-10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking team CI team process controls	No Metrics in Place	Accuracy Rate	Response Cycle Time	Audience Reach		NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/ Financial Goals Met	New Leads/ Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI team self improvement	None	ESAT	CSAT	Post-Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI Team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	

APPENDIX A – CI Survey (Case D-1)

COMPETITIVE INTELLIGENCE IN THE TELECOM INDUSTRY - QUESTIONNAIRE						
Name:				Years of Service with Firm:		1-3
Firm:				Years of Service as CI Professional:		5+
Position:	Competitive Intelligence Manager			Member of SCIP (Y/N):		Yes
Date:						
Industry growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm growth rate	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm market share	0-6%	6-12%	12-24%	24-48%	>48%	NA
Firm leadership position	1	2	3	4	>4	NA
Number of firm employees	1-500	500-1000	1000-10000	10000-50000	>50000	NA
Firm annual revenue	1-100M	100-500M	500-1B	1-10B	>10B	NA
Length of time a formal CI Team has existed	No Group	0-1 years	1-3 years	3-5 years	>5 years	NA
CI in the firm	None	1-50%	50-100%	100%	100%	NA
Degree of Centralization of CI in the firm hierarchy	No CI	Director	Vice Pres.	President	Officer	NA
Degree of CI efforts centralized within the corporation	No CI	Functional	Divisional/BU	REO/LOB	Corporate	NA
Degree of planning in the corporate environment	None	Little	Some	A lot	Great Deal	NA
Number allocated to CI Team (as % of total employees)	<1%	1-3%	3-6%	6-12%	>12%	NA
Highest level in hierarchy of the Decision Makers who are serviced	Lower Mgmt	Upper Mgmt	Vice Pres.	President	Officer	NA
Report between Decision Makers and the CI Practitioners	Poor	Reasonable	Good	Very Good	Excellent	NA
Frequency CI representatives and Decision-Makers meet?	Never	Quarterly	Monthly	Weekly	Daily	NA
Frequency CI representatives attend Decision-Maker meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
Frequency Decision-Maker representatives attend CI meetings?	Never	Quarterly	Monthly	Weekly	Daily	NA
% of CI Practitioners who have received formal CI training	Zero	1-25%	25-50%	50-75%	75-100%	NA
% of CI Practitioners who are members of CI Society (or SCIP)	Zero	1-25%	25-50%	50-75%	75-100%	NA
% of CI Practitioners who have had previous experience in the CI field	Zero	1-25%	25-50%	50-75%	75-100%	NA
Average years experience of CI Practitioners	<1 yr	1-3 yrs	3-5 yrs	5-10 yrs	>10 yrs	NA
Degree of automation in the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
Degree of centralization of the information/intelligence acquired	None	Little	Some	A lot	Great Deal	NA
Degree of accessibility of the information & intelligence storage system	None	Little	Some	A lot	Great Deal	NA
Degree of scalability of the information gathering/storage process	None	Little	Some	A lot	Great Deal	NA
% utilization of the following communication medium:	Internet	Audio	Video	In Person	-	NA
	60%	15%	10%	15%		Must add to 100%. Other - please specify

APPENDIX A – CI Survey (Case D-1 Con't)

% Utilization of Primary vs. Secondary information sources	Primary 60%	Secondary 40%	-	-	-	NA	Must add to 100%
% utilization of the following Primary Information Sources:	Press Release 55%	Conferences 10%	SEC Filings 20%	Employees 15%	Suppliers/ Customers 65%	Press Releases	Press Release - 55%
% utilization of the following Secondary information Sources:	Newspaper 25%	Magazine/ Books 10%	TV/Radio	Analysts Reports 65%	CI Specialists /Consultants	NA	Must add to 100%. Other - please specify
% of information gathering effort directed toward the following concerns:	Internal Operations	Competitors 60%	Industry 40%	Economy	Politics	Social/ Demographic	Must add to 100%. Other - please specify
Utilization of a Code of Conduct Specifically referencing CI	Never x	Sometimes	Usually	Very Often	Always	NA	
Repor between CI Practitioners and IT group	Poor	Reasonable	Good x	Very Good	Excellent	NA	
Frequency CI representatives and IT group meet?	Never x	Quarterly	Monthly	Weekly	Daily	NA	
Frequency CI representatives attend IT meetings?	Never x	Quarterly	Monthly	Weekly	Daily	NA	
Frequency IT representatives attend CI meetings?	Never x	Quarterly	Monthly	Weekly	Daily	NA	
Best Case cycle time for acquiring requested information	>4 wks	2-4 wks	1-2 wks	1day-1wk x	<1 day	NA	
% Overall CI effort directed towards the following:	Planning 20%	Gathering Information 30%	Analyzing Information 40%	Disseminating Intelligence 10%	Security/Counterintelligence	NA	Must add to 100%. Other - please specify
Use of Commercial off-the-shelf software tools assisting information/analysis	None x	Little	Some	A lot	Great Deal	NA	
Best Case cycle time for completing the information/analysis process	>4wks	2-4wks	1-2wks	1day-1wk	<1day	NA	
Best Case cycle time for completing the Intelligence Dissemination Process	>4 wks	2-4 wks	1-2 wks	1day-1wk x	<1 day	NA	
% use of the following Information/Intelligence as a primary presentation technique	Report Only	Presentation 10%	Voice Message	Video	E-Mail 90%	NA	Must add to 100%. Other - please specify
Influence CI Practitioners have on Decision Makers	None x	Little	Some	A lot	Great Deal	NA	
Influence CI Practitioners have on the IT group	None x	Little	Some	A lot	Great Deal	NA	
% Intelligence provided is used by Decision Makers	<10%	10-25%	25-50%	50-75%	>75%	NA	
% Time specific CI recommendations are followed by Decision Makers	<10%	10-25%	25-50%	50-75%	>75%	NA	
% Time engaged in proactive effort vs. reactive effort	<10%	10-25%	25-50%	50-75%	>75%	NA	
% Utilization of the following metrics for tracking internal CI team process	No Metrics in Place	Accuracy Rate	Response Cycle Time	Audience Reach		NA	Must add to 100%. Other - please specify
% Utilization of the following metrics for gauging CI effectiveness	No Metrics in Place	Utilization of Intelligence	Market/ Financial Goals Met	New Leads/ Products Generated	Repeat Business	NA	Must add to 100%. Other - please specify
% Utilization of the following techniques for CI team collaboration	None	ESAT	CSAT	Post Mortem	Benchmarking	NA	Must add to 100%. Other - please specify
% Utilization of CI potential	Ineffective	0-25%	25-50%	50-75%	75-100%	NA	
Estimated value (in terms of ROI) the CI team brings to the firm	Negative	0-5%	5-10%	10-20%	>20%	NA	