

Title: “Competitive Intelligence Approach to FINANCIAL RISK MANAGEMENT In Banking “

*Abstract:*

The banking industry has changed incessantly, breeding new combinations of risk of both the known and the unknown types. The banking regulation and the introduction of BASEL II introduced better risk awareness. However, bank management as well as banking regulators cannot rely on pure regulatory aspect of risk management. It is important to explore deeper into the source of risk, to identify the risk drivers or to better understand the nature of risk affecting each financial risk related product. Understanding the nature of credit risk and market risk in this case would mean understanding the competitive advantage of its creditors as well as the issuer of financial instruments. The measurement of competitive advantage reflects profitability and loss, thus translates to risk and opportunity of its portfolio. Given the nature of risk and opportunity of its portfolio will help bank policy makers in formulating effective and efficient policies and strategy in response to risk and opportunity undertaken. The paper begins with exploring the current risk management practice and process in terms of identifying and understanding the nature of risk, in the perspective of a bank in the Philippines. Competitive intelligence strategies were discussed, as well as suggest a model. The model uses Fuld’s intelligence cycle model as well as “risk diagnostic hypothesis tree” in response to analyzing risk.

*Keywords:*

Risk Management, Market Risk , Credit Risk, Liquidity Risk, Competitive Intelligence, BASEL II

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## 1. Background of the Study

Risk refers to the uncertainty that surrounds future events and outcomes. It is the expression of the likelihood and impact of an event, with the potential to influence the achievement of an objective. In relation to a banking institution, examples of uncertainties are political climate and socio-economic factors that contribute to the profitability of the bank. Hence, risk is therefore defined as “the possibility of suffering financial loss”.

Financial loss may hamper the integrity, profitability and operation of the bank and may also cause unfavorable economic effects. Unfortunately, due to the dynamic nature of the operation of a banking institution, risk cannot be totally eliminated. And therefore, they are becoming even more vulnerable to a wide array of risks, especially when it comes to financial risk such as Market Risk<sup>1</sup>; Credit Risk<sup>2</sup> and Liquidity Risk<sup>3</sup>, risks are influenced by economic factors. Thus, forecasting and managing risk, or Risk Management (RM), is very essential to any financial institution.

RM is a technical discipline with goals to protect the assets and income of an organization by eliminating, reducing, or transferring potential for loss. To eliminate or mitigate loss, it is important to forecast risk.

The Central Bank or Banko Sentral ng Pilipinas (BSP) as a regulatory body, understands the importance of risk management and has made its commitment to the international committee to adopt the recommendation of the Basel Committee on Banking Supervisions “New Capital Adequacy Framework” – best known as BASEL II. The BASEL II nurtures the risk management culture, by focusing on the three pillars, namely: capital adequacy, supervisory review and market discipline. As to BSP’s commitment, all banks must implement the first pillar by at least using the “Standardize Approach” beginning year 2007. And hopefully will be able to implement FIRB approach to credit risk by the end of 2010. Other countries, like Hong Kong, Australia and Thailand, are expected to adopt the BASEL II approach by 2007, 2008 and 2009 respectively.

According to Mr. Warner Manning (General Manager of HSBC Philippines) during the PRIMIA quarterly forum last January 2006, BASEL II nurtures a stronger risk management culture, but it is not the cure of all risk, since no matter how strong the regulation is, the risk will materialize, where “*Good loans still go unexpectedly bad*”.

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<sup>1</sup> Market Risk can be generally defined as the risk of loss (immediate or overtime), due to adverse fluctuations in the price or market value of financial instruments, products, and transactions in the Banks overall portfolio

<sup>2</sup> Credit Risk is the risk that a customer or counterparty will be unable or unwilling to pay obligations on time or in full as expected or previously contracted, subjecting the Bank to a financial loss

<sup>3</sup> Liquidity is the ability of the Bank to fund increases in assets and meet obligations in all currencies as they mature and is extremely crucial to the ongoing viability of the bank. Liquidity risk is defined as the risk that the bank will be unable to make a timely payment on any of its financial obligations to customers or counterparties in any currency.

This is where Competitive Intelligence (CI) comes in. CI can help risk managers identify, assess and map risk. This will empower decision makers to make informed risk-based decisions from appropriately developed risk-related corporate planning processes. With the proper tools, decision makers will be able to conduct strategic risk-testing to know the level of risks associated with key strategies and objectives. Unfortunately, there were hardly any software focuses on Competitive Intelligence approach that fits the financial industry. Most software solutions dealt with number crunching and data mining, which may not work in the case of Philippine banking industry. To begin with, there were not much data to mine or analyze, compared to our western counterpart.

## 2. Survey of Literature

In 1988, the Basel Committee on Banking Supervision (BCBS)<sup>4</sup> issued the first “Capital Adequacy Framework”, better known as Basel I. The capital requirements set by Basel I are intended to mitigate risks, by ensuring that the financial institutions have, at least, minimal resources to honor its commitments to its customers.

Unfortunately, Basel I was said to be inadequate, since it only accounts for credit risk and market risk, while assignment of credit risk weights was believed to be crude. The BCBS eventually came up with “New” capital framework in 1997, which is better known as Basel II<sup>5</sup>. The objectives of Basel II are to encourage better and more systematic risk management practices, and to provide improved measures of capital adequacy.

In 1999, the World Bank released a book by Hennie Van Greuning and Sonja Brajovic-Bratanovic entitled, “Analyzing Banking Risk”. The book discussed the importance of risk management in a bank and the importance of banking supervision. It also identified and described the role of the “key players” in corporate governance and RM process, provided a holistic view of banking analysis as well as the identification and allocation of task as part of the RM process, and provided a broad framework for financial risk management.

Following Greuning’s book, BSP, in a joint effort with Bankers Association of the Philippines (BAP), released the “Financial Market Risk Reference Manual”. It recognized and addressed the various risks in the financial markets, in the context of the Philippines. The manual provided the basic guidelines/ best practices, of which the BSP and *Bankers Association of the Philippines* (BAP) expect every banking institution to assimilate its contents into the Philippine banking system as the minimum standards and procedures acceptable to the local regulator. Unfortunately, the manual did not define the exact approach/methodology or framework to be used in RM.

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<sup>4</sup> Group of banking supervisors which secretariat is based at the Bank of International Settlement (BIS) in Basel, Switzerland.

<sup>5</sup> BASEL II consists of three pillars: minimum capital requirements, which seek to refine the standardized rules set forth in the 1988 Accord; supervisory review of an institution's internal assessment process and capital adequacy; and effective use of disclosure to strengthen market discipline as a complement to supervisory efforts

More specific guidelines in implementing BASEL I and II were released by BSP, through the issuance of the several circulars including monetary board resolutions. The following are relative circulars and memorandum:

- **Circular No. 280** series of 2001 – specifies the capital requirement for credit risk
- **Circular No 360** series of 2003 – specifies the capital requirement for credit risk
- **Circular No 400** series of 2003 – specifies the capital requirement for quasi-banks dealing with credit risk.
- BSP memorandum to all bank dated 13 December 2004 as per **Monetary Board resolution No. 1516**, dated 14 October 2004 – requires all banks to implement the three pillars (Capital Requirement, Supervisory Review, Market Discipline) as recommended by Basel II, in several phases beginning 2007. It also requires all Universal and Commercial banks to, at least, use standardized approach for credit risk, and the existing market risk framework ( Basel I )

The second pillar of Basel II (Supervisory Review) requires bank to properly assess their capital adequacy, in relation to the risk they are taking. And also, supervisors should be able to evaluate the soundness of these assessments. Continuous evaluation requires clear understanding of the risk and assessing the risk drivers. Since financial risk are mostly inherited through the transaction of its client, it is important to understand how the client will most likely perform. Performance is believed to be influenced by its competitive advantage. Therefore, it is important to learn the profitability based on its competitive environment – Competitive Intelligence.

Competitive intelligence (CI) is no longer a young discipline. CI was first introduced by William T. Kelly in 1965 and was popularized by Michael Porter back in the 80's with his books "Competitive Strategy" and "Competitive Advantage". Porter identified competitive intelligence as needed by business function; that the success and failure of any firm depends on its competitive advantage. He also outlined the tools for analyzing competitors and evaluating their strengths and weaknesses, which can lead to opportunities.

Leonard Fuld, one of the pioneers in the field of CI, stated that CI provides comprehensive understanding of company's external environment. In the perspective of RM in a bank, the focus is on how their client and investment will most likely perform. Knowing their strengths and weaknesses, they will be able to provide the management to develop a well-informed risk-based decision from appropriately developed risk-related corporate planning processes. These give them a sense of intelligence on how much risk they are exposed to and what they need to do to avoid or at least mitigate risk.

In 2001, Leonard Fuld released a status report on how CI software packages meet user requirements. According to his report, software vendors that claim to "do it all" fell short of expectations, whereas:

- a. Software industry is a long way from delivering a satisfying competitive intelligence solution
- b. Businesses are more confused than ever about software's benefits than the role that it should play.

Fuld also said that companies must not expect software package to build intelligence process. Companies need to have an intelligence process running for some time before plugging in a software solution. He provided a checklist on when to use information technology to support CI function and also suggest that Intelligence Cycle process must be inherent in a CI system. He described IC as a process that is composed of five (5) steps: Planning and Direction, Collection, Processing, All Source Analysis and Intelligence Production and Intelligence Dissemination.

In 2003, Johan du Plooy hinted on the growing use of competitive intelligence in the financial services sector. He mentioned that banks and financial service organizations have spent considerable resources to protect their organizations from infiltration of their systems. Although, he did not describe fully how financial institutions apply CI to take information advantage or counter competitor's use of CI.

In Chris Lesar's article, which was published in the DM review last May 2004, discussed the role of technology in risk compliance, and the role of senior executives in risk assessment. Lesar stated that the key element of the most appropriate solution is to cut across departmental silos by pulling in information from multiple sources; very possibly internal and external information such as competitive and market intelligence; Solution must support extensive and easy end-user role-based personalization, without constant programmer intervention.

This year, Conor Vibert discussed in his article "Using Online Competitive Intelligence to Help Identify Organizational Risk", the importance of forecasting and managing risk using Online Competitive Intelligence. He said that the important goal of CI, is to develop actionable intelligence. He described it as, where data is collected and compiled to develop information that is then analyzed to create knowledge. Knowledge is communicated to become intelligence.

When applied by decision makers, it then leads to actionable results. With this process, Online CI can help managers identify, assess and map risk. Although, he also mentioned that not all risk can be identified ahead of time, but by using online CI methodologies, fewer risk will be left unnoticed, and the known risk will be better understood.

In light of the recent challenges in the banking regulation and risk management, it is a worthwhile exercise to explore the potential benefits of applying CI to better understand risk and hopefully improve the RM practice.

### **3. Conceptual / Theoretical Framework**

According to one of BASEL’s Core Principle Methodology, individual banks and banking groups are required to have in place comprehensive risk management policies and processes that identify, evaluate, monitor and control or mitigate material risks.

### 3.1. Current Risk management Practices in the Philippines

However, it is not possible to identify, evaluate, monitor, control or mitigate all risk. This is because risks are event driven, it is not possible to predict future event unless that the nature or risk are clearly understood. It is essential to define the source of such risk, risk indicators, probability of risk from occurring, as well as the impact of such risk.

### 3.2. Importance of understanding the nature of risk

However, it is not possible to identify, evaluate, monitor, control or mitigate all risk. This is because risks are event driven, it is not possible to predict future event unless that the nature or risk are clearly understood. It is essential to define the source of such risk, risk indicators, probability of risk from occurring, as well as the impact of such risk.

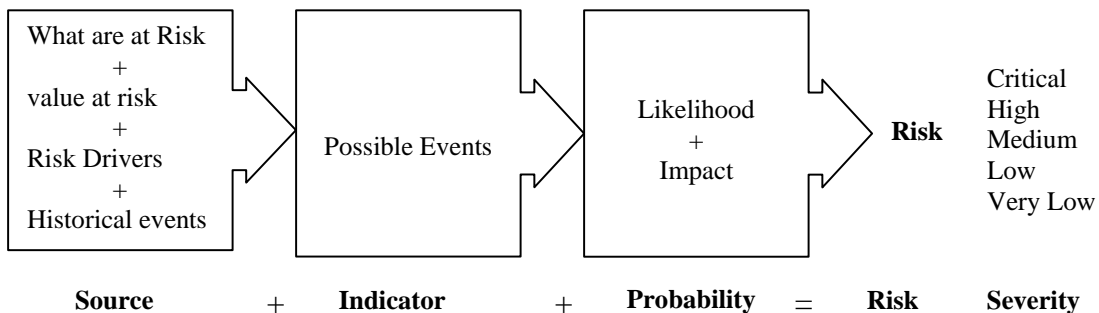


Figure 3-1 . Nature of Risk

Risk identification will be done in stages, whereas

Identifying the nature of risk require previous experience or tested formula to find such risk. Previous known risk as well risk as defined by BASEL II and local regulation will be used as the starting point.

In spite of the regulatory approach, there will still be some risk, which will be left unnoticed. In such events, information must be properly documented and analyzed. Once analyzed, it will give the risk managers and respective risk takers, better understanding of risk. The most important aspects therefore of any RM system innovation, is to provide risk managers and risk takers an effective system, that will help them understand the nature of the risk, communicate the risk, ways to monitor the cause and effects of risk and hopefully be able to create strategic plan on how to prevent or mitigate risk.

Unfortunately, it is clear that the regulatory aspect is not enough to provide full understanding of the nature of risk. This is where the proponent intends to use Competitive Intelligence process to help identify potential sources of risk.

### **3.3. Importance of Competitive Intelligence in Understanding the nature of risk**

Competitive intelligence (CI) is the process of monitoring the competitive environment. CI is commonly used in strategic warfare, whereas it enables managers in companies to be informed about everything from marketing, R&D, and investing tactics to long-term business strategies by defining the strength and weakness of the firm and act on it.

Strengths and weakness are important to RM as it defines the profitability and probability of loss (risk). For market risk, it defines the factors that cause the fluctuation in price/value of financial instruments. For credit risk, it defines the paying ability of the creditor and guarantor. For liquidity risk, it is influenced by the timely paying ability of the creditor and timely investment opportunity. Thus, knowing the competitive environment of the firm that the bank deals with, will give risk managers a sense of intelligence on the risk exposure and the probability of realization of risk. These will give them ability to plan, and act on it – manage risk.

### **3.4. Competitive Intelligence and Actionable Intelligence in RM**

The key point is to provide risk managers intelligence on the nature of risk ( source, indicator, probability and severity of risk ). As Conor Vibert suggested, the goal of CI is to create actionable intelligence, whereas in the point of view of RM, actionable intelligence provide risk managers knowledge on risk and how to deal with it.

The risk based system will therefore use Vibert’s actionable intelligence creation model combined with Leonard Fuld’s intelligence cycle (IC) to create actionable intelligence.

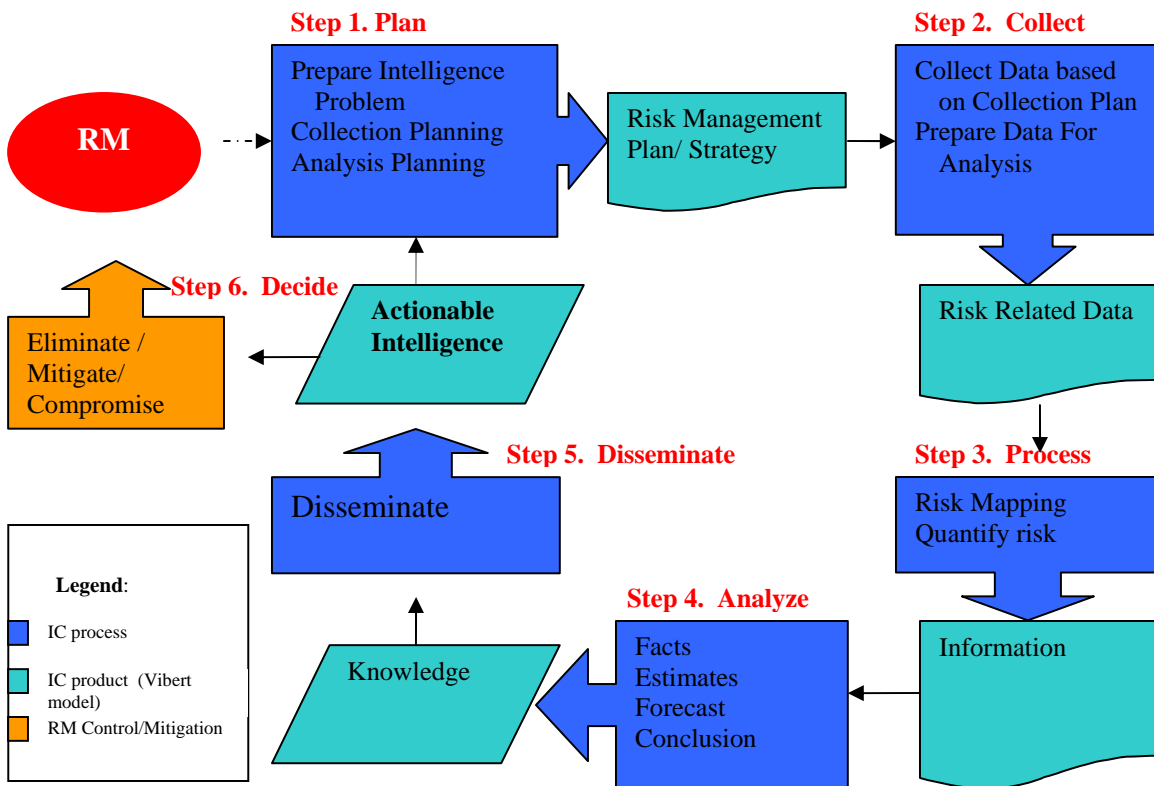


Figure 3-2 Risk Management Process using Intelligence Cycle to create Actionable Intelligence

The model is designed to identify and control risk. It is a cycle in nature to make sure that the all defined processes are repeatable and managed. The model also makes sure that defined risks are monitored and RM capabilities can be improve.

### 3.5. Risk Management Steps

#### A. Plan

Planning involves management of the entire effort, from identifying the need for data to delivering an intelligence product to a consumer, for the purpose of identifying evaluating, monitoring and controlling risk. It is the beginning and the end of the cycle--the beginning because it involves drawing up specific collection requirements and the end because it is finished intelligence, which supports policy decisions and generates new requirements. The plan will be in a form of a template, which will be composed of Risk related questions – intelligence problem, Risk related decisions that need to be made, Risk metrics ( risk tolerance level ) and Risk measurement method.

The intelligence problem may be composed of general problems/ issues such as “what are at risk”, “what is the impact of such risk”, which in turn will be broken down into smaller parts that will form sound hypothesis to answering the problem. After formulating the hypothesis, next is to identify the conditions that are necessary and sufficient to prove the hypothesis. The hypothesis will then be used as one of the template in collection and analysis stage.

Management risk related Issues	Risk related intelligence problem
Decision to be made	What are at risk?
Reason for such decision	What is the impact of such risks?
time-line	When does decision need to be made?
Responsibility	Who is responsible in making such decisions ?
Required Info	When and how can information be made available.?

Figure 3-3 Risk Intelligence Problem

BASEL and local banking regulation will be used as the initial risk metrics and basis for forming intelligence problems. It is possible that the cycle will not be able to fully satisfy the intelligence problem. Thus it may pose more questions than answers. For issues that pose more questions, the hypothesis tree will be modified to produce better hypothesis, and hopefully, it will produce a better collection and analysis plan to better understand the nature of risk. For issues that were clearly understood, it will be used as a template in monitoring and measuring risk as well as improve the definition of risk metrics.

### B. Collect

Collection is the gathering of the raw information needed to produce finished intelligence (nature of risk). Data may be sourced from internal<sup>6</sup> data along with external<sup>7</sup> data as defined by the template generated by the previous stage. The relevance of data nor the accuracy of collection plan ( template ) cannot be determined at this point, unless they are compiled and analyzed. It is important at this point that the intelligence requirement are clearly stated in order of priority, the types and amount of information needed are identified, information sources match intelligence requirement, and, aspects that require continues monitoring are identified. This way, it will be possible for the risk manager to comprehend the accuracy or deficiency of information in the analysis stage and hopefully be able to improve the collection plan in the next iteration.

### C. Process

Processing will involves converting the vast amount of information collected, to a form usable by analysts through language translations, and data reduction.

### D. Analyze

Analysis and Intelligence Production involve the conversion of basic information into finished intelligence. They include integrating, evaluating, and analyzing all available information --which are often fragmentary and even contradictory--and preparing intelligence products. This is where the domain experts (Risk Manager) verify its

<sup>6</sup> Internal data are banking database such as CASA ( Current Account and Savings Account System), Loan System and Treasury system.

<sup>7</sup> External data include client interview, industry experts ( BSP, NEDA, DTI, SEC, World Bank, ADB), suppliers, financial analysts (Bloomberg, S&P), published sources (newspaper articles and trade publications ), and inter-bank system .

reliability, validity, and relevance. They integrate data into a coherent whole, put the evaluated information in context, and produce knowledge on the nature and impact of risk. The nature and impact of risk includes assessments of events and judgments about the implications of the information, in order to provide strategic intelligence to policymakers. It performs this important function by monitoring events, warning decision-makers about risks incurred.

#### **E. Disseminate**

The acquired knowledge is distributed to respective risk takers and policymakers. The policymakers, the recipients of finished intelligence, then decide or act on what to do with such risk.

#### **F. Decide/ Act**

The last step, which logically feeds into the first, is the distribution of the finished intelligence to the consumers, the same policymakers whose needs initiated the intelligence requirements. The policymakers, the recipients of finished intelligence, then make **decisions** based on the information, and these decisions may lead to the levying of more requirements, thus triggering the Intelligence Cycle.

After finishing a cycle, a new set or improved set of template will be produce that will be used in monitoring and identifying risk. The template will include the source, risk event indicator, probability and the impact of such risk. This way, the risk management process will be repeatable, defined and managed.

This study will serve as a framework for risk management. It aims to understand risks and identify specific risks, facing the financial industry. Guidelines and strategic norms will then be formulated to serve as framework for risk management and, as a backbone for implementing risk management in financial institutions. As risk management practice develops, it is hoped that more experts in the field will be produced to fill the needs of the industry.

This study can be used by Philippine financial regulatory agencies, such as BSP, BAP, Philippine Monetary Board as a reference to improve the current RM policies and guidelines. Hopefully, this could be used by both local and foreign banks provided that foreign bank will have to consider other risk related regulations that are applicable to their area of operation.

### **3.6. Templates and Intelligence problem – the true Value of Risk Management**

By following the suggested steps, it is possible that the templates will not just only provide risk measures, but also provide more questions that need to be answered. The template actually provides the real value of risk management – giving light to the “unknown risk”. The template thus provide light in finding answers by comparing the previously created Intelligence problem with the current template.

## **A. Comparing templates**

By comparing, thus provide reconnaissance to identities or other factors that need to be considered are haven't been considered. The important point to consider is finding a set of patterns, the intensity of such patterns ( through correlation concepts ), and finding how they change overtime ( through regression ).

## **B. Templates and Hypothesis**

For unknown risk, the correlation and the risk factors are not well established. However, a risk manager cannot be too complacent to wait for such risk to occur. The templates produced in reality have value over assessment of risk. Its just that, the value/ or impact of such factors are still unknown. In this case, the risk manager will need to create hypothesis to fill up the gap between the intelligence problem and data gathering process. This is where hypothesis tree are created, and soon for the risk manager to recognize the validity of such risk factors, the pattern of such risk, the intensity of such risk ( impact ), the time frame of such risk. At the end of the day.... it will provide insights on the ultimate goal of Risk Management – Avoid or mitigate risk.

## **4. Definition of Terms**

**Intelligence** is the product of adding value to information and data through analysis. Intelligence is created for a purpose. The process by which analysis is applied to information and data is done to inform policy-making, decision-making, including decisions regarding the allocation of resources, strategic decisions, operations and tactical decisions.

**Intelligence cycle** is defined as the process by which information and data is collected, evaluated, stored, analyzed, and then produced or placed in some form for dissemination to the intelligence consumer for use. Cycle consists of: consumer, collector, evaluation, analysis, production, dissemination, consumption

**Risk** - Risk refers to the uncertainty that surrounds future events and outcomes. It is the expression of the likelihood and impact of an event with the potential to influence the achievement of an objective. As to a financial institution, the risk is therefore defined as the “possibility of incurring loss”.

**Risk Management Based Intelligence** - an approach to intelligence analysis that has as its objective the calculation of the risk attributable to loss. It is a means of providing strategic intelligence for planning and policy making especially regarding vulnerabilities and counter-measures designed to eliminate or mitigate risk.

**Intelligence products** Intelligence products are the intelligence deliverables. They are the means by which intelligence is communicated to those who will use it. Intelligence products are not limited to written digests or summaries, reports or notes, and also

include oral warnings, alerts, advisories or notices given to the consumer when justified. It also includes oral briefings and other presentations made by the intelligence professional within the scope of his or her duties and responsibilities.

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