CHAPTER 4: BI requirements definition

'Defining an organisation's actual intelligence needs, and doing so in a way that results in the production of intelligence that management feels compelled to act on, is one of our profession's most elusive goals' [3]

4.1 Introduction

Although the process of defining an organisation's BI requirements is typically the starting point for an intelligence process, and as such a critical success factor for the delivery of actionable intelligence, Herring (cited in Prescott and Miller, 2001: 241) points out that 'surprisingly, there has been very little professionally written on this topic'.

From the outset it should be noted that there is a difference between information needs and intelligence requirements. Intelligence requirements refer to specific requirements for intelligence (also refer to the definition of intelligence in Chapter 2, paragraph 2.7) and do not refer to a need for information. It is therefore important that BI staff members should distinguish between information needs and intelligence requirements, because their primary role in an organisation is to provide actionable intelligence and not information.

According to Herring (cited in Prescott and Miller, 2001:241), it is critical in any intelligence assignment 'to meet the business user's real intelligence needs and doing it in such a manner that would lead to someone acting on the intelligence'. This requires intelligence staff to follow a process that will define intelligence requirements at a level of detail that will enable them to plan and execute the stages of the intelligence process.

[3] Jan P. Herring (cited in Prescott and Miller, 2001: 240)

The aim of this chapter is to review existing literature on processes for defining BI requirements, refer to the BI requirements definition processes used by the SA banking institutions that participated in this research and describe a BI requirements definition process that could be applied within SA banking institutions.

Firstly this chapter deals with the identification of BI requirements and the originators of these requirements. This is followed by a brief discussion of various approaches that can be followed in dealing with BI requirements. Before reaching a conclusion, a step-by-step process for BI requirements definition is proposed and discussed.

Given the limited amount of academic research done on the definition of intelligence requirements, and since Herring is one of the most prominent writers on this topic, several references will be made to his research and publications in this chapter. To provide additional perspectives on the process suggested by Herring, results from research involving SA banking institutions and practical consulting experience gained by the author will also be discussed.

4.2 Identification of BI requirements - the origin

An analysis of the origin of BI requirements requires that a closer view is taken of the fundamental factors that cause requirements for intelligence to be identified. The identification or origination of BI requirements provides the input for the BI requirements definition process, and ultimately for the processes associated with addressing the BI requirements.

Figure 4.1 below depicts the linkage between the origin/identification of BI requirements and the processes of defining and addressing BI requirements.

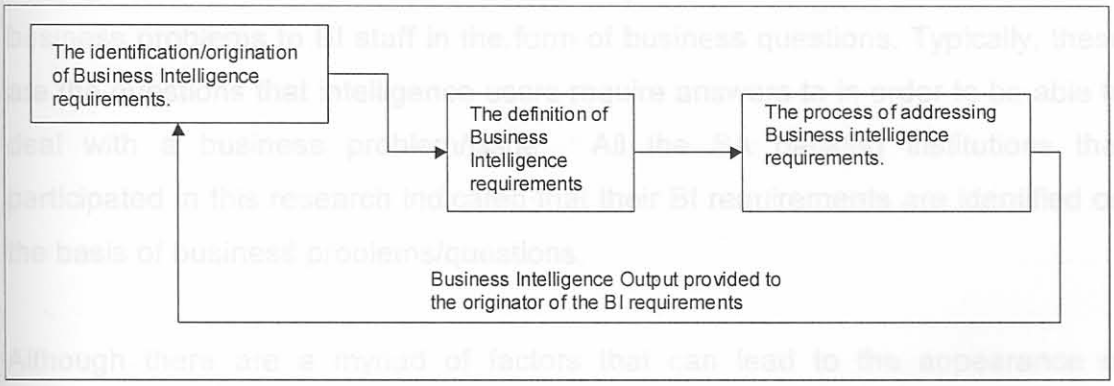

Figure 4.1 The linkage between BI requirements identification and definition

There are a number of ways in which BI requirements can be identified/originate.

4.2.1 Ways to identify BI requirements – Business problems

According to Kent (1966:157), 'the appearance of a problem' is what leads to the initiating of the intelligence requirements process. This problem, which Kent also refers to as the 'substantive problem', requires the attention of BI staff and intelligence users. For the purpose of this dissertation, the researcher will refer to this as the 'business problem/issue' that needs to be dealt with. Rustman (2002:17) sums up the importance of problems in intelligence as follows: 'intelligence is about problem solving'. It is also interesting to note that Rustman (2002:10) makes reference to the identification of business questions as part of this process, and in his view 'the process begins with a question'. Although this may seem somewhat contradictory, there is a direct link between the identification of business problems/issues and business questions. An unanswered business question may give rise to the identification of a business

problem and vice versa. A typical banking question such as, 'Why are we losing so many customers?' could lead to the identification of business problems/issues relating to customer service. Also, intelligence users often articulate their business problems to BI staff in the form of business questions. Typically, these are the questions that intelligence users require answers to in order to be able to deal with a business problem/issue. All the SA banking institutions that participated in this research indicated that their BI requirements are identified on the basis of business problems/questions.

Although there are a myriad of factors that can lead to the appearance of business problems, it is important to discuss the link between internal and external events and business problems/questions. Business problems/ questions could arise as a result of events external to a banking institution. Problems could originate from the market in which a banking institution operates and beyond, even globally. From a competitive perspective, a typical example of this would be where a competing institution increases market share through the acquisition of another bank. Another example would be where a competitor banking institution launches a new product or reorganises itself to target a specific market. From a risk management perspective, political or economic instability in a region where a banking institution has major exposure could see the emergence of business problems to deal with. New regulations or legislation could also create business issues that banking institutions have to deal with. In addition to external events, business problems also arise from factors within a banking institution. An example of this would be where a marketing campaign does not achieve the required results or where poor customer service leads to an increase in customer attrition.

4.2.2 Other methods for identifying BI requirements

In addition to the above, the researcher would like to expand on the thoughts of Kent and Rustman by discussing other methods by which BI requirements can be identified, without specific business problems/questions having been identified beforehand. It should be noted that these methods could also lead to the identification of business problems/questions, which in turn could lead to the identification of intelligence requirements.

Figure 4.2 below depicts various ways in which BI requirements can be identified/originated.

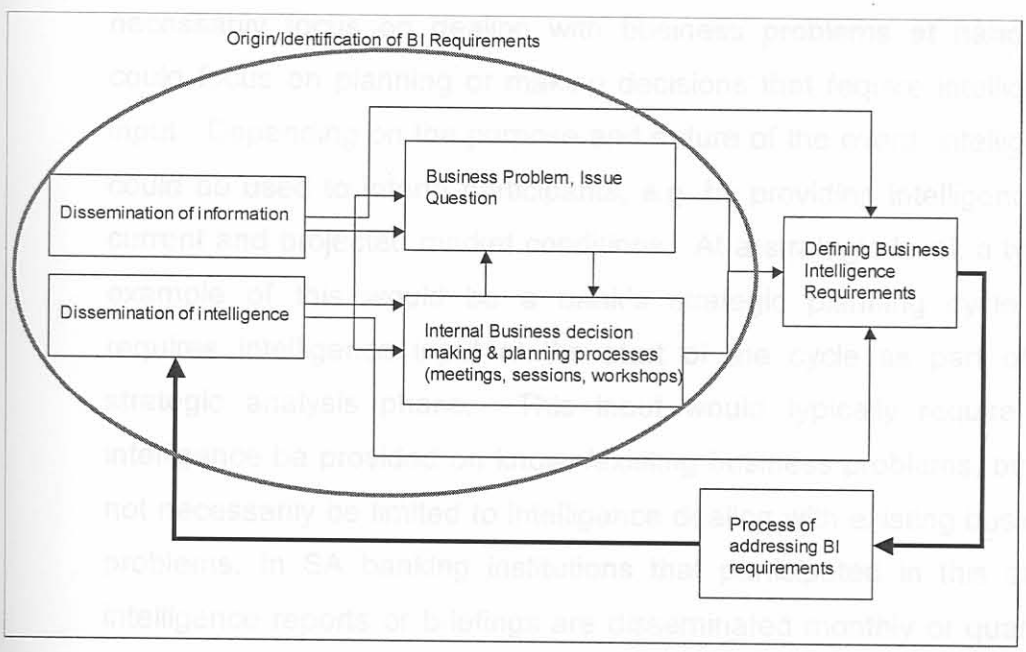

Figure 4.2 The origin of BI requirements

Based on input obtained from participating SA Banking institutions, there are, in addition to business problems/issues or questions, a number of other ways in which requirements originate in practice. In this regard reference is made to the

dissemination of information and intelligence, as well as internal planning and decision-making processes. Each of these will be discussed in more detail below:

- **Internal planning and decision-making processes**. In addition to business problems giving rise to a requirement for intelligence, a bank's international processes relating to planning, decision-making, and keeping staff informed could require intelligence input to enable these processes. In SA banking institutions it is not uncommon to find that intelligence requirements are directly linked to important meetings on the bank's management calendar. These meetings/events may not necessarily focus on dealing with business problems at hand, but could focus on planning or making decisions that require intelligence input. Depending on the purpose and nature of the event, intelligence could be used to inform participants, e.g. by providing intelligence on current and projected market conditions. At a strategic level, a typical example of this would be a bank's strategic planning cycle that requires intelligence input at the start of the cycle as part of the strategic analysis phase. This input would typically require that intelligence be provided on known/existing business problems, but will not necessarily be limited to intelligence dealing with existing business problems. In SA banking institutions that participated in this study, intelligence reports or briefings are disseminated monthly or quarterly to coincide with executive management meetings, board meetings and other subject specific forums.

- **Dissemination of intelligence**. In disseminating intelligence output, whether it be an input for organisation meetings/events or a response to a business issue/problem, the recipients of the intelligence could be

triggered to identify new business problems/issues or specific BI requirements. It is not uncommon to find that intelligence users, on receiving intelligence, identify new business issues and address questions to BI staff regarding issues that could become requirements for BI. It is also not uncommon to find that the dissemination of intelligence output could lead to specific meetings being held to discuss the intelligence received. In addition to this, the dissemination of intelligence could also lead to specific BI requirements being formulated without necessarily identifying a business issue to deal with. All the SA banking institutions that participated in this research indicated that the dissemination of BI output could lead to the identification of further BI requirements.

- **Dissemination of Information**. As in the case with the dissemination of BI output, the dissemination of information could also trigger the recipients thereof to identify a requirement for intelligence. A typical example of this in banking institutions is where information relating to the business environment is compiled into current awareness bulletins. These bulletins, which usually contain press clippings, are made available to banking staff who, on studying them, might develop a need for further information or for intelligence to be produced on a particular topic. As in the case of the dissemination of intelligence (as discussed in the previous paragraph), the dissemination of information could also lead to the identification of new business problems/issues, which in turn could trigger requirements for BI. All the SA banking institutions that participated in this research indicated that BI requirements are identified as a result of the dissemination of information.

4.3 *Originators of BI requirements*

In the section above, business problems/issues, internal planning/decision-making processes and the dissemination of information and/or intelligence were identified as the origin of BI requirements. Apart from Kent's perspectives on the originators of intelligence requirements, the researcher will also briefly discuss other originators of BI requirements and refer to the links between organisation levels and the originators of BI requirements.

4.3.1 Sherman Kent's perspectives

With regard to how business problems could be generated and who the originators of these problems could be, Kent (1966:159) identifies three distinct originators that are linked to 'the appearance of the substantive problem':

- **Staff employed to identify business problems**. Kent argues that the business problem may emerge as a result of problem formulation and problem anticipation research done by organisation staff members assigned to this task. The importance of having 'a trouble shooter' should not be underestimated. Kent (1966:160) explains the significant role of such a person as follows: 'A Pearl Harbour disaster is to be ascribed in no small measure to the absence of some unpleasant and insistent person, who, knowing of the growing animus of Japan, kept asking when is the attack coming, where is it coming, and how is it coming'. SA banking institutions that participated in this research did not indicate that they had staff specifically dedicated to fulfil this role. However, it could be assumed that banking staff, especially those dealing with strategic planning issues, would be tasked with identifying business problems.

- **Surveillance/environmental scanning**. In addition to the above, Kent (1966:157) also explained that the substantive problem 'can emerge when surveillance makes one aware of something unusual'. Although Kent refers to the surveillance used by governmental intelligence services, banking institutions tend to use BI staff to do environmental scanning and perform 'current awareness' activities in order to identify emerging trends, keep abreast of the latest developments (with regard to customers, products, competitors, delivery channels, etc), and to limit surprises by providing 'early warning'. All the SA banking institutions that participated in this research indicated that BI staff members were involved in environmental scanning and current awareness and 'early warning' activities, and would therefore be able to identify business problems and corresponding BI requirements.

- **Intelligence users identify business problems**. Probably the most common source of business problems and corresponding BI requirements are the intelligence users themselves. Being responsible to deal with business issues/problems, these are the people that would typically identify the substantive problem, identify a requirement for BI, and communicate this to BI staff. As was pointed out in the previous section, this could be as a result of internal or external events, participation in decision-making/planning processes or attendance of meetings/sessions, or access to relevant information/intelligence output. All the SA banking institutions involved in this research indicated that intelligence users play a critical role in identifying business problems and the corresponding BI requirements. It is also important to note that intelligence users employed at various levels within an organisation may originate BI requirements. Rustman (2002:10), in his discussion of the identification of BI requirements, makes specific reference to what the CEO wants to know.

This could create the impression that BI requirements are typically identified at executive management level within an organisation, and that a 'top-down' approach is usually followed. On closer analysis, it is not uncommon to find that BI staff would focus on the requirements identified at executive management level. In the case of one of the banking institutions involved in this research, the originators of BI requirements are mainly the bank's senior management, and the emphasis is placed on addressing the intelligence requirements of those managers that are in the Retail Banking division of the bank. Although this particular bank's BI unit also receives intelligence requirements from other divisions and levels of the institution, these requirements are dealt with in an ad hoc manner. One of banking institutions that participated in this research made specific arrangements to deal with intelligence requirements that originate outside of the executive management level within the various business units. This institution has adopted a process in which each business unit has a BI champion who receives all intelligence requirements that originate at various levels within his/her business unit. These BI champions participate in a regular BI forum during which BI issues and requirements are discussed.

4.3.2 Other originators of BI requirements

- **BI Staff members**. Internal BI staff can also be originators of intelligence requirements. It is not uncommon to find that BI staff use their own initiative and knowledge of the business environment to identify intelligence requirements. All the SA banking institutions that participated in this research indicated that BI staff needed to be proactive in identifying business problems and the corresponding BI requirements.

- **External originators**. It is important to note that Kent's emphasis is on the internal generation of business problems by staff members of the particular organisation. Although this also holds true for SA banking institutions, according to the findings of research conducted for this dissertation, research conducted by Ackerman and Wickens (2001:12) indicated that intelligence requirements could also originate from the **customers** of a banking institution. In this regard, depending on the bank-customer relationship, customers could communicate a business problem to a banking institution and identify a requirement for intelligence. An example of this would be where a bank's customers may require intelligence for business planning purposes, or where it is necessary to deal with external expansion.

4.4 *Approaches for dealing with BI requirements*

Kent (1966:151) refers to two different approaches used for dealing with BI requirements. One is where intelligence users define a need for intelligence and request intelligence staff to provide them with intelligence output. The other is where intelligence staff members define intelligence requirements based on their experience and environmental scanning activities. Herring (cited in Prescott and Miller, 2001:251) developed this further and refers to three basic choices that BI staff members have in dealing with BI requirements:

- To provide the intelligence output which BI staff members anticipate would be needed by intelligence users
- To wait for intelligence users (management staff) to ask for intelligence
- To take the initiative and ask intelligence users what their intelligence needs are

For the purposes of this dissertation the researcher would like to refer to five different approaches that could be used in dealing with BI requirements. These include the reactive approach, the proactive approach, the trigger approach, predefined BI schedules, and the combination approach.

4.4.1 The reactive approach

When intelligence users identify intelligence requirements and request/task BI staff to address these requirements, BI staff members have to react/respond to the intelligence requirements of those intelligence users. Herring (cited in Prescott and Miller,2001:249) refers to this as the 'responsive mode'. Probably one of the main disadvantages of this approach relates to the dependence of BI staff on the ability of intelligence users to identify their BI requirements with accuracy. Another disadvantage of this approach is that BI staff members have no influence or knowledge of the process followed by intelligence users to identify intelligence requirements. This could lead to a situation where BI staff may be surprised by a large number of requests coming from intelligence users, without having been warned in advance of these requirements. In addition, BI staff would also need to spend time with intelligence users in order to understand what gave rise to the identification of the BI requirement. Typically, BI staff should be active in providing advance notice to intelligence users on new business trends emerging and new business problems/issues that are to be expected. If BI staff members adopt the reactive approach, they would typically not be proactive in identifying intelligence requirements, and they may fail to provide advance intelligence of events that could impact on the organisation. Although there are several disadvantages to adopting a reactive approach in dealing with BI requirements, one of the main advantages is that the BI staff focus their efforts on the requirements that originate from intelligence users, therefore their BI assignments should be closely aligned with the BI requirements

of intelligence users. Although all the SA banking institutions that participated in this research, adopt the reactive approach, they do not over emphasise it.

4.4.2 The proactive approach

The proactive approach for determining BI requirements differs from the reactive approach in that BI staff act on their own initiative and identify BI requirements without waiting for or seeking input from intelligence users. Besides BI requirements not being identified by originators other than the BI staff, the main difference between the proactive and the reactive processes is that the BI staff members do not require access to/contact with intelligence users in order to identify a business problem and an intelligence requirement.

Without having received an identified requirement for intelligence, BI staff members need to be able to identify significant issues/trends that would add value to intelligence users. In order to be able to do this with success, BI staff members need to have a sound understanding of those topics or key business questions that would be of interest to intelligence users within a given business environment. In essence BI staff need to have a sound understanding the business strategy, objectives, decisions to be made, issues to deal with, etc. BI staff members need to understand the business context and should be able to put themselves in 'the shoes' of intelligence users before they will be able to identify those topics that should be of interest to intelligence users. Gilad and Gilad (1988:6) provide a good example in this regard: 'If a organisation does business in a mature, stagnant market, it may not need to cover potential competition because it is highly unlikely that new entrants will be interested in their market. There may even be less of a pressing need to monitor existing competitors closely. Its main objective, however may be to diversify away from the existing market, which may mean scanning the environment for profitable

industries and acquisition candidates.' If BI staff understand this business context, they could add value by proactively providing intelligence on new markets and acquisition candidates without having to wait for intelligence users to request intelligence on these topics. It should also be noted that this approach can add value only if BI staff have the resources and freedom to be proactive.

Herring (cited in Prescott and Miller,2001:250) recognises the importance of the proactive approach, indicating that BI staff must be able to 'operate on their own initiative, identifying and addressing new and emerging intelligence topics that no manager has yet recognised'. There is, however, a number of disadvantages to this approach, one of which is the danger of BI staff placing too much focus on intelligence assignments that they initiate while failing to address the requirements as identified by intelligence users. Furthermore, BI staff may keep themselves occupied with BI requirements that would add little value to the decision-making/planning processes of an organisation and, as a result, the value of the whole BI effort may be questioned.

The SA banking institutions involved in this research place emphasis on the need to adopt a more proactive approach when dealing with BI requirements. Interviews with BI staff members employed by these banking institutions clearly indicated that intelligence users expect BI staff to be proactive and that the proactive identification of business issues and BI needs represents added value to intelligence users. It should also be noted that BI staff members of these banking institutions do not limit themselves to the proactive approach.

4.4.3 The trigger approach

The trigger approach differs from the proactive approach as described above in that BI staff take the initiative and trigger a reaction from the originators of

intelligence, and specifically the intelligence users. The reaction from intelligence users could be the identification of new BI requirements. Although Herring (cited in Prescott and Miller,2001:250) includes this approach as part of a 'proactive mode', it should be noted that in following this approach, BI staff do not identify the BI requirements; this is done by the intelligence users once they realise that they have a need for intelligence, or articulate their BI requirements. This approach allows BI staff to trigger the BI requirements definition process in a number of ways, including the following:

- **Interviews/Workshops**. Rather than waiting to receive a BI requirement from decision makers, BI staff members can take the initiative and interview appropriate intelligence users in order to help them define their BI requirements. The focus of these interviews would typically be on obtaining those topics and key business questions the intelligence users have to deal with. Once these BI requirements have been identified, intelligence staff can set about defining them.

- **Selective dissemination of information**. BI requirements are often identified as a result of information that was disseminated (pushed) to particular intelligence users. A typical example of this is where current awareness bulletins, containing filtered information obtained from publications and other sources, are provided to specific staff members within a banking institution in accordance with the specific interest profiles of the users. The selective dissemination of this information could act as a trigger that leads to business questions being asked and intelligence requirements being identified. Although this approach could be described as reactive, BI staff members also play a subtle but active role to prompt intelligence users to identify intelligence requirements. The BI staff of one of the banking institutions that provided input for this research indicated

that a significant number of BI requirements were identified as a result of the selective dissemination of information.

4.4.4 The predefined BI schedule approach

In order to deal with BI requirements that are identified at regular intervals, or would require ongoing intelligence output, BI staff members commonly adopt an approach of addressing BI requirements based on a predefined BI schedule. Intelligence users frequently require intelligence on key business issues/problems and related topics on an ongoing basis. Amongst intelligence professionals these requirements are also referred to as essential elements of intelligence. Having once identified these specific requirements, BI staff would not follow a process of identifying and defining these BI requirements at regular intervals before addressing them, as this would be inefficient.

In all the SA banking institutions that participated in this research, BI reports/briefings are produced and disseminated to intelligence users based on a schedule that is predefined and agreed on with intelligence users. Although there are some differences regarding the types of intelligence output provided and the intervals at which these products are provided, there is a striking resemblance between the 'on-going' BI requirements of the SA banking institutions. An example of this is where BI staff provide intelligence monthly and quarterly reports on competitor activities.

One of the main advantages of adopting this approach is that intelligence users know that BI staff members are continuously addressing specific BI requirements, and intelligence users know when to expect BI output. For BI staff members, and especially the management of a BI Unit, this schedule provides

the basis for the development of BI project plans and the execution of BI assignments.

4.4.5 Combination of approaches

Based on the input obtained from SA banking institutions that participated in this research, it is clear that BI staff members do not favour or adopt only one approach. Some of the banking institutions seem to be more inclined to emphasise the reactive approach, while others tend to emphasise the proactive approach. All the banking institutions involved in the research adopt the 'trigger approach' in order to encourage intelligence users to identify new BI requirements. In addition to this, they all make use of predefined BI schedules to provide BI output in predetermined format on specified dates.

4.5 A Proposed step-by-step BI requirements definition process

Irrespective of the approaches followed within a banking institution to deal with BI requirements, a formal BI requirements definition process should be followed. Although Herring (cited in Prescott and Miller, 2001:240) refers to a formal 'management-needs identification process', which in his view is a proven way to accomplish this task, it is suggested that a process be followed that moves beyond the identification of requirements to the **definition** of these requirements. In this regard

The purpose of the BI requirements definition process is to accurately define the intelligence user's requirement. This should be done in enough detail in order to ensure that the intelligence output that is ultimately provided will address the defined requirement and assist intelligence users to use the intelligence output for its intended purpose. Based on the research of Herring, Gilad and Gilad, the input obtained during research for this dissertation and practical BI consulting

experience gained in banking institutions, the researcher proposes that the BI requirements definition process depicted below, which consists of five steps, should be considered for BI requirements definition. Each step is discussed in more detail in the paragraphs that follow.

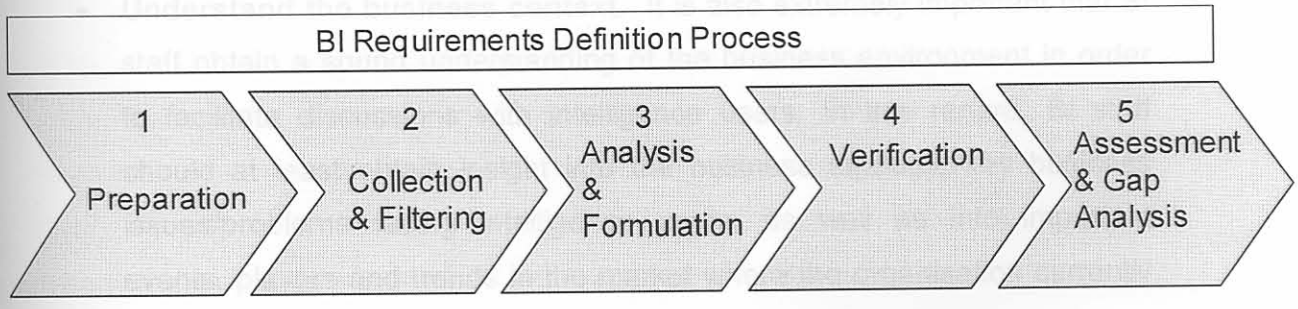

Figure 4.3 A five-step BI requirements definition process

Step 1: Preparation. Although intelligence users may be able to identify business issues and corresponding BI requirements as part of their day-to-day activities, the process of defining BI requirements would require specific input from intelligence users. This is of particular importance when an organisation initiates a BI program. Before engaging intelligence users, it is important that both BI staff members and intelligence users should be prepared and should know what to expect from the process. The preparation process consists of the following:

- **Educating intelligence users**. Herring (cited in Prescott and Miller, 2001:243) refers to this as a process of educating an organisation's senior management in order for them to understand their role in the BI process, and how to properly articulate their intelligence needs.

- **Training BI staff**. To the above, the researcher would like to add that it is just as important to educate BI staff in how to interact with senior management during BI requirements definition. BI staff should also be

trained to use the methods applied during BI requirements interviews, to facilitate BI requirements workshops, and to be able to conduct BI audits and surveys.

- **Understand the business context**. It is also extremely important that BI staff obtain a sound understanding of the business environment in order to facilitate discussions with intelligence users. In this regard, BI staff should at least obtain insight into the business strategy, key business issues/problems facing intelligence users, as well as into important events, players and trends in the market where the organisation currently operates.

- **Decide on approach and methods**. As part of the preparation process, BI staff members need to decide on the most appropriate approach to follow in obtaining requirements. It is also important to determine which method would be best suited to the intelligence users that are to participate in the BI requirements definition process. When dealing with senior management, short, face-to-face interviews may yield more accurately defined BI requirements than a workshop with all the senior managers of an organisation.

- **Preparation for interaction.** Irrespective of the approach and method decided upon, BI staff members need to prepare for requirements definition interviews/workshops before engaging intelligence users. In the case of interviews, BI staff members need to prepare the interview material, which includes formulating questions and making practical arrangements. To assist BI staff in preparing for these interviews, BI interview guidelines published in literature could be considered. Herring (cited in Prescott and Miller,2001:252) provides an example of a 'KIT

- protocol', which lists several questions to ask intelligence users during a BI requirements definition interview. Herring (cited in Prescott and Miller, 2001:251) also provides an example of the typical framework to be used when conducting BI surveys.

Step 2: Collection and filtering. As explained in paragraph 4.2, BI requirements can be identified by various originators. There are also several approaches that can be adopted to ensure that BI requirements are identified by intelligence users and communicated to BI staff members. This collecting and filtering process starts with obtaining the already identified BI requirements from the originators. Once these BI requirements have been identified and communicated to BI staff, these requirements need to be documented and collated. In one of the banking institutions that participated in the research, the collected BI requirements are documented in formal intelligence briefs/proposals. These documents not only provide records of BI requirements, but are also used in further stages of the BI requirements definition process. It is also important that all the collected BI requirements be collated. This can assist in determining priorities later in the process. It is not uncommon to find that key decision makers within an organisation may have BI requirements that relate to the same topic. Herring (cited in Prescott and Miller, 2001:244) proposes that, as a result of this, BI requirements can be categorised into three categories:

- BI requirements to support business decisions. In this category Herring includes the intelligence required for the development of strategic plans and strategies. In some cases these requirements could be specific and articulated in the form of a specific question, decision statement and/or by identifying a key topic.
- BI requirements to prevent surprise (Early warning)

- BI requirements about key players in the marketplace (competitors, customers, suppliers, regulators, etc.)

The filtering of BI requirements is also an important step during this stage of the process. Herring (cited in Prescott and Miller, 2001:242) mentions the need to identify 'management needs that actually require intelligence and not information'. A typical banking example would be where senior management has identified the importance of customer attrition/churn as a topic that requires ongoing intelligence output. If the requirement is in fact for monthly statistics on customer attrition, BI staff should be able to identify this as an information requirement and not deal with it further. Ultimately BI should be focussing their efforts on dealing with requirements for intelligence, and the filtering step should prevent information requirements from becoming BI assignments.

One of the banking institutions that participated in this research has a specific process to ensure that all BI requirements are filtered. When BI requirements originate from business units, the BI champions allocated to those business units are responsible for reviewing and filtering the BI requirements. If requirements are collected by staff members assigned to the corporate BI unit, these requirements are filtered by staff assigned to the unit.

It should also be noted that the filtering of BI requirements could require some analysis on the part of BI staff before it can be decided if the requirement can be addressed by intelligence, or if the provision of information would suffice.

Step 3: Analysis and formulation. Although Herring does not make specific reference to the analysis of BI requirements, practical experience has led the researcher to believe this to be an important part of the process. Kent (1966: 162) refers to the analysis of the 'substantive problem' as the second stage of

the intelligence process. He also argues, that the aim of this analysis 'is not merely to discover and discard those elements which are irrelevant or unimportant, but more importantly to shape the problem in such a fashion that the solution will be directly applicable to the task of the consumers' Rustman (2002:17) also emphasises the importance of 'evaluating the problem' before proceeding with other stages of the intelligence process. After having filtered BI requirements in order to identify the 'real' intelligence requirements, BI staff should analyse each of these requirements in terms of:

- The nature and scope of the requirement.
- The business background/context that led to the identification of the requirement
- Specific guidelines that BI staff need to follow in addressing the requirement

One method that could be employed during the analysis stage is to organise question and answer sessions with intelligence users, during which BI staff should ask a number of questions. These, often referred to as the '5 x W' questions by intelligence professionals, include the following questions:

- Who?
- What?
- When?
- Where?
- Why?

These questions assist BI staff in determining the exact nature and scope of a BI requirement. When dealing with a BI requirement related to customer attrition, BI staff would need to establish if intelligence users are interested in all customers, or in specific groups only (Who?), if a specific region or geographical

area is of particular importance (Where?), and if the requirement relates to a specific time period (When?). Determining the exact reasons for customer attrition would address the 'Why?' question. Once the topic is analysed using the 5xW questions, specific BI questions, also referred to as key intelligence questions (KIQs), could be formulated with regard to each of the 5 x W elements.

Another method for assisting with the analysis of BI requirements involves the identification of the key topics that need to be addressed in order to provide the required intelligence output. Once identified, these topics, also referred to as key intelligence topics (KITs), should be analysed in more detail in order to determine what elements the topic consists of, and to identify other related topics. This could require BI staff to collect information related to the topic. In the customer attrition example discussed above, BI staff may need to gather information around causes for attrition, events before attrition, and customer signals preceding attrition in order to identify all the relevant elements associated with the KIT. It is also important to determine what elements of the KIT are not within the scope of the BI requirement. In the customer attrition example, the intelligence user may only want intelligence relating to attrition behaviour of a specific group of customers over the past year within a specific geographic area. Therefore BI staff should not focus on providing intelligence on attrition behaviour of all clients, or on other elements related to attrition.

In addition to determining the nature and scope of the requirements using KITs and KIQs, it is important to analyse the background that led to intelligence users identifying a specific BI requirement, and the purpose for which the intelligence will be used. An understanding of the root cause of the specific business problem/issue provides BI staff with the necessary context when dealing with the requirement. This analysis should also aim to establish what impact the intelligence output could have on the business, and what the business priority of the BI requirement is. Referring to the customer attrition example again, if BI staff

know that the customer attrition requirement stems from a major problem facing the banking institution in that all the best clients of the banking institution are in the process of transferring their business to a competitor, BI staff would understand the significance of the assignment and focus their intelligence effort around understanding competitor activities and ways in which attrition could be prevented, and would undertake this task as a matter of urgency.

An important part of the analysis step is to determine if intelligence users have specific guidelines for BI staff when dealing with a BI requirement. Examples of specific guidelines could include:

- **Delivery dates**. Intelligence users may need intelligence before a specific date in order to make a decision. Beyond that date the intelligence output may be of little value.

- **Format**. Intelligence users may require that intelligence output is produced in a particular format e.g. that reports are produced or that verbal presentations are given to specific intelligence users.

- **Methods to be used/not used**. Intelligence users may also require that BI staff make use of specific methods, or refrain from using methods during the collection and analysis stages of an intelligence process. Typically, in the case of competitor intelligence requirements, intelligence users would not want BI staff to use information collection methods, which could attract attention to the fact that competitor intelligence assignment is underway (i.e. direct questioning of competitors' staff about new products/markets).

- **Priority of the requirement**. At this stage it is also important that the

priority of the BI requirement be established, especially when several BI requirement are dealt with.

- **Security guidelines**. Depending on the nature of the BI requirement, intelligence users may prefer that only specific BI staff members deal with the requirement, and that the intelligence output be disseminated only to designated intelligence users.

On completion of the analysis, BI staff should be able to formulate and document the BI requirement in sufficient detail, ensuring the inclusion of all relevant topics/elements and KIQs, as well as the guidelines provided by intelligence users. This document, which articulates the BI staff's understanding of the BI requirement, would include some background to the requirement, the scope of the requirement and intelligence user's guidelines.

Step 4: Verification. Formulated BI requirements should be verified with the originator/s of such requirements in order to ensure that BI staff and intelligence users agree on the nature and scope of the BI requirement, as well as specific guidelines to be followed. In this regard, Herring (cited in Prescott and Miller, 2001:245) refers to the importance of interactive dialogue with the user in order to better define requirements. Once this verification process has been completed, both BI staff and intelligence users should agree on what it is that they (intelligence users) need to know about a particular KIT, and what the key intelligence questions are that need to be answered.

Step 5: Assessing capability to address BI requirements

On completion of the verification process, BI staff must assess their capability to address the defined and verified BI requirements. This does not refer only to the

human and financial resources required to perform the actual BI assignment, but also to the following:

- **Availability of information, knowledge and intelligence**. Probably the most important step in the assessment stage, is to establish what **relevant** and **accurate** information, knowledge and intelligence is already available within the organisation. In order to determine relevance, a framework consisting of the KITs and KIQ could be used. Should relevant information, knowledge and intelligence products be available in the organisation, the next step would be to determine/verify the accuracy thereof. This is an important step, because it does not make any sense to use existing information for BI purposes if it is not accurate. Once BI staff members have determined what is already known about specific KITs and KIQs within the organisation, they can proceed to determine the intelligence gap.

- **Determining the intelligence gap**. By comparing the details of the defined and verified requirement with relevant information, knowledge and intelligence already existing within the organisation, BI staff may find that there is a gap between the intelligence required and the intelligence available. If such a gap does not exists, it would mean that relevant intelligence products are already available to address the BI requirement, in which case BI staff members need to distribute such intelligence products to the intelligence user. If an intelligence gap exists, addressing this gap becomes of critical importance for planning the subsequent steps in the overall intelligence process.

- **Determining complexity and constraints**. Although not mandatory, it is suggested that the complexity and constraints related to addressing the BI

requirement, and specifically in addressing the intelligence gap, should be determined at this stage of the process. By determining the complexity of the BI requirement, the effort and resources required to address the requirement could be estimated. Typically, the more complex the BI requirement, the greater the effort that will be required, and the more the resources that will be required to address it. In additional to this, BI staff must also be able to identify the constraints that they may face during the process of addressing BI requirements and must plan ways in which to deal with them. A model developed for customer intelligence purposes (Ackerman and Wickens, 2001:71) could be used to assist in mapping BI requirements in terms of complexity and constraints. By mapping all the organisation's BI requirements an overview can be obtained of the complexity of BI requirements that BI staff have to deal with, as well as the level of constraints under which they need to address these requirements. With his in mind, BI staff can make specific plans/provisions for dealing with those requirements that are highly complex and have a high level of resource constraints.

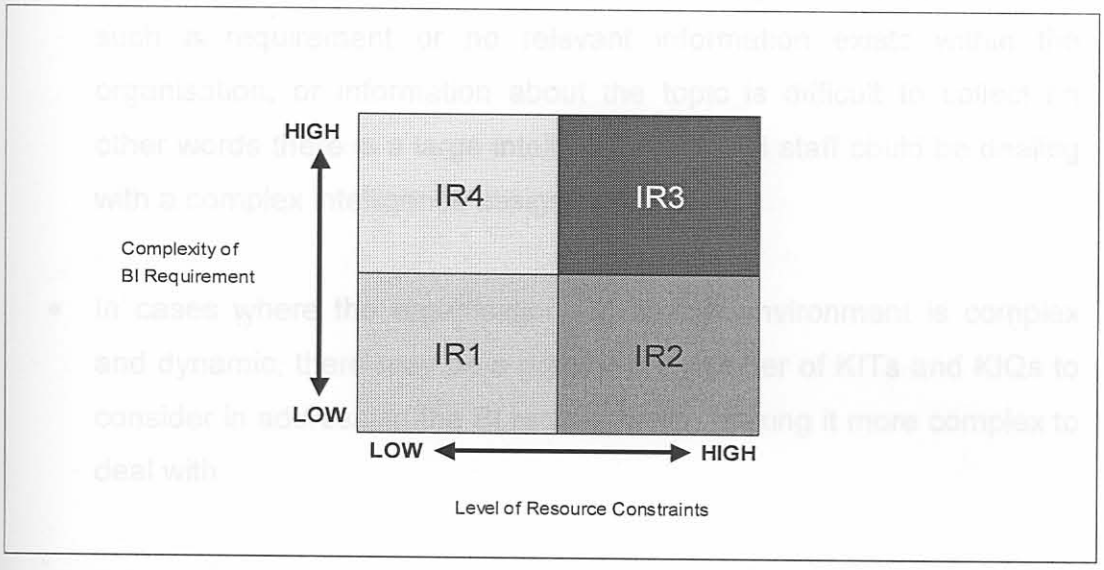

Figure 4.4: Complexity and constraints model for BI requirements (Ackerman and Wickens, 2001:71)

In this model, intelligence requirements (IR) that are of high complexity but have low resource constraints are identified as IR4. If the majority of BI requirements are highly complex in nature, the BI programme should make provision for obtaining specialist resources/skills to deal with them. By adding the priorities of BI requirements to the mapping already done on the grid, BI staff can identify high-priority BI requirements that are also characterised by high complexity and high resource constraints. Typically, IR3 requirements with severe time or information constraints should preferably be allocated to the most experienced and skilled BI staff members.

The above model contains a number of factors that should be considered when determining the complexity of BI requirements. The following are examples of such factors:

- In cases where BI staff experience difficulty in analysing and determining KITs and KIQs, either because they have never dealt with such a requirement or no relevant information exists within the organisation, or information about the topic is difficult to collect (in other words there is a large intelligence gap), BI staff could be dealing with a complex intelligence assignment.
- In cases where the organisation's business environment is complex and dynamic, there may be a greater the number of KITs and KIQs to consider in addressing the BI requirements, making it more complex to deal with.

- BI requirements dealing with predicting the future are often more complex than requirements that are limited to an analysis of past events.

In addition to determining the complexity of BI requirements, BI staff usually have to deal with various resource constraints, including the following:

- Time constraints are probably one of the most common constraints under which BI staff have to work. Therefore, BI staff should be trained to be able to perform the basic steps of intelligence processes under severe time constraints.

- As already mentioned, relevant information required to address the BI requirement might not be available within the organisation. In some cases relevant information, external to the organisation, might also be difficult to obtain. A typical example of this would be information related to the future strategic intentions or mergers of competitors (which would typically not be made public or readily available). Another information constraint relates to the difficulties often experienced by BI staff when having to establish what information is available within an organisation, and where to find it. It is not uncommon to find that BI staff members identify intelligence gaps, whilst relevant information/knowledge is already available within an organisation.

- Having access to skilled and experienced BI staff to deal with BI requirements is another potential constraint, especially in cases where a banking institution has a limited number of BI staff members who

have to deal with several BI requirements. The BI staff required to address BI requirements must have a sound understanding of both the conduct of intelligence and the business environment. In addition to this they need to be able to engage with intelligence users at various levels and should possess facilitation, interview, analytical and presentation skills, to name but few. It is therefore not uncommon to find SA banking institutions employing or contracting experienced intelligence specialists who served in governmental/military intelligence services to provide additional intelligence experience.

- In addition to the constraints mentioned above, the BI programme could be faced with a number of other constraints. Financial constraints and IT support constraints are but some of the common constraints faced in addressing BI requirements. Financial constraints become apparent, especially when external information needs to be bought, new IT tools are required, or external specialists are required.

4.6 Conclusion

The critical importance of properly defining BI requirements and having a process to execute requirements definitions is confirmed in the work of two very prominent scholars, writers and respected intelligence professionals, Sherman Kent and Jan Herring. In searching for a specific process or best practice to define BI requirements, as part of this dissertation, not much relevant information was found to be available. Rather, there seems to be focus on ways and means to **identify** BI requirements. Methods to assist BI staff with the identification of requirements are well documented, as are various approaches that could be followed in dealing with BI requirements.

Therefore, from a process perspective, there seems to be a gap in the literature once a BI requirement has been identified. Herring's work relating to KITs and KIQs provides some valuable guidance, but does not provide BI staff with a step-by-step process to define BI requirements before starting to address them.

During the analysis of the input obtained from the SA banking institutions that participated in this research, it became clear that BI staff members have processes to identify BI requirements, and that there are clear guidelines on the approach that should be adopted to deal with BI requirements. In two of the banking institutions there seemed to be a strong emphasis on following a proactive approach in dealing with BI requirements. However, once BI requirements have been identified, the processes followed by some of the participating SA banking institutions seem to focus on determining the priorities related to these requirements and establishing the resource requirements for dealing with these requirements. Only one of the SA banking institutions involved in the research indicated that there was a formal step-by-step process to analyse, formulate and obtain verification/approval for BI requirements.

Herring (cited in Prescott and Miller,2001:240) refers to the **definition** of intelligence requirements, as 'one of our profession's most elusive goals'. In trying to achieve this elusive goal, BI staff members may need to review the emphasis that is placed on the identification of BI requirements and shift their focus to accurately **defining** BI requirements in consultation with intelligence users. The five-stage process proposed in this dissertation could provide some input to BI staff in need of a detailed process for achieving this elusive goal.