

## Competitive Intelligence Implementation Challenges of Small and Medium-Sized Enterprises

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### Abstract

*Due to factors like technology and globalisation, the business environment has become turbulent. To survive in such a turbulent environment, businesses must seek for a competitive advantage over their rivals. As a result, businesses of different sizes have resorted to practicing competitive intelligence (CI) as it is widely recognised that CI provides enterprises of different sizes with competitive advantage. Although CI has been intensively researched pertaining to large enterprises, it is lacking on small medium-sized enterprises (SMEs). Moreover, competitive intelligence practice is a challenge for SMEs. Although they practice CI, SMEs do so informally. The objective of this research is to determine the challenges SMEs face in practicing competitive intelligence. This research followed a quantitative approach. A questionnaire was used to collect data and descriptive analysis examined the issues. The study reveals that SMEs experience the same challenges experienced by large enterprises in implementing CI. The outcome of this study is a list of challenges experienced by SMEs in implementing CI.*

**Keywords:** Competitive Intelligence, Strategic Management, Small and Medium-sized Enterprises, Decision-making, Competitive Advantage.

### 1. Introduction

Enterprises are faced with an increasingly competitive environment in which it is difficult to maintain a sustained competitive advantage (Shih, Liu & Hsu 2010). Guarda, Augusto and Silva (2012) state that competitive advantage can be understood as seeking unique opportunities that will give the enterprise a strong competitive position. According to Shih et al (2010), in order to sustain a competitive position, managers should prepare to respond promptly to changes in customer preferences, competitor strategies and technological advancements. For these reasons, many enterprises – whether public or private, and small or large – initiate their own competitive intelligence (CI) services to advise their decision makers (Taleghani, Rad & Rahmati 2012). Breese-Vitaly (2011) states that with the growth of the global economy; organisations (large and small) are increasingly recognising that CI is essential to compete in an industry. According to Deng and Luo (2010), CI plays an increasingly important role in the strategic management and decision-making of an enterprise. Peltoniemi and Vuori (2008) point out that through CI, enterprises aim to acquire relevant and accurate knowledge about the actions and plans of competitors on which managers can base their decisions.

CI is not an activity that is limited to a few countries or enterprises in certain industries; it is a world-wide phenomenon (Muller 2007a). Muller (2007b) indicates that in order for enterprises to make optimal use of CI, there should be appropriate enterprise awareness of CI. She also says that without proper awareness and attitudes that favour both intelligence and information sharing, it is difficult to develop intelligence within an enterprise. Furthermore, she points out that CI is still in a growing phase in South Africa due to (1) a lack of awareness of its benefits and (2) inadequate formal training programmes at a higher education level (Muller 2007a). While CI is mostly practiced by larger enterprises in industries such as banking, telecommunications and retail, research reveals that it is not well practiced by small enterprises (Murphy 2006). However, it can be practiced successfully by small and medium-sized enterprises (SMEs) (Murphy 2006). Wright (2005) states that it is not enough for enterprises to have CI, they need to implement it in the decision-making process.

Xinping, Cuijuan and Youfa (2011) caution that, although it is acknowledged that CI is important to SMEs, it is not

being practiced optimally in SMEs. The investigation of CI in SMEs has not been as well documented as has been in larger enterprises (Tarraf & Molz 2006). Although there is a call for raising CI awareness (Roth 2005), there is no evidence of CI awareness and practices about SMEs (Saayman, Pienaar, de Pelsmacker, Viviers, Cuyvers, Muller & Jegers 2008). In addition, Smith, Wright and Pickton (2010) reveal that CI awareness and practice in SMEs remains a gap in the literature. The practice of CI is more of a challenge for SMEs than bigger business (Xinping, Cuijuan & Youfa 2011). Although CI research on SMEs has been undertaken in other countries such as China, France, Turkey, USA, Belgium, Canada, Switzerland, Japan, Sweden, Australia and India, it is lacking in South Africa (Heppes & du Toit 2009; Smith, Wright & Pickton 2010; Koseoglu, Karayormuk, Parnell & Menefee 2011).

The purpose of this research is to determine the challenges experienced by SMEs in practicing CI.

## 2. Competitive Intelligence

To better understand CI, one has to know how it is formulated (Bourret 2012). Processed data produces information; processed information produces knowledge; and processed knowledge produces wisdom and intelligence (Bernstein 2011). According to Stair and Reynolds (2006), data consists of raw facts such as an employee's name and the number of hours he or she has worked in a week, inventory part numbers or sales orders. Information is a collection of facts organised in such a way that they have additional value beyond the value of the facts themselves (Stair & Reynolds 2006). Stair and Reynolds (2006) define knowledge as an awareness and understanding of a set of information and ways in which information can be made useful to support a specific task or reach a decision. According to Taleghani et al (2012), knowledge exists in many different forms in organisations. Some of these are tangible, while others are more subtle and intangible by nature. Wisdom is the human ability to learn from experience and adapt to changing conditions (Post & Anderson 2003). Shi (2011) believes that intelligence is a comprehensive ability to use one's existing knowledge or experience to adapt new situations or solve new problems.

CI, which is the research construct of this research, requires proper definition. There are numerous definitions for CI in contemporary practice and scholarship, and no single definition is likely to be precise and universally accepted (Fleisher & Wright 2009; Brody 2008). Brody (2008) argues that because CI is a process that is set in situations that are dynamic and in which the players are moving forward in a constantly changing business environment, the variety of definitions may be a reflection of the process of change. For the purpose of this study, CI is defined as *"a process or practice that produce actionable intelligence by ethically and legally collecting, processing and analysing information about the external or competitive environment in order to help in decision-making and to provide competitive advantage to the enterprise (Nenzhelele & Pellissier 2013)."*

CI is an amalgam of disciplines. It evolved from economics, marketing, military theory, information science and strategic management (Juhari & Stephens 2006). According to Muller (2005a), CI took root in South Africa in the mid-1990s to early 2000s. Adidam, Gajre and Kejriwal (2009) cautions that South African enterprises have been too inward-looking, which has made them vulnerable to unforeseen threats. While CI is a relatively new management tool, it is evolving in complexity and importance to maintain pace with rapid business development (Heppes & Du Toit 2009).

Due to intense global competition, enterprises are always looking for ways to gain competitive advantage over their competitors (Hughes 2005; Muller 2005b). According to Heppes and Du Toit (2009), an enterprise has a competitive advantage whenever it has an edge over its rivals in attracting customers and defending itself against the competitive forces found in its external environment. Enterprises that are facing greater competition devote greater enterprise support to CI in searching for new ways of creating and sustaining a competitive advantage (Hesford 2008; Heppes & Du Toit 2009; Adidam, et al. 2009). CI enhances an enterprise's competitive advantage through a better understanding of the enterprise's external (competitive) environment, leading to improved strategic management and resultant competitive advantage (Muller 2007a; Shih, et al. 2008; Trim & Lee 2007; Heppes & Du Toit 2009).

Pietersen (2006) indicates that CI captures the knowledge resources required by management. Moreover, the purpose of CI in the enterprise is to support (and lead to) management decisions and actions (Dishman & Calof 2008). Thus, CI influences decision making and decision making is a possible research variable. Furthermore, CI includes monitoring competitors, identifying opportunities and threats in the industry, leading enterprises to simulate their strength and weaknesses, building scenarios and planning counter-attacks (Trim & Lee 2008). Efficient CI activities can help an enterprise to understand its strengths and weaknesses in relation to its competitors. In this way, an enterprise can anticipate, with some accuracy, the future moves of its competitors (Peltoniemi & Vuori 2008). By analysing the capabilities, vulnerabilities, intentions and moves of competitors, CI allows an enterprise to anticipate market developments proactively – rather than merely react to them. This in turn enables the enterprise to remain competitive by improving its strategic decisions and performing better than its competitors (Bose 2008; Shih, Liu & Hsu 2008; Johns &

Van Doren 2010; Hesford 2008). Thus, CI influences competitiveness, performance and decision making, making these possible research variables. In addition, Hughes (2005) mentions that CI can help an enterprise to understand how and where to find unique resources and capabilities that can help it to compete more effectively. CI therefore also influences resource management and capabilities, making these possible research variables.

CI is a strategic tool and aid in decision making (Bourret 2012; Patterson & Martzoukou, 2012). According to Bose (2008), CI is a vital component of an enterprise's strategic planning and management process. Furthermore, Bose (2008) and Hesford (2008) state that the primary output of CI is the ability to make forward-looking decisions. Zha and Chen (2009) argue that CI determines the survival of enterprises. Consequently, enterprises are paying attention to CI because it supports their needs in terms of gathering, interpreting and disseminating external information (Strauss & Du Toit 2010). Thompson and Martin (2005) define strategy as a means to an end, and the end concerns the purpose and objectives of the enterprise. Pearce and Robinson (2005) define the strategic management process as a set of decisions and actions that results in the formulation and implementation of plans designed to achieve an enterprise's objectives. Simon (1997) proposes a three-phased process of decision making: (1) the intelligence phase, (2) the design phase and (3) the choice phase. Sauter and Free (2005) conclude that high-level decision makers are dependent on doing the first of these phases: the intelligence phase.

While CI offers an enterprise a lot of benefits, it also presents some challenges. SMEs face a bigger challenge in building and developing an effective CI programme than larger companies (Saayman, Pienaar, De Pelsmacker, Viviers, Cuyvers, Muller & Jegers 2008). Some of these challenges include lack of training, lack of resources and an inability to provide compelling evidence (Hesford 2008). Muller (2007b) identified and briefly discussed the following CI challenges:

*Creating a participatory environment and awareness of CI:* This is a continual challenge. The CI Foundation's survey found that most CI practitioners created exposure to senior management through the distribution of their deliverables. They presented an excellent opportunity for CI practitioners to demonstrate the value CI provides to the enterprise. As was found in South Africa, although most people in the enterprise knew that CI exists but few participated in or contributed to it.

*Budgetary constraints:* It seems to be a global reality for CI units, and budgets shrink or grow over time depending on economic factors.

*Management participation and visibility:* This remains a constant challenge, although most respondents reported regular contact with their senior management through their deliverables and many reported high levels of CI awareness and increased management visibility.

*Personnel issues:* Finding and retaining the right skills set is another challenge. The outsourcing of research or analysis increased for some of the respondents, while others sourced resources from elsewhere in the enterprise.

*Showing return on investment/value:* Few enterprises measure the return on investment of CI and showing value on a constant basis remains a challenge to CI units.

*Identifying critical information needs and the effective and timely gathering of relevant information:* Effectiveness includes the optimal use of internal sources of information and knowledge.

*Training and education in CI:* Educational institutions that offer CI courses are rare.

### 3. Small and Medium-Sized Enterprises

SMEs constitute the major part of the productive system in South Africa and without the creation of new SMEs, the country risks economic stagnation (Salles 2006). Given the failure of the public sector to absorb the growing number of job seekers in South Africa, increasing attention is being focused on entrepreneurship and new enterprise creation, and its potential for contributing to economic growth and job creation (Herrington, Kew & Kew 2009). According to Abor and Quartey (2010), SMEs have a crucial role to play in stimulating growth, generating employment and contributing to poverty alleviation, given their economic weight in African countries.

The most widely used framework for SMEs in South Africa is set out in the National Small Business Act 102 of 1996, which defines five categories of businesses in South Africa. The definition is based on the number of employees (the most common definition) per enterprise size combined with the annual turnover categories and the gross assets (excluding fixed property). The five enterprise categories are as follows (Abor & Quartey 2010):

*Survivalist enterprise:* The income generated is less than the minimum income standard or the poverty line. This category is considered pre-entrepreneurial, and includes hawkers, vendors and subsistence farmers. (In practice, survivalist enterprises are often categorised as part of the micro-enterprise sector).

*Micro enterprise:* The turnover is less than the VAT registration limit (that is, R150 000 per year). These enterprises usually lack formality in terms of registration. They include, for example, *spaza* shops, minibus taxis and household

industries. They employ no more than 5 people.

**Very small enterprise:** These are enterprises employing fewer than 10 paid employees, except mining, electricity, manufacturing and construction sectors, in which the figure is 20 employees. These enterprises operate in the formal market and have access to technology.

**Small enterprise:** The upper limit is 50 employees. Small enterprises are generally more established than very small enterprises and exhibit more complex business practices.

**Medium enterprise:** The maximum number of employees is 100, or 200 for the mining, electricity, manufacturing and construction sectors. These enterprises are often characterised by the decentralisation of power to an additional management layer.

SMEs are considered the backbone of economic growth in all countries. They contribute in providing job opportunities and act as suppliers of goods and services to large enterprises (Singh, Garg & Deshmukh 2008). Abor and Quartey (2010) state that the performance of SMEs is important for the economic development and the social development of developing countries. Furthermore, small businesses have been recognised as the engines whereby the growth objectives of developing countries can be achieved (Floyd & McManus 2005). They are potential sources of employment and income in many developing countries. In addition, SMEs seem to have advantages over their large-scale competitors in that they are able to adapt more easily to market conditions, given their broadly skilled technologies.

Despite the potential role of SMEs to accelerated growth and job creation in developing countries, a number of bottlenecks affect their ability to realise their full potential (Abor & Quartey 2010). In addition, Olawale and Garwe (2010) identify the following factors that hinder the progress of SMEs: access to finance; lack of management skills; location and networking; inadequate investment in information technology and cost of production; economic variables and markets; crime and corruption; and labour, infrastructure and regulations. Furthermore, according to Singh, Garg and Deshmukh (2008) SMEs may have the following constraints: scarcity of resources; flat enterprise structure; lack of technical expertise; paucity of innovation; and occurrence of knowledge loss.

#### 4. Methodology

A survey was undertaken to collect data from SMEs in the City of Tshwane Metropolitan Municipality (CTMM) of Gauteng Province in South Africa. The CTMM is the largest municipality in South Africa. It is the executive capital city of South Africa. Data was collected from one hundred SMEs from nine geographical locations in the CTMM using a quota sample. A quota sample was used because of the informal environment and continued until data saturation was obtained. Locations were sampled in order to cover both urban and rural areas of the CTMM. The sample consisted of 74% urban and 26% rural SMEs in the CTMM. The locations included in the sample were Mabobane; Mamelodi; Soshanguve; Ga-Rankuwa; Eersterust; Atteridgeville; Winterveld; Silverton/Pretoria East; Pretoria CBD and Rosslyn. Data were collected using a questionnaire. The data collection process began by contacting SMEs whose contact details were available. SMEs were contacted either by e-mail or by phone. This was done to find out if the SMEs were willing to participate in the survey. For the SMEs that had access to e-mail, the questionnaire was sent to them via e-mail. For the SMEs without e-mail access or any other means of contact; the questionnaires were printed and hand delivered to them. Hand delivered questionnaires were either completed and returned the same day or on an agreed upon date. Since only owners/CEOs/managers were identified as the appropriate candidates to complete the questionnaires, whoever received the questionnaire was asked to forward it to the relevant person. Although some SMEs indicated they were too busy to complete the questionnaire others were very keen to participate in the survey. It was easier to collect data from SMEs in the CBD than those in other locations. SMEs in the CBD are easily accessible and most SMEs in the CBD have access to e-mail. Moreover, travelling costs were cheaper in the CBD.

One hundred and fifty questionnaires were distributed to the respondents, with 100 usable questionnaire received. E-mail and phone calls were used to follow up on distributed questionnaire. This ensured that the required one hundred questionnaires were returned. Therefore the response rate was 66.67%. The internal data reliability was calculated to be 0.806 (Cronbach' Alpha).

#### 5. Results

Of these one hundred SMEs that participated in the survey, only one respondent (1%) was a sole proprietorship; fourteen respondents (14%) were partnerships; fifty five (55%) were close corporation; and thirty (30%) were companies. Eleven business sectors or subsectors were identified from the literature. Only two additional industries were added by respondents as others and these are: cleaning industry (1%) and media and marketing (1%). The remainder of the

respondents are spread as follows: Finance and business services (8%); Catering, accommodation and other trade (19%); Retail and motor trade and repair services (23%); Electricity, gas and water (2%); Community, social and personal services (18%); Wholesale trade, commercial agents and allied services (5%); Construction (8%); and Manufacturing (12%). Of the one hundred SMEs, fifteen (15%) had 21 to 50 employees, thirty (30%) had 11 to 20 employees, thirty six (36%) had 6 to 10 employees and nineteen (19%) had 1 to 5 employees. Concerning years of business operation, fifty (50%) were operating for 6 or more years, thirty nine (39%) were operating for 3 to 5 years and only eleven (11%) were in operation for 1 to 2 years. With regard to annual turnover, two (2%) SMEs were making a turnover between R6m to R10m, forty eight (48%) were making a turnover of between R1m and R5m and the rest (50%) were making less than R1m. Pertaining to owner/manager's educational qualification, five scales were identified, grade 8 to 10, grade 11 to 12, undergraduate diploma or degree, honours degree and masters or doctoral degree. Only five (5%) of the respondents had masters or doctoral degree, twenty one (21%) had honours degree, 47% had undergraduate diploma or degree and twenty seven (27%) had grade 11 or 12.

To establish SMEs' practice and awareness of CI, a five-point Likert scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree" was used. Table 1 shows the different variables used to establish the awareness and practice of CI by SMEs. The aim of *variable 1* was to establish whether the respondents were aware of CI. The mean was calculated as 4.12 and the standard deviation was 0.671. The lower standard deviation indicates that there was less spread of responses to this question. The mean of 4.12 indicates that nearly all of the respondents indicated that they were aware of CI. *Variable 2* was intended to determine whether the respondents practiced CI in their businesses. The standard deviation of 0.687 reveals that there was less spread of responses to the question. Moreover, it indicates that more respondents concurred with the mean of 4.45. The mean reveals that the majority of the respondents agreed that they practice CI in their enterprises. *Variable 3* was designed to determine whether the respondents had a formalised CI function. The higher standard deviation of 1.143 indicates that there was more spread of responses to this variable. Also, it points out that fewer respondents concurred with the mean. The mean of 2.16 indicates that most of the respondents disagreed with the statement. This means that most of the respondents did not have a formalised CI function. The reason behind *variable 4* was to ascertain whether the respondents had a formalised CI process. The slightly higher standard deviation of 1.078 indicates that there was more spread of responses to this question. Moreover, it reveals that fewer respondents concurred with the mean. The mean of 2.01 indicates that most of the respondents disagreed with the statement, which means that they did not have a formalised CI process. The purpose of variable 5 was to ascertain whether the respondents hired people or other businesses to collect information on their behalf. The mean and standard deviation were 3.10 and 1.202 respectively. The high standard deviation indicates that there was more spread of responses to this question. The mean of 3.10 signifies that more respondents hired people or other businesses to collect information on their behalf. Variable 6 was intended to establish whether the respondents had a computerised CI system. The high standard deviation of 2.436 indicates that there was more spread of responses to this variable. The mean of 1.84 indicates that more respondents strongly disagreed with the statement. This means that most of the respondents did not have a computerised CI system.

**Table 1:** Competitive Intelligence awareness and practice variables

Variable number	Variables for establishment of CI awareness and practice	Mean	Standard deviation
1	We are aware of competitive intelligence.	4.12	0.671
2	We practice competitive intelligence in our business.	4.45	0.687
3	Our business has a formalised competitive intelligence function.	2.16	1.143
4	We have a formalised competitive intelligence process.	2.01	1.078
5	We hire people or other businesses to collect information on our behalf.	3.10	1.202
6	We have a computerised competitive intelligence system.	1.84	2.436

Challenges identified by Muller (2007) and Hesford (2008) were used as a base to establish the challenges experienced by SMEs in CI implementation. The outcomes of the study are depicted in table 2 below. The table shows four major challenges of SMEs, namely lack of time (99%); budgetary constraints (97%); lack of human resource (97%); and creating a participatory environment and awareness of CI (64%). The mean and standard deviation for these challenges were calculated to be 53.8 and 31.57 respectively. The lower standard deviation indicates that most of the respondents' responses coincided with the mean. This means that the majority of the respondents agree that these are the challenges for SMEs.

**Table 2:** Challenges experienced in practicing competitive intelligence

CI Implementation challenges	Frequency	Percentage
Lack of time	99	99
Lack of human resources	97	97
Budgetary constraints	97	97
Creating a participatory environment and awareness of CI	64	64
Training and education in CI is a global challenge	39	39
Identifying critical information needs and the effective and timely gathering of relevant information	36	36
Management participation and visibility	35	35
Personnel issues	34	34
Showing return on investment/value	31	31
Competitive intelligence ethics	6	6

The following additional challenges were listed by the respondents: lack of government support; lack of computer skills; unavailability of computers; size of the business is a challenge; unwillingness of employees to collect information; and lack of relevant skills.

## 6. Discussion

The majority of the SMEs were close corporations. Perhaps this is because registering as a close corporation was cheaper than that of a company. Also, close corporations are more formally structured than partnerships and sole proprietorship. The majority of the SMEs were operating in the retail and motor trade and in repair services. The majority of the SMEs had six to ten employees. This indicates that most of the SMEs were very small.

The majority of these SMEs had been operating for more than six years. This means that these SMEs had many years of business experience. The majority of these SMEs were making a turnover of less than one million rand. This means that they did not have a bargaining power. This coincide with current literature that SMEs lack funds. As a result, SMEs find it difficult to compete with larger enterprises. The majority of the owners/managers had an undergraduate diploma or degree. They had a reasonable education background. This could be the reason why the majority of these SMEs has been in operation for more than six years.

The findings reveal that the majority of these SMEs were aware of CI. This means that during their years of operation, they realise that CI exist. The majority of these SMEs also indicated that they practice CI. This means that they plan, collect, process, analyse and disseminate actionable intelligence. However, the majority of these SMEs indicated that they practice CI informally. Perhaps this is because SMEs lack resources. Surprisingly, the majority of these SMEs hire people or other enterprises to conduct CI on their behalf. This means that they outsource their CI to people or enterprises. It was beyond this study to establish the extent to which these SMEs outsource CI and the scale of CI outsourcing investment.

The findings reveal that these SMEs experience the same CI implementation challenges as larger enterprises. The majority of these SMEs indicated the following major challenges: lack of time; lack of human resources; budgetary constraints; and creating a participatory environment and awareness of CI. These SMEs also listed the following additional challenges: lack of government support; lack of computer skills; unavailability of computers; size of the business; unwillingness of employees to collect information; and lack of relevant skills.

## 7. Conclusion

Although there is a call for raising CI awareness (Roth 2005), the majority of these SMEs are aware of CI. Although they do so informally, these SMEs practice CI. This is because most of the SMEs are very small and lack resources to formalise their CI. Realising their lack of relevant skills, the majority of them outsource CI to people or other enterprises. The majority of these SMEs has been in operation long enough to realise the importance of CI. Also, the majority of these SMEs are led by people who have reasonable educational qualifications. However, the annual turnover of the majority of these SMEs was less than one million rand. This meant that they had less finance to invest on CI implementation and formalisation.

The implementation of CI poses a challenge for SMEs than larger enterprises (Santos & Correia 2010). However, the findings of this research indicate that these SMEs experience the same CI implementation challenges as larger

enterprises. The main challenges of these SMEs were: lack of time; lack of human resources; budgetary constraints; and creating a participatory environment and awareness of CI. Lack of time had the highest spread of responses. This means that majority of these SMEs do not have time to conduct CI. As a result, the majority of these SMEs hire people or other enterprises to conduct CI on their behalf. The following CI implementation challenges had less than forty percent spread of responses: training and education in CI is a global challenge; identifying critical information needs and the effective and timely gathering of relevant information; management participation and visibility; personnel issues; showing return on investment/value; and CI ethics. A very small percentage of these SMEs indicated CI ethics as a challenge. The reason for this could be that most enterprises are not aware of CI ethics (Rittenburg, Valentine & Faircloth 2007). There is therefore a need to raise CI ethics awareness.

SMEs listed the following additional CI implementation challenges: lack of government support; lack of computer skills; unavailability of computers; size of the business; unwillingness of employees to collect information; and lack of relevant skills. SMEs must find ways of combating these challenges in order to succeed in implementing CI. Failure by these SMEs to address these challenges may be detrimental.

A turbulent business environment requires intelligent enterprises. A future study must be conducted to establish ways to combat these CI implementation challenges. Also, a study must be conducted to establish the awareness of CI ethics. Moreover, a study must be conducted to establish the extent of CI outsourcing by SMEs. This study was limited to SMEs in the City of Tshwane Metropolitan Municipality.

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