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The role of strategic information systems planning in a typical small or medium-sized enterprise

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ABSTRACT

Little is known about how Strategic Information Systems Planning (SISP) and small and medium-sized enterprises (SMEs) are linked in a developing country. SISP has also been a concern for many in the Information Technology (IT) industry and IT based businesses as a whole. This research seeks to address this shortcoming by exploring what constitutes a typical SME, what role Information Systems (ISs) play in SMEs and what role SISP plays in SMEs. Consequently, a Delphi panel comprising a questionnaire in the first phase and an interview in the second phase was employed. Some correlation was found to exist with the literature, with the exception of the role of IS in SMEs, whether SISP is an on-going activity, and the fact that SISP can be outsourced. Some new facts were discovered, especially on the topic of outsourcing.

Keywords: company strategy; strategic information systems planning; small and medium-sized enterprises; SME sustainability; stakeholders and management; Viewpoint Training and Consulting

INTRODUCTION

According to Newkirk, Lederer and Johnson (2008), Strategic Information Systems Planning (SISP) can be defined as a method to decide what the Information System's (IS) goals, resources and organisational structures of the computing system of a company are and

subsequently to identify the potential applications that the company should implement. Consequently, it is the planning involved in deciding which IS should be employed in the organisation; this is carried out in a strategic manner so that it offers a competitive advantage to the organisation. It is an issue that has been investigated by researchers for decades and it remains an IS management issue all over the world (Basahel & Irani, 2010).

The research was initiated by investigating what some of the current and most prominent authors (e.g., Levy, Powell & Yetton, 2001a; Lubbe, 2000; etc.) reported on with regard to ISP, IS, strategy and SMEs. Subsequently, policy documents from an SME were analysed and from which conclusions were drawn. Finally, a survey was conducted so that the deductions could be confirmed and updated.

PROBLEM STATEMENT

The lack of well-documented and well-formulated SISP in SME enterprises is an issue that needs to be addressed. Although SISP has been discussed by various authors in the past, this was related to large enterprises only. Moreover, discussions on strategy and SMEs were not attributed to SISP. The researchers therefore explore the fact that SISP could be used to attain a sustainable competitive advantage in SMEs.

Before analysing how SISP is used in SMEs it is important to define exactly what an SME is. It is also vital to determine what role ISs play in SMEs. Another sub-problem to be investigated is how closely strategy is linked to SISP and how it can be of advantage to SMEs.

THE THEORETICAL FRAMEWORK OF THE PROJECT

A literature review was conducted on topics that include the different aspects of strategy, ISs, planning and SISP, and SMEs. This was followed by a description of the conclusions that resulted from reviewing the literature. A discussion on the analysis of the strategy documents was then completed, after which the research conclusions were detailed.

Definitions

To gain a perspective on the definitions, it is useful to view a timeline of when these topics were first conceived. According to Cheong, Pita and Corbitt (2008), the first incident on the timeline was data processing, then Management Information Systems and strategic ISs, and finally, SISP.

Basahel and Irani (2010) state that planning entails the distribution of resources and infrastructure planning, which includes looking at the developing technologies and information needs of a company. Strategic planning is defined concisely by Newkirk *et al.* (2008) as a long-term planning process through which the company can create objectives, and means by which to achieve those objectives. Newkirk *et al.* (2008) assert that strategic information systems (SIS) are defined as systems that change the approach of a company to competition. These are more specific than being merely information systems but less specific than SISP.

SME characteristics

According to Garg, Goyal and Lather (2008), even though it has been conventionally assumed that SMEs use the same management techniques and methodologies as larger companies do, there are several researchers who have demonstrated the opposite. Blili and Raymond (1993) insist that smaller firms are in fact different to their larger counterparts and so involve different approaches to management. They propose that the methodologies that are on offer were designed with large companies in mind. These authors also insist that because of the many internal and external factors, the mortality rate of an SME is higher than that of a larger company.

Levy *et al.* (2001b) aver that the age and experience of the owner are often the most important factors when it comes to the success of an IS. Another characteristic of SMEs reported by Bili and Raymond (1993) is that their strategic decision cycle (also known as a temporal horizon) is frequently a short one, which occurs when an SME focuses on reaction instead of anticipation. Brown and Roode (2004) maintain that uncertainty generally exists in the external environment, which could lead to swift IT related transformations and company-wide turmoil, decentralisation, geographic diffusion and globalisation.

Garg *et al.* (2008) declare that strategic thinking in SMEs is therefore based on intuition instead of analysis. It is far more irregular, unstructured, incremental, unintelligible and reactive in nature. Levy *et al.* (2001a) also state that many factors inhibit growth such as the management team, a risk adverse owner, market uncertainty, and an intensity in competition.

Current strategy and planning in SMEs

Hicks, Culley and McMahon (2006) declare that information, its use, and the strategies for its management are important issues for any company. They further state that information is vital to strategic planning. Hence, companies use a wide variety of processes, standards, tools, techniques, methods and languages to manage information. However, Hicks *et al.* (2006) found that IS strategy was one of the least significant concerns. In reality, results from a study conducted by Newkirk *et al.* (2008) reported that most companies accord a low precedence to their IS function. Moreover, Levy and Powell (1998) assert that there is a lack of strategic planning in SMEs, and very little IT investment or consideration is accorded to the link between them. These authors claim that the main IS systems employed in SMEs are word processing and information management systems.

Newkirk *et al.* (2008) maintain that at present SMEs have little understanding of the extent to which IS planning can influence competitiveness. Therefore, companies need assistance in becoming more hands-on in connecting IS plans with competitive strategies. Garg *et al.* (2008) maintains that the owners understand how to manage the business domain, but simply do not possess the knowledge to exploit IS opportunities.

It is thus evident that planning an IS is problematic, especially in SMEs. The SME environment is changing rapidly and unpredictably, but traditional IS developers need a stable and predictable environment in order to develop an IS. Lubbe (2000) asserts that the goalposts of IT investment are also changing in this turbulent environment and affirms that any long-term project in IT is almost out of date before it has even begun.

IS success factors in SMEs

Several elements lead to success when dealing with IS strategy. It is important to bear this in mind because, as Garg *et al.* (2008) infer, there is a thin line between failure and success where ISs in SMEs are concerned. Newkirk *et al.* (2008) found that a main factor for the success of IST innovation is having a large amount of IST application experience in the existing company. This is because planning is more significant to firms that are at the leading edge of IST innovation. Garg *et al.* (2008) further state that an innovative organisational culture, upper management support and vision for IS development are key factors to IS growth. Levy *et al.* (2001a), on the other hand, aver that an older, more educated and IS knowledgeable owner is a key characteristic for success.

Remenyi, Lubbe and Van Heerden (2000) point out that an IS can provide benefits for the company. These can include improved efficiency and effectiveness in addition to a competitive advantage. Garg *et al.* (2008) highlight that small businesses need to manage their ISs for strategic advantage, and need to provide the correct data to the right people, at the correct time and in the right form. Levy, Powell and Yetton (2001b) insist that there is a link between competitiveness and ISs.

Solutions to the problem of SISP implementation in SMEs

Newkirk *et al.* (2008) suggest a solution to the problem of SISP in SMEs by way of providing flexible and adaptable planning models and methodologies to companies so that they can use their IS as a competitive weapon. Bili and Raymond (1993) conclude that SMEs need a development methodology or approach that is as simple and as flexible as they are and one that is very different from those used by large firms. This flexible approach also needs to be cheaper and adapted to the difficulties and specificity of small firms.

Remenyi *et al.* (2000) claim that where ISs are concerned, competency is an issue. They point out that having all the IS requirements in-house is not as efficient and effective as having them in an in-house and outsourced combination. Outsourcing can be used as a corporate strategy, which allows the spotlight to be positioned on core competencies.

RESEARCH QUESTIONS

The following research questions guided this study:

1. What role does an IS play in SMEs?
2. What role does SISP play in SMEs?

METHODOLOGY

The primary data used by the researchers were drawn from the results of the questionnaire and the Delphi technique. The strategy, planning, policy and procedure documents of Viewpoint Training were used as a secondary source. First, a list of possible experts was compiled. Subsequently, a questionnaire was drawn up by considering the conclusions had been drawn and thereby identifying what information needed to be confirmed. Questions regarding each of the anomalies and the potential results were conceived and the interviews were subsequently conducted. The transcripts from the interviews were finally analysed and the Delphi results were updated.

The researchers believed that the questionnaires constituted an appropriate method of data collection for the first phase because of their ease of use, and the geographical dispersion and time limitation of the panellists. The respondents indicated their level of agreement with the statements according to the Likert scale.

Interviews

Open-ended questions were used to encourage the panellists to converse freely about what is important to them and to describe the reasons for their feelings. Demographics were employed to determine how well the survey panellists represent the known population. This measurement also involved whether the spread of panellists was sufficiently diverse to represent a good sample.

The interview was divided into six main stages. The first stage identified the purpose of the interview so as to ensure that the panellists understood this clearly. The next section discussed the conclusions that were reached on what constitutes a typical SME. The panellists were then queried on whether they agreed with these conclusions and what in their opinion constitutes a typical SME. The next question enquired whether Viewpoint was a typical SME. Thereafter, the panellists were questioned on whether they understood the terms IS and SISP so as to resolve any misunderstandings on this issue.

The following section dealt with the role that IS plays in SMEs and enquired whether the conclusions were correct. This question returned inconsistent answers and therefore needed to be clarified. The same applied to the question on why Viewpoint did not adopt an IS for its cost reduction but did so for its value gain. The fourth section summarised the conclusions regarding the role that SISP plays in SMEs and specifically in response to the third research question. The fifth section queried whether the panellists had any further comments.

Company profile

Viewpoint Training and Consulting (also known as Viewpoint), which specialises in training and consulting, was used as the case study for this research. The focus of this company falls on the business process management field and its related topics. Viewpoint is a closed corporation owned by Winton and Cathy Myers. It is a small company with a total of 12 employees, including two managers, three lecturers, one marketer, one online course developer and five office and conference venue staff.

Their products include a range of three to five day short courses such as Mapping and Modelling, Business Process Redesign, Advanced Automation. In addition, they offer courses on systems analysis, presentation skills and JAD sessions as well as distance learning courses. Another major service they offer is consulting. Their specialty is the creation of a business architecture framework followed by IDEF0 or BPMN mapping of all the processes of the client company. The result is an end-to-end model of the company process and recommendations for improvement and implementation.

Their clients vary from individuals to large corporate companies (De Beers Marine, Ernst and Young, Unilever, South African Airways), banks (Reserve Bank of Malawi, Nedbank, ABSA), small- and medium-sized companies, and government institutions (South African Army, Gauteng Department of Transport, Department of Labour).

Sample size

The group that the researchers chose contained two managers, one online course developer and one head of office staff. There are two main reasons for choosing four panellists; firstly, according to Brockhoff (1975), under ideal circumstances a group as small as four panellists can perform well and secondly, although the company only has 12 employees, the entire decision making process resides with these four people.

RESULTS

The data analysis was accomplished by applying Likert values to the results and producing a Likert score. However, if the expected value was 1, then the score value was the opposite. In other words, if the expected value was 1, then a result value of 1 obtained a score of 5, a result value of 2 obtained a score of 4 and so forth. Once these scores had been calculated the total of the scores for the four panellists was combined to create a Likert score out of 20 for every question. This Likert score was then converted to an agreement percentage in order to calculate the extent to which the panellists agreed with the statement. In some cases, there was a 100 % agreement with the statement for a number of questions. Some questions resulted in an average of 80 % and above agreement, which means that on average, panellists agreed with the statement. The next range pertaining to agreement was that of 60 % to 80 % for panellists who on average did not agree or disagree with the statements. Only three questions fell into this category. Finally, in the category of disagreement the percentage values ranges from 0 % to 60 %.

Table 1 Agreement

Percentage Agreement Range	Average Agreement Level	Number of Questions	Percentage Total of Questions
100%	Strongly Agree	14	46.67%
80% - 99%	Agree	8	26.67%
60% - 79%	Neither Agree nor Disagree	3	10.00%
40% - 59%	Disagree	2	6.67%
0% - 39%	Strongly Disagree	1	3.33%
	N/A	2	6.67%
		30	100.00%

Based on Table 1, it is evident that 46.67 % of the questions were rated as *strongly agreed* and 26.67 % were rated as *agreed*. This allows for the conclusion that 73.34 % of the questions were agreed to (more strongly agreed to by the panellists. Table 1 also indicates that the panellists revealed neutral feelings towards 10 % of the questions. The last conclusion that can be drawn is that the panellists *disagreed* or *strongly disagreed* with 10 % of the questions, bearing in mind that two questions were considered not to be applicable to be placed in a range. All the totals of these findings add up to 100%. There are three anomalies that occurred in the form of questions that were rated as *disagree* and *strongly disagreed*.

Figure 1 indicates that the ages of the panellists vary greatly. One panellist falls into the 18–30 years category, one, in the 40–50 years category, and the other two, in the above 60 years category. None of the panellists fall into the categories of 30–40 years or 50–60 years.

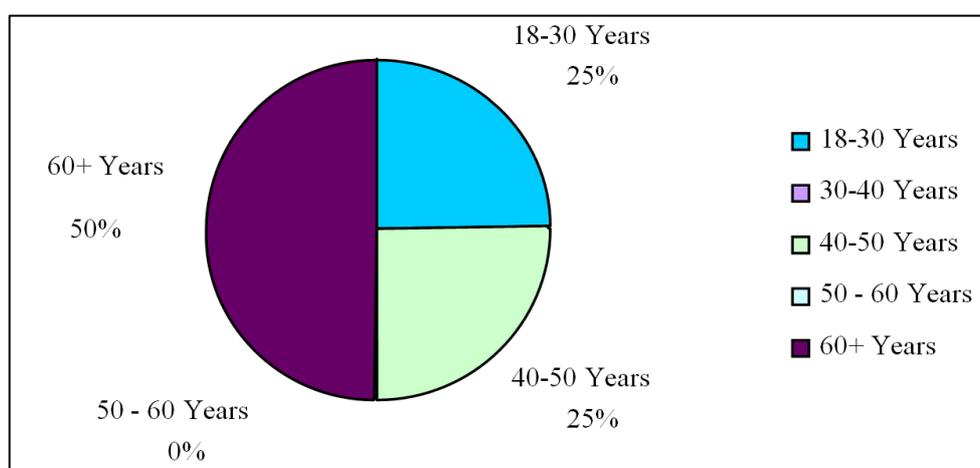
**Figure 1 Age distribution of panellists**

Figure 2 illustrates the gender distribution of the panellists, and demonstrates that two panellists are female and two are male, resulting in an equal distribution of gender

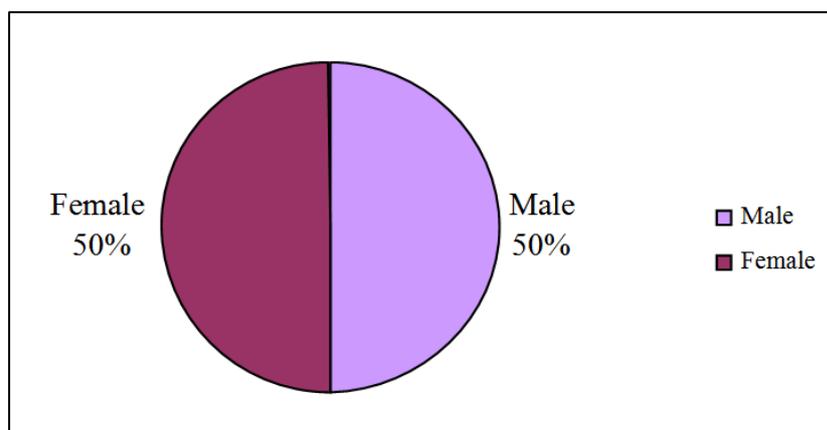


Figure 2 Gender distribution of panellists

Concerning the race or ethnicity distribution of panellists as depicted in Figure 3, it is noted that there are both white and black panellists. One panellist is black and three panellists are white. There were no Indians or Coloureds.

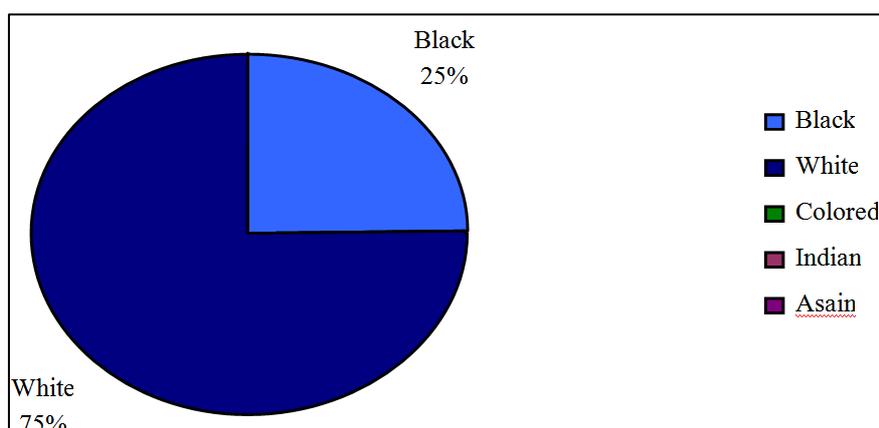


Figure 3 Race/Ethnicity distribution of panellists

It is evident from Figure 4 that the length of employment ranges from a few years to more than 15 years. Two panellists have been employed for between one and five years while the other two panellists have been employed for more than 15 years. The conclusion is that the panellists have either worked at the company for a reasonable amount of time or for as long as the company has been in business.

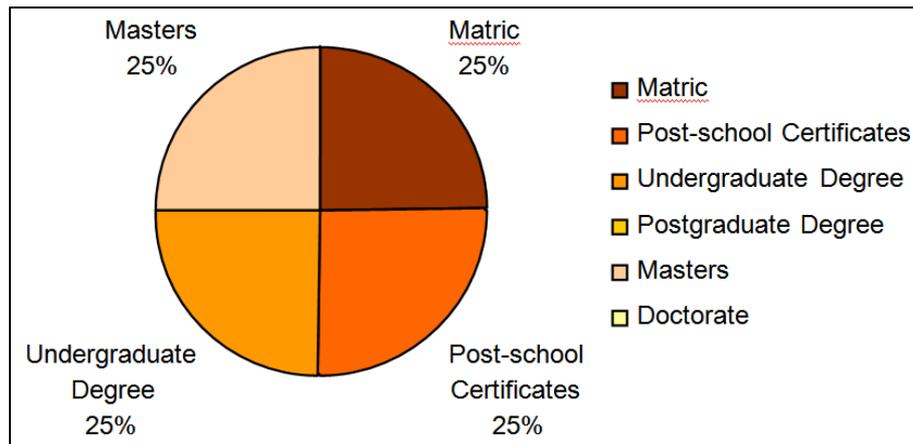


Figure 4 Education completed distribution of panellists

Figure 5 illustrates the levels of education completed by the panellists. One panellist has completed matric while another has a post-school certificate. The third panellist has obtained an undergraduate degree and the last panellist has received a masters degree. Figure 5 therefore indicates the extent to which the level of education of the panellists varies, from having completed matric to receiving a masters degree. This result can be explained by the fact that the company is a continuing education company and thus it can be expected that the employees do have some form of formal further education.

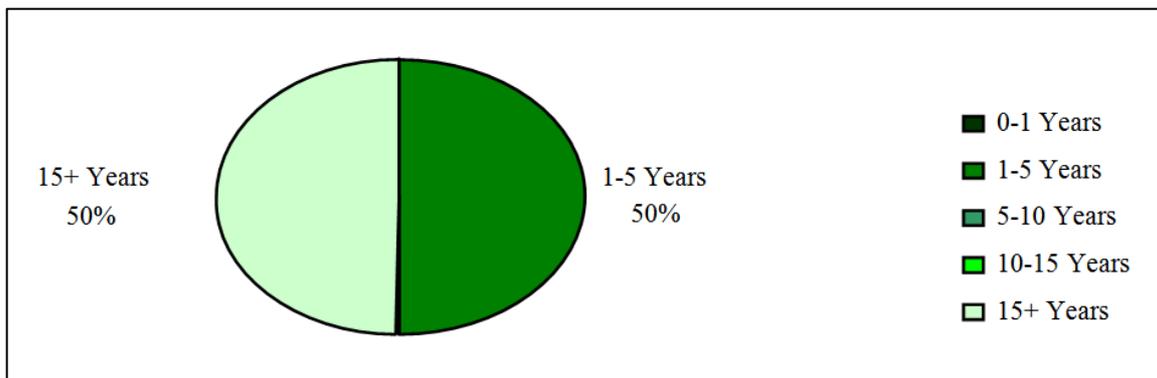


Figure 5 Employment length distribution of panellists

Figure 6 indicates that there is very little variation in the amount of contact that the panellists have with the IS. One panellist seldom has any contact with the IS while another often uses it.

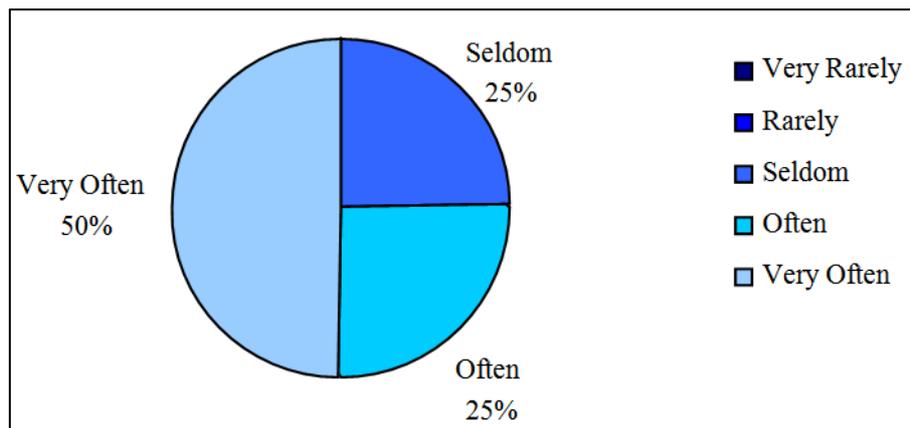


Figure 6 Information systems contact of panellists

Finally, Figure 7 reveals a large variance in the contribution that the panellists make towards the strategy of the company. One panellist contributes *very rarely* while another *rarely* contributes. Two panellists, however, *very often* contribute to the creation of the strategy of the company. It can thus be concluded that all the panellists play some part in contributing to the creation of strategy, whether it be small or large.

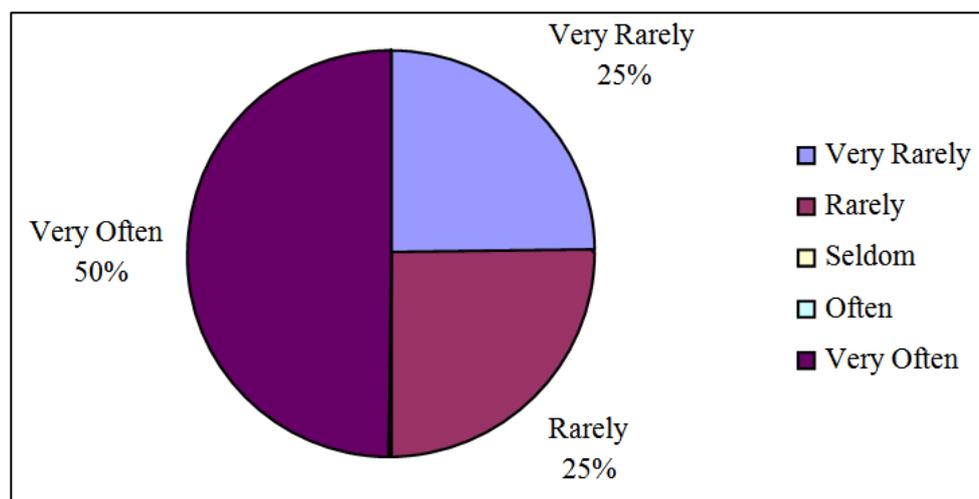


Figure 7 Strategy creating of panellists

No clear relationship could be established between the results for age distribution, gender, length of employment, and strategy creation distribution. However, race and ethnicity distribution, level of education, and the level of IS contact distribution did play a role in guiding the opinions of the panellists.

INTERPRETATION OF THE RESULTS

The first section of the questionnaire, which was linked to the literature, was designed to establish whether the company employs between 10 and 99 employees. This supports the view of Levy *et al.* (2001b) that a small company has 10 to 99 employees. The interview session further explored this topic, resulting in a consensus that a typical SME is one that is small, privately owned and with a turnover of less than R50 million. Moreover, during the interview, all panellists concurred that Viewpoint is a typical SME.

The next two questions determined whether the panellists understood the terms SISP and IS. The responses were rated as *strongly agree* or *agree* by all except for one panellist. The

demographic details indicated that this panellist had a matric certificate; therefore, it is understandable that this panellist would not be familiar with such subject specific terms, hence the exception. Remenyi *et al.* (2000) and Doherty *et al.* (1999) define SISP extensively. Based on these definitions, of all the panellists just one did not know what it meant.

The next section posed questions about the SME and related questions. One question queried whether the company differs greatly from large companies. This question was rated as *strongly agreed* and supports the assertions of Garg *et al.* (2008) as well as statements by Bili and Raymond (1993) that small companies are not like larger counterparts.

The panellists *strongly agreed* to a question relating to whether the owner-manager plays an important role in creating strategic direction or not. These findings are in accordance with those of Bili and Raymond (1993), Levy *et al.* (2001b) and Roper (1996) who state that the owner-manager has a large part in managerial decisions and the IS of the company.

Another statement regarding whether the IS in the company was defined, was either rated as *disagree*, *neither disagree nor agree* or even *agree*. These findings reasonably concurred with what was expected since, as expected, the response was *strongly disagree*. They also concur with the findings of Hicks *et al.* (2006), Levy *et al.* (1998), Garg *et al.* (2008) and Newkirk *et al.* (2008) who found that an IS is not a focus point in a company and its purpose is often not clear.

Brown and Roode (2004) assert that a stakeholder commitment, an established IS function, and optimistic, committed and supportive management will have an encouraging result for ISs and SISP. Question 7 queries whether the company stakeholders are committed to IS planning. This question, however, poses an inconsistency. The expected rating was *disagree* or *strongly disagree*. While this pattern was followed closely by three of the four panellists, the fourth panellist rated this question as *strongly agree*. After analysing the demographics, it was found that this variance could be related to the fact that one panellist seldom engages with the IS. It is therefore evident from the results that the views of this panellist about the IS system are different from the norm.

Question 8 queries whether the company has an established IS function. The findings of Newkirk *et al.* (2008) indicate that most small companies accord a low priority to their IS function; in fact they do not have a well-established IS function at all. This response is in line with academic findings.

Question 9 seeks to establish whether the company has supportive management; this question was rated as *strongly agree*. The conclusion can thus be reached that Viewpoint does have stakeholder commitment, an established IS function and supportive management; therefore, it should be successful in SISP and in employing an IS.

However, during the interview, some interesting comments were made on the issue of stakeholder commitment to IS planning. Certain panellists stated that they were interested in IS, but since it was not part of the core business it was a low priority. They wanted to focus on gaining customers and delivering services and they could not see how IS planning would directly aid them in this. Other panellists asserted that it was too expensive to be a priority. A panellist also stated that it was too time-consuming and did not have the support of management. None of these views were addressed in the literature.

Question 10 queries whether the IS in the SME is used for tactical and operational needs. This question was rated as *strongly agree* by all the panellists. Garg *et al.* (2008) claim that ISs are used for tactical and operational requirements rather than as a strategic weapon. Question 15 further questions whether a strong link exists between the IS and the competitiveness of the company. All the panellists rated this statement as *strongly agree*. Therefore, it is evident that although the panellists concurred with the findings of Garg *et al.* (2008) in that it is used for tactical and operational needs, they disagreed with them on the issue of an IS not being used as a strategic weapon. This relates strongly to the second

research question about what role an IS plays in SMEs. No exceptions were found in the interview with relation to these two questions.

Question 11 enquires whether the Internet can be used by the company to improve its competitiveness; this statement was rated as *strongly agree*. This result concurs with that of Nieto and Fernandez (2006) who stated that the Internet could be used as a tool for furthering competitive boundaries and providing the company with an opportunity to discover fresh possibilities.

Question 12 queries whether ISs are developed over time on a necessity basis. This statement was rated as *strongly agree* by all the panellists. This concurs with the findings of Hicks *et al.* (2006) who maintain that ISs are generally developed over time and motivated by necessity.

Question 13 is designed to determine opinions as to whether an SME-oriented planning model, which is flexible, inexpensive and adaptive, would be useful to the company. This statement was rated as *strongly agree* by half of the panellists. This response is in accordance with the findings of Newkirk *et al.* (2008) who suggest that the planning model should be flexible and adaptive. The viewpoint of Blili *et al.* (1993) also correlates with this viewpoint that the model should be flexible, inexpensive and adaptable to the difficulties and specificity of small firms.

Section C commences with Question 14 which questions whether the company possesses a vast amount of knowledge about IS strategy. The panellists, who rated this statement either as *disagree* or *not applicable (N/A)*, were neutral towards the statement. The expected rating, however, was *strongly disagree*, since Garg *et al.* (2008) assert that owners do have management capabilities but little knowledge when it comes to exploiting IS opportunities. On the other hand, Levy *et al.* (2001b) state that SMEs have limited knowledge with regard to an IS and therefore cannot take advantage of the system's strategic information. Blili and Raymond (1993), however, infer that uncertainty is a consequence of having no knowledge of an IS in terms of its competitive advantage.

Question 16 enquires whether uncertainty affects the implementation of an IS. This statement was rated as *strongly agree* by all the panellists. This confirms the point made by Lubbe (2000) that the IT investment goalposts are forever changing in the turbulent environment. This statement is also supported by Blili *et al.* (1993) who discuss the changing times and altering environment. They aver that uncertainty is prevalent in both the technological environment and the competition in the environment.

Question 17 questions whether the formulation of an IS strategy is a rare occurrence. This statement was rated as *strongly agree* by all the panellists. The expected rating, however, was *strongly agree* since Levy *et al.* (1998) state that SMEs infrequently have formalised corporate plans or strategies. Hicks *et al.* (2006), Levy *et al.* (1998), Garg *et al.* (2008) and Newkirk *et al.* (2008) all found the implementation of an IS strategy to be rare. This question links with Question 21, that is, whether SISP is a common occurrence or not, and which was rated as *strongly disagree* by all the panellists. In the literature various authors make similar statements about SISP being a rare occurrence.

Question 18 enquires whether ISs are adopted by a company for the sake of cost reduction. The panellists offered a variety of opinions rating from *strongly disagree* to *agree*. The expected rating, according to Levy *et al.* (2001a), should have been to *agree* that ISs are employed for the sake of cost reduction and value gain. Therefore, SMEs tend to adopt a reactive approach to investing in ISs and so view them as a means to improving effectiveness and efficiency.

The next question that posed an irregularity was question 19, which queried whether ISs are adopted for value gain. Three panellists rated this question as *strongly agree*, but the fourth panellist rated it as *disagree*. This inconsistency with the academic text could be explained by the demographics which depicted that one panellist was of non-white race. This panellist

is the one that disagreed with the statement. Cultural perceptions of what constitutes value could have played a role here.

When questioned during the interview on why Viewpoint does not adopt an IS as a cost reduction, the unanimous verdict was that they currently enjoy high profit margins. Another point that was raised was that the company uses process development for cost reductions. These aspects were not mentioned or emphasised in this study. Viewpoint does, however, try to use their IS for value gain, mostly to avoid employing extra people and to extend their marketing means.

Question 20 related to whether the fact that IS planning requires a long-term commitment hinders it from being implemented or not. The panellists strongly agreed with this statement. This is in accordance with the viewpoint of Blili and Raymond (1993) who further argue that considerable investment is required and strategic objectives need to be kept in mind.

Question 22 enquires whether SISP is initiated by management. The panellists strongly agreed with this statement which is not surprising since Basahel and Irani (2010) state that management plays a part in initiating SISP. Brown and Roode (2004) found that the principal drivers in SISP are the people in the form of stakeholders and management.

Question 24 queries whether SISP can be used to align an IS with the company's strategy. All the panellists strongly agreed with this statement. This is in harmony with the literature given that Remenyi *et al.* (2000) assert that SISP is one of the most successful means of aligning an IS with corporate strategy. Doherty *et al.* (1999) aver that applications are selected for their alignment with company objectives. Brown and Roode (2004) insist that SISP is a way of dealing with the concerns surrounding the lack of alignment between company goals and investments in IS.

Question 25 enquires whether SISP is an ongoing activity. The statement was rated as *strongly disagree* by three of the four panellists and *strongly agree* by the fourth one. This inconsistency mimics the response to Question 15. The expected rating was *strongly agree*, since SISP is defined by Doherty *et al.* (1999) as an activity that is ongoing and allows companies to set priorities for IS development. This response also resulted in one of the lowest Likert scores. The question may have been misinterpreted by the panellists, but it is more likely that culture played a significant role in the decision making. In the interview, SISP was considered to be an ongoing activity because the company environment is subject to change and the company needs to remain competitive. This response is very different to that of the first round of questions in which the panellists disagreed with this statement as.

Question 26 probes whether SISP encourages the development of new systems. All the panellists strongly agreed with this account. This is in accordance with the literature as Newkirk *et al.* (2008) point out that improved SISP can help decision makers with the core business needs that stimulate the emergence of new systems. Question 27 enquires whether SISP guarantees that resources are provided for important applications. The panellists strongly agreed with this sentiment. This is in line with the literature. Newkirk *et al.* (2008) infer that SISP can be defined as the method of deciding what the resources of the company's computing system should be. Remenyi *et al.* (2000) define SISP as the activity of instituting a program for the use and implementation of an IS so that optimisation of the company's information resources takes place. Doherty *et al.* (1999) claim that a reason for using SISP is that it makes sure that enough resources are allotted to vital applications.

Question 28 queries whether SISP should be more incremental than comprehensive. All the panellists strongly agreed with this statement. This is consistent with the literature. Levy *et al.* (2001a) confirm that companies seek an incremental solution rather than a huge push forward. Newkirk and Lederer (2006) discuss incremental versus comprehensive SISP and infer that an incremental approach would be better for SMEs because they exist in a changing and unpredictable environment. Brown and Roode (2004) advise that the

companies that prefer an adaptive and incremental SISP process will need to be rational about it.

The lowest Likert score was obtained for question 29. This question related to whether SISP could be outsourced. The results indicated that the panellists either strongly disagreed or disagreed with the statement. One reason for this anomaly could be that the company's core knowledge area lies in the strategy domain. This aspect is addressed in greater depth in the section regarding limitations. However, this fact could have strongly influenced the opinions of the panellists. This differs significantly from the literature. Remenyi *et al.* (2000) assert that IS requirements managed in-house are not as proficient and useful as those in an in-house and outsourced combination. They further state that outsourcing can be used as a corporate strategy which allows the spotlight to be positioned on core competencies.

When questioned during the interview on why SISP cannot be outsourced, several good points were raised. Firstly, SISP is considered to be a critical issue since it concerns strategy and strategy is central to the company. Another point that was raised was that the actual planning should be carried out by the company but all the implementation of the plan should be outsourced to supportive suppliers. None of these points were raised in the literature.

Question 30 queries whether the panellist had personally participated in formal SISP actions in the company. This relates back to Question 21 which questions whether SISP is a common occurrence in the company. The panellists responded that they had participated in SISP actions, which was surprising because the literature states that SISP and any strategy creation in SMEs is a rare occurrence, as mentioned above.

When questioned during the interview on whether the panellists had any further comments, they became quite animated. One panellist stated that the SISP planning made by Viewpoint occurred on an informal basis only and that the plans were kept in the forefront of the minds of the members as a competitive advantage. This notion was not mentioned in the literature and is an interesting point that had not been raised earlier. Another issue that was not raised throughout this research was that the stakeholders found it crucial to be aware of what was happening in their IS and to plan for any changes. Such knowledge should also be specifically oriented around how to improve the job. These changes were key to the flexibility of the company. The panellists agreed that SISP should be kept simple and flexible for SMEs to use and highlighted that no bureaucracy should limit it. This emphasis on bureaucracy was also not a focus point in the literature. The panellists also highlighted how important it was to align SISP with the business goals of the company; this was often emphasised in this study.

GUIDELINES

Following on from the discussion above some guidelines can be explored. The first guideline is that SMEs should definitely be treated differently from their larger counterparts. They are in fact very diverse in many ways and should be respected as being such, including with regard to their planning models. The latter should be more flexible, inexpensive and adaptive, for example. The second guideline of note is that the owner-manager does play an important role in strategy planning; this should be kept in mind when dealing with SMEs. It is evident from the findings above that not only does an IS play a tactical and operational role, but it also plays a strategic advantage role in SMEs. The fourth guideline is that the Internet is widely considered to constitute a strategic weapon which can improve the competitiveness of a company, especially in small businesses.

The fifth guideline is that the nature of ISs in SMEs is such that they are developed over time and on a necessity basis. Trying to break this pattern could be considered to be naïve. The sixth guideline is that there is a strong relationship between IS and competitiveness as well as between SISP and competitiveness. A seventh notable guideline is that ISs are generally prevalent in an environment that is filled with uncertainty and change. This makes creating ISs far more complicated. The eighth guideline to consider is that even though the

usefulness of strategy and SISP has been demonstrated, this is still a rare occurrence for many reasons. A ninth guideline is a reminder that long-term commitment hinders IS planning from being implemented.

The tenth guideline that should be remembered is that SISP is an effective way of aligning an IS with the company's strategy. The eleventh guideline to bear in mind is that SISP can encourage the development of new systems and it is widely considered to be capable of doing so. A twelfth guideline proposes that SISP should be implemented incrementally rather than comprehensively in order for implementation to be completed successfully. Another guideline (thirteenth) worth mentioning is that SISP should not be fully outsourced. It is considered to be central to the company and so it is widely accepted that the majority of the work needs to be conducted by the management. Finally, the last guideline (fourteenth) declares that SISP is an important activity because it ensures that important applications in the company receive sufficient resources.

LIMITATIONS

Even though Viewpoint Training and Consulting is an example of an SME, it does possess certain characteristics that set it apart from other SMEs. These characteristics include the fact that some of their core expertise lies within the field of strategy and that one panellist has experience on this subject matter. In fact, one of the products offered is a course on strategy. This means that the company possesses superior knowledge on the subject of strategy, which is greater than that of a typical SME. This knowledge could therefore have guided the panellists in offering opinions that are not typical of most SMEs. Although Viewpoint Training is the correct size to fit an SME category, it falls on the smaller side of the definition. With only 12 employees, it is definitely a very small SME. This could have influenced the results by providing more of a micro-company perspective than that of an SME.

CONCLUSION

It is recommended that more extensive research be conducted on the subject of SISP in SMEs. Examining one case study has led to some interesting results but there are limitations and these need to be dealt with so that an incontrovertible knowledge is gained. A full survey of a large number of SMEs would assist in this regard. Further research should also be undertaken in order to solve the problem regarding SISP in SMEs. In conclusion, this study has a particular organisational focus and this type of study should be expanded to a broader level in order to assist in the sustainability of SMEs.

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