Strategic planning for information technology in South Africa: an exploratory study

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Many studies have been performed recently in the United States and Europe examining the nature of, and approach to, strategic planning for Information Technology. Research into the influence of strategic planning on corporate performance has also increased significantly. By contrast, very few studies have been performed on the South African corporate environment both to confirm or deny alignment with overseas studies or to determine the strategic issues concerning senior management. This was the purpose of this exploratory study. The responses of senior management in 26 large organizations are analysed. The results indicate a need for extensive management education. After examining the South African situation the authors conclude with a number of assertions which could become the focus of subsequent studies.

Onlangs is baie studies in die Verenigde State en Europa onderneem om die aard van, en benadering tot, strategiese beplanning vir inligtingstegnologie te ondersoek. Navorsing om die invloed van strategiese beplanning op korporatiewe vertoning te bepaal, het ook kenmerkend toegeneem. In teenstelling, is min studies op die Suid-Afrikaanse korporatiewe omgewing uitgevoer beide om te bevestig of te ontken dat daar ooreenstemming met oorsese studies bestaan of om die strategiese geskilpunte wat hoofbestuur raak te bepaal. Dit was die doel met hierdie ondersoekende studie. Die antwoorde van hoofbestuur in 26 organisasies is ontleed. Die resultate dui aan dat daar 'n behoefte aan omvattende bestuursopvoeding bestaan. Nadat die Suid-Afrikaanse omstandighede ondersoek is, word 'n aantal beweringe wat die fokus van daaropvolgende studies kan word, gemaak.

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Introduction

Information Technology (IT), from attempting to improve operational efficiency in the early days of computing, has in recent times adopted a strategic mantle in many organizations. There are many documented cases where IT has been used in support of the competitive or generic strategies of the organization (Pyburn, 1983; Radford, 1978; Wiseman, 1985). Because of this pervasive role, the importance of strategic planning for IT has been highlighted in many articles (Bruwer, 1987; Dickson et al., 1984; Sullivan, 1985; Sullivan & Smart, 1987; Brancheau & Wetherbe, 1987). In studies to determine the key issues of senior Information Systems (IS) management in the United States, strategic IT planning has consistently ranked first (Ball & Harris, 1982; Dickson et al., 1984; Hartog & Herbert, 1986; Brancheau & Wetherbe, 1987).

With this prominence one could reasonably expect first of all that senior IS personnel were paying significant attention to the function of planning. Secondly, one would expect these people to be well aware of the models that are available to assist them in this important task. This study attempted to address these two issues. It was exploratory in nature and therefore the statistical analyses emphasized explanatory rather than formal hypothesis-testing techniques.

In essence the study attempted to answer three questions:
— how aware is IS management of the available planning techniques and how widely are they used?
— which factors of potential IS contribution are considered important and how well are they being managed?
— how well are strategic opportunities being exploited by IS management within the South African framework?

Previous research

Various studies have been carried out to establish the relationship between strategic planning and company performance (Ansoff, 1970; Fulmer & Rue, 1986; Gershefski, 1970; Herold, 1972; Karger & Malik, 1975; Leontiades & Terzel, 1979; Kudla, 1980; Thune & House 1986) each with varying degrees of success. Many of the researchers admitted that the relationships they had sought to find were not statistically significant. These studies were summarized by Greenley (1986) who concluded that the benefits of strategic planning existed but that research had so far been ineffectual in validating these benefits.

Similarly, very few studies have been performed establishing the relationship between strategic planning for IT and the benefits of such planning. Those which have, such as Sullivan (1985), have been equally inconclusive and opinions vary widely as to the benefit that strategic IT planning has to offer.

Kudla (1980) performed an analysis based solely on the returns to shareholders (return on net assets, dividends declared, etc. These were presumably chosen since they are easily accessible and relatively easy to incorporate into mathematical models. The problem with this approach is that strategic planning addresses issues other than those relating only to financial performance (Greenley, 1986: 106). These benefits are more qualitative and thus a mathematical model based on company performance, while a valid approach, is

hardly the most appropriate one for analyzing the effects of strategic planning.

The only study that documents strategic planning in the South African environment is that of Bruwer (1987) who tried to use a global success criterion in his study of South African companies, but used only a single concept question as to the 'success of the IS function'. Thus the scope for respondent subjectivity was very high. In his study, using 38 variables, only nine and seven variables entered his regression model at middle and higher management level, respectively.

To summarize, therefore, the research that has been performed into the extent and success of strategic planning has not yielded significant or conclusive results, prompting the need for this research.

Research methodology

A very detailed questionnaire (280 questions) was drawn up and sent to three managerial levels in each of 40 organizations in a variety of markets. Of the 40 organizations to which the survey was sent, 26 replied, yielding a total of 65 respondents across seven industries. In Table 1 the distribution of replies is shown.

It can be seen that the replies were spread over various industries, with an emphasis on banking and insurance, substantiating Nolan's view (1979) that these industries were the first to incorporate information systems into their activities and therefore are characterized by a large number of (predominantly large) sophisticated entities each utilizing IT to some degree or another.

The replies also seemed to favour the large companies, possibly because planning may be more formal in large businesses than in small. This response makes it difficult to assess the difference that company size makes on the various issues pertaining to IT planning, and thus the characteristics of the various types of company can only be suggested.

Analysis of the results

Various strategic IT issues were listed and respondents were asked first of all to rate the importance of each issue on an integer scale of one to ten. Then they were to

Table 1 Respondents classified by industry and company size

| Industry | Company size | | | Total by industry |
	Small	Medium	Large	
Finance & Banking	3	6	11	22
Energy	0	0	10	10
Insurance	0	7	6	13
Clothing & Retail	0	0	8	8
Food	0	0	5	5
Motor manufacture	0	0	4	4
Government services	0	0	5	5
Total by size	3	14	48	65

mark off how well they saw their company managing this particular strategic issue, on an integer scale from –2 (very poorly) to +2 (very well).

The importance ratings were summed for each issue and then sorted. The ranked issues are shown in Table 2. Issues which are not marked with an asterisk are being performed at the expected levels or better. Thus we can see that several important and complex issues such as better management support, competitive advantage and environmental threat analysis, are, in the respondents' opinions, being managed effectively.

The above issues were checked against the rankings of the same issues in terms of how well they were being managed. Differences were calculated, totalled, and the mean difference calculated. Only issues with a difference above the mean difference were considered. Using this technique, issues of importance which were being neglected, issues which were not important and were being performed 'too well', and unimportant issues could be ascertained.

The above process was performed for the entire respondent set (65 entries) and for the IS manager level only (22 entries).

Table 4 summarizes the results of this process. Note that the highest importance and performance ratings refer to the greater of the mean general management rank and mean IS manager rank for the particular issue.

Both managerial groups felt strongly about whether or not strategic IT issues were considered when creating business plans. The IS managers rated this the highest difference issue, presumably since they bear the brunt of business plans which clash with IT ideals. One can conclude that business planners need to consult with IS

Table 2 Characteristics of South African companies

Characteristic	Percentage n=26
Formal corporate planning and/or environmental scanning process	83,72
Company-wide IT decision making	83,72
Formal interaction between above	79,07
Greater than two year IT cost growth control cycle	70,73
Measurement and evaluation of strategic IT benefits	59,52
IT expenses greater than sales	60,98
User development charge-back	76,19
User operational charge-back	72,09
Benefit or risk analysis for IT	80,49
Documented IT strategy or information systems architecture	88,10
Top executive IT steering committee	88,37
Special posts to coordinate communication between IT and users	67,44
Senior IT position apart from DP	57,14
Special posts to examine work flows and job designs	73,81
'User-programmers' on a mainframe and/or an 'information centre'	83,33
Extensive use of PC's	88,10

Table 3 Ranking of strategic issues in terms of importance

Rank	Strategic issue	Value
* 1	IT human resources	8,48
* 2	Improving quality	8,03
3	Better management support	7,84
4	Competitive advantage	7,83
5	Plans for cnvironmental threats	7,78
6	Supplier reliability	7,70
7	IT-corporate communication	7,70
* 8	Shorter development lead times	7,62
* 9	Measuring costs/benefits, risks	7,62
*10	Data as a corporate resource	7,48
*11	Using better development tools	7,43
12	Level of & rise in IT costs	7,31
13	Management/leadership skills	7,21
14	Applications portfolio	7,19
*15	Measuring staff effectiveness	7,17
*16	IT in business plans	7,03
*17	IT's contribution to business	6,92
18	Learning from experience	6,78
19	Promoting EUC	6,73
20	Increasing use of automation	6,72
21	Learning to identify opportunities	6,71
22	Reducing paper handling	6,55
23	Adapting office systems & jobs	6,54
24	Organizational structure	6,49
25	National SAPO communications	6,07
26	Exploiting new technologies	5,88
27	Integrating diverse IT issues	5,77
28	Links with other organizations	5,26
29	Packaged vs inhouse software	5,07
30	Taking part in comp. societies	4,83

Table 4 Strategic issues of importance, but poorly managed

Specific strategic issue	General ranking diff.	IS Mnger ranking diff.	Highest import. rating	Highest perform. rating
Taking account of strategic issues in business planning	-9	-15	7,2	-0,4
Definition and measurement of IT contribution	-13	-14	7,0	-0,4
Managing data as a corporate resource	-6	-13	8,0	0,1
Measuring & controlling risks and benefits of IT	-15	-10	7,6	-0,06
Measuring IT staff effectiveness	-8	-9	7,2	-0,3
Decreasing time to develop application systems	-14	-13	7,6	-0,1
Using better software development tools & techniques.	-3	-13	7,7	0,0
Improving quality of operational systems & services	-2	-10	8,0	0,3
Developing & retaining skilled IT human resources	-10	-3	8,6	0,3

executives when constructing their plans, to ensure that strategic IT issues are taken into account.

In American studies the definition and measurement of IT's role and contribution to business objectives has risen in importance in the last five years (Brancheau & Wetherbe, 1987: 27). Managers are realizing more and more the strategic impact that the IS function can have. Measurement, however, of this contribution is more difficult. General managers, they argue, are more concerned than the IS managers about this lack of feedback, presumably because of their accountability to other managerial functions, as well as outsiders, for the growing IS budgets. Thus, there is considerable scope for all IS-related managerial levels to become more aware of the need for definitions and measurement of IT contribution.

Managing data as a corporate resource has also been a long-term IT problem. While a large amount of literature exists on the subject of IS management, empirical studies show that the company data resources are still under-utilized. While the IS function is treated as a company overhead, rather than a useful asset, this problem will persist. In the study it was the IS managers

who felt that the IS function was under-exploited, presumably since they are more aware of the benefits IT has to offer. This indicates a need for top management education to reverse this attitude.

Both managerial groups felt that the measurement of various IT parameters (costs, benefits, risks, and staff effectiveness) was an important issue. Not only is this a considerable problem but, it is felt, it 'has frustrated all attempts at solving it' (Brancheau & Wetherbe, 1987: 30). Very few academics have managed to create generic strategies or checklists for monitoring the IS function, and its pervasive nature makes it difficult to use the normal historic costing methods.

The only issue which the general management set rated as significantly lacking, while IS managers felt it satisfactory, was that of developing and retaining skilled IT resources. While both groups rated it as their most important issue (8,5 and 8,6 for the general and IS manager groups respectively) the IS managers felt that this issue was being performed 'better than average' while the general management group found it barely adequate. Not surprisingly, this issue did not rank highly in overseas studies (Dickson et al., 1984; Brancheau &

Wetherbe, 1987). A possible conclusion is that the skills shortage has been eased overseas but that it still exists in the South African environment. If one considers the small input that educational institutions supply for IS-related posts, particularly at the managerial level, this could indeed be the case, although the problem is being alleviated in some areas.

The following issues were ranked as being managed well, but were not highly ranked with respect to importance:
— promoting more end-user computing;
— developing organizational structures and clarifying IT
  decision-making roles; and
— cooperating with the SAPO in developing
  national telecommunications.

Thus, it would appear that the current wave of promoting End User Computing (EUC) may be coming to an end. No longer is this a major objective for either IS manager or corporate executive. In the Minnesota Key Issue study it fell from second to sixth place between 1983 and 1986 (Brancheau & Wetherbe, 1987: 29). Yet it was rated third and fourth on the general managerial and IS manager 'performance' lists respectively. This is probably because EUC has been relatively easy to implement with reputable PC vendors offering reliable services and backup. This ease-of-implementation has presumably resulted in a smoothly running EUC program, taking it off the list of critical strategic IT issues.

Developing IT organizational structures was rated ninth out of the 30 issues with respect to performance, by both manager groups, but only 19th and 22nd with respect to importance by the general and IS manager groups, respectively. Thus, the organizational structures and decision-making roles are regarded as unimportant, though they are being managed well. There is considerable literature available on the subject of organizational structures for decision making (Burack, 1975; Chandler, 1962; Mintzberg, 1979) and most managerial courses devote a significant amount of time to this subject.

Strategic IT opportunities and their exploitation

Various strategic opportunities for the use of IT were listed and respondents were asked first of all to rate the likelihood of each opportunity as an area suitable for exploitation on an integer scale of one to ten. Then they were to mark off how well they saw their company exploiting this particular opportunity, on the integer scale of -2 (not at all) to +2 (very well).

The likelihood ratings were summed for each issue and then sorted. The various opportunities ranked as in Table 5.

Opportunities in the above table which are not marked with an asterisk are being exploited at the expected levels or better. Thus, it can be seen that several of the available opportunities such as product differentiation, competitive pricing, and creating products that are hard to emulate, are being exploited. It is interesting to note though that the average ratings for

these ranks are much lower than those for strategic issues (see previous section). It appears that South African managers are less concerned with strategic opportunity exploitation in general than with the previous section of strategic issues.

The likelihood ratings were summed for each opportunity and the sorted opportunities were checked against the ranking of the same opportunities for exploitation. Differences were calculated, totalled, and the mean difference calculated. Only opportunities with a difference above the mean difference were considered. Using this technique, opportunities which were being under-exploited, opportunities which were being exploited despite likelihood of success, and unexploitable areas could be ascertained.

The above process was also performed for the entire respondent set (60 entries) and for the IS manager level only (22 entries). This identified three opportunities that are being overlooked. The first is that the idea of creating more value-added features in one's products or services was noted as a legitimate opportunity which was being overlooked. Similarly, the idea of building in costs associated with either customers or distributors switching to another product is not new, but has yet to be fully exploited in South Africa. The third is that there is also an exploitable area available by using IT to make it difficult for one's competitors to gain access to one's customers. By doing this companies can secure their share of the market, thereby enhancing their chances of long-term survival. These areas represent a more dynamic and imaginative use of IT to improve a company's product or service.

The following were found to be exploited despite little likelihood of success:
— discouraging new entrants to a market by delivering a
  product or service that is difficult to emulate;
— discouraging new entrants to a market by raising the

Table 5 Ranking of strategic opportunities

Rank	Strategic opportunity	Value
1	More effective organization	7,41
* 2	Creating value added features	6,57
3	Product/service differentiation	6,44
4	Become low-cost market leader	5,92
* 5	Build in 'switchings, costs'	5,84
6	Competitive price/performance	5,72
* 7	Keep clients from competition	5,07
8	Create range of products	4,89
9	Make products difficult to copy	4,77
10	Forward integrate (distribute)	4,76
11	Network with existing companies	4,42
12	Network with related companies	4,30
13	Raise minimum levels of investment	4,25
14	Become independent of suppliers	4,11
15	Backward integrate (supply)	4,00
16	Encourage supplier conformity	3,94
17	Encourage supplier competition	3,79

minimum level of investment in systems and services;
— backward integrating into the supply chain; and
— encouraging supplier competition.

Both the general and IS managerial groups saw the product differentiation that they were indulging in — to prevent entry into the market — as an unimportant or unexploitable issue. They were, nevertheless, exploiting it. The general management group felt that raising the level of investment was also needless, even though they felt it was being done. IS managers, however, felt that the level of investment was lower, in tune with its decreased importance. These sentiments are probably relevant due to the predominance of large companies in the survey. South Africa is characterized by markets that are both monopolistic and oligopolistic in nature, and also stringently tied up in government red tape, and raising barriers to entry is thus relatively unnecessary.

Both groups felt that encouraging supplier competition was unnecessary and yet well exploited by their organizations. The general management group also felt that backward integrating into a supplier chain was not important. This activity is usually performed to ensure company security in the face of supplier control and to obtain supplies at prices nearer to cost, and so this in turn suggests that the supplier market in South Africa is relatively uncomplicated since companies do not seem threatened by their suppliers. If suppliers were dealing with large profit margins then backward integration would possibly be necessary, but this seems not to be the case in South Africa. Since several of the large raw materials industries (e.g. ISCOR) are government owned and actually run at a loss, we can assume that materials are passed on to companies at a price close to, if not below cost. This eliminates the need to backward integrate. Also relevant is the fact that, in the face of government suppliers, acquisition is nearly impossible, making this a relatively unexploitable opportunity.

The use of IT planning methodologies

The methodologies were divided into 'popular' and 'less popular' groups and the respondents were asked to rate them on a five-point scale ranging from -2 (never heard of it) to +2 (found it very useful). Factor analysis was performed and, based on the various outputs of this program, various stepwise regression models were attempted. Assumptions had to be made as to the reasons for missing data. It was decided after trying the mean response for missing data, and achieving no significant results by excluding missing data, that a worst case response would be the best. This implies that no response for a particular methodology was because the respondent had never heard of the specific method.

Nine regression models were attempted each using various weightings of the success factors to establish success criteria. These ranged from a purely profit-orientated model to ones incorporating all 12 factors balanced by factor loadings from the previous analysis. The highest F^2 value was 22%. This is not significant by normal standards. The three methodologies that did feature in the model did not show significance at either the 0,05 or 0,10 level, nor could any reasonable trends be established.

From the Factor Analysis, however, it became apparent that various methodologies fell into various groups and that if an individual had encountered one method in the group he or she would probably be aware of the others. The grouping of the methods is shown in Table 7.

Table 6 Under-exploited opportunities for the use of IT

Opportunity for IT	General ranking diff.	IS Mnger ranking diff.	Highest opportun rating	Highest exploit. rating
Create value-added features in our products & services	-11	-12	6,9	0,1
Build in 'switching costs'	-11	-12	6,0	-0,4
Make it harder for competitors to gain our clients	-9	-11	5,5	-0,3

Table 7 Grouping of methods

Factor	Loading
One	
McFarlan's Risk Analysis	0,796
McFarlan's Strategic IS Grid	0,782.
Porter's Strategic Forces	0,761
Nolan's Application Portfolio	0,739
Nolan's Stages of Growth Model	0,728
Porter's Value Chain Analysis	0,724
Two	
IS Model and Architecture Generator	0,871
Org. Info. Requirements Analysis	0,821
Executive Planning For DP (ED/DP)	0,709
Strategy Set Transformation (King)	0,671
Three	
Environmental Scanning	0,737
Business Strategy Model	0,709
Feasibility Study	0,558
Nominal Group Technique	0,545
Four	
Critical Path Method (CPM/PERT)	0,708
Change Management Process	0,578
Project Management System	0,501
Five	
B + OL + D Methodology (Online People)	0,808
Customer Resource Life Cycle (CRLC)	0,652
User Needs Survey (Alloway)	0,550
Six	
Enterprise-wide Info, Management	0,761
Enterprise Survey	0,738

Factor 1 represents the classic methodologies taught by most IS managerial courses which most IS managers have heard of. Factor 2 represents the IS related methods which IS managers with a specific planning inclination will have heard of but which otherwise remain relatively unknown. Factor 3 are those methodologies learned by most managers during whatever tertiary education they had in a managerial field. They are thus common to most managers at all levels and relatively well-known. Factor 4 represents the operational end of common management techniques. Patrons of operational types of management training normally come into contact with all of these methods and they are also relatively well known. The last two methods were factored separately although no possible reasons for this occurrence could be found.

The various methodologies were ranked on the average response of all three managerial levels. This was also done for the individual managerial levels and the rankings compared with the overall ranking.

As can be seen from Table 8 the managerial and operational business skill methodologies rank the highest for overall knowledge, presumably since they have a lot to offer all fields of management, not just IS. The top management levels had a decidedly less informed view of the IS specific methodologies since they presumably do not come into contact with these IS-based methodologies. The middle level (senior management) had heard of the various IS methods (BSP and CSF) but were unaware of the others (stages of growth, IS strategic grid). They were also aware of Porter's work which applies to various areas other than IS. The IS managers were more aware of the IS-related models than the corporate-planning models such as business strategy and environmental scanning. While these have a solid IS methodology base, they could broaden their knowledge by examining other methodologies as well.

Areas for further research

From the above study various assertions can be proposed. These have been grouped under the headings of measurement, competitive, strategic, and people issues. The list is not exhaustive but could provide a stimulus for further research studies. As was stated at the start of the article, the purpose of the study was exploratory — to generate assertions for subsequent testing. These are listed below.

Strategy issues
— strategic IT issues are not taken into account when business plans are formulated;
— the use of a particular strategic planning methodology, or group of methodologies, does not necessarily lead to more effective IT management or to better company performance; and
— South African IS managers are not aware of many of the new methodologies for strategic planning.

Competitive issues
— information technology is not being used to create

value-added features, or to build in 'switching costs' in products or services in South Africa;
— information technology is not being used to prevent existing competitors gaining access to one's clients in South Africa; and
— the South African market is such that utilizing information technology to raise barriers to entry is unnecessary.

Measurement issues
— it is not regarded as a corporate asset, since a method of defining and measuring IT's contribution has still not been satisfactorily determined.
— measurement and control of the costs, benefits and risks of IT projects is a critical issue for management and there is still no acceptable method for determining a system's net worth;

Table 8 Respondents' relative knowledge of specific planning methodologies relative to other managerial levels

Strategic IT planning methodology	Average response & (rank)	Top Mgt rank & (diff.)	Senior rank & (diff.)	IS Mgmt rank & (diff.)
Brainstorming	1,3(1)	2(−1)	1(0)	1(0)
Feasibility Studies	1,3(2)	1(+ 1)	2(0)	2(0)
PERT/CPM	0,8(3)	3(0)	4(−1)	4(−1)
Project Mgt. System	0.8(4)	5(−1)	5(−1)	3(+1)
Financial modelling	0,7(5)	4(+1)	3(+2)	5(0)
Cost/Ben. analysis	0,3(6)	7(−1)	6(0)	8(−2)
Service level agreements	0,3(7)	7(0)	9(−2)	6(+1)
Priority setting	0,0(8)	6(+2)	12(−4)	11(−3)
Bus. strategy model	0,0(9)	9(0)	6(+3)	13(−4)
Change mgt. process	−,3(10)	11(−1)	13(−3)	7(+3)
BSP (IBM)	−,3(11)	14(−3)	8(+3)	2(−1)
Environment Scan	−,4(12)	10(+2)	10(+2)	16(−4)
CSF (Rockart)	−,4(13)	13(0)	11(+2)	9(+4)
Tetrarch (Comcon)	−,7(14)	12(+2)	14(0)	14(0)
Nolan SOG theory	−,8(15)	18(−3)	19(−4)	10(+5)
IS strategic grid	−,9(16)	17(−1)	18(−2)	15(+1)
User needs survey	−1,0(17)	16(+1)	17(0)	19(−2)
Portfolio risk anal	−1,1(18)	17(+1)	20(−2)	18(0)
Strategic forces	−1,3(19)	20(−1)	16(+3)	201(−1)
Applic. portfolio	−1,3(20)	21(−1)	21(−1)	17(+3)
Value chain anal.	−1,3(21)	23(−2)	17(+4)	21(0)
Nominal group tech.	−1,5(22)	19(+3)	22(0)	24(−2)
ED/DP (IBM Canada)	−1,7(23)	26(−3)	23(0)	22(+1)
CRLC (Ives)	−1,8(24)	25(−1)	24(0)	25(−1)
Innovation mgt tech	−1,8(25)	22(+3)	25(0)	31(−6)
EwIM (IBM)	−1,8(26)	29(−3)	28(−2)	23(+3)
B+OL+D (online)	−1,8(27)	27(0)	26(+1)	27(0)
BICS (IBM)	−1,9(28)	24(+4)	28(0)	28(0)
Strategy Set Trans.	−1,9(29)	29(0)	27(+2)	25(+4)
ISMOD	−1,9(30)	30(0)	29(+1)	31(−1)
BIAIT	−1,9(31)	28(+3)	33(−2)	29(+2)
Enterprise survey	−1,9(32)	32(0)	32(0)	31(+1)
Org. info. req. anal.	−2,0(33)	33(0)	31(+2)	33(0)
Spread	−2..+2()	(−4..+3)	(−4..+4)	(−5..+6)

— the use of packaged software over inhouse programs does not lead to more effective IS support, nor does it increase application systems' quality; and

— in the current political climate the measurement of IT staff effectiveness is one of the most important management issues.

People issues

— there is little congruence of thought between IS and general management concerning the contribution of IT to corporate performance;

— whereas developing and retaining skilled IT human resources is no longer an issue overseas, it is still a major IS managerial concern in South Africa and, given the political situation, the shortage will get worse;

— the importance of end-user computing, compared to other IS issues, is decreasing; and

— general business management, despite the improved general literacy concerning computers, are still ignorant of the full potential of computers.

The final step in the study was to analyse the relationship between successful IT management and the use of IT planning methodologies. As was stated earlier in the paper, there has been little definitive work in establishing the influence that planning has on organizational performance. The obvious question is: does planning pay? While in no way implying a cause and effect relationship, a simple cross-tabulation of the results indicated that: of those who did not use a planning methodology, 55,9% had a negative aggregate rating on their management performance, while 44,1% were positive. Taking a different perspective, though, of all responses that had a negative aggregate score for managerial performance, 70,4% were using no planning methodology, while 29,6% were.

These figures can be misleading in that good managers generally plan anyway and therefore are more likely to use a methodology, so it cannot automatically be deduced that the use of a methodology will lift organizational performance. However, the relationship is clear. Perhaps what is needed is a long-term, longitudinal study to determine the effect that planning has on performance so that the return on planning effort can be measured more efectively.

Conclusion

Future researchers should bear in mind that South Africa seems to be some distance behind other countries with respect to maturity of strategic information technology planning. A considerable number of managers are not aware of the numerous methodologies available, relying rather on tried and tested generic planning strategies which they simply apply to their IS function. While these are relatively sound and based on solid principles, there are instances when they cannot apply to IS since they were originally designed for functions with different characteristics to information systems. South African managers need to be further educated with regard to IS methodologies, and to try these methods in their various businesses.

This is particularly relevant when analysing the extent of automation and the potential for IT usage within the organization.

The considerable discrepancy between various levels of management and the uncertainty displayed as to company planning practices highlights the fact that South African IS management need to devote far more attention to disseminating information about IT amongst their managerial colleagues so that a more aligned attitude towards information systems prevails.

This study highlighted a number of areas where organizations could improve corporate performance by focusing on the competitive support that computing could provide to the organization. Apart from the availability of staff the issues that South African IS managers are focusing on are similar to their foreign counterparts.

Each of the assertions listed above could benefit from more research in this highly diverse area. It is hoped that by raising them other researchers will focus their attentions on this highly influential aspect of corporate activity.

Acknowledgement

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