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The impact of performance measurement in strategic planning

370

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Abstract

Purpose – To investigate the impact of performance measurement in strategic planning process.

Design/methodology/approach – A large scale survey was conducted online with Warwick Business School alumni. The questionnaire was based on the Strategic Development Process model by Dyson. The questionnaire was designed to map the current practice of strategic planning and to determine its most influential factors on the effectiveness of the process. All questions were closed ended and a seven-point Likert scale used. The independent variables were grouped into four meaningful factors by factor analysis (Varimax, coefficient of rotation 0.4). The factors produced were used to build regression models (stepwise) for the five assessments of strategic planning process. Regression models were developed for the totality of the responses, comparing SMEs and large organizations and comparing organizations operating in slowly and rapidly changing environments.

Findings – The results indicate that performance measurement stands as one of the four main factors characterising the current practice of strategic planning. This research has determined that complexity coming from organizational size and rate of change in the sector creates variation in the impact of performance measurement in strategic planning. Large organizations and organizations operating in rapidly changing environments make greater use of performance measurement.

Research limitations/implications – This research is based on subjective data, therefore the conclusions do not concern the impact of strategic planning process' elements on the organizational performance achievements, but on the success/effectiveness of the strategic planning process itself.

Practical implications – This research raises a series of questions about the use and potential impact of performance measurement, especially in the categories of organizations that are not significantly influenced by its utilisation. It contributes to the field of performance measurement impact.

Originality/value – This research fills in the gap literature concerning the lack of large scale surveys on strategic development processes and performance measurement. It also contributes in the literature of this field by providing empirical evidences on the impact of performance measurement upon the strategic planning process.

Keywords Performance measures, Corporate strategy, Organizational development

Paper type Research paper

Introduction

This study is based on the idea that the relationship between strategic planning and performance achievements is positive. Previous research shows that the use of strategic planning is beneficial for organizations (see Sarason and Tegarden, 2003, for a comprehensive review of this issue). The development of strategy is an ongoing need for practitioners, and an ongoing debate in the academic literature. Simultaneously, the realisation of some of the potential benefits of performance measurement has led to the need to enhance our understanding of the impact that it has on strategic planning.



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The need for performance measurement and strategy to be aligned is well established in the literature (Dyson, 2000). However, little research has been published on the impact that performance measurement has on the design, development and implementation of strategic planning. This paper attempts to bridge this gap through a global survey.

Literature review

Strategic planning

Strategic planning is the set of processes undertaken in order to develop a range of strategies that will contribute to achieving the organizational direction. A great variety of definitions of strategic planning have been expressed in the literature. Grant (2003) provides an extensive review of strategic planning's history from "long range planning" until the current debates between "strategic management" and "strategic thinking". A very inclusive definition is "strategic planning attempts to systematise the processes that enable an organization to attain its goals and objectives. There are five general steps in the strategic planning process: goal/objective setting, situation analysis, alternative consideration, implementation and evaluation" (Crittenden and Crittenden, 2000).

At the core of the academic debate about whether strategic planning should be practiced, the main argument is around whether it is appropriate to formalise the activities involved in strategy making. Mintzberg (1994) claims that formalised strategic procedures have limited the ability of managers to think strategically. Stonehouse and Pemberton (2002) suggest that the association of strategic planning with the "highly prescriptive approach of strategic management" is unfortunate, since these concepts are not necessarily opposite and can co-exist at different levels of strategy making. It is also evident in the literature that over the years, practitioners and researchers understood the importance of developing strategy within a multi-stage process. Therefore, a great number of models and frameworks have been suggested in order to improve the efficiency and effectiveness of strategy development (for an extensive review, see Langfield-Smith, 1997).

There is a growing number of publications expressing the need to tailor management control systems to support the development and implementation of organizational strategy (Kald *et al.*, 2000). Part of management control systems is performance measurement (Langfield-Smith, 1997; Neely *et al.*, 1994), which is an area of increasing interest for both practitioners and academics.

Strategy and performance measurement

The history and evolution of performance measurement has been extensively mapped and discussed (Neely, 1999). Ittner and Larcker (2003) suggest that performance measurement is used to

- help direct the allocation of resources;
- assess and communicate progress towards strategic objectives; and
- evaluate managerial performance.

Neely *et al.* (1994) claim that performance measurement:

- helps managers to identify good performance;
- makes explicit the trade-offs between profit and investment;

- provides a means of introducing individual strategic stretch targets; and
- ensures that corporate management knows when to intervene if business performance is deteriorating.

The need for organizations to align their strategies with their performance measurement systems is well established in the literature (Dyson, 2000; McAdam and Bailie, 2002). That is why a great number of integrated frameworks have been developed such as the Balanced Scorecard, the Performance Prism, the Performance Pyramid, the Integrated Performance Measurement Methodology and the Cambridge Performance Measurement Methodology (see Hudson *et al.*, 2001, for an extensive review of the most basic frameworks). Most of the research published concentrates on either new frameworks of measurements or advice for their implementation. Franco and Bourne (2003) explain that only recently academics' and practitioners' papers have attempted to provide insights into "how the organizations manage with measures and how they extract value from the data collected".

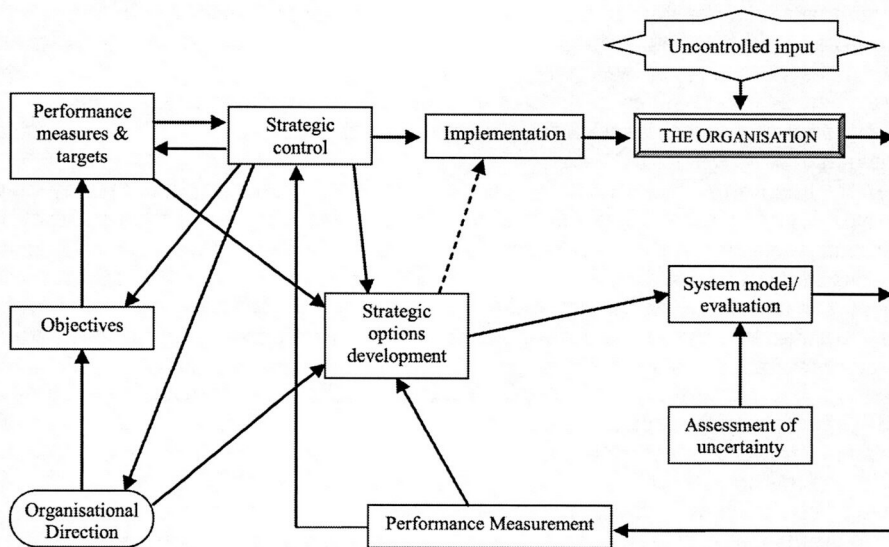
The influence of organizational characteristics and the nature of the sector within which organizations operate, has been addressed in the literature concerning strategic planning (see, for example, Stonehouse and Pemberton, 2002; Grant, 2003). However, very limited published research has been found on the influence on performance measurement (Hudson *et al.*, 2001; Kennerley and Neely, 2003). Moreover, Langfield-Smith (1997) claims that relatively few studies have been published examining the relationship between strategy and management control systems. de Waal (2003) studied the behavioural factors which are important for the successful implementation and use of performance measurement systems, and suggests that further research is required "into other factors, such as environmental or organizational". Therefore, this research examines empirically the impact of performance measurement in strategic planning.

Research design

The research aimed to study the relationship between the process elements involved in the development and implementation of strategy and the overall success of the strategic development process by surveying current strategic planning systems. The role and impact of the performance measurement systems was a particular focus of the research.

This survey used a close-ended questionnaire with a seven-point Likert scale. The participants were all Warwick Business School (WBS) alumni; the questionnaire was sent to all the alumni for whom an email address was available. The questionnaire was set up on a web page and all 4000 WBS alumni were invited to participate by either filling in an online version or completing an electronic attachment.

The questionnaire was designed taking into consideration the Strategic Development Process model (Dyson, 2004), depicted in Figure 1. The questionnaire consisted of a series of introductory questions examining the profile of the responders in terms of their experience and level of involvement with the strategic planning process. Another set of questions investigated the main characteristics of each responder's organization. In particular the organizational size was examined in terms of turnover and number of employees, and in addition each participant was asked to give a score for the rate of change in their industrial sector. The questions concerning



Source: Dyson and O'Brien (1998)

Figure 1. Strategic development process model

the strategic planning process were structured according to the elements of the Strategic Development Process model and were grouped under eight sections: "Organizational direction development", "Strategic initiatives/options development", "Strategy selection", "Implementation", "Feedback and strategic control", "Performance measurement", "Assessment of uncertainty" and "Evaluation of strategic planning". The last section consisted of a series of more general questions concerning strategic planning process; this section contained also a set of five questions assessing the effectiveness of the strategic planning process. In addition, a list of established management techniques was provided and the responders were asked to mark which management techniques were used in the strategic planning process in their own organizations.

The choice of the Strategic Development Process model, was made because it is a comprehensive framework, examining strategy development and implementation from a process point of view including the main stages, sub-processes and supporting activities concerning strategic planning: direction setting, strategic initiative formulation, evaluation (including feasibility checking, resource assessment, assessment/modelling of uncertainty, corporate model), feedback/performance measurement system, strategic control function, implementation process, and resources.

The Strategic Development Process model consists of all five general steps of strategic planning as described in the literature review. Its elements are not different from other process oriented strategy development frameworks (Ackoff, 1970; Ramanujam and Varadarajan, 1987; Bryson and Roening, 1988; Johnson and Scholes, 1997; Wheelen and Hamper, 2000). However, given that it has been developed within the frame of strategic operational research (Tomlinson and Dyson, 1983; Dyson, 2000), a systemic approach has been adopted so as to ensure holistic coverage of

the interrelationships among its elements. This research is exploratory investigating the relationship between strategic planning and performance measurement as stated within the Strategic Development Process model. This model suggests that performance measurement is directly linked with the strategic control function of the organization which has potentially a key role in the development of organizational direction (Tomlinson and Dyson, 1983).

In the literature, it is acknowledged that the practice of strategic planning may vary in each organization (Hahn, 1999; Wijerwardena *et al.*, 2004), which might raise ambiguity concerning the model used for this research. The Strategic Development Process model has been developed through empirical research (Dyson and Foster, 1980; Tomlinson and Dyson, 1983; Dyson, 2000), therefore it is an inclusive model that takes into consideration the variation in approaches of strategic planning adopted within different organizations. Furthermore, the results of a pilot exercise did not indicate any concerns or disagreements with the model used. The pilot was conducted via a sample of 100 questionnaires sent to the Warwick Business School alumni database (prior to the main survey) where the participants were invited to comment on the contents of the questionnaire. In addition, the reliability measures (cronbach's alpha) presented in the results section show that the reliability of the survey instrument was "excellent". It should also be highlighted that the wide range of responses in terms of levels of experience and involvement with the strategic planning process by the participants in the survey ensure that the acceptance of the model used did not represent only one organizational level of decision making.

Measures

The evaluation of the strategic planning process is a vital need for strategists, and therefore a research field attracting the interest of academics (see, for example, Moroney, 1999). The survey questionnaire included five variables that have been used as assessments of the strategic planning process. These variables examine whether the strategic planning process:

- supports the achievement of the organization's goals;
- is efficient;
- is effective;
- leads to the adoption of successful strategies; and
- is considered a successful process.

It is important to make the distinction between evaluating strategy and the process of developing it; for this reason, this survey has not included commonly used measures such as the ones summarised by Hastings (1996). The five assessments used are generic and refer to the process itself. They are developed following the "Effectiveness of Strategic Planning" model (Dyson and Foster, 1983); this model supports the notion of an effective process rather than relying on the outcome assessment of organizational performance achievements.

The measures of this survey are perceptual, and it is well known that there exists some scepticism on whether subjective (or non-objective) measures can be used as dependent variables (West and Schwent, 1996). There is a great amount of empirical research recorded in the literature linking strategy development and organizational

performance (see Miller and Cardinal, 1994, for a comprehensive review). McLarney (2001) explains that there is a distinct lack of research examining some measure of effectiveness beyond financial measures which are considered objective assessments of organizational success. Collier *et al.* (2004) provide an analysis on the necessity of using perceptual data in large scale surveys examining the development of strategy, highlighting that “although perceptions may not always equate with reality, they are important because they are likely to be the basis of behaviour”. To ensure reliability, careful consideration was given to Cronbach’s alpha (presented in the following section), which has shown that the reliability of the data collected was “excellent”. This approach of examining Cronbach’s alpha when using perceptual data is adopted by many authors (see, for example, Hambrick, 1982; Benbunan-Fich and Hiltz, 1999; Thirkell and Dau, 1998; Mikkelsen *et al.*, 2000; Asrihant *et al.*, 2005).

Results

The total number of responses was 428. Taking into consideration the number of emails returned undelivered and the responders who were not able to participate, the response rate is 11.41 per cent. A number of people may not have participated due to their lack of experience or involvement with the strategic planning processes in their organization. In addition, 90 responses were ignored due to incomplete answers. Considering that online surveys produce considerably smaller response rates (Tse, 1998; Crawford *et al.*, 2001), the response rate is comparable to large scale global surveys (Draulans *et al.*, 2003).

The responses received came from 42 countries, however the majority (40 per cent), were from UK based organizations (this is reasonable given that half of WBS alumni are from the UK). Other countries with more than 5 per cent participation are Hong Kong, Singapore, Greece and USA. The majority of the responses concerned large organizations (65 per cent). The responders to the survey had a fairly balanced coverage of all levels of experience and involvement with the strategic planning process. In terms of involvement, 48 per cent of the responders were involved with strategic planning at the corporate level of the organization, while strategic planning at the departmental level was represented by 30 per cent and subsidiary level by 22 per cent. Regarding the experience with strategic planning process, 18 per cent of the responders were “Heads” of the strategic planning team, 26 per cent were “Members”, 36 per cent were “Contributing” and 20 per cent had “Awareness” on the process.

The responses were checked for non response bias based on the widely acknowledged approach suggested by Armstrong and Overton (1977), which compares the early and late responders; early responders are presumed to have a greater interest in the topic of the research. No significant difference was found between early and late responders for: organizational size, turnover, country of origin, level of experience and level of involvement.

The reliability of the survey has been assessed through the Cronbach’s alpha. The reliability has been assessed for each section of the questionnaire and overall. The Cronbach’s alpha for “Organizational direction development” is 0.84, for “Strategic initiatives/options” is 0.88, for “Strategy selection” is 0.82, for “Implementation” is 0.88, for “Feedback and strategic control” is 0.85, for “Performance measurement” is 0.91, for “Assessment of uncertainty” is 0.81, for “Evaluation of strategic planning” is 0.9

and for the whole questionnaire is 0.96. Taking into consideration that above 0.9 the reliability is "excellent" and above 0.8, it is "very good" (Hair *et al.*, 2003), it is understood that the reliability of the questionnaire is "very good" and "excellent" for the individual sections and "excellent" for the overall questionnaire.

The normality of the data has also been evaluated via the skewness and kurtosis. All the variables used for the multivariate analysis are within the limits of approval as suggested by Hair *et al.* (2003).

Data analysis

Factor analysis was used to reduce the forty-two independent variables, by grouping them. Principal component analysis (PCA) was used and the method of rotation was Varimax with coefficient of rotation 0.4. A four factor solution was found to be the most meaningful and the factors produced are: "organizational direction", "performance measurement", "strategic initiatives and option, development and selection", "organizational uncertainty and flexibility". The total variance explained by the four factors solution was 54.2 per cent. The factors produced are of "excellent" and "very good" reliability considering their Cronbach's alpha coefficient which is respectively 0.9, 0.9, 0.88, 0.83 (according to Hair *et al.*, 2003 above 0.9 is "excellent" and above 0.8 is "very good"). The fact that performance measurement was one of the four key factors characterising the current trends in strategic planning supports the view that the culture of measurement is embedded in modern management practice. The factor of "performance measurement" consists of all the questions referring both to the characteristics of the business performance measurement system of the organization, for example "in our organization the scope of the performance measurement is appropriate" and to the role of the measurement of the organizational performance in the other elements and activities of the strategic development processes, for example, "in our organization, the performance measurement system monitors and controls the alignment of the organization's activities with the organization's direction".

Using regression analysis (stepwise), we have determined the relationship between the elements of strategic planning and the measures of its assessment. Regression models were first built for the totality of the responses (see Table I, the middle column). Then the responses were divided into groups according to:

- *organizational size*: large and SMEs; and
- *the rate of change in their sector*: organizations operating in slowly and rapidly changing sectors.

All the results are summarised in Table I.

To build the regression models, the four factors produced by the factor analysis were used as independent variables and the five assessments of strategic planning, described in the "measures" section as dependent variables. The division according to the organizational size was made based on the figures provided for the number of employees, there were 120 cases for the SMEs (35 per cent) and 218 for the large organizations (65 per cent). In order to divide the organizations according to the rate of change in their sector, we used the question from their profile with their score on the rate of change in their sectors. This question used a seven-point Likert scale, the responses between one and four were classified as "organizations operating at slowly

	SMEs	Large organizations	Total	Rapid changing sector	Slowly changing sector
Strategic planning supports the achievement of organization's goals	Organizational direction (0.44) Organizational flexibility and uncertainty (0.293) $R^2 = 0.42, F = 43,$ $sig = 0.000$	Organizational direction (0.52) Performance measurement (0.184) $R^2 = 0.42, F = 75,$ $sig = 0.000$	Organizational direction (0.43) Organizational flexibility and uncertainty (0.175) Performance measurement (0.136) $R^2 = 0.43, F = 82,$ $sig = 0.000$	Organizational direction (0.474) Performance measurement (0.159) Organizational flexibility and uncertainty (0.159) $R^2 = 0.49, F = 82,$ $sig = 0.000$	Organizational direction (0.315) Organizational flexibility and uncertainty (0.266) $R^2 = 0.30, F = 14,$ $sig = 0.000$
	Strategic planning is considered effective	Organizational direction (0.458) Organizational flexibility and uncertainty (0.327) $R^2 = 0.49, F = 56,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.356) Organizational direction (0.259) Performance measurement (0.191) $R^2 = 0.53, F = 77,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.338) Organizational direction (0.323) Performance measurement (0.168) $R^2 = 0.507, F = 115,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.338) Organizational direction (0.279) Performance measurement (0.219) $R^2 = 0.52, F = 94,$ $sig = 0.000$
Strategic planning is considered efficient	Organizational flexibility and uncertainty (0.416) Strategic initiatives/options development and selection (0.253) $R^2 = 0.38, F = 36,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.321) Performance measurement (0.182) Organizational direction (0.17) $R^2 = 0.37, F = 35,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.306) Organizational direction (0.226) Performance measurement (0.17) $R^2 = 0.37, F = 64,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.343) Organizational direction (0.22) Performance measurement (0.144) $R^2 = 0.38, F = 52,$ $sig = 0.000$	Strategic initiatives/options development and selection (0.367) Performance measurement (0.267) $R^2 = 0.32, F = 17,$ $sig = 0.000$

(continued)

Table I. Comparison for different organizations of the four factors' impact on strategic planning

Table I.

	SMEs	Large organizations	Total	Rapid changing sector	Slowly changing sector
Strategic planning leads to the adoption of successful strategies	Organizational direction (0.426)	Organizational direction (0.404)	Organizational direction (0.396)	Organizational flexibility and uncertainty (0.421)	Organizational direction (0.381)
	Organizational flexibility and uncertainty (0.232) $R^2 = 0.44, F = 45,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.391) $R^2 = 0.53, F = 115,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.385) $R^2 = 0.49, F = 160,$ $sig = 0.000$	Organizational direction (0.383) $R^2 = 0.52, F = 140,$ $sig = 0.000$	Strategic initiatives/options development and selection (0.368) $R^2 = 0.49, F = 36,$ $sig = 0.000$
Strategic planning is a successful process	Organizational direction (0.513)	Organizational flexibility and uncertainty (0.38)	Organizational direction (0.427)	Organizational direction (0.401)	Organizational direction (0.628)
	Organizational flexibility and uncertainty (0.217) $R^2 = 0.44, F = 46,$ $sig = 0.000$	Organizational direction (0.349) $R^2 = 0.44, F = 84,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.312) $R^2 = 0.44, F = 131,$ $sig = 0.000$	Organizational flexibility and uncertainty (0.364) $R^2 = 0.47, F = 114,$ $sig = 0.000$	$R^2 = 0.40, F = 49,$ $sig = 0.000$



changing sector” and between five and seven, as “organizations operating at rapidly changing sectors”. There were 108 cases operating at slowly changing environments (31 per cent) and 230 cases operating at rapidly changing environments (69 per cent).

The results indicate that the current practices of strategic planning are significantly different in organizations of different size and operating in different sectors. The analysis of what follows will concentrate on the results concerning the impact of performance measurement.

As can be seen from Table I, for the totality of the responses, performance measurement has a significant role in strategic planning to support the achievements of organizational goals, and in its effectiveness and efficiency. It is also interesting that the impact of performance measurement is more significant in large organizations and those that operate in rapidly changing environments.

Discussion

One of the most important findings of this research comes from the outcome of the factor analysis, which determined that performance measurement stands as one of the key factors for strategic planning. This has a twofold value. First, it reinforces the arguments that performance measurement systems have a critical role in translating strategy into action (Kaplan and Norton, 1996); and secondly, it shows that performance measurement has a supporting role in the development of strategies (Tapinos *et al.*, 2005). This research attempts to provide further detail on the links between performance measurement and strategic planning by showing in which areas performance measurement has a more significant role. To this end, it has to be emphasised that this research is perception based since it depends on the participants' responses. Therefore, the results are subjective self-assessments and not necessarily “best practice” approaches suggested for implementation.

The regression analysis for the totality of the answers shows that the most important factor is “organizational direction”, followed by “organizational flexibility and uncertainty”. The third most influential factor is “performance measurement”. Looking at Table I, “performance measurement” has a significant influence on the ability of the strategic planning process to support the achievements of the organizational goals and to be considered effective and efficient, while it does not have significant impact on the adoption of successful strategies and making strategic planning a successful process. It is evident from the literature that there is an increasing need to link performance measurement with strategic planning, however, it is also known that the design and implementation of performance measurement is not always successful (McCunn, 1998). Ittner and Larcker (2003) report that most of the companies they had investigated have made “little attempt to identify areas of nonfinancial performance measurement that might advance their strategy”. Therefore, the insignificant impact of performance measurement in the areas detected may not be a result of the inadequacies of performance measurement itself but of weaknesses in its implementation. This may be due to the fact that the factors that determine the “success” of performance measurement initiatives require commitment, effort and resource allocation at all organizational levels (Bourne *et al.*, 2002).

The comparison between organizations of different size reveals that the performance measurement systems have a greater impact in the strategic planning process of larger organizations. Regression analysis showed that in SMEs, the influence

of performance measurement is not significant. Taking into consideration that for SMEs, organizational direction is the factor with the greatest impact in almost all assessments of strategic planning, it is inferred that the entrepreneurial character of the SMEs is more dominant.

It is worth exploring why performance measurement's impact was not found to be significant in SMEs. Hudson *et al.* (2001) identified that for performance measurement in SMEs, "the most significant of the flaws was a lack of reference to strategy". This shows that the design of performance measurement systems in SMEs is not properly linked to the overall process of strategic planning. The inadequacies of the design and implementation of performance measurement systems is also explained by the fact that most of the integrated frameworks for performance measurement have been designed to address the needs of mainly large organizations (Hudson *et al.*, 2001). This is evident in our survey, considering that only 16 per cent of the SMEs have implemented Balance Scorecard, while almost half (45 per cent) of the large organizations are making use of it.

Hudson *et al.* (2001) found that the majority of the SMEs examined did not have a formal feedback system in place. This means that the information collected by performance measurement systems cannot be used for strategic planning. This could be explained by the limited abilities of the SMEs to have "data processes and information technology support" which according to Franco and Bourne (2003), is one of the main factors that play a role in "managing through measures".

Discussing the influence of performance measurement in large organizations, it is understood that their complicated structures, diversity of activities and size in terms of employees, products/services and multi-layered decision-making are strongly related to the use of information. The information required can only be provided as the feedback produced by performance measurement. Therefore, it is deduced that the importance and impact of performance measurement increases with increasing of complexity in the organizational structure.

The comparison between the organizations that operate in rapidly and slowly changing environments showed that there is an interesting variation in the impact of performance measurement on strategic planning. Strategic planning is significantly influenced by the measurement of the organizational performance in the organizations that operate in the rapidly changing environments. A similar observation to this has been made by Franco and Bourne (2003) who found that one of the most important factors that plays a role in "managing through measures" is the "business and industry" (organizational sector).

Performance measurement has been found to be one of the top "management development practices" to deal with rapid changes (Longenecker and Fink, 2001). This is explained by the need for information in organizations that face uncertainty (Dumond, 1994). Feurer and Chaharbaghi (1995) link the environmental turbulence with the need for strategic change, and therefore suggest that its success depends "on constant feedback which can be provided by a performance measurement system". It could have been claimed that performance measurement should have a greater impact on effectiveness rather than efficiency, given that there is always the potential problem of creating bureaucracy and slowing down the process, as highlighted by Dumond (1994). Apparently, the significance of performance measurement's impact on the efficiency of organizations from slowly changing sectors suggests the opposite.

This means that performance measurement's benefits enhance the efficiency of strategic planning by providing the data and controls that are required either in the development or the implementation stages and by avoiding having to do ad hoc performance appraisals.

Conclusions

This paper presents an investigation into the impact of performance measurement in strategic planning. Performance measurement was found to be one of the four main factors that characterise the modern practice of strategic planning. The evaluation of performance measurement revealed that it has significant influence in supporting the achievement of an organization's goals and the effectiveness and efficiency of its strategic planning process. Its impact was not significant in the adoption of successful strategies or making strategic planning a successful process. The comparison of organizations of different size and operating in environments with different rate of change, determined that performance measurement's impact is more significant in large organizations and in those operating in rapidly changing environments. Discussing these variations in the utilisation of performance measurement and combining this research's findings with the results from similar researches, one can conclude that, to a large extent, current approaches for measuring the organizational performance do not have appropriate feedback mechanisms in place to supply the information produced to strategic planning.

A further conclusion is that an increase in complexity expressed either via the organizational size or via environmental turbulence, increases the need for information which can be provided by making effective utilisation of performance measurement. Therefore, more research is required on how performance measurement systems can be designed and implemented for organizations are that currently not fully benefiting by their utilisation, such as the SMEs. Also it should be investigated in depth how performance measurement systems are linked to the strategic planning activities involved. Future research should attempt to identify what sort of information is required at each stage of strategic planning, for performance measurement to have a definite role in strategy making.

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