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Untying the Gordian knot: small business and the strategy balance scorecard

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Keywords
business, balance, untying, gordian, knot, strategy, scorecard, small

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COVER SHEET

Title: Untying the Gordian Knot: Small Business and the Strategic Balance Scorecard.

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Untying the Gordian Knot

Small Business and the Strategic Balance Scorecard

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Untying the Gordian Knot

Small Business and the Strategic Balance Scorecard

> *Every organization is a control system. Each has a direction and objectives, whether explicit or implicit.*
>
> Roberts, 1964: 102

Small business is the lifeblood of any healthy economy. Entrepreneurs assume risk for the rewards promised to those who create new value and manage to develop a sustainable organization that continues to produce value for customers and to thereby grow over time. Important for the dynamics and stability of the economy, the size, composition, quality of employment, and socio-political structure, small business comprises the largest segment of commercial organizations.

Given the significance of small businesses (SBs), it is surprising that so little is known about their management control structures, specifically their use of performance measurement systems. A review of the existing literature indicates that while some research has been completed in the manufacturing sector of SBs, little work has been done on performance measurement issues in the small business service sector (Watts and Preda, 2004; Davig, Elbert and Brown, 2001; Hudson, Smart and Bourne, 2001).

A review of contemporary performance measurement systems (PMS), such as the "balanced scorecard" of Kaplan and Norton (1992; 1993) suggests that they were designed predominantly for use in medium to large companies. This model also assumes a general set of operational and strategic factors to be common to most firms, even when there is ample proof that each industry has a different set of performance drivers (Watts and Preda, 2004; Shank and Govindarajan, 1993). Fitzgerald, Johnson and Brignall (1991) have developed a results and determinant matrix that addresses the correspondence of measurements and features of service

industry firms, but fails to consider the small business sector. Therefore, there is little theoretical or empirical evidence to show whether the balanced scorecard, results and determinant matrix, or any related performance management control technique can be successfully adapted to small businesses.

Measuring SBs performance should ultimately facilitate successful management, improve performance within these small firms, and enhance their long-term contribution to the global market. That being said, the question remains as to what form of control is appropriate to SBs (e.g., results, action or personnel; Merchant, 1985), what degree of formality is required for effective management and sustainable growth, and which PMS is most appropriate within the small business service sector. These shortcomings in the existing literature form the motivation for this study: to develop a framework to guide future research, meet practical requirements, and set direction for the development of performance measurement models for the SB sector.

The contributions of this research include the following: 1) identification of performance dimensions and measures applicable to small businesses; 2) the development of a framework that will serve as a practical structure for implementing PMS in small businesses; and, 3) the development of a proactive approach to continuous improvement by small businesses by making PMS-based information available and hence usable in planning and decision-making.

In the pages that follow, the control literature is reviewed with an eye toward identifying the most flexible and comprehensive system of measurements on a generic level. With this discussion as background, attention will turn to the literature on small businesses and the use of control systems such as the balanced scorecard by small businesses. Having reviewed the relevant literature, a framework is then suggested for developing a PMS that is

appropriate for small businesses. The paper concludes with a summary discussion of the issues and suggestions for future empirical research.

CONTROL IN BUSINESS ORGANIZATIONS

Measurements have played a vital role in the development of control systems since the early work by Robert Anthony and others. In 1964, a seminal work in management control edited by Bonini, *et al*,. (1964) was published. In multiple articles in this edited edition, the point was made and remade that, by definition, to use the term "organization" implies some form of management control. In other words, if an organization exists, so does control, whether or not it is explicitly defined (i.e., results and action controls) or simply implicitly understood (i.e., personnel controls; Merchan91964t, 1985).

Drucker's (1964) article in the 1964 monograph is perhaps the most memorable. He carefully unfolds an argument which, simply stated, notes that more "controls" do not equate to more "control." Noting the disparity in meaning, he comments (Drucker, 1964: 286):

> *Controls deal with facts, that is, the events of the past. Control deals with expectations, that is, with the future. Controls are analytical and operational, concerned with what was and what is. Control is normative, concerned with what ought to be, with significance rather than meaning.*

Continuing with this logic, Drucker suggests that there are four characteristics of controls in business organizations (Drucker, 1964: 288-294):

1. (In business) measurement ….is subjective and necessity-biased. It changes both the event and the observer if it does not altogether create his perceptions.

2. Because controls have such an impact it is not only important that we select the right ones. To enable controls to give right vision and to become the ground for effective action, the measurements must also be appropriate.

3. Business is an institution of society. It exists to contribute to economy, society, and individual. In consequence, results in business exist only on the outside—in economy, in society, and with the customer. It is the customer only who creates a "profit." Everything inside business only creates costs…Results are always entrepreneurial.

4. Finally…(B)usiness is the only system we know which has both quantifiable and non-quantifiable results and events, each equally important.

What do these principles suggest for the design of an effective control system? First and foremost it is critical to consider the behavioral impact of controls. This essential issue is embedded in the control literature and is reiterated by professors and managers world-wide when they note—"You get what you measure and reward."

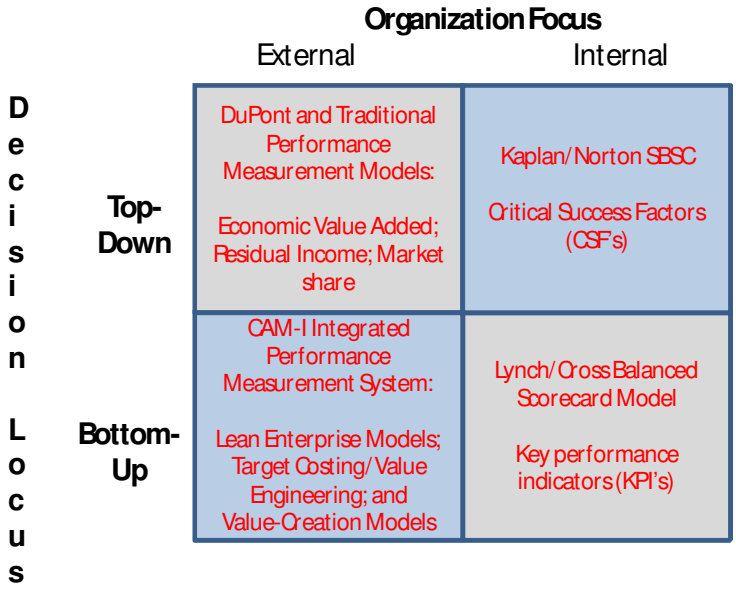
While not explicitly noted by Drucker (1964), measurements which do not include some form of incentive to reinforce their importance become "invisible"—they fail to generate action in a reliable, sustainable way (McNair, *et al*, 2003). Additionally, what is measured changes events—measurements shift attention to certain aspects of performance, overlooking others (Hopwood, 1983). Given the power of measurement to shape organizational performance, it is clearly critical that such systems not only capture competitive and organizational reality, but that they also *reflect* accurately the nature of the organization and its goals.

A secondary, and equally important aspect of both the opening quotation and the Drucker (1964) comments captured above is the fact that to be effective controls do not need to be either explicit or formalized. This is where the challenge lies in designing control systems for small businesses. To simply assume that the findings in large businesses, such as the fact that a formal strategy is the first step in designing effective control systems (Atkinson, 1997; Kaplan and Norton, 1993), carry directly over to small businesses is illogical. The need for formality and explicit structure emerges because the scale of operations demands it; large organizations use measurements and controls to communicate strategy and define organizational objectives in

an unambiguous way (Merchant, 1985). In small organizations, most often run by the entrepreneur that founded them, personnel controls, or the one-on-one, face-to-face discussions and guidance can prove more than adequate to direct employees' actions and performance. Hence, it is important to gauge what form of control, and how much explicit control, is most well suited to the world of small business.

The entire focus of balanced scorecards models (BSM's) is to ensure that a wide range of events and outcomes are captured in ways useful to decision-makers. That being said, though, the question which arises is…which decision-maker? And, equally important, must this decision-maker be intimately familiar with a supposed organizational strategy in order to succeed? The answer to the former helps us sort the BSM's into sub-groups; the latter suggests that strategy may be as simple as the will of an organization and its members to survive to fight one more day. As suggested by Figure 1, current performance management models can be classified based on whether they focus on external or internal indicators of success as well as whether they emphasize top-down or bottom-up decision loci.

Figure 1 Performance Measurement Models



What is also interesting is to overlay some of the traditional language of control on these various models. The Kaplan and Norton (1993) model, for example, correlates most closely to the traditional concept of "critical success factors." Rooted in strategy, CSF's target the critical dimensions of performance as defined by the firm's strategy. Unfortunately, the same CSF's can often leave the customer perspective out of the equation, relying instead on internally-defined market metrics that may, or may not, capture the value-creation process. Similarly, Lynch and Cross's (1991) balanced scorecard, which is one of the earliest such models, emphasizes internally-defined metrics of performance but relies heavily on a "bottom-up" or process focus in defining its measurements and their relationships.

As attention shifts to the external environment and its definition of success, we encounter both the traditional world of shareholder value measurements and the modern focus on externally-driven performance. The DuPont, Economic Value-Added (EVA) and Market Value-Added (MVA) models of performance measurement place their emphasis on the factors that affect external stakeholder's wealth. They are, by definition, top-down in nature as they deal with the *gestalt*, or the entirety of organizational performance as boiled down into a few key financial metrics. In sharp contrast, the modern world of lean management and process improvement (see the CAM-I Integrated Performance Management models; McNair, *et al*, 2000), place the customer inside the organization, calling the shots and defining success.

Four measurement models, four unique perspectives on the concept of "success," and four forms of control, seeming in juxtaposition and contrast rather than blending into one unified whole. If there are four unique models, then a manager must decide which set of assumptions and methods most adequately capture his or her world of work—which will most likely lead to sustainable superior performance. These questions become even more difficult to answer when the unique features of small business organizations is factored in. Should it be

assumed that one, or any, of these approaches to performance measurement and control, is best suited to the small business sector? And, to what extent do these models apply within the service sector where resources and results are often intangible in nature and hence difficult to quantify?

In its early stages of development, the emphasis of the balanced scorecard approach was on integrating financial and nonfinancial measurements (McNair, *et al*, 1990; Lynch and Cross, 1991; Howell, 1994). Specifically, these authors focused on the need to have the financial metrics provide the same "signal" of performance as the nonfinancial metrics. If cycle time for a product was reduced, reducing the total labor hours required to meet a monthly production target, it was important that the accounting system not issue an "unfavorable" absorption variance. The result of this work was the recognition that the continuous improvement model would require a shift away from engineered standards to those based on a rolling average of actual performance and incorporating trend reporting (McNair, *et al*, 1990, 1989).

By 1993, when Kaplan and Norton introduced their version of the balanced scorecard, there was recognition across the field that new management systems required new measurement methods and mentalities (Maskell, 1997; Shank and Govindarajan, 1993; McNair, *et al*, 1990). This is where the agreement stopped, though. For while some models, such as that proposed by Kaplan and Norton, emphasized the need to tie measurements to a well-developed strategy, resulting in a "top down" model of measurement and control, Lynch and Cross and others argued for the need to use a "bottom-up" methodology. To these latter experts, the goal was to create measurements that reflected strategy but emphasized operational performance.

Whether "top-down" or "bottom-up" in nature, though, all of these initiatives proved lacking in several ways:

- They failed to explicitly incorporate value creation in their system of metrics. While the customer domain was recognized as important, no direct external measure of the firm's performance *in the customer's eyes* was incorporated.

- They failed to explicitly define their linkages to other key concepts in performance measurement, such as critical success factors (CSFs) and key performance indicators (KPIs). This oversight unnecessarily created a perception that the BSM was unique, or divorced from, these prior concepts.

- They did not explicitly tie in performance rewards to the overall measurement model. This oversight often created unsustainable models that fell into disuse as soon as the "Hawthorne effect" evaporated.

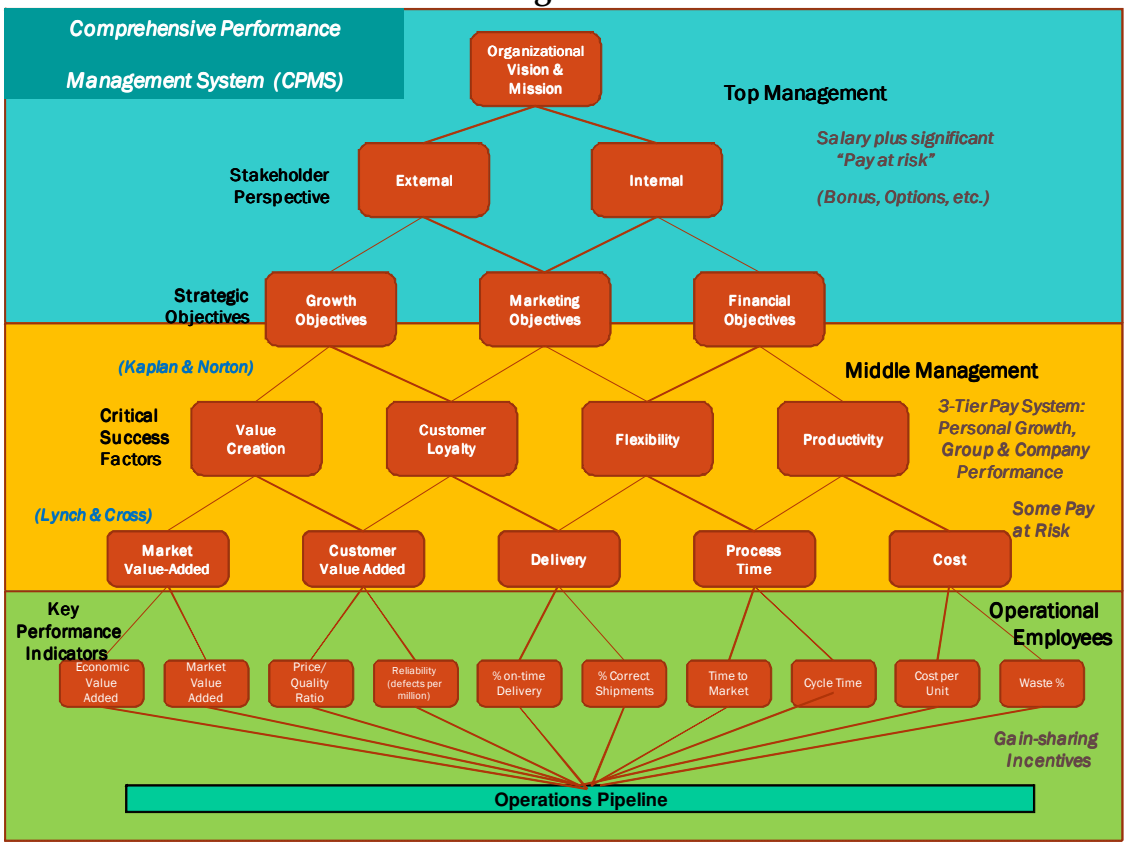
- The models have proven to be a poor fit for small and service organizations. Specifically, the fatal flaw in the balanced scorecard approach was its reliance on a well-developed corporate strategy for successful implementation. There is significant empirical proof that a defined strategy is not a given for a small business (Davig, *et al*, 2004; Chow, *et al*, 1997; Gaskill, *et al*, 1993).

INTEGRATING MODELS OF CONTROL

Are the various control models actually mutually exclusive, or can they be reduced to one unified model that keeps management's eyes, and those of the workers who create the value that customers expect, on the same prize? To address the shortcomings noted above, McNair and Watts (2009) made modifications to the balanced scorecard model, as captured by Figure 2. Building on the work of Lynch and Cross (1991) as well as the model developed by CAM-I (McNair, *et al*, 2000), this integrated model combines traditional and modern perspectives on control, both top-down and bottom-up metrics, the internal versus external stakeholder perspective, and finally, the relationship of locus of control (organizational role) with the types of incentives that companies have found to be most useful in creating sustainable performance improvements. The diagram also expands the 1990s-based performance management concepts to include more recent work in customer- and market-value added measurements.

Walking through the key components of the model, the traditional emphasis on vision, mission, strategy, critical success factors (CSF), and key performance indicators (KPI) can be found on the left side of the diagram. Each "row" of measurement detail incorporates a different level of analysis. Inserted between these traditional measurement constructs are references to the Lynch and Cross (1991) and Kaplan and Norton (1993) models.

Figure 2



Lynch and Cross (1991) built their model at the KPI level, emphasizing process improvements and metrics that would resonate with operational employees. Kaplan and Norton (1993), on the other hand, emphasize metrics at the CSF level—with providing a top-down set of metrics that can be deployed by top management to guide middle management decisions and actions. Their four dimensions of performance are innovation/growth, customer, financial, and operational.

On the right side of the diagram the emphasis shifts away from abstract measurement concepts to the organizational structure and related incentive systems. The integrated model is subdivided into three sub-groups: 1) those controlled by top management, 2) those under the purview of middle management, and 3) those that only operational managers and employees can affect. These three divisions coincide with strategy, critical success factors, and key performance indicators perspectives found in the traditional control literature (Thomas, 1988; Dearden, 1988; Stonich, 1988)

Added to the measurement and structure logic is a reflection of the most effective forms of incentives. As noted by Stonich (1988: 468-69):

> *…(in many control systems) the necessary performance measurement and reward system that completes the control cycle is often missing…These measurements and rewards should reflect the firm's strategy, but this is not enough, the system must also be consistent with or specifically designed to help modify, certain of the firm's internal characteristics.*

In other words, the systems must be designed to ensure continual growth, innovation, and improvement. This need is reflected in Figure 2 by the addition of a growth objective in addition to the marketing and financial objectives that underlie the CAM-I Integrated Performance Measurement system (McNair, *et al*, 2000). Arrow (1964: 325), writing one of his many seminal pieces on management and control systems goes on to note:

> *Control in the large is concerned with organizational issues and transfer pricing… Control in the small is a question of incentives…rewards should be determined by the amount of gain to the company and nothing else, otherwise it creates an incentive for distortion.*

Based on the early works of the pioneers in organizational control, a failure to include incentives which complete the "control loop" can lead to dysfunctional consequences and poor performance. At the bottom of the organization, these incentives and metrics are best incorporated in a gain-sharing program where workers receive a bonus based on the overall

improvement in process performance. By sharing in the gain, line workers are far less likely to become disenchanted with lean or six sigma initiatives (McNair, *et al.*, 1990; McNair, *et al.*, 1989).

As one works up the corporate ladder to middle management, it becomes important to capture key elements of the work performed by these individuals: 1) they need to be continuously improving their own skills, 2) they have to be able to effectively work with individuals from across the organization, and, 3) they have to be reminded that only when the organization "wins" do they truly meet their goals. By delineating the key metrics used to make the translations between financial and operational goals, the comprehensive model suggested in Figure 2 helps eliminate the need for the "omniscient" hinge manager (Euske, *et al*, 1993) who has in the past been critical to the linkage of strategic to operational goals. By tying incentives to corporate performance, at least some part of the middle manager's compensation should become "pay at risk"(Turner, 2001).

Finally, at the top level of the organization, the emphasis shifts away from internal operations to attaining strategic objectives and meeting external stakeholder expectations. It can be argued that it is now critical that a major proportion of the executive's compensation consist of "pay at risk" if Arrow's (1964) concerns with control in the small are to be addressed. Closing the control loop at the top level of the organization has to explicitly include external stakeholder needs if it is to be effective (Atkinson, 1997; Maskell, 1997; Stonich, 1988; Drucker, 1964).

CONTROL IN THE "SMALL": The Case of Small Business

Small business is a critical component of the global economy. Recent data indicates that:

- Approximately 99 percent (19,097 million) of European companies are small businesses that provide employment to 79,230 million people, or 56.71 percent of the total employed persons in Europe. Of these small firms, 93.3 percent are micro-firms,

employing less than 10 individuals, while 50 percent are sole proprietorships (European Commission, 2003).

- Research conducted by the Australian Bureau of Statistics (ABS, 2001) that during 2000-01 there were 1,122,000 private sector small businesses, representing 96 percent of all private sector businesses. These small firms employ almost 3.3 million people, representing 47 percent of all private sector employment.

- In the United States, the Small Business Administration (SBA, 2004) stated that the 25.1 million small firms there represent 99.7 of all employers. They employ 52 percent of all private sector employees, pay 44.3 percent of the US private payroll, and account for 51 percent of non-farm private gross domestic product. According to the NFIB (Scarborough and Zimmer, 2006), the US small business sector is considered the world's third largest economy trailing only the economies of the US as a whole and that of Japan.

- The United Kingdom Small Business Service (2003) reports that 99.3 percent of the 4 million businesses in the U.K. have less than 50 employees, provide 46.2 percent of the U.K. non-government employment, and generate 38.3 percent of all profits.

- In New Zealand, the Ministry of Economic Development (NZMED, 2004) has determined that 97 percent of all firms are small, are responsible for 96.8 percent of all employment, and account for 38 percent of total output in 2002. The New Zealand study also reported that the number of small firms increased by 2.7 percent between 2001 and 2003, and by 4.9 percent between 2002 and 2003.

These examples highlight the dependence of the global economy on the health and vitality of the small firm. In fact, small firms dominate the service sector. Given the critical role played by these firms, it is important that small service firms' performance be measured with reliability and accuracy.

The service industry, and by extension the service-oriented SBs, have experienced significant growth over the past ten years. The service industry has also become more diverse, as demonstrated in Table 1.[1] This diversity adds another layer of complexity to measuring performance in service-oriented SBs (SSBs), because it is quite likely that different performance

[1] For accuracy this typology of service activities was measured against the North American Industrial Classification Standards (NAICS), the Australian and New Zealand Standard Industrial Classification Codes (ANZIC), and Standard Industry Classification (SIC) in the United Kingdom. A discrepancy between the typology and the ABS classification of service industries arose where wholesale and retail trade were included as services. The effect of this is that statistics reported by the ABS include these sectors, whereas the other statistics and classifications exclude them.

indicators will be relevant in a firm that performs health services than one that provides hotel or restaurant services.

Table 1

Financial Services	**Business Services**
Banking services (Commercial and Retail) Other credit services (Including credit cards) Services related to administration of fin'l markets Services related to the securities market Other financial services (Foreign exchange, Foreign consultancy)	Rental/leasing of equipment Real estate services Installation and assembly work Professional services—legal, management, design services, computer, accountancy, market research, etc. Other—cleaning, packaging, waste disposal
Insurance Services	**Communication Services**
Insurance on Freight Non-freight insurance (life, pensions, property, liability) Services auxiliary to insurance-brokerage Services related to security markets Reinsurance	Postal services Courier services Telecommunication services—telephone, data transmission, radio, internet and TV Film distribution and related services Other—library, archive, and news/press
Transportation Services	**Construction Services**
Freight services Passenger transport services Charter services Cargo, handling, storage auxiliary services Travel agent and tour operator services Vehicle rental	Site preparation New construction Installation and assembly work Building completion Maintenance and repair of fixed structures
Trade, Hotel & Restaurant Services	**Personal Services**
Wholesale trade services Retail trade Agents fees related to distribution Hotel and similar accommodation services Food and beverage serving services	Those services not included elsewhere, such as house cleaning/maintenance, nursing, day-care services, etc.
Health-Related Services	**Education Services** **Recreational and Cultural Services**
Human health services—hospital, medical & dental Veterinary services	

Source: Dicken, 1988

According to Scarborough and Zimmer (2008), the US service sector now accounts for about 89 percent of the employment and contributes 80 percent of the nation's gross domestic product (GDP). The US Census Bureau (2005) reports that service industries account for almost 70 percent of economic activity, they form the fastest growing segment of the post 9/11 economy, and comprise the most rapidly growing areas of the service economy (e.g., information, communication, computer services, business services, and health care).

Combining these two bodies of statistics, a study conducted by the UK Small Business Service (2003) reported that 71.8 percent of SBs are in the service sector [SSBs]. Similar relationships can be found in the other major Western economies. Without a doubt, small business issues and particularly those factors which affect the performance and sustainability of SSBs are deserving of intense academic research. Yet, as will be seen in the following pages, research in this area is sparse. It is very important, therefore, to address the last of the four weaknesses identified in the beginning of this article: addressing the needs of service organizations, especially SSBs. In order to deal with these issues in an organized fashion, the literature on small business and the service segment of small business will be examined from three perspectives: 1) planning, 2) identifying the unique features of SBs, and 3) performance measurement in SBs.

Planning in the Small Business Sector

There is one universal theme in the small business literature: few SBs have a well-developed strategy (see Table 2). As the tabled literature suggests, inadequate planning appears to have a detrimental effect on the small firm's performance and sustainability, as evidenced by higher failure rates for those SBs that fail to effectively plan for the future of the business (Davig, *et al*, 2004; Orser *et al*, 2000; Shrader *et al*, 1989). One of the reasons given for this failure to plan is the

limited time available to entrepreneurs, who are often engaged actively in day-to-day operations. In addition, some argue that formal planning would actually negatively affect the flexibility of the firm, seen as a key competitive advantage for many small businesses—they can proactively shift operations and focus to meet changing customer requirements (Davig, *et al*, 2004; Knight and Knight, 1993).

Table 2 Planning in the Small Business Sector

Author(s)	Main Findings
Knight and Knight (1993)	• Small business planning is unstructured, irregular, sporadic and reactive • SBs only see need for formal planning when seeking financing • Formal planning may impair flexibility, which is critical to SBs success
Davig, Elbert and Brown (2004)	• Insufficient time for planning exists in small businesses • Formal planning may impair flexibility • Size differences impact these patterns
Van Auken and Sexton (1985)	• Little or no strategic planning in SBs • Operational planning is more prevalent • Objectives of planning, when done, are often vague, pragmatic, and extremely short-range
Fitzgerald and Moon (1996)	• Performance of SBs who engage in some form of planning exceeds that of the SB firms that do not undertake planning
Orser, Hogarth-Scott and Riding (2000)	• In the US, over 64% of SBs do no formal planning • Growth occurs only when al threshold of administrative and managerial acumen is attained by the management team • The presence of a business plan was highly correlated with performance

Most owner-managers are generalists with a very broad level of practical experience yet they often lack the expertise to accomplish the planning task (Meredith, 1989). Many owner-managers become reactive rather than proactive in their decision making. This fact can be seen from two perspectives: 1) SBs operate in "fire-fighting" mode because of the failure to plan effectively (Shrader *et al*, 1989); 2) strategic planning does not occur in SBs (or only occurs to a

small degree) because the firm's viability is dependent on flexibility and a keen understanding of operational competencies (Davig *et al*, 2004; Knight and Knight, 1993).

Defining "Fit": The Unique Features of Small Business

Contemporary performance management systems, as noted earlier, provide measures across a range of critical success factors that are derived from a competitive strategy and are critical to the survival of the firm. However, the unique characteristics of the small business provide a challenge for the development of an appropriate measurement model, a challenge that starts with the lack of formal planning noted above and extends to their basic operational characteristics (Watts and Preda, 2004; Hudson, *et al*, 2001; Chow, *et al*, 1997).

The unique characteristics of SBs include the following (Watts and Preda, 2004; Orser, *et al*, 2000; Meredith, 1989):

- *Dominant role played by the owner-manager.* The owner-manager is pivotal to the small firm, since their innovative qualities and philosophies often shape its nature. They also create and influence the management style of the SB; they are in many instances, the business.

- *Control.* Small firms are independently owned. The operating capital is generally contributed by the owner-manager who is also the firm's principle decision-maker. Therefore, SBs tend to be closely controlled. These owner-managers also desire independence and rely on their own skills, talents, and hard work to succeed.

- *Structure.* The SB is characterized as flat, with faster information flows which result in a faster decision-making process. The firm's operations are generally locally-based, even though they may transcend national borders and markets. Therefore, the strategies they employ are often informal, yet dynamic.

- *Continuation*. SBs have high failure rates in the first three to five years. The causes for these early failures include managerial inadequacy, unfamiliarity with established business practices, integration of strategic and operational management processes, lack of managerial experience, inadequate planning, and poor financial control and record-keeping (Gaskill, *et al,* 1993; Pickle and Abrahamson, 1990; Meredith, 1989).

- *Resource issues*. Resource poverty is experienced in cash flow, access to expertise or skills, human resources, and the time and energy of the owner-manager. Smaller firms

> rely on a few individuals to carry out the various management tasks necessitating the owner-manager to acquire many diverse skills to operate the enterprise successfully; resource poverty generally restricts this acquisition.

Given this significant list of unique features and constraints, it would seem that a generic model of control, no matter whether it is the Comprehensive Performance Management System [CPMS] presented in Figure 2 or one of the other myriad performance measurement models, i.e., Kaplan and Norton Balanced Scorecard (1993), Lynch and Cross Integrated Performance Measurement System (1991), or Fitzgerald and Moon, 1996; Fitzgerald, *et al*, 1991 service-oriented Results and Determinant matrix), will "fit" the typical small business (Watts and Preda, 2004).

Performance Measurement in the Small Business Sector

In the business sense, performance refers to the accomplishment of the business' strategies (actions) in order to achieve the objectives (obligations) established. The objective may be a targeted level of profitability (key to survival) or an above-average or improved return on investment (required for growth). Performance measurements quantify action in terms of their efficiencies and effectiveness, which represent the degree to which the obligations of the firm are fulfilled (Neely, *et al*, 1995).

The balanced scorecard model (Kaplan and Norton, 1993) has promoted significant research into the characteristics of, and approaches for developing, strategic performance measurement systems. Combined with several related models, such as the "performance pyramid" (Lynch and Cross, 1991; McNair, 1998), integrated performance measurement systems (Bititci, *et al,* 1997; Bititci, 1994, 1995), consistent performance measurement systems (Flapper, *et al,* 1996), and the results-determinants matrix (Fitzgerald and Moon, 1996;

Fitzgerald, *et al*, 1991), it appears that there is a wide range of potential measurement models for SBs to consider. As suggested by Table 3, though, the presence of options has not appeared to lead to their choice and use.

Table 3 Performance Measurement Systems and SBs

Authors	Main Findings
Hudson, Smart and Bourne (2001)	• Focused on small to medium UK firms. • Measures are often unclear, with complex or outdated data produced; historical focus • Small number of simple, ad hoc measures actually used including metrics on quality, time, finance, and customer satisfaction • Only non-specific informal feedback
Davig, Elbert and Brown (2004)	• Adapted balanced scorecard to small manufacturing firm • Size differences and industry effects found to be critical in designing metrics for SBs
Laitinen (2002)	• Created integrated performance measurement system (IPMS) for small Finnish technology firms linked with ABC • Two external factors (financial performance and competitiveness) and five internal factors (costs, production factors, activities, products and revenues) linked into causal chain.
Haber and Reichel (2005)	• Focus on tourism industry in Israel • Measures divided into short- and long-term groups further sub-divided into objective (financial) and subjective (non-financial) sets
Orser, Hogarth-Scott and Riding (2000)	• Need to incorporate SB life cycle in the design of performance metrics • Concur with findings of Haber and Reichel
Fitzgerald and Moon (1996); Fitzgerald, Johnson and Brignall (1991)	• Developed metrics specific to service firms • 2 categories: results (competitiveness and financial performance) and determinants (quality of service, flexibility, resource utilization, innovation) • Details multiple measures for each dimension of performance measurement

Summarizing the points made by the above discussion of the literature in performance management and its application to small business:

1. The various performance measurement models can be integrated into one unified CPMS that can be applied across multiple types of organizations. This model addresses the first three weaknesses noted in the opening comments regarding the state of the art in performance measurement and management.

2. Small business is a critical element of the global economy, suggesting the need to ensure their effectiveness and sustainability.

3. Small businesses have unique characteristics which makes designing a complementary PMS, one that "fits" the firm, a challenge.

4. Meeting this challenge starts with the recognition that complex performance management models are unsuited to SBs because they place heavy emphasis on middle management, strategic issues, fail to capture the dominant role of operational performance in creating a sustainable small business structure.

5. The need to explicitly recognize that informal means of control (personnel controls, Merchant, 1985) are often a better fit in the SB environment. In other words, to be effective as performance measurement tools in SBs, the CPMS does not require explicit, formalized structures. The entrepreneur implicitly and tacitly serves as both the definer and shaper of organizational reality, including the underlying *raison d' etre* of the business.

6. While SBs and SSBs are key to the economy at large, there is relatively little research on their use of performance measurement systems of any type. There is also little work that has been done to create a theoretical model of a CPMS that would fit service-oriented, let alone SBs and SSBs. Without a theoretical basis, empirical studies remain descriptive and ambiguous in nature.

Having reviewed the literature and findings in the areas of performance measurement systems and their use in small business, attention now turns to the final aspect of this paper: to see whether the CPMS framework detailed in Figure 2 can be used as a theoretical model of control in these critical sectors of the economy—to untie this Gordian Knot.

A THEORETICAL FRAMEWORK OF CONTROL FOR SBs AND SSBs

> *…under the assumption that many fine minds had been stumped by the Gordian knot problem, but no one had claimed the puzzle was unsolvable, we may conclude that in principle the knot could be untied, and everyone who looked closely enough could see this fact. In modern…parlance, the loop of rope must have been in the form of an unknot. Thus the Gordian knot was most likely constructed by first splicing the two ends of the rope to form a loop, and then "tying" the loop up (i.e. wrapping it around itself in some way) to disguise the fact that it was not really knotted. And everyone was stumped until Alexander came along and figured out that on this occasion, the sword was mightier than the pen.*
>
> Devlin's Angle, September, 2001[2]

If the dearth of literature on performance measurement in service-oriented businesses (both large and small) and SBs in general is, as has been suggested, a fact, then does it represent a form of Gordian knot? It is truly so difficult to develop these measures and models, or it is rather that tradition has always led modelers to focus on the manufacturing sector of the economy?

The review of performance management models did reveal one model designed specifically for the service industry, the "results and determinants matrix" (RDM; Fitzgerald and Moon, 1996; Fitzgerald *et al*, 1991). Utilizing ideas from authors within different management disciplines, the RDM consists of six dimensions of competitive and financial performance (see Table 4).

The RDM captures the quality, service and flexibility issues prevalent in the customer-oriented competitive strategy of service organizations. It embraces three categories of service firm, namely professional, mass services, and service shops. This being said, the model appears to remain too broad in nature and places its primary emphasis on large service organizations. As such, it fails to completely redress the shortcomings in the extant PMS models—it provides

[2] This quotation is from a web source, http://www.maa.org/devlin/devlin_9_01.html. It was downloaded on May 13, 2009 and is copyrighted by the Mathematical Association of America. The Gordian Knot was one of the most well known of the ancient Greek legends regarding the rise to power of Alexander the Great. For other information on this topic, another good link is http://www.crystalinks.com/gordianknot.html.

little or no insight into the design of effective performance measurement systems for SBs and SSBs.

Table 4

The results and determinants matrix

	Dimensions of Performance	Types of Measures
RESULTS	Competitiveness	Relative market share and position Sales growth Measures of customer base
	Financial performance	Profitability Liquidity Capital structure Market ratios
DETERMINANTS	Quality of service	Reliability Responsiveness Aesthetics/appearance Cleanliness/tidiness Comfort Friendliness Communication Courtesy Competence Access Availability Security
	Flexibility	Volume flexbility Delivery Speed flexibility Specification flexibility
	Resource Utilisation	Productivity Efficiency
	Innovation	Performance of the innovation process Performance of individual innovations

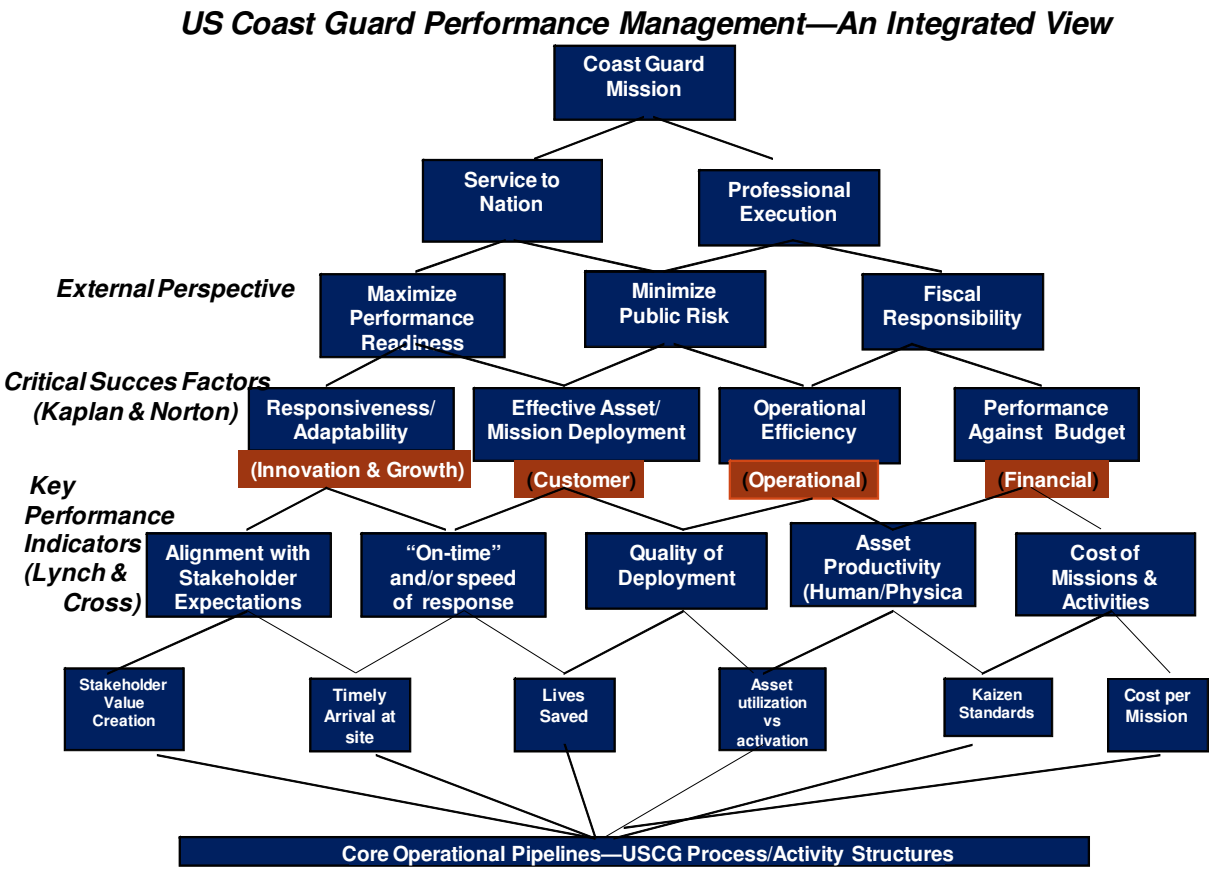
Source: Fitzgerald, *et al.*, (1991)

So, two primary questions remain with regard to the extant literature in performance measurement. First, outside of the RDM model, there is scant evidence of a service-driven PMS.

Second, small business issues remain unaddressed. The question which this raises is, is there a unique measurement system required for each of the three unaddressed categories (*e.g.,* service organizations, small businesses, and small service businesses), or is it simply a matter of failing to untie the Gordian knot?

These questions lead us back to the CPMS that was developed in the early pages of this discussion. The model was deemed to integrate the majority of the extant literature on performance measurement systems, bringing the new in line with the old, and the complete model in line with the increasing recognition that Drucker (1964) was indeed correct—*results in business can only be found on the outside*. As a first pass, an attempt was made to modify the CPMS to capture the characteristics of a unique service organization—the United States Coast Guard (USCG; see Figure 3). Not only is the USCG a service organization, it provides a public good, suggesting that the CMPS can be used in both public and private service settings.

Figure 3



Looking at the model, we see that Kaplan and Norton's (1993) core strategies are in line with the strategy and mission structure of the USCG. The four dimension they have found to be critical to long-term success (innovation & growth, customer, operations, and financial) all neatly fit within the context of this vital service organization. Similarly, Lynch and Cross' (1991) operationally-driven critical success factors are also easily modeled in a manner contingent with the USCG structure. The measurements have changed slightly, but the inherent nature of the metrics remains constant.

What remains for this organization is the question of "top down" or "bottom up" supremacy in the measurement process. The USCG is a unique, agile organization. It serves 11 core missions for the people of the United States (*i.e.*, search and rescue, maintenance of navigational aids, ice breaking, port security, etc.) using a highly fragmented, front-line

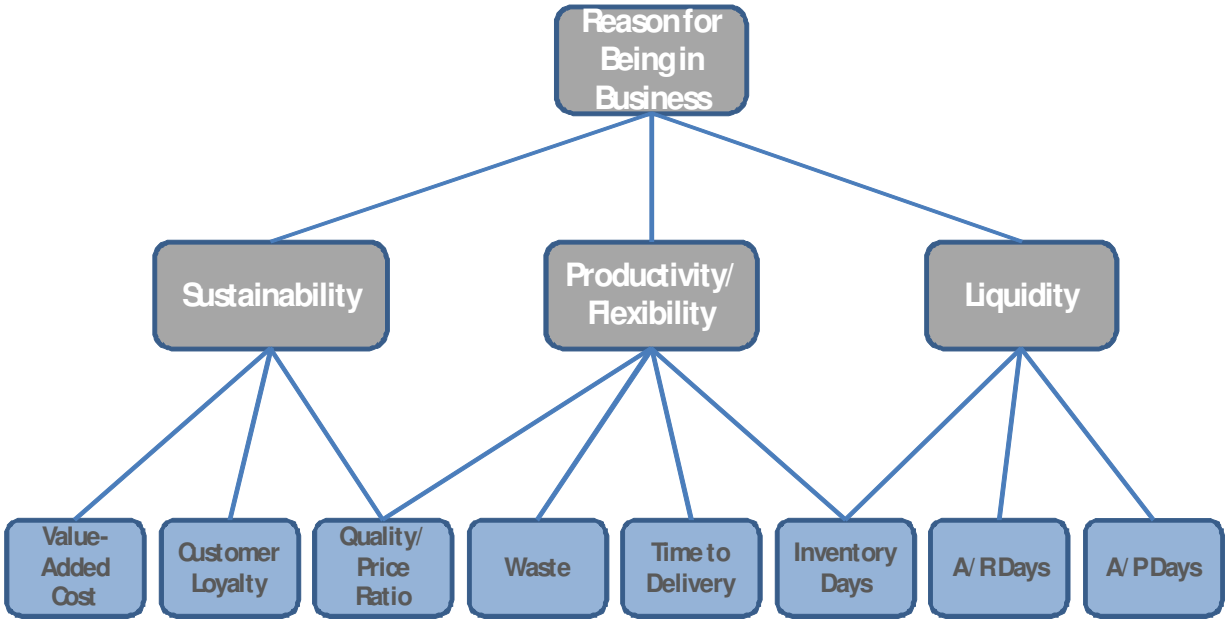
command center. Contrary to the other military organizations in the U.S., the Coast Guard runs lean, placing immediate responsibility on newly-minted ensigns, and having lieutenant commanders placed in charge of small- to medium-boat operations. As a "first responder" for the nation, authority and control have to be delegated to the point closest to action. Taking these characteristics into account, then, for the USCG the only relevant measures are those that start from, and are of use to, the lower levels of the organization—commanders in the field of action.

The CPMS also appears to have an advantage over RDM. It is not starting "from scratch" in terms of development of a measurement prototype or theory—it builds upon 50 plus years of academic- and practitioner-driven research and practice. Large service organizations, then, appear to be accommodated within the structure of the CPMS. Success in any competitive venture appears to be driven by the same core system of actions, results and beliefs.

The final two segments, the small manufacturing and small service organizations present a different challenge—to simplify the model yet keep its integrity intact. If the CMPS can be modified for these settings it would provide a basis for tracking growth of organizations based on the complexity and sophistication of their formal measurement system. To query the robustness of the CPMS, a small business prototype was developed (see Figure 4).

Figure 4

Performance Measurement Pyramid for Small Business



NOTE: For service firms with no inventory, the inventory days measure is dropped and the firm's liquidity now depends on time to delivery, A/R days and A/P days and productivity is defined by time to delivery, waste, and the quality/price ratio.

What changes have occurred to ensure the "fit" to small business? The middle of the pyramid has been collapsed, reflecting the fact that middle management is all but non-existent in small businesses. Removing the middle layer from the model leaves the three primary dimensions noted by many researchers in this area to be key to the survival and growth of a small business (Watts and Preda, 2004; Orser, *et al*, 2000; Meredith, 1989). These three dimension are then expanded to a set of operational measures that allow the small business owner to plan for, and control, the operational pipeline that connects the SB to the customer. The final challenge is to adapt the model to the needs of SSBs. In the manner of all good models, the accommodation of this final requirement simply requires the removal of "inventory days" as a key performance indicator. The remaining concerns—remaining liquid, being flexible, and constantly providing a superior experience to the firm's customers, remains a

constant not only found in successful small businesses. While these are critical metrics for all organizations, then, the KPIs for small businesses also capture the fact that they excel at meeting customer needs because the customer is never more than one step removed from the operational pipeline. In small business, value is always created for the customer from the bottom up.

Final Comments and Discussion

The objective of this paper was to attempt to develop a performance measurement system that would be compatible with the unique nature, and needs, of small businesses, especially service-oriented small businesses. A review of the literature offered up multiple options for manufacturing firms, but each model appeared much more complex than the simple settings of small business would require. For these firms, complex measurement systems in and of themselves are a form of waste, consuming resources in developing measures that historically have often been found to be either too late, distorted, or irrelevant overall. In other words, one size cannot fit all.

That being said, it was suggested by the title of the paper as well as the lead-in to the final modeling section that being different in nature did not necessarily mean that all the lessons learned in designing performance measurement systems for large manufacturing organizations should be discarded simply because the focus of measurement turned toward the service sector. The RDM model (Fitzgerald and Moon, 1996; Fitzgerald, *et al,* 1991) was custom-designed for service organizations, but could not stand up to the challenge of small business (whether service- or manufacturing-oriented). The CPMS, and the long-standing best practices embedded in it, appears to provide at least one means to untie the Gordian knot posed by

measurement systems within the wide variety of organizations that make up a healthy global economy.

The one issue that cannot, and is not, "answered" by the CPMS is whether the final set of measures should be top-down or bottom-up in nature. As suggested early on, though, this may be the wrong question. For a PMS must be both—providing guidance and supporting planning and decision-making (top down) while ensuring that necessary information for improving performance and keeping the organization on track is collected and conveyed (bottom up). In the end, these are not competing models of measurement but rather different uses of one integrated framework.

The challenges that remain is to empirically determine whether the CPMS is useful in actual organizations, whether small and large organizations alike find enough depth and flexibility in the framework to address their needs. The number of ways that these empiricalj tests can be performed is practically limitless. Experiments could be run to see if the CPMS metrics improve a decision-maker's ability to choose the best action among a set of options. Longitudinal field studies and action research could be undertaken to determine if the application of the proposed framework and set of metrics would improve planning and performance in small businesses. These are just two of many options available for future work.

In the end, all research, whether theoretical or empirical in nature, retains flaws and opportunities for future improvement. The models presented in this paper were predominantly tailored to specific organizations. Where the RDM provides a vast array of metrics for use by a service organization (Fitzgerald and Moon, 1996), one a small set of linked metrics were presented here. The work was, as is always the case, shaped by the experiences and the knowledge of the researchers. By definition that means that some work may have been

overlooked, others improperly evaluated or assessed, and leaving yet other weaknesses and options un-contemplated and hence unaddressed.

It is hoped, though, that the CPMS provides a baseline for developing a comprehensive theory of performance measurement that does require that one size fits all, but rather that the basic tenets driving sustainable, successful business ventures are common across organizations regardless of size or industry. Perhaps the Gordian knot has not yet been totally untied, but hopefully it is a bit closer to "giving way."

> *…"controls" must become personal motivation to lead to "control."...Control in human social situations is volitional.*
>
> Peter Drucker, 1964: 287

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