

J. OF PUBLIC BUDGETING, ACCOUNTING &amp; FINANCIAL MANAGEMENT, 18 (2), 223-240 SUMMER 2006

**EVOLUTIONARY THEORY OF ROUTINE:  
ITS ROLE IN RESULTS-BASED MANAGEMENT**

William C. Rivenbark\*

**ABSTRACT.** Research has demonstrated that public organizations commonly adopt performance measurement systems to assess the operational accountability of service delivery. This same research, however, has revealed that public managers struggle with using performance measures for improving service performance and for determining long-term budget needs. One plausible explanation for the limited use of performance statistics is found in the strategic management literature on the evolutionary theory of routine. It suggests that private firms make decisions by identifying alternatives to base routines for process innovation rather than relying on the traditional theory of profit maximization. By applying the routines-based perspective to public organizations, this article presents a model of results-based management where performance of service delivery represents our proxy for profit and where performance measures serve primarily to monitor the performance of selected service dimensions. The results of output, outcome, and efficiency measures are then used to support performance, financial, and strategic management, including the selection and implementation of strategies to alter the base routines of service delivery. These new routines, created under the boundaries of rational choice, often have substantial budgetary implications over time when they change the calculus between resource consumption and service provision.

**INTRODUCTION**

One of the basic premises of public administration is that private organizations differ from public organizations in that they make decisions based on profit maximization. Public administration has responded to this difference by creating a proxy for profit service

---

\* *William C. Rivenbark, Ph.D., is an Associate Professor, School of Government, University of North Carolina at Chapel Hill. His teaching and research interest is performance and financial management in local government administration.*

Copyright © 2006 by PrAcademics Press

performance as conveyed by performance measures to enhance the decision-making processes within the core functions of management (planning, organizing, staffing, developing, coordinating, reporting, budgeting, and evaluation).

Public officials who embrace results-based management now make decisions, at least in part, on the efficiency and effectiveness of service delivery. Scholars have even suggested, in response to the amount of attention being given to performance management in the study and practice of public administration, that our discipline has entered an era of results-based management (Poister & Van Slyke, 2002).

Research has demonstrated that public organizations are adopting the various components of results-based management, including strategic planning, performance measurement, benchmarking, and program evaluation (Streib & Poister, 2002; Berman & Wang, 2000; Poister & Streib, 1999). This same research, however, has revealed that organizations struggle with using performance measures for improving service performance and for determining long-term budget needs. The inability of public organizations to utilize performance measures once they have been adopted raises a fundamental question that has not been addressed in public administration literature (de Lancer Julnes & Holzer, 2001). Why do public managers struggle with using service performance as conveyed by performance measures (proxy for profit) for service improvement and for resource allocation when decisions in the private sector are driven by profit maximization?

One answer to this fundamental question is found in the strategic management literature on the inertia of operational routines. Traditional orthodox theory of economics maintains that private organizations make decisions based on maximization and equilibrium. Building on evolutionary theory, Nelson and Winter (1982) questioned orthodox theory by suggesting that private organizations make decisions based on their established operational routines of producing products and providing services rather than profit maximization. While profit represents the ultimate goal, it does not necessarily dictate how strategies are developed for changing sets of routines over time. This landmark research has expanded the strategic management literature on how organizations evolve from a routines-based perspective (Williamson, 1999; Karim & Mitchell,

2000; Zott, 2003), including the impact of routines on organizational cultures. This paradigm shift does not represent a new phenomenon for public administration. Stene (1940) recognized the impact of established routines on decision-making when addressing the role of coordination in public organizations. His research was in response to the promulgation of the science of public administration by scholars like Gulick and Urwick (1937) and Barnard (1938).

This article presents a model of results-based management built on the routines-based perspective of identifying strategies for improving the efficiency and effectiveness of service delivery, responding to the limited utility of performance measures in public organizations as described by de Lancer Julnes and Holzer (2001). The model is designed to move beyond the theoretical (why) and technical (how) components of performance measurement and to address the contextual component of actually using performance measures for supporting decision-making processes in performance, financial, and strategic management. The use of performance information is critical to public finance officers given that they are often responsible for performance measurement adoption and implementation and that the most cited use of performance measures is making resource allocation decisions (performance budgeting). This article concludes that performance measures are used to monitor selected service dimensions in regard to output, outcome, and efficiency. The possibility of service improvement is established when organizational decisions are based on strategies to alter the performance of base routines of service provision, using performance measures to monitor the actual results of strategy implementation.

### ROUTINES-BASED MANAGEMENT

Nelson and Winter (1982) presented the traditional orthodox theory of economics as a paradigm in which private firms operate according to decision rules that are a function of internal and external conditions. The set of decision rules that guides firm behavior is built on two structural pillars of orthodox theory: maximization and equilibrium.<sup>1</sup> The scholars described the first pillar of orthodox theory, maximization, as having three components: profit maximization, known alternatives, and choice. In other words, managers develop strategies for change by choosing among known alternatives that

maximize profit margins. The second pillar of orthodox theory, equilibrium, reflects the actual price of goods and services based on the supply and demand curves that reflect the aggregation of behavioral rules.<sup>2</sup>

There is a fundamental flaw in the notion that managers develop strategies for change by choosing among alternatives for profit maximization. Simon (1946) maintained that while maximization is the final goal of rational behavior, it does not disclose the conditions in which maximization is to be achieved. This would require complete knowledge of alternative solutions. Nelson and Winter (1982) acknowledged bounded rationality based on the work of Simon (1955; 1959; 1965) and offered the routines-based perspective of evolution theory as an alternative to orthodox theory. Firms are organized around sets of routines, and decisions for organizational change begin with an analysis of the established routines of daily business operations (Nelson & Winter, 1982).

Table 1 presents a conceptual framework of how a firm evolves over time based on its current set of routines, suggesting that change is driven by variation, selection, and retention (Zott, 2003).<sup>3</sup> The table shows that organizational evolution begins with process innovation, which is a function of the firm's current set of routines. Process innovation is ongoing and dynamic in most firms, stemming

**TABLE 1**  
**Organizational Evolution Based on Routines**

| Stages of Evolution     |  |   |   |
|-------------------------|--|---|---|
| Current Set of Routines | Variation  | Selection   | Retention   |
| - Process innovation    | - Cost of experimentation<br>- Cost of imitation | - Learning to experiment<br>- Learning to imitate | - Likelihood of implementation<br>- Likelihood of improvement |

Source: Based on the work of Christoph Zott (2003). "Dynamic Capabilities and the Emergence of Intraindustry Differential Firm Performance: Insights from a Simulation Study." *Strategic Management Journal*, 24: 97-125.

from internal and external problems, internal and external opportunities, the hiring of new managers with new ideas, performance measurement systems, financial management systems, information technology opportunities, and leadership. However, process innovation begins with an analysis of the base routine or routines of product production or service delivery. This occurs in the second stage of evolution, which involves an analysis of the variation between cost of experimentation and cost of imitation. Cost of experimentation represents an internal analysis for identifying strategies for change. Cost of imitation represents the capability of replicating an alternative routine external to the organization.

The variation of experimentation and imitation represents the bifurcation between the traditional orthodox theory of maximization and the routines-based perspective of evolutionary theory as presented by Nelson and Winter (1982). Maximization suggests that managers obtain and disseminate information during the variation stage of experimentation and imitation based on profit maximization; managers are rational when identifying strategies for change. The routines-based perspective suggests that while profit maximization represents the end, it does not represent the means of process innovation. Managers obtain and disseminate information during the variation stage of experimentation and imitation within the context of base routines; managers are not rational when identifying strategies for change.

The next stage of organizational evolution shown in Table 1 is selection, which requires management to identify and select the strategies for change based on the firm's internal capability of learning to experiment or learning to imitate. This stage represents the annual business plan, which contains the collection of strategies across the organization for process innovation that the organization can financially afford and that matches the organization's current or potential level of capacity. In reality, some strategies will have a favorable impact on the firm's profit margin, while others will not. Strategy success hinges on the appropriate selection within the context of internal capacity and on management's implementation and improvement capabilities during the final stage of retention.

Stene (1940) noted that organizational routines become habit because of repetition, suggesting that retention requires much more than a management directive for change. To increase the likelihood

that strategies are successfully implemented and improvement is actually realized, ongoing leadership is a necessity to ensure that the coordination of routines is altered to accommodate the new strategies for process improvement. This also requires that employees change their routine habits, which often involves a change in the organizational culture.

Nelson and Winter (1982) were not necessarily suggesting that traditional orthodox theory of economics be dismissed for the evolutionary theory of routine. They did suggest that major changes were needed in the theoretical foundations of economics to broaden our understanding of how firms evolve over time. The goal of all private firms is to maximize profit; however, this alone is not sufficient in explaining how managers make decisions for process innovation. The routines-based perspective suggests that managers begin with base routines –even protecting them to some extent–and then select strategies for improvement based on limited knowledge and resources. This alternative to organizational evolution may be even more applicable to public organizations because the profit motive is not a point of contention. Public managers must begin with their base routines for process innovation, making changes based on opportunities within a political environment of competing demands.<sup>4</sup>

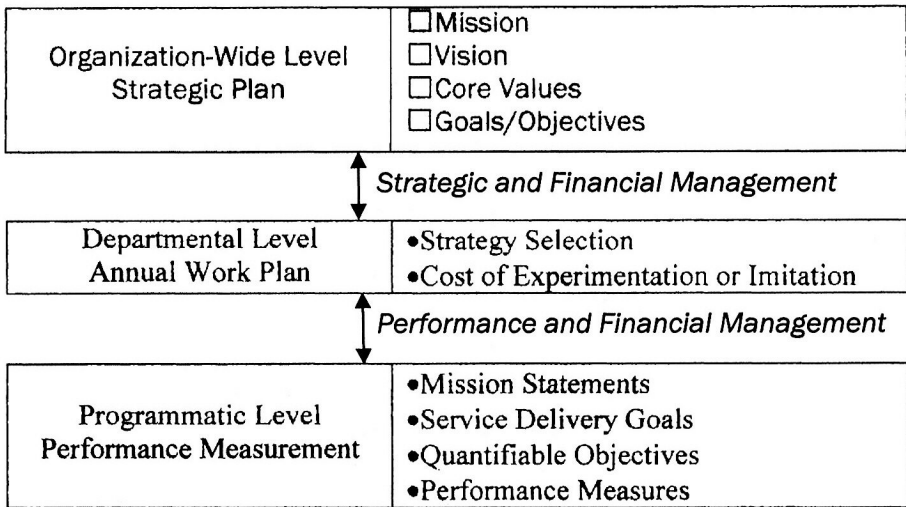
### RESULTS-BASED MANAGEMENT

The model of results-based management presented in Figure 1 is based primarily on the routines-based perspective of evolutionary theory. However, it also incorporates ideas and findings from the performance management literature and from personal experiences in working directly with public organizations on adopting and implementing performance measurement systems. The model accommodates informational flow from the bottom up and from the top down of the organization and is specifically designed to overcome the problem of using performance measures in public organizations (de Lancer Julnes & Holzer, 2001). Behn (2003) maintained that there are eight managerial purposes of performance measurement: evaluate, control, budget, motivate, promote, celebrate, learn, and improve. Hatry (1999) identified a slightly different list, Ammons (2001) another. Behn (2003) suggested that while his list could be shorter or longer, the primary reason for performance measures is to improve performance. But how do organizations actually use them to

improve the performance of service delivery in terms of efficiency and effectiveness? Behn (2003) suggested that until this question is resolved, public managers will continue to struggle with the use of performance measures.

Figure 1 shows that the foundation for results-based management is a performance measurement system at the programmatic level, containing mission statements of purpose, service delivery goals for direction, quantifiable objectives for performance standards, and performance measures (outputs, outcomes, and efficiencies) for tracking selected service dimensions (Kelly & Rivenbark, 2003). Organizations adopt performance measurement systems at the programmatic level because programs contain the operational routines used to provide services to citizens.<sup>5</sup> Adopting the performance measurement system at the programmatic level also ensures that inputs are aligned with outputs.<sup>6</sup> This alignment is critical for calculating the unit costs of service delivery, for tracking efficiency trends over time, and for benchmarking service efficiency against other service providers. In other words, it forms the foundation for cost accounting.

**FIGURE 1**  
**Model for Results-Based Management**



Once adopted, performance measures are then used to monitor the workload, efficiency, and effectiveness of routines for service provision. More specifically, when public organizations adopt well-constructed performance measurement systems at the programmatic level and report on programmatic outputs, outcomes, and efficiencies on a regular basis, they are using performance measures for their intended purpose: monitoring routine dimensions of service delivery. Measures in themselves, however, do not improve performance of service delivery.

The next level contained in the model for results-based management represents the annual work plan at the departmental level.<sup>7</sup> It is common for public organizations to use the annual budget process as the mechanism for the annual work plan, placing prior accomplishments and future strategies in the budget document. This level represents strategy selection based on cost of experimentation or imitation. Some strategies are selected primarily to expand the capacity of programs in terms of efficiency and effectiveness. Other strategies are selected to expand the capacity of programs and to move the organization in the direction outlined in its strategic plan, which contains the organization's mission, vision, core values, and goals and objectives. The strategic plan, located at the top of the model, provides the road map for performance, financial, and strategic management.

A critical element of the strategy selection process for building programmatic capacity and for responding to organizational goals is financial management, which requires an understanding of resource availability to select and implement strategies for service improvement. Strategies often require an initial investment of resources for efficiency gains or require ongoing resources for service expansion. Program managers and department heads must possess the ability to analyze the financial implications of strategy selection and the way in which changes in base routines of service delivery will impact future operating budgets.

### PERFORMANCE AND FINANCIAL MANAGEMENT

When private firms engage in process innovation for improving product production or service delivery, they start with their current sets of routines and analyze variation in terms of experimentation cost and imitation cost. Private firms are searching for and



identifying alternative solutions for improvement (Zott, 2003). When the routines-based perspective is applied to public organizations, the performance measures that have been selected for monitoring service dimensions produce results that fall below or above the expectations of managers. The definition of performance management, which connects the performance measurement system at the programmatic level and the annual work plan at the departmental level, is the actual use of performance results in the decision-making processes found within the core functions of management.

Now that performance results have shown that the current performance level is below the stated objective, the manager must move beyond the performance measures and search for strategies to change the routines that affected the current level of performance. The manager starts by reviewing the current set of routines and by exploring the alternatives for costs of experimentation or imitation. The common term for imitation in the public sector is benchmarking; that is, using the routines of other public organizations as the basis for change. Budgetary implications play a major role in exploring alternatives for service delivery. Bounded rationality also impacts alternatives for service delivery, suggesting that program managers do not select strategies based on complete knowledge.

The following example illustrates the routines-based perspective. Results from performance measures reveal that calls per dispatcher and average dispatch time are escalating for emergency communications. Simply justifying a new dispatcher position based on workload does not represent using performance measures for service improvement. The performance measures were used to monitor the service dimensions of call volume and timeliness of dispatch. In terms of performance management, the results were used to inform the emergency communications director on the status of calls per dispatcher (workload and efficiency) and average dispatch time (effectiveness). Searching for and identifying strategies such as requesting a new dispatcher position or upgrading the commuter-aided dispatch system forms the basis of potential performance improvement. In other words, performance measures monitor performance and inform public managers, while strategies to change or enhance routines are the catalyst for performance improvement.

## STRATEGIC AND FINANCIAL MANAGEMENT

Strategic management is the process of formulating, implementing, and evaluating cross-functional decisions, which enables an organization to achieve its goals (David, 2003). As mentioned previously, strategies are used for expanding the capacity of programs in terms of efficiency and effectiveness and for moving in the direction of the organization's strategic plan.

The next step in selecting strategies based on the notion of service improvement is the development of the annual work plan. This step is analogous to the selection stage of the routines-based perspective (annual business plan), where alternatives are selected based on the firm's ability to learn to experiment or imitate. The annual work plan from all the departmental programs is the accumulation of the selected strategies and their implementation guidelines for the following fiscal year.

Department heads engage in strategic management by helping program managers select strategies that will expand the performance capacity of their programs and move the department in the direction of the organization's strategic plan. It should be noted that not all programmatic strategies link to the organization's strategic plan; however, it is imperative that department heads understand which ones link to organizational goals and which ones do not. This allows department heads to communicate effectively with top administrators and council members about which strategies are being used to support the overall direction of the organization, especially when these strategies require additional resources.

Department heads must select strategies for improvement and include them in their annual work plans. This requires them to make cross-functional decisions and to select strategies based on current routines of configuration, political acceptability, and budget constraints. The relationship between strategies and budgetary resources is a major factor in performance budgeting. During the annual budget process, the performance measures accompany the strategies that contain budget implications, thus enabling top administrators and elected officials to understand the need for service improvement and the potential impact of strategies with performance targets. This process reconciles with performance

budgeting, which is a budget preparation and adoption process that emphasizes performance management (Kelly & Rivenbark, 2003).

Program managers and department heads must not overlook the importance of retention when selecting strategies for service improvement. Retention is the likelihood of implementation and improvement and is monitored by performance measures. Implementation requires leadership to ensure that the current coordination of routines is changed to accommodate the new routines of service delivery. In addition, successful implementation does not guarantee improvement. Organizations commonly use the strategy of technology investment to promote efficiency and effectiveness gains. However, if employees continue to follow the old routines after the technology is implemented, performance improvement will not occur. Only when employees adapt to the new routines and use the technology in the way it was designed will performance improve.

#### CASE STUDY

The city of Asheville, North Carolina adopted a performance measurement system in the late 1990s to monitor the operational accountability of service delivery. Each functional area has a mission statement, service delivery goals, quantifiable objectives, and performance measures. For example, the mission of the sanitation function is to provide quality services to all customers through on-schedule collection of municipal solid waste and to efficiently carry out every task, special project, equipment operation, and customer request. The mission statement is supported with service delivery goals and quantifiable objectives, including the diversion of 49 percent of waste from the landfill through recycling and composting. Performance measures are then used to monitor the progress toward meeting these objectives.

Asheville supplements its internal performance measurement system by participating in the North Carolina benchmarking project, which allows the city to compare its performance in selected service areas with the performance of other service providers. A critical element of performance measurement is that efficiency and effectiveness measures are relative statistics and must have context for meaningful interpretation. The management practice of benchmarking gives organizations the ability to monitor performance

over time (trend analysis), to compare performance with that of other service providers, and to develop strategies for various types of experimentation and imitation.

The annual budget preparation and adoption process in Asheville begins each year with a review of the citywide strategic plan. Adjustments to goals and objectives are based on council priorities. One of the organization-wide goals included in the FY 2002-03 operating budget is to enhance the fiscal responsibility of the city of Asheville. The budget process also requires strategy development by service delivery managers. Some of the identified strategies are specifically designed to expand the capacity of service functions, while others are intended to address council priorities.

Table 2 shows the performance measures tracked internally by the city of Asheville to monitor the service routine of residential refuse collection. These measures also are used by the North Carolina benchmarking project. The table shows that the cost per ton of refuse collected increased from \$98 per ton during FY 1998-99 to \$106 per ton during FY 2000-01. Even when the costs were adjusted for inflation, the cost per ton increased during these years of operation. Despite the increasing cost of residential refuse collection, two municipalities participating in the North Carolina benchmarking project had actually decreased their cost per ton of refuse collected in constant dollars over the same time period. These municipalities were using automation as the strategy for improving efficiency.

**TABLE 2**  
**Routine of Residential Refuse Collection**

| Measures   | 1998-99 | 1999-2000 | 2000-01 | 2001-02 | 2002-03 |
|--|---------|-----------|---------|---------|---------|
| Tons per 1,000 collection points                 | 811     | 796       | 794     | 805     | 867     |
| Tons collected per Full-time equivalent position | 1,106   | 1,086     | 1,044   | 1,059   | 1,389   |
| Cost per ton collected                           | \$98    | \$99      | \$106   | \$101   | \$76    |
| Cost per ton collected (constant)                | \$98    | \$96      | \$100   | \$94    | \$69    |

The city of Asheville decided to alter the base routine of residential refuse collection in FY 2001–02 through the use of imitation by changing from three-person collection crews working on rear loading trucks to one-person crews working on automated trucks. The strategy of automation would be implemented over time, with full automation occurring by June 30, 2004. This strategy of changing the base routine of residential refuse collection, identified and implemented from an analysis of performance results, expanded the operational capacity of the sanitation function as evidenced by tons collected per full-time equivalent position and by cost per ton collected. Decreasing the cost per ton collected to \$76 during FY 2002–03 also responded to the organizational goal of enhancing the fiscal responsibility of the city.

The decision to alter the base routine of residential refuse collection dramatically changed the calculus between resource consumption and service provision for the city of Asheville. The total cost of residential refuse collection was \$2,145,835 during FY 1998–99; it decreased to \$1,636,313 during FY 2002–03. The annual budgetary savings of approximately \$500,000 resulted from the use of rational choice to expand the operational capacity of service delivery at the programmatic-level and to make progress toward the organization-wide goal of fiscal responsibility.<sup>8</sup>

This case study provides evidence that a results-based management model, based on the tenets of the evolutionary theory of routine, may help conceptualize the primary use of performance measures in public organizations actually using them to identify strategies for changing and improving base routines of service delivery. However, Frank and D'Souza (2003) cautioned researchers of performance management that scope surveys and one-jurisdictional case studies are limited when conducting performance measurement implementation research. The authors suggested that implementation research determining how performance measures are actually being used to support decision-making processes in public organizations requires longitudinal, multi-jurisdictional case studies. In other words, this approach will help researchers develop an empirically driven understanding of how performance data are converted into information for decision-making and for budget preparation and adoption.

## CONCLUSION

The theoretical component of why public organizations should embrace performance measurement is well documented in the literature. The most cited reason is operational accountability. The technical component of how to create performance measures in public organizations also is covered in the literature and supported by professional organizations. However, the contextual component of how organizations actually use performance measures for service improvement continues to baffle the proponents of performance measurement. The lists of uses for performance measures continue to grow. For example, performance measures are promoted for supporting the functions of decision-making, planning, budgeting, and process improvement. But how do we actually use them for these various aspects of management? The routines-based perspective, based on evolutionary economics of how private firms evolve over time, offers a plausible response.

It has been suggested in the strategic management literature that private firms do not evolve solely on the notion of profit maximization. Firms evolve by selecting strategies for process innovation based on their current sets of routines, suggesting that profit represents the end goal for change while strategies represent the means for change. Profit also represents how firms monitor the success of strategy selection and implementation. Applying this same framework to the public sector's proxy for profit, performance measures are designed to monitor the outputs, outcomes, and efficiencies of selected service dimensions. Performance management occurs when managers use the performance results in making their decisions. Strategic management is then required to identify, select, and implement strategies of change in order to expand the programmatic capacity of service delivery and to enable the organization to evolve in the direction of organizational goals.

The next step in results-based management is to move beyond the reporting on service performance as conveyed by performance measures and to determine how public officials are using their proxy for profit to identify strategies for service improvement within the context of their organizations. Context is critical because service delivery alternatives are costly and involve risk, in both public and private organizations. Some organizations are risk adverse, making decisions only at the margins. Others are willing to embrace

innovation, along with its risk, in order to pursue the overall goals of the organization. However, it must be acknowledged that due to the boundaries of rational choice, the strategies selected and implemented do not guarantee success.

#### NOTES

1. Nelson and Winter (1982) suggested that not all economists believe that an agreed upon orthodox theory exists for the discipline of economics. However, most economists probably would agree that the pillars of maximization and equilibrium are fundamental components of the economic paradigm.
2. The pillar of equilibrium is outside the scope of this article. For more information on the relationship between equilibrium and evolutionary theory, see Nelson and Winter (1982). For more information on equilibrium in general, see any textbook on the introduction to microeconomics.
3. Zott (2002) constructed his model of a set of routines guiding the evolution of a firm's resource configuration partially on the work of Nelson and Winter (2002).
4. Public administration literature makes little mention of the evolutionary theory of routine. One exception is the work of McGowan (1984) who acknowledged the role of routines in subsystems of local government. McGowan's research examined the impact of internal and external environments on developing strategies for productivity improvement.
5. In the public sector routines are often referred to as processes. However, they both reflect a collection of activities used for service delivery.
6. Inputs are defined as resources required for service provision, including dollars, personnel, equipment, and technology. Outputs are defined as service outputs, outcomes, and efficiencies. When inputs are not properly aligned with outputs, it becomes difficult to track efficiency measures and to track budgetary implications from service realignment.
7. Annual work plans also exist at the programmatic level and the organization-wide level. They are commonly found at the departmental level, representing the aggregate collection of

strategies for change across programs with common goals of service delivery.

8. The information for the case study was obtained from the city of Asheville's adopted annual budget for FY 2002–03 and from the annual benchmarking reports published by the School of Government at the University of North Carolina at Chapel Hill (Rivenbark & Few, 2000; Rivenbark & Dutton, 2004).

#### REFERENCES

- Ammons, D. N. (2001). *Municipal Benchmarks* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Barnard, C. I. (1938). *Functions of the Executive*. Cambridge, MA: Harvard University Press.
- Behn, R. D. (2003). "Why Performance Measures? Different Purposes Require Different Measures." *Public Administration Review*, 63 (5): 586–606.
- Berman, E., & Wang, X.-H. (2000). "Performance Measurement in U.S. Counties: Capacity for Reform." *Public Administration Review*, 60 (5): 409–420.
- David, F. R. (2003). *Strategic Management* (9th ed.). Upper Saddle River, NJ: Prentice Hall.
- de Lancer Julnes, P., & Holzer, M. (2001). "Promoting the Utilization of Performance Measures in Public Organizations: An Empirical Study of Factors Affecting Adoption and Implementation." *Public Administration Review*, 61 (6): 693–708.
- Frank, H., & D'Souza, J. (2003). "Twelve Years into the Performance Measurement Evolution: Where We Need To Go in Implementation Research." Paper presented at the Southeastern Conference for Public Administration, Savannah, Georgia.
- Gulick, L., & Urwick, L. F. (1937). *Papers on the Science of Administration*. New York: Institute of Public Administration.
- Hatry, H. P. (1999). *Performance Measurement*. Washington, DC: The Urban Institute Press.
- Karim, S., & Mitchell, W. (2000). "Path-Dependent and Path-Breaking Change: Reconfiguring Business Resources Following Acquisitions



- in the U.S. Medical Sector, 1978–1995.” *Strategic Management Journal*, 21: 1061–1081.
- Kelly, J. M., & Rivenbark, W. C. (2003). *Performance Budgeting for State and Local Government*. Armonk, NY: M.E. Sharpe.
- McGowan, R. P. (1984). “Strategies for Productivity Improvement in Local Government.” *Public Productivity Review*, 13 (4): 314–331.
- Nelson, R. R., & Winter, S. G. (1982). *An Evolutionary Theory of Economic Change*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Poister, T. H., & Streib, G. (1999). “Performance Measurement in Municipal Government: Assessing the State of the Practice.” *Public Administration Review*, 59 (4): 325–335.
- Poister, T. H., & Van Slyke, D. M. (2002). “Strategic Management Innovations in State Transportation Departments.” *Public Performance & Management Review*, 26 (1): 58–74.
- Rivenbark, W. C., & Few, P. K. (2000). *Final Report on City Services for Fiscal Year 1998–99*. Chapel Hill, NC: Institute of Government, University of North Carolina.
- Rivenbark, W. C., & Dutton, M. H. (2004). *Final Report on City Services for Fiscal Year 2002–2003*. Chapel Hill, NC: School of Government, University of North Carolina.
- Simon, H. A. (1946). “The Proverbs of Administration.” *Public Administration Review*, 6: 53–67.
- Simon, H. A. (1955). “A Behavioral Model of Rational Choice.” *Quarterly Journal of Economics*, 69: 99–118.
- Simon, H. A. (1959). “Theories of Decision Making in Economics.” *American Economic Review*, 49: 253–283.
- Simon, H. A. (1965). *Administrative Behavior* (2nd ed.). New York: Free Press.
- Stene, E. O. (1940). “An Approach to a Science of Administration.” *The American Political Science Review*, 34 (6): 1124–1137.
- Streib, G., & Poister, T. H. (2002). “The Use of Strategic Planning in Municipal Governments.” *The Municipal Yearbook* (18–25).

Washington, DC: International City/County Management Association.

Williamson, O. E. (1999). "Strategy Research: Governance and Competence Perspectives." *Strategic Management Journal*, 20: 1087-1108.

Zott, C. (2003). "Dynamic Capabilities and the Emergence of Intraindustry Differential Firm Performance: Insights from a Simulation Study." *Strategic Management Journal*, 24: 97-125.