Administrative Capacity

Byron A. Ellis
Consultant and Executive Director of The Jethro Project (TJP)
email:* *ellis@jethroproject.com

Abstract

Building robust administrative capacity is important for delivering services to constituents. However, administrative capacity requires political will and vision, as well as shared goals and measurable metrics that optimize performance. It also requires active investment and training, as well as industrial and trade policies. The balanced scorecard is a mechanism that can facilitate goal-setting for citizens and government and assess accountability and performance.

Keywords: *Administrative Capacity, Globalization, Goals, Performance, Training*

Introduction

Professor Farazmand's (2009) article, "Building Administrative Capacity for the Age of Rapid Globalization: A Model Prescription for the Twenty-First Century," questions the administrative capacity of governance and public administration. He argues that traditional administrative capacities are not enough to meet the challenges ahead and that public governance and administration must be retoolled to develop new sets of knowledge, skills, cultures, and designs that are nonlinear and oriented toward managing surprises in organization and management.

Administrative capacity is broadly used in many contexts (Misener & Doherty, 2009). It entails running the machinery of a political or economic system and translating political and collective will into actions through management and implementation (Farazmand, 2009). It also aggregates civil servants' individual capacities, since their capacities ultimately determine service delivery (Mentz, 1997; North, 1992). Capacity is generally defined as the ability to perform functions, solve problems, set goals, and achieve objectives (Milio, 2007; Fukuda-Parr et al., 2002; Janicke, 2001). Thus, it is a set of attributes embodied within efficient organizations that provide the means to effectively accomplish their missions (Misener & Doherty, 2009).

Capacity, or organizational capital, is an intangible asset, and there is no consensus definition on how to measure it (Black & Lynch, 2004). Administrative capacity appears to vary depending on the activities to be performed. Honadle (1981) believes that a consensus definition of administrative capacity within the public administration arena is unlikely ever to be reached.

The capacity to set measurable goals and deliver outcomes is important in all institutions. It is critical in government, educational institutions, corporations, hospitals, and even in homes and churches. Thus, improving personnel capacity within institutions is essential for developed and developing societies. A growing body of literature suggests that improvements in productive capacity depend on organizational structure (Black & Lynch, 2004). Structure is the design (processes) that administers the organization (Chandler, 1962). According to Chandler, structure follows strategy. Therefore, to improve administrative capacity, public administrators need to develop effective strategies.

At the macro level, public administrative capacity is the ability to increase the welfare of the governed and the citizens by providing appropriate services, facilitating job creation, schooling, healthcare, and so on. It is the maximum sustainable level of public output when public administrative resources are fully utilized, given taste and technology (Winston, 1977). At the micro level, it is the ability of public servants to deliver maximum public output (services) at minimum cost, given the organization's mission, vision, and strategy.

Farazmand (2009) argues that governments must constantly upgrade their administrative capacities to meet the challenges of rapid globalization. He notes that these challenges are characterized by hyper-competition, hyper-complexity, and hyper-uncertainty. Nonetheless, he does not succinctly define administrative capacity, and his policy prescriptions are not specific. Perhaps because his article does not identify a specific problem; rather, it assumes that globalization causes administrative capacity challenges. However, globalization does not cause administrative capacity challenges (Bowormwathana, 2009; Cheung, 2009). Rather, inadequate human capacity within governments and institutions inhibits efficient anticipatory responses to challenges that create administrative problems.

The Katrina fiasco was not a result of globalization; it was a natural disaster without a capable government anticipatory (preventive) response process. Inappropriate anticipatory response is not unique to public administration. The automobile industry in the United States failed to anticipate consumers' tastes and to take advantage of fuel-efficient technologies. Likewise, the Federal Reserve's (Fed) management of the money supply, M1, before the recession of 2008 also demonstrated a lack of anticipatory response to the known, predicted consequences of slow monetary growth: a recession. M1 is currency, traveler's checks, demand deposits, and other checkable deposits that consumers use to purchase goods and services.

Failure to govern stems from a more complex internal and external governance environment that exposes the limitations of state capacity (Cheung, 2009). Globalization heightens existing limitations in public administration and management, but it is not the cause of those limitations.

Consequences of Change

The argument that "While big changes produce long-term consequences that are beyond immediate anticipation, small changes are more frequent, with predictable and unpredictable consequences" (Farazmand, 2009, p.2008) is disputable. A more coherent argument is that inappropriate human capacity leads to unpredictable consequences and poor anticipatory responses; it prevents appropriate adjustments to surprise changes. Inappropriate human capacity within organizations is a personnel allocation problem.

Personnel allocation in public administration is seldom optimal, which prevents public institutions from continuously improving performance.

Appropriately allocated human capacity in public administration could predict potential failures and develop optimal responses for each potential failure mode. For instance, many industries dealing with unstable processes implement fail-safe responses based on each likely mode of failure. They use known integrated logistical support (ILS) techniques to ensure the supportability of assets and services during the design, development, and life cycle of a project or process. ILS involves techniques such as reliability-centered maintenance (RCM), failure modes and effects analysis (FMEA), process documentation, and so on, which support anticipatory responses to potential undesirable events. Additionally, these industries implement preventive maintenance (PM) techniques to improve asset reliability and longevity, robust internal and external processes to ensure consistency and repeatability, and surveys to gauge consumers' satisfaction and expectations.

Policy capacity, therefore, involves philosophical choices and principles, as well as the ability to translate policy into reality (Tsao, 2009). Philosophical choices can lead to robust, enforceable, and efficient surprise-management procedures or, as in the case of New Orleans levees (Katrina), to years of neglect in maintenance and upgrades.

Farazmand's (2009) suggestion of revitalizing public administration, although useful, is a tall order. How is this done (Bowornwathana, 2009)? According to Farazmand, this can be done externally through the legislative process by engaging citizens, community organizations, and other institutions in governance and administration, while building trust among a broad-based citizenry and enhancing transparency, accountability, and ethical behavior.

External influences are unlikely to affect the internal capacity of the government or any other institution. The structure and coordination of internal planning processes determine whether organizations realize their capacity potential (Boschken, 1988). Revitalizing government must occur from within; it requires competent public administrators and politicians who understand constituents' needs (demands) and can translate visions and policies into reality. Additionally, it requires internal mechanisms to set clearly defined, actionable, and measurable goals to meet constituents' needs (Gable & Davis, 2004) in a timely fashion and at minimum cost. Thus, political platforms should be akin to a balanced scorecard (BSC). Moreover, the scorecard goals must cascade from the organization's mission to administrators' and individual public employees' performance. The goals should measure how effectively citizens' needs and the overarching vision are met.

The problem, however, is matching the right individual capacity to the right job. Even if there is an overabundance of human capacity in the public administrative field, given the current job allocation process, it is unlikely that the right resources would be allocated to the right jobs. The general political tendency is to allocate resources based on relationships or from within tight-knit agencies. Allocations based on relationships are often sub-optimal, and too much allocation from within (inbreeding) limits interaction with the outside world and inhibits innovation (Widener, 2005). Organizations, like organisms, must be open to, and achieve the appropriate relationship with, the environment to survive and prosper (Morgan, 1997). Like high-yield fields, governments and institutions require external fertilizers, and outsiders with different views and experiences to improve organizational capacity.

It is difficult, however, for most hiring managers to know ex-ante, without extensive research, the capacity and motivation of outsiders. Thus, most hiring managers (politicians), including voters, reduce their search cost and risk by hiring (voting for) individuals with traits similar to those of the existing cadre of employees and themselves. Furthermore, human capacity is often not the deciding factor in public job allocation. Factors such as political affiliation, race, friendship, looks, residency requirements, and so on influence the selection process, sometimes to the detriment of capacity.

Governance and public administration, as enshrined in the English-speaking literature, are inherently deficient in social and cultural specificity and sensitivity (Cheung, 2009). As a result, the hiring process has been prone to selection bias. Selection bias prevents governments and institutions from organizing efficiently.

Employment and Capacity Selection

In highly competitive and transparent fields, such as professional sports where detailed statistics are kept on each performer, employment is often based on capacity or meritocracy. Other fields seldom keep detailed statistics on employees' performance. As a result, it is difficult to assess employees' true performance and contribution to organizational capacity. Thus, more often than not, employment is not based on capacity or meritocracy. In many instances, employment is a mechanism for allocating income to preferred citizens. However, employment allocation determines the quantity and quality of each product and service produced, as well as the techniques used to produce outputs (Layard & Walters, 1978). Therefore, when employment allocation is inefficient and lacks capacity (competency), output and quality, as well as anticipatory responses, will be inadequate.

When public jobs are used to distribute income, the marginal product (added output) of labor is often less than the wages paid. Consequently, the quantity and quality of services rendered will not be optimal, since the cost of production would exceed the price of output. Over time, inferior services degrade the public system and the economic system it supports.

In an ideally organized economy, the allocation of jobs and the distribution of products and services cannot be treated separately (Layard & Walters, 1978). For instance, income from job allocation (employment) allows products and services to be distributed among employed citizens. Employing resources with comparative advantages optimizes output and builds competitive capacity. If employment is sub-optimal, output would not be optimized. Under globalization, nations and corporations that fail to optimize output cannot capitalize on regional or global trade. Therefore, they would incur trade deficits with regional and global trading partners. Large trade deficits adversely affect income and, hence, employment. It is, therefore, paramount in a global economy to optimize employee allocation among products and services.

It is also important to understand the relationship between state and society, state and market, and politics and administration; and these relationships should not be treated separately (Cheung, 2009).

Governments' economic problem, therefore, is how best to allocate the most competent citizens among public jobs to achieve the greatest good for the greatest number of citizens. In democratic economies, optimizing public administration jobs often conflicts with adversarial political ideologies. The most capable citizens are not always allocated to the right public jobs. Often, the motivating factor for allocating public jobs is advocacy of party-line positions on issues and not competency. Thus, political self-interest concerns are at the core of public job allocations.

The adversarial political system often subjects the voting public to perceptual distortions, assimilation, and contrast effects (O'Keefe, 1990), as well as attributions. O'Keefe notes that increasing discrepancies can lead to more favorable attitudes toward contrary points of view. Given imperfect information, recognizing and filtering out distortion and misinformation is difficult.

The fundamental problem for constituents (voters) is how to motivate public servants to act in citizens' best interests; it is a basic principal-agent problem (Stiglitz, 1991). Stiglitz argues that because there is imperfect information, public servants (agents) seldom maximize citizens' (owners) values. Imperfect information gives public servants the discretion to pursue their interests and distort the environment. Typical examples include the invasion of Iraq, the healthcare debate, and redistribution issues.

Without political will, determination, and accountability, governments cannot effectively deliver education, food, water, infrastructure, healthcare, housing, and other essential services, or protect basic rights (Tsao, 2009). Likewise, equality cannot be maximized without a powerful state intervention that limits individual liberty, and individual liberty cannot be expanded indefinitely without a pernicious form of social inequality (Fukuyama, 2006).

A publicly sponsored non-partisan institute that analyzes political distortions and provides the public with an undistorted view of issues could mitigate partisan distortions and contribute to governance optimization. Moreover, the non-partisan institute could help develop well-defined, measurable ethical and socio-economic goals to guide economic and educational advancement.

In the age of globalization, neo-liberal laissez-faire economics does not appear to optimize economies. The successes of East Asian countries show that developmental-state policies with strong, centralized, interventionist institutional structures can generate and sustain high growth rates (The World Bank, 1997; Cheung, 2009). The notion that governments should not intervene in economies appears to have adversely affected economic growth in the United States. The East Asian governments' activist role in investment, training, and industrial and trade policy has facilitated their economic development (Wing-Hung Lo, Man-Keung Lo, and Cheung, 2001). The East Asian successes have also led to the importation of deflation into the United States. Deflation has caused downward pressure on global prices (Kamin, Marazzi, and Schindler, 2004) and led to the relocation, or dismantling, of non-competitive local factories and wage stagnation in the U.S.

The Concept of Developmental State

The concept of a developmental state challenges the neo-liberal view of the rapid economic growth of the Four Little Tigers: Singapore, Hong Kong, Taiwan, and South Korea (Howell, 2006). In contrast to the view that governments impede economic development, developmental states prioritize cultivating state capacity (Wing-Hung Lo et al., 2001). Professor Howell indicates "The ideal-typical developmental state has a political and policy elite committed to economic growth and transformation, with the power, authority, and legitimacy to promote developmental agenda" (p. 275). Moreover, the elite is competent in the economic sphere, with technical and managerial capacity to guide development; and, with a few exceptions, developmental states tend to have weak civil societies, poor civil and political rights, and repressive political regimes (Howell). Apparently, their structure resembles corporations operating in democratic societies.

Developmental states demonstrate the capacity to combine economic growth with a good dose of redistribution (Howell, 2006). Howell, however, does not believe that China strictly fits the definition of a developmental state. Nonetheless, the Chinese experience in developing capacity is interesting. Although China is a socialist country, under Deng Xiaoping it adopted a pragmatic, piecemeal approach to development; moreover, China did not hesitate to adopt capitalist processes if they helped resolve problems (Tsao, 2009). Tsao notes that in 2003, when Hu Jintao and Wen Jiabao took the reins of China, they put people first and shifted emphasis from economic growth to social and welfare policies. The approach stressed continuous development and a service-oriented government.

Western democracies are less inclined to adopt non-Western processes even when helpful in solving intractable problems. Rather, they continue to preach market-oriented policies. However, during their development, the consensus they preached did not match what they followed (Ha-Joon, 2002). Thus, their policy advice is often not based on experience or on legitimate, successful experience (Tankha, 2009).

Democratic countries find it difficult to build efficient administrative capacity because of adversarial political philosophies, favoritism, the role of corporatism and unions, institutional inbreeding, and the stickiness of employee redeployment. Current healthcare reform in the United States reflects ingrained adversarial governance philosophies, which often do not serve the public well. Furthermore, most public decisions in democratic countries are politically driven. Thus, public decisions are seldom based on maximizing community welfare and minimizing costs. Instead, many decisions focus on maximizing political gains at any cost.

Many provinces in China promote economic development and services that benefit their citizens. During the early 1980s, China created special zones in Guangdong and Fujian provinces to encourage domestic and foreign business investment through tax incentives and other measures (Tsao, 2009). Tsao notes that the reforms were small, isolated, incremental, and accompanied by institutional changes. The basic idea was to take a fresh look at problems and challenges and offer new solutions and approaches that were not path-dependent. As a result, China has enjoyed staggering growth rates, averaging around 8 percent, and rising living standards (Howell, 2006).

Understanding the strategies and processes that developmental states use to grow their economies is important. With appropriate human capacity, these strategies and processes could apply to local governments in democratic countries. The East Asian model could promote economic development and facilitate jobs for local citizens. For instance, regional governments in democratic societies could deliberately diversify their economies using tax and other incentives to attract new businesses and establish and nurture educational institutions, including colleges and universities. Despite the contrarian conservative view, governments have always played a leading role in the economy (Farazmand, 2005; Fukuyama, 2006).

However, how do citizens measure government performance? Moreover, would performance or party affiliation become the critical factor? In places such as Philadelphia, Baltimore, and other regions, including at the national level, party affiliation is stronger than administrative performance. Nonetheless, the East Asian economies offer some clues, such as the Ministry of International Trade and Industry (MITI), which steered economic and social development in Japan (Howell, 2006). Established in 1949, MITI was one of the most powerful agencies in the Japanese government. Its mission was to coordinate trade policy. MITI was also responsible for domestic industries and businesses. Therefore, establishing regional non-partisan institutes in the United States could, similar to MITI in Japan, help steer regional economic and social development.

Balanced Scorecard

Organizational success is reflected in performance, which depends on strategies (Sharma, 2009). Strategic planning positively affects performance (Gibbons & O'Connor, 2005). However, views on strategy formation differ: the rational approach (Andrews, 1987) identifies goals and objectives and selects optimal strategies (Gibbons and O'Connor). Others argue that strategy formation is fragmented, evolutionary, intuitive, and evolving (Quinn, 1978); strategy is a pattern in a stream of decisions (Mintzberg, 1978). The balanced scorecard (BSC) developed by Kaplan and Norton (1992) is suitable for strategy development, performance measurement, and goal accountability (Niven, 2003; Lang, 2004).

BSC guards against organizational sub-optimization by forcing simultaneous accounts of all-important operational measures (Letza, 1996). Letza notes that organizational strategy and vision are at the core of the BSC. Figure 1 depicts how the BSC links the organization's mission and vision to measurable strategy (goals) associated with the four BSC perspectives (Sharma, 2009). The four perspectives are innovation and learning, customer, internal business, and financial. The BSC allows managers to examine the organization simultaneously from all four perspectives.

The following is a brief description of the perspectives:

Innovation and Learning Perspective: This perspective constitutes the essential foundation for the success of any knowledge-worker organization (Sharma, 2009). It enables the other three perspectives (Niven, 2003). Learning, however, is more than training; it includes organizational mentors and tutors as well as communication mechanisms and technological tools that facilitate problem-solving. In essence, it is the organization's capacity (Holmes, Gutiérrez de Piñeres, and Kiel, 2006). Niven notes, “This perspective cannot be overlooked in the development process” (p. 19).

Customer Perspective: Addresses customers’ view of the organization and how well the organization serves its constituency. The organization must know who its customers are and what the value proposition in serving them is (Niven, 2003).

Internal Processes Perspective: Addresses the critical processes for satisfying customers and shareholders. These are the processes the organization must focus on to excel. To satisfy customers, organizations may need to develop new internal processes rather than continuously improve existing ones (Niven, 2003).

Financial Perspective: addresses shareholders’ (constituents’) view of the organization and desirable financial goals. It confirms if the strategy execution results in improved bottom-line results (Niven, 2003).

Government Organizations

Government organizations (GO), unlike for-profit organizations, lack identifiable owners (Dodor, Gupta, & Daniels, 2009) and are generally not considered models of good business management (Lang, 2004). Public administration continues to struggle with accountability issues (Holmes et al., 2006). Holmes et al. believe that the BSC is a potential mechanism for building administrative capacity and government accountability in developing countries. However, it is also applicable to public administration in developed countries.

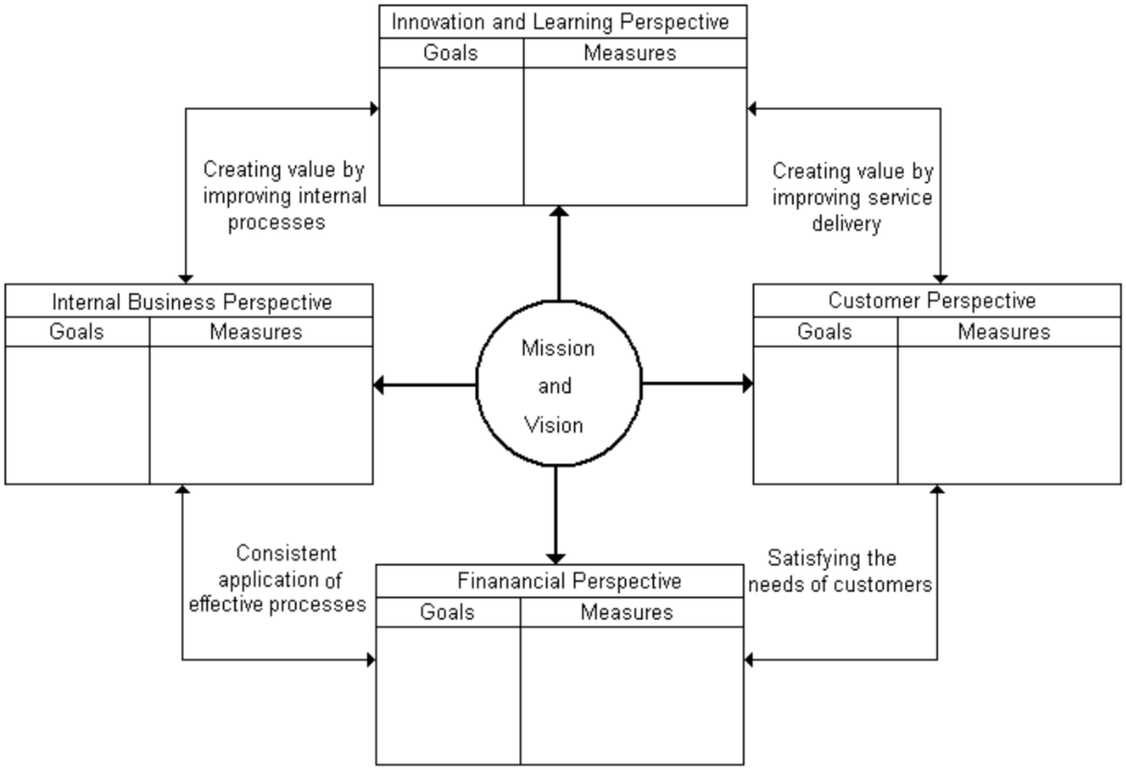

Figure 1 - Perspectives of the Balanced Scorecard

Within democracies, constituents empower politicians. GO constituents are customers as well as unidentifiable owners. If GO constituents (customers) are not satisfied, they will eventually find other politicians or political parties to meet their needs (Sharma, 2009). Nonetheless, constituents have no mechanism to develop goals and metrics for GO, politicians, or public administrators. If such a mechanism existed, constituents could motivate public servants to act in their best interest.

A competent, non-partisan, public-sponsored group committed to economic growth and transformation could be the mechanism through which constituents develop shared goals that might facilitate the revitalization of public administration. The non-partisan group would examine the needs of individuals and regions, recommend appropriate solutions, and monitor progress on behalf of citizens. The independent non-partisan group could use an approach similar to the BSC.

Conclusion

Revitalizing and improving public administrative capacity at all levels is essential. However, in societies with adversarial political systems, public servants seldom act in constituents' best interests, particularly because of the principal-agent problem. Strategies from developmental countries could mitigate the principal-agent problem by establishing a competent non-partisan public group committed to steering economic growth and social development. The non-partisan group would document citizen-shared concerns (goals) in a BSC format. Local governments (politicians) could use the BSC as a strategic management tool to help optimize operations. The BSC facilitates performance measurement and strategy development to achieve long-term goals. Developing the BSC with constituent participation would enhance government services and shared responsibilities.

References

Andrews, K. (1987). The concept of corporate strategy. Homewood, IL: Dow Jones-Irwin.

Bowornwathana, B (2009). The need to build administrative capacity in the age of rapid globalization a "modest" prescription or a major blueprint? *Public Administration* Review, p. 1031–1033.

Boschken, H.L. (1988). Turbulent transition and organizational change: Relating policy outcomes to strategic administrative capacities. *Policy Issues Review*, 7(3), p. 477–499.

Cable, J.H. & Davis, J.S. (2004). Key performance indicators for Federal facilities portfolios. Washington, DC: National Academies Press.

Chandler, A. D. (1962). Strategy and Structure: Chapters in the History of the American Industrial Enterprise. Boston, MA: MIT

Chang, H.-J. (2002). Kicking Away the ladder: Development strategy in historical perspective. London: Anthem Press.

Cheung, A. B. L. (2009). A Response to "Building administrative capacity for the age of rapid globalization: A modest prescription for the twenty-first century." *Public Administration Review*, p. 1034–1036.

Dodor, J. B. K., Gupta, R. D., & Daniels, B. (2009). A framework for governmental organization's balanced scorecard. *Journal of Financial Accountancy*.

Farazmand, A. (2005). Role of government in an era of total quality management (TQM) and globalization: Challenges and opportunities. *Public Organization Review: A Global Journal, 5,* p. 201–217.

Farazmand, A. (2009). Building administrative capacity for an age of rapid Globalization: A modest prescription for the twenty-first century. *Public Administration Review*, p. 1007–1020.

Fukuda-Parr, S., Lopez, C. & Malik, K. (2002). Overview: institutional innovations for capacity development, in capacity for development, new solutions to Old problems. UNDP-Earthscan, London.

Fukuyama, F. (2006). After the "End of history." Retrieved December 27, 2009, from http://www.opendemocracy.net/democracy-fukuyama/revisited_3496.jsp

Gibbons, P. T. & O'Connor, T. (2005). Influences on strategic planning processes among Irish SMEs—**Journal** *of Small Business Management,* 43(2), p. 170.

Holmes, J. S., Gutiérrez de Piñeres, S. A., & Kiel, L. D. (2006). Reforming Government Agencies Internationally: Is There a Role for the Balanced Scorecard? *International Journal of Public Administration*, 29(12), p. 1125 – 1145.

Honadle, B. W. (1981). A capacity-building framework: a search for concept and purpose, *Public Administration Review*, 41, 575–579.

Howell, J. (2006). Reflections of the Chinese State. *Development and Change*, 37(2), 273–297.

Janicke, M. (2001). The political system's capacity for environmental policy: the framework for comparison, in Weidner H. and Janicke, M. (Eds.) Capacity Building in National Environmental Policy, pp. 1–18.

Kamin, S. B., Marazzi, M., & Schindler, J. W. (2004). Is China "Exporting Deflation"? *Board of Governors of the Federal Reserve System.*

Kaplan, R. S., & Norton, D. P. (1992). “The balanced scorecard – Measures that drive performance,” *Harvard Business Review*, Vol. 70, No. 1, p. 71–79.
Lang, S. S. (2004). Balanced scorecard and government entities: Moving forward at Illinois department of transportation. *CPA Journal*, June 2004, p. 48–52.
Layard, P., & Walter, A.A. (1978). Microeconomic theory. New York, NY: McGraw-Hill Book Company.
Letza, S. R. (1996). The design and implementation of the balanced business scorecard: An analysis of three companies in practice. *Business Process Re-engineering & Management Journal*, Vol. 2 No. 3, 1996, pp. 54–76.
Mentz, J. C. N. (1997). Personal and Institutional Factors in Capacity Building and Institutional Development. *Working Paper No. 14. ECDPM, Maastricht*.
Milio, S. (2007). Can administrative capacities explain differences in regional performances? Evidence from structural fund implementation in southern Italy. *Regional Studies*, 41(4), p. 429-442.
Mintzberg, (1978). Patterns in strategy formation. *Management Science*, 24, p. 934–948.
Misener, K., & Doherty, A. (2009). A case study of organizational capacity in nonprofit community sport. *Journal of Sport Management,* 23, p. 457- 482
Morgan, G. (1997). Images of Organizations. Thousand Oaks, CA: Sage Publications.
Niven, P. R. (2003). Balanced scorecard step-by-step for government and nonprofit agencies. Hoboken, NJ: John Wiley & Sons, Inc.
North, W. H. (1992). Capacity Building and Technical Cooperation: Managing the Connection. UNDP, New York, NY.
O’Keefe, D.J. (1990). Persuasion: Theory and Research. Thousand Oaks, CA: Sage Publications.
Quinn, J. (1978). Strategic change: Logical incrementalism. Sloan Management Review, 20 (Fall), p. 7–22.
Sharma, A. (2009). Implementing Balance Scorecard for Performance Measurement. The *Icfai University Journal of Business Strategy*, Vol. VI, No. 1, p. 8-16.
Tankha, S. (2009). Building Administrative Capacities in Developing Countries: SWAT Teams or Beat Cops? *Public Administration Review*, p. 1021-1024
Tsao, K.K. (2009). Building Administrative Capacity: Lessons Learned from China. *Public Administration Review*, p. 1021–1024.
Widener, J. (2005). Organizational Evolution: Applying Genetic Principles to the Management of Extension Systems. *Journal of Extension*, 43(4).
Wing-Hung Lo, C., Man-Keung Lo, J., and Cheung, K. (2001). Institutional reform in environmental governance system of the People’s Republic of China: Service organizations as an alternative for administrative enhancement. *Review of Policy Research, 2001, vol. 18, issue 1, 36-57.*