Information Note for Practitioners: Research Opportunities and Issues in the Measurement and Determination of Organisational Effectiveness

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Practitioners should expect substantial benefits from academic research of organisational effectiveness. However, the field of organisational research has been problematic to many academics. This article discusses some of the issues in undertaking this research, and some of the ways in which they can be mitigated in order that practitioners may benefit from research related to their own organisational contexts.

Introduction

The Code of Conduct of the Australian Institute of Management (AIM) specifies that

> *"Managers should take the appropriate actions to achieve the objectives of the organisation." (Australian Institute of Management, 2006).*

Clearly, managers must develop and use their knowledge of management practice in order to improve the effectiveness of the organizations in which they work. Academics and researchers, on the other hand, must increase the scientific and professional knowledge of management practices so that the knowledge will be used, inter alia, to improve "the efficiency and effectiveness or organizations" as specified in the preamble to the Code of Ethics of the Academy of Management (Academy of Management, 2006).

For both scholars and practitioners, past experience of research into organizational effectiveness has been problematic. Amongst academics, research of organizational effectiveness has been likened to the Emperor's New Clothes fable - they know the research is flawed but they keep doing it! (March & Sutton, 1997) - and amongst some practitioners, research has been seen to generate management fads which positively influence an organization's reputation but not its economic performance (Staw & Epstein, 2000) and whose mantra are reiterations of what took place long before (Baruch & Ramalho, 2006).

However, the challenges facing managers in improving organizational effectiveness today are substantial in all sectors. In the face of increasing competition, managers of private sector organizations are under increasing pressure to innovate and improve productivity (Farrell, 2003). Managers in public sector are challenged to make improvements in the administration of government departments through managerial-ism, outsourcing and privatisation (Argy, 2001). In the not-for-profit sector, organizations are under increasing pressure from government, philanthropic and community providers of funds as well as their clients to demonstrate their impact (Sowa, Selden, & Sandfort, 2004).

These changes in the environment are leading to an increased propensity for practitioners and academics to ally with and learn from one another (Rynes, Bartunek, & Daft, 2001).

In his review of organisational effectiveness research papers (albeit of non-profit organisations), Forbes (1998) found the papers reflected three research broad questions:

> *Q1. How should effectiveness be measured?*
>
> *Q2. What organizational phenomena are associated with effectiveness?*
>
> *Q3. How are assessments of effectiveness made in various organizational contexts?*

Question 3 seeks to explain the differences in organizational contexts that account for different approaches to process issues, eg the setting of objectives and the assessment of performance against them, the different types of objectives, how stakeholders respond differently to perceived effectiveness of organizations, etc. Given the focus of the code of conduct of AIM on achievement of objectives, it is likely practitioners' interest would rest more with Q2 than Q3 since it aims to help managers understand how changes to certain organizational factors under their control might be associated with changes in the effectiveness of their own organization and others like theirs, e.g. competitors. However, conclusions about the influences on effectiveness are difficult for practitioners to make without insight into the issues surrounding how effectiveness is measured in the first place, ie Q1. Therefore this paper is primarily focused on the research of phenomena associated with organizational effectiveness (Q2) and will discuss the measurement of effectiveness (Q1) as necessary for practitioners to understand the implications for Q2.

The rest of this paper is organized as follows. The next section informs readers of the different tools researchers may use to examine and explain organizational effectiveness. The following section summarises some of the theories of organizational effectiveness and thereby possibly give practitioners more insights into the nature of effectiveness. The next section summarises the issues that have caused research in the past to be problematic for both practitioners and scholars. The penultimate section then considers ways forward, in the sense of methodological approaches which mitigate the issues discussed and which may result in completion of powerful, relevant organizational effectiveness research for practitioners. The paper ends with a conclusion.

Empirical approaches to modelling organization effectiveness

Organizational Effectiveness as a variable

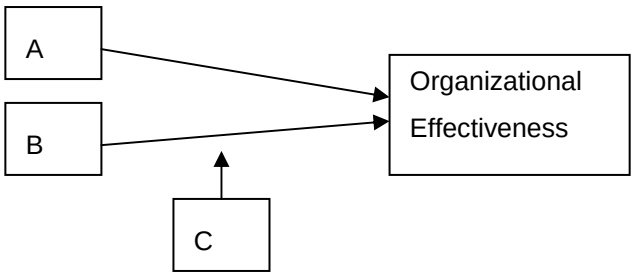

Fig. 1 - A model with organizational effectiveness as a variable

Models are graphic depictions of the relationships between variables and result from a process of 'path analysis' (Babbie, 2007, p. 471). Path analysis assumes the values of one variable are caused by the values of another and the direction of causation is shown by the direction of the arrow. For example, in Fig. 1, variables are shown as boxes and represent measurable features or characteristics relating to the phenomenon being studied. The arrows imply an assumption that changes in the values of variables A and B cause a change in the value of the variable Organizational Effectiveness. In this case, Organizational Effectiveness would be considered as a 'dependent variable', while variables A and B would be considered 'independent variables' and/or 'determinants' of Organizational Effectiveness.

A cross-sectional model is one where all measurements used in the model relate to a single point in time (Babbie, 2007, p. 102). Generally speaking, if analysis of the measurement data for Fig 1 shows that variation in the level of 'variable A' is associated with variation in the level of the variable 'organizational effectiveness' then researchers can conclude the two variables are 'related' or 'correlated'[1](Babbie, 2007, p. 90).

[1] As an example of this model, on behalf of the Australian Government, researchers (Hogan, 2005) studied the relationship between financial performance of aged care homes and the organizational factors of the home's state or territory location, rural or urban setting, size, average level of care provided, and whether the home was operated by private, government or

Referring to Fig 1, variable C is an example of a moderator variable. Variable C may not be correlated with either variable B or Organizational Effectiveness but its effect is to influence the nature of the relationship between variable B and Organizational Effectiveness. In other words, the strength of the effect of variable B on Organizational Effectiveness depends on the level of variable C (Schwab, 1998). Moderator variables can result in non-linear relationships[2].

In contrast to a cross-sectional model, a longitudinal model is one where measurements relate to multiple points in time. When measurements are being collected by survey, longitudinal studies can be difficult but they are often the best way of studying changes over time (Babbie, 2007, p. 103) and hence, detecting causation.

Organizational Effectiveness as a multi-dimensional framework

As will be explained later in this paper, a criticism of organizational effectiveness research has been that organizational effectiveness can not be measured as a single variable, as assumed above (Cameron, 1978; Cameron & Whetten, 1983; Pennings & Goodman, 1977; Steers, 1975). The response by researchers has been to recognise that an organization's effectiveness has multiple dimensions and that measurement of each of the dimensions, i.e. multiple variables, is necessary (Cameron, 1978; Connolly, Conlon, & Deutsch, 1980). The set of variables forms an effectiveness profile for that organization and conveys the organization's strengths and weaknesses. The profile can be compared with other organizations, and the correlates and determinants of the various profiles of strengths and weaknesses can be analysed using cross-sectional or longitudinal models[3].

Organizational Effectiveness as a multi-dimensional, integrated model

Another criticism of organizational effectiveness research stems from the idea that organizational effectiveness is a construct, not a concept. A construct is constructed from concepts at a lower level of abstraction (Quinn & Rohrbaugh, 1983). The lower level concepts are elements of effectiveness such as productivity, capital growth, and employee satisfaction. Quinn et al (1983) explain the problem is that there is no agreement which concepts should be included in the construct of effectiveness, or how they should be related. This means that organizational effectiveness is not a variable that can be measured but something that is inferred from the interplay of a number of variables that relate to effectiveness. Thus aspects of organizational effectiveness can be measured, but overall effectiveness can't be. It can, however, be modelled. This notion is consistent with Campbell (1977) and will be elaborated upon later in this paper.

An example of this approach is that of Selden & Sowa, (2004)[4] who distinguished between two levels of performance, a management level that is generic in the sense it contains variables that apply to many organizations and a program level, whose variables are specific to the type of programs operated by an organization under study. Each level contains variables relating to outcomes and capabilities. The theoretical model they proposed in their study of the effectiveness of organizations providing early care and education services is shown in Fig 2.

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non-profit organization. They found that none of these factors explained the variation in financial performance of the sample of homes studied.

[2] An example of a non-linear relationship is suggested by Chenhall (2006). It is often suggested that formal controls are well suited to conditions of low environmental uncertainty and that as uncertainty increase, more organic forms of control are better suited. However, as uncertainty increases to an extreme level, it is possible that survival is threatened and hence resort to formal controls is appropriate in order to ensure resources are conserved.

[3] For example, Cameron (1978) assessed the effectiveness of institutions of higher education. He identified nine, independent dimensions of effectiveness and grouped the nine according to dimensions that related to external factors, morale factors, and student-oriented factors. He found that the institutions studied could be distinguished according to their degree of effectiveness in these three groups.

[4] Selden & Sowa 2004 found various interconnections between management dimensions and program dimensions in their model of organizational performance which studied twenty-two human service organizations which provide early care and education services.

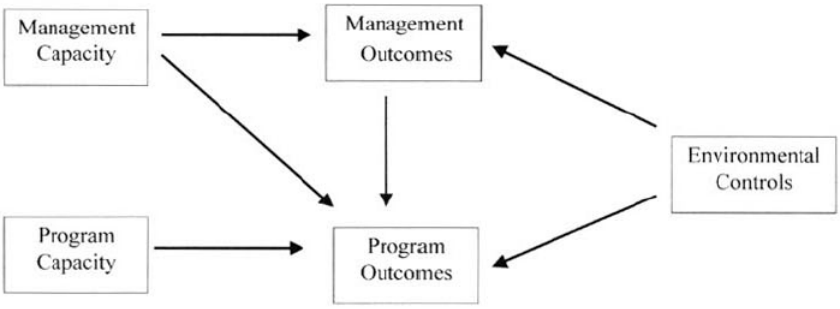

Fig. 2 - Selden & Sowa (2004) Model of Organizational Performance

Theories

In the earliest organizational theories, organizational effectiveness was defined as the extent to which an organization achieves its goals (Etzioni, 1964; Price, 1972). However, an organization's goals are assumed not to be the "official" goals that are published formally in documents like annual reports, but "operative" goals which better identify what the organization actually does (Perrow, 1961). This approach has foundations in classic economic theory with its emphasis on profit maximisation and argues that the higher the goal achievement, the more effective is the organization (Bluedorn, 1980).

Opens systems theories encompass a variety of approaches which seek to gain insights about the 'whole' organization by understanding relationships and interactions between its 'components' and recognising that the organization as a whole is influenced by its environment. An influential theory in this category is the system resources theory (Seashore & Yuchtman, 1967) which argues the sub processes of resource acquisition, transformation, and disposal within organizations are tightly interconnected and that the effectiveness of the organization can be assessed by assessing any one of the sub processes. Rather than argue that an organization is more effective the more it can acquire resources, this theory argues that effectiveness depends on optimal acquisition of resources given that excessive depletion of environmental resources in the short term will lessen the organization's capacity for self-renewal in the long term. One of the difficulties with this theory, therefore, is the determination of what 'optimal' is (Bluedorn, 1980).

Other theories consider approaches to maintenance of organizational health as indicative of organizational effectiveness and hence study variables such as member satisfaction (Argyris, 1964) or adaptability, sense of identity, and capacity to test reality (Bennis, 1962), or approaches to organizational development (Beckhard, 1969), social justice (Keeley, 1978), organizational life cycle (Miles, 1980), or legitimacy (Zammuto, 1984). The reputational approach measures effectiveness according to the perceptions of stakeholders, e.g. clients, staff or outside professionals who are familiar with the organization (Jobson & Schneck, 1982).

In an effort to overcome the limitations of these single concept theories, scholars advocated the use of a multi-dimensional approaches (Cameron, 1978, 1981, 1982). Quinn et al (1983) posited a competing values model which integrated the various theories. Their model explained the approach to effectiveness taken by different organizations given the locus of organizations on three "competing values" dimensions, these are: a concern for means vs. a concern for ends; an internal, person-orientation emphasis vs. an external, organization-oriented emphasis; and a preference for an organization structure that would promote stability and control vs. a structure that would promote flexibility and change.

However, typically, multi-dimensional approaches involve organizational effectiveness being described using a set of performance criteria, usually including measures from both the organizational goal and open systems categories. For example, Cameron (1978) determined nine measures relevant to the effectiveness of higher education organizations by condensing 130 indicators obtained from the literature. Rainey and Steinbauer (1999) proposed elements of a theory of effective government organizations in which performance is explained, amongst other things, by external relations, mission and culture, leadership, task design and operational autonomy.

Connolly et al (1980) note that measures of effectiveness used in research are typically either evaluative or normative rather than descriptive. Evaluative measures of effectiveness require reference to a standard and hence they argue that an answer to the question "how well is entity X

performing?" depends on who is being asked. Consequently, their multiple-constituency approach to organizational effectiveness goes beyond simple, multiple dimensions to multiple measurements of multiple dimensions (ie for multiple constituencies).

Cameron (1986) notes that most effective organizations are also those characterized by paradoxes - i.e. contradictions, simultaneous opposites, and incompatibilities. This notion leads him to conclude that organizational effectiveness is not a theory-driven concept but a problem-driven one. This notion finds support amongst a number of scholars (Carton & Hofer, 2006; Hofer, 1983).

At a time when the concept of organizational effectiveness was scrutinised and debated by a range of academics, Campbell (1977, p. 18) observed

> "A better way to think of organizational effectiveness is as a construct that has no necessary and sufficient operational definition but that constitutes a model or theory of what organizational effectiveness is. The functions of such a model would be to identify the kinds of variables we should be measuring and to specify how these variables, or components interrelate— or should be interrelated."

An example of organization effectiveness as a model, as opposed to a variable within a model, was published by Selden et al (2004), with particular application to the non-profit and government sectors (refer Fig. 2) . It addresses many of the criticisms of other theories: it captures multiple levels of analysis (e.g. individual, departmental and organizational levels) and recognises interrelationships between dimensions (i.e. the management dimension and the program level dimension). It uses both objective and perceptual measures in capturing the indicators of effectiveness, and includes both process-related and outcome-related measures.

Increasingly, leaders of private sector organizations recognise that a range of performance indicators exist beyond the financial domain and practitioners' interest in the balanced scorecard (R. S. Kaplan & Norton, 1992) reflects this. It would seem that the 'effectiveness as a model' approach might have application to the private sector also. For example, such a model might use the four interdependent perspectives of financial, internal business, innovation and learning, and customer performance that comprise the balanced scorecard.

Issues in organizational effectiveness research

Theoretical issues

The variety of theories discussed above illustrates some of the key issues in organizational effectiveness research. One issue relates to the conception of effectiveness itself, whether it relates to goal achievement, use of resources, satisfaction of stakeholders etc (Forbes, 1998; Quinn & Rohrbaugh, 1983; Sowa et al., 2004). Scholars agree that different models shed light on different aspects of effectiveness (Selden & Sowa, 2004). For example, the effectiveness of an organization with clearly defined and easily measured goals may be best assessed using the rational goal model, while organizations with more ambiguous goals could be assessed by other methods according to their nature.

Much of the controversy that has surrounded organizational effectiveness research has been driven by research which used theories which assumed the concept of organizational effectiveness could be operationalised as a single variable. (Steers, 1975). Consequently, multi-dimensional conceptions of organizational effectiveness are becoming common (Cameron, 1978; Connolly et al., 1980; Sowa et al., 2004).

Another issue is whether organizational effectiveness is an objective property of organizations or whether it is at least partly, "socially constructed" (Herman & Renz, 1997). If it were socially constructed, then measurement of effectiveness depends on *"stakeholder judgements formed in an ongoing process of sense-making and implicit negotiation"* (Herman & Renz, 1997, p. 188). Thus issues arise as to the comparability of effectiveness measures of different organizations as well as the reliability of such measures, ie the degree to which repeated measurement of the organizational effectiveness results in similar values.

Empirical issues

Given a particular theoretical conception of effectiveness, determining suitable empirical criteria with which to measure it can be problematic (Bluedorn, 1980). For example, where the concept of effectiveness relates to goal achievement, the criteria that best operationalises effectiveness may not be the degree to which the official goals published in formal documents are achieved, but the degree to which the 'operative' goals - those that actually define what the organization is setting out to do - are achieved (Perrow, 1961). Moreover, in order to discover the operative goals, Bluedorn (1980) questions if it is in fact more appropriate for the researcher to interview the CEO than a selection of front line staff. An approach to discovering the operative goals (Pennings & Goodman, 1977) is to seek the consensus of the 'dominant coalition' (Thompson, 1967), which refers to a group of organizational stakeholders with different and possibly competing expectations.

When researchers select criteria that represent effectiveness, they make value judgements about which criteria are most appropriate (Starbuck & Nystrom, 1983). In defence of this approach, Campbell (1977, p. 23) argues that *"criterion combination (is) quite properly based on value judgements (since) … there is no algorithm or higher order truth to which we can appeal"*. However, the resulting issue is that if the research were to be repeated by different researchers, different results would arise due to the different value judgements they would make.

In the past, organizational effectiveness researchers have established an overall measure of effectiveness by weighting each of the values of a set of effectiveness-related criteria and then totalling them (Bluedorn, 1980). This empirical approach mirrors the conceptual leap theorists make when they establish a high order concept of effectiveness that is reflective of multiple, lower level concepts. The effect of the weights is intended to ensure that an increment in any of the criteria results in the appropriate increment in the value of organizational effectiveness. However, the appropriate set of weights is unknown to both practitioners and researchers.

In practice, organizations select the strategic goals from a fairly limited set of effectiveness criteria, e.g. profit, efficiency and job satisfaction (Bluedorn, 1980). While it is not fully representative of organizational effectiveness, there is much value to both practitioners and researchers from the development of theories and the conduct of empirical research at these lower levels. For example, financial performance may be chosen as the dependent variable instead of organizational effectiveness. This tends to be the way in which organizational effectiveness research is currently proceeding, for example, refer Carton & Hofer (2006).

Steers (1975) discusses other research issues relating to measurement of organizational effectiveness. The most noteworthy issues relate to criterion stability, time perspective, measurement precision, and level of analysis. The issue of criterion stability recognises that indicators of success are likely to change over time (e.g. as economic conditions change). The issue of time perspective questions how indicators of short run effectiveness should be considered along with indicators of long run effectiveness. The issue of measurement precision recognises that measurement errors are made when, for example, responses to survey questions or staff turnover rates are used to measure employee satisfaction. Finally, the issue of levels of analysis acknowledges the critical relationship between individual or departmental behaviour at the micro level and organizational effectiveness at the macro level.

Research Opportunities

The arrival of integrated, multi-dimensional models of organizational effectiveness like that of Sowa *et al* (2004) represent an exciting opportunity to progress practitioner-relevant research. The model's recognition that overall effectiveness is a product of the interaction of many performance-related indicators is consistent with what many practitioners know: for instance, that performance in areas relating to employees, customers, shareholders, and society at large is a matter of trade-offs. The modelling of effectiveness as a combination of management and program-level dimensions is arguably relevant not only to non-profit and public sector organizations (as in Sowa et al, 2004) but private sector as well and may illuminate more areas of research, e.g. the interplay of managerial and professional accountabilities, see for example Abernethy & Stoelwinder (1995).

The model draws together goal orientation, internal process and systems, and stakeholder perspectives of organizational effectiveness, and incorporates both objective and perceptual measures. The use of both objective and perceptual measurement mitigates the possibility that whilst

an objective measure, for example the employee attrition statistic observed by head office may suggest one thing about employee satisfaction, a perceptual measure (for example from a staff satisfaction survey), might suggest something else.

Hierarchical linear modelling (HLM) is an advanced form of multiple linear regression since it allows variance in outcome variables to be analysed at multiple, hierarchical levels. Its use is appropriate for nested data, eg where data from individuals is nested within departments, and departments are nested within an organization. Hence, HLM would allow the examination of variation at management and program levels, or individual and organizational levels. This avoids the bias that would normally be introduced in research when data is aggregated or disaggregated, for example, when individual data is aggregated to the organization level, or when organization level data is disaggregated to departmental or individual level (D. Kaplan & Elliott, 1997).

Extended HLM analysis, for instance, through multilevel structural equation modelling *"offers the potential to move beyond simple linear examinations of effectiveness and its determinants to a better understanding of the complicated interrelationships between possible endogenous and exogenous variables" (Sowa et al., 2004, p. 724)*. This means that variables, such as program and management outcomes which are not directly observable or measurable can be inferred from other observable indicators and modelled together with them. As such, it is possible to determine the relative influence of program and management levels on the dependent variable, e.g. it might be found that 30% of the variation in quality of care outcomes is explained at program level and 20% of the variation explained at the management level.

When researching aspects of organization effectiveness, it may be appropriate to recognise that different organizations may be motivated or driven differently depending on their different characteristics and contexts. Cluster analysis is a technique that identifies sets of organizations that share a common profile (Chenhall, 2006). Thus analysis of effectiveness can proceed by comparing effectiveness within individual clusters and between clusters[5].

Data envelopment analysis (DEA) captures the complex interplay between multiple outputs and inputs without resort to an arbitrary set of weights or limiting assumptions about the variables being examined (Cooper, Seiford, & Tone, 2000). The analytical process identifies "efficient frontiers" of organizations by identifying organizations which have similar profiles of inputs or outputs. This means that the performance of organizations can be compared in relative terms without the researcher needing to assign arbitrary importance weightings to the inputs and outputs. This form of analysis enables comparison of organizations on the basis of productivity or efficiency related indicators[6].

The opportunities outlined in this section shows that, in parallel with the progression in theoretical perspectives of organizational effectiveness in recent years, the techniques available to researchers to measure, model, and analyse the data have similarly progressed.

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Conclusion

Despite the controversies and noise surrounding organizational effectiveness research, great value can arise from the collaboration of practitioners and researchers. Two conclusions by Cameron and Whetten (1983) should have particular resonance with practitioners:

[5] An example of cluster analysis is found in Chenhall and Langfield Smith (1998) where the clusters formed were different configurations of strategies, manufacturing techniques, and management accounting practices.

[6] An example of the use of DEA is found in a comparison of 69 long term care facilities in the USA. Duffy and her colleagues (Duffy, Fitzsimmons, & Jain, 2006) used DEA to find that, when the condition of patients was considered as a co-production input, there was no significant difference in performance efficiency of facilities owned by for profit entities compared with those owned by nonprofit entities.

"There cannot be one universal model of organizational effectiveness"

and

"it is more worthwhile to develop frameworks for assessing effectiveness than to try to develop theories of effectiveness."

The implications of this for researchers and practitioners are clear. Researchers and practitioners should not be distracted by the quest to harmonise and integrate various theories and empirical approaches but should take a problem-based approach to organizational effectiveness research using sound, scientific frameworks.

There is much that can be learnt about organizational effectiveness through the collaboration of practitioners and researchers. The environmental changes and resultant challenges facing practitioners discussed in the Introduction suggest the time is right for an increase in such collaboration.

References

Abernethy, M., & Stoelwinder, J. (1995). The Role of Professional Control in the Management of Complex Organizations. *Accounting, Organizations & Society, 20*(1), 1-17.

Academy of Management. (2006). Code of Ethics. Retrieved January 2007, from http://www.aomonline.org/aom.asp?ID=257&page_ID=240

Argy, F. (2001). The liberal economic reforms of the last two decades: A review. *Australian Journal of Public Administration, 60*(3), 66 - 77.

Argyris, C. (1964). *Integrating the individual and the organization*. New York: Wiley.

Australian Institute of Management. (2006). Code of Conduct. Retrieved January 2007, from http://www.aim.com.au/about/conduct.html

Babbie, E. (2007). *The Practice of Social Research* (11 ed.). Belmont, USA: Thompson Wadsworth.

Baruch, Y., & Ramalho, N. (2006). Communalities and Distinctions in the Measurement of Organizational Performance and Effectiveness Across For-Profit and Nonprofit Sectors *Nonprofit and Voluntary Sector Quarterly, 35*(1), 39 - 65.

Beckhard, B. M. (1969). *Organizational Development*. MA: Addison-Wesley.

Bennis, W. G. (1962). *Toward a 'truly' scientific management: the concept of organizational health* General Systems Yearbook, 7: 269 - 282.

Bluedorn, A. C. (1980). Cutting the Gordian Knot: A Critique of the Effectiveness Tradition in Organizational Research. *Sociology and Social Research, 64*(3), 477 - 496.

Cameron, K. (1978). Measuring Organizational Effectiveness in Institutions of Higher Education. *Administrative Science Quarterly, 23*.

Cameron, K. (1981). Domains of Organizational Effectiveness in Colleges and Universities. *Academy of Management Journal, 24*(1), 25 - 47.

Cameron, K. (1982). The relationship between faculty unionism and organizational effectiveness. *Academy of Management Journal, 25*(1), 6 - 24.

Cameron, K. (1986). Effectiveness as paradox: consensus and conflict in conceptions of organizational effectiveness. *Management Science, 32*(5), 539 -553.

Cameron, K., & Whetten, D. (1983). Some conclusions about organizational effectiveness. In K. Cameron & D. Whetten (Eds.), *Organizational effectiveness: A comparison of multiple models* (pp. 261 - 278). New York: Academic Press.

Campbell, J. P. (1977). On the nature of organizational effectiveness. In P. S. Goodman, J. M. Pennings & and associates (Eds.), *New perspectives on organizational effectiveness* (pp. 13 - 55). San Francisco: Jossey-Bass.

Carton, R. B., & Hofer, C. W. (2006). *Measuring Organizational Performance - Metrics for Entrepreneurship and Strategic Management Research*. Cheltenham, U.K.: Edward Elgar.

Chenhall, R. H. (2006). Theorising and Testing Fit in Contingency Research on Management: Monash University.

Chenhall, R. H., & Langfield-Smith, K. (1998). The relationship between strategic priorities, management techniques and management accounting: an empirical investigation using a systems approach. *Accounting, Organizations & Society, 23*(3), 243 - 264.

Connolly, T., Conlon, E. J., & Deutsch, S. J. (1980). Organizational Effectiveness: A Multiple-Constituency Approach. *Academy of Management Review, 5*(2), 211 - 217.

Cooper, W. W., Seiford, L. M., & Tone, K. (2000). *Data envelopment analysis: a comprehensive text with models, applications, references, and DEA-Solver software*. Massachusetts: Kluwer Academic Publishers.

Duffy, J. A. M., Fitzsimmons, J. A., & Jain, N. (2006). An application of DEA to long-term care. *Benchmarking: An International Journal, 13*(3), 232-251.

Etzioni, A. A. (1964). *Modern Organizations*. Englewood Cliffs, NJ: Prentice Hall.

Farrell, D. (2003). The real new economy. *Harvard Business Review, 81*(10), 104 - 112.

Forbes, D. P. (1998). Measuring the Unmeasurable: Empirical Studies of Nonprofit Organization Effectiveness From 1977 to 1997. *Nonprofit and Voluntary Sector Quarterly, 27*(2), 183 - 202.

Herman, R. D., & Renz, D. O. (1997). Multiple Constituencies and the Social Construction of Nonprofit Organization Effectiveness. *Nonprofit and Voluntary Sector Quarterly, 26*(2), 185 - 206.

Hofer, C. W. (1983). ROVA: a new measure for assessing organization performance. In R. Lamb (Ed.), *Advances in Strategic Management* (pp. 43-55). New York: JAI Press.

Hogan, W. P. (2005). Economic and Financial Aspects of Aged Care. *Economic Papers, 24*(1), 18 - 34.

Jobson, J., & Schneck, R. (1982). Constituent views of organizational effectiveness: Evidence from police organizations. *Academy of Management Journal, 25*, 25 - 46.

Kaplan, D., & Elliott, P. R. (1997). A didactic example of multilevel structural equation modeling applicable to the study of organizations. *Structural Equation Modeling, 4*, 1 - 24.

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard - measures that drive performance. *Harvard Business Review*, January -February, pp.71 - 79.

Keeley, M. (1978). A social justice approach to organizational evaluation. *Administrative Science Quarterly, 22*, 272 - 292.

March, J. G., & Sutton, R. I. (1997). Organizational Performance as a Dependent Variable. *Organization Science, 8*(6), 698 - 706.

Miles, R. H. (1980). *Macro-organizational behavior*. Santa Monica, CA: Goodyear.

Pennings, J. M., & Goodman, P. S. (1977). Toward a workable framework. In P. S. Goodman, J. M. Pennings & Associates (Eds.), *New Perspectives on Organizational Effectiveness*. San Francisco: Jossey-Bass.

Perrow, C. (1961). The analysis of goals in complex organizations. *American Sociological Review, 26*, 854 - 866.

Price, J. (1972). *Organizational Effectiveness: An inventory of propositions*. Homewood, IL: Irwin.

Quinn, R. E., & Rohrbaugh, J. (1983). A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organizational Analysis. *Management Science, 29*(3), 363 - 377.

Rainey, H. G., & Steinbauer, P. (1999). Galloping Elephants: Developing Elements of a Theory of Effective Government Organizations. *Journal of Public Administration Research and Theory, 9*(1), 1 - 32.

Rynes, S. L., Bartunek, J. M., & Daft, R. L. (2001). Across the Great Divide: Knowledge Creation and Transfer between Practitioners and Academics. *Academy of Management Journal, 44*(2), 340-355.

Schwab, D. P. (1998). *Research Methods for Organizational Studies*. Mahwah, N.J.: Lawrence Erlbaum Associates.

Seashore, S. E., & Yuchtman, E. (1967). Factorial Analysis of organizational performance. *Administrative Science Quarterly, 12*, 377 - 395.

Selden, S. C., & Sowa, J., E. (2004). Testing a Multi-Dimensional Model of Organizational Performance: Prospects and Problems. *Journal of Public Administration Research and Theory, 14*(3), 395-416.

Sowa, J., E., Selden, S. C., & Sandfort, J. R. (2004). No Longer Unmeasurable? A Multidimensional Integrated Model of Nonprofit Organizational Effectiveness. *Nonprofit and Voluntary Sector Quarterly, 33*(4), 711- 728.

Starbuck, W. H., & Nystrom, P. C. (1983). Pursuing organizational effectiveness that is ambiguously specified. In K. Cameron & D. Whetten (Eds.), *Organizational effectiveness: A comparison of multiple models* (pp. 135 - 162). New York: Academic Press.

Staw, B., & Epstein, L. (2000). What bandwagons bring: Effects of popular management techniques on corporate performance, reputation, and CEO pay. *Administrative Science Quarterly, 45*(3), 553 - 556.

Steers, R. M. (1975). Problems in the Measurement of Organizational Effectiveness. *Administrative Science Quarterly, 20*, 546 - 558.

Thompson, J. D. (1967). *Organizations in action*. New York: McGraw-Hill.

Zammuto, R. (1984). *Assessing organizational effectiveness: Systems change, adaptation, and strategy.* Albany: University of New York Press.