

Research Methods in Public Administration: A Critical Review of a Quantitative Article

Iman Rabah

Edd: Management, Leadership, and Policy
School of Business and Management, American University in Dubai
Dubai, Media City, Building Number 1, Office Number 403
United Arab Emirates, P.O. Box 4740
E-mail: imanbf1@hotmail.com

(Received: 20-4-15 / Accepted: 11-6-15)

Abstract

Making a decision of whether to use a qualitative, a quantitative or a mixed method in studying public administration is not based on legitimacy of any of these methods but it depends on how to apply a method that reveals confident research results. This paper is a critical appreciation of a quantitative article that reports empirical research about Total Quality Management (TQM) practices as a type of public administration. It is a critique of the methods used in this article by examining the methodology including measurement practices, data collection, and confidence in findings. Other types of research like qualitative and mixed methods approaching TQM and public administration are reviewed and compared to Zeitz (1996) article.

Keywords: Public Administration; Critical Appreciation; Total Quality Management; Quantitative Research; Qualitative Research.

Introduction

Issues in public administration are very complex and engage phenomena that are not easily manipulated and identified (Wright, Manigault, and Black, 2004); they require good research questions and good answers as well. In order to present good answers it's not enough to decide the research focus but also the most beneficial methodology and data should be determined (Behn, 1995). Making a decision of whether to use a qualitative, a quantitative or a mixed method in studying public administration is not based on legitimacy of any of these methods but it depends on how to apply a method that reveals confident research results. There should be a "move beyond arguments as to which research is more legitimate, toward discussions as to whether the methods have been appropriately used" (Lan and Anders, 2000, p. 150).

This paper is a critical appreciation of a quantitative article that reports empirical research about Total Quality Management (TQM) practices as a type of public administration. It is a critique of the methods used in this article by examining the methodology including measurement practices, data collection, and confidence in findings. Other types of research like qualitative and mixed methods approaching TQM and public administration will be

reviewed to be compared to Zeitz (1996) article. Scholars in qualitative research focus on the big picture rather than specific factors, the main aim is deeply understanding the holistic picture and not gathering data and numerically analyzing it like in quantitative research (Slavin, 2004). Houston, Robertson, and Prebble (2008) use qualitative methods to study TQM through a case study in an academic department in one of the public universities in New Zealand. Anyamele (2005) used mixed methods in studying TQM as a type of public administration in Finnish higher education. Hsieh, Chou, and Chen (2002) conduct qualitative research about TQM in the new public management through an empirical study of the National Tax Administration of Taipei (NTAT) in Taiwan. The methodology in approaching TQM will be reviewed in Zeitz (1996) quantitative article in addition to other methodologies using qualitative and mixed methods.

Critique of Zeitz (1996) Quantitative Article

The reviewed article studies employees' attitudes about implementing TQM in a regional office of U.S. Environmental Protection Agency (EPA). About a dozen of interviews were conducted and 448 questionnaires were administered. The study found that: "Contrary to previous literature, clerical and managerial employees were most favorable toward the TQM program, whereas professionals were most negative" (Zeitz, 1996, p. 120). The article suggested that the reason would be because professionals had little direct rewards and more work from the implementation of the TQM process and also since the agency hadn't started using TQM to simplify professionals' process by the time the study was conducted.

The reviewed article seeks to explain the causes of the attitudes of employees toward TQM through quantitative analysis and objective measurements. The reviewed article addresses the issue of employees' attitudes towards TQM in a public department through defining a set of variables and procedures to measure them. The variables include: Perception of measurement support, barriers to implementation, satisfaction with TQM, TQM awareness, training, team experience, intrinsic value, grade, and position (Zeitz, 1996). These variables were measured through a survey of employees in the EPA regional office. The article presents 6 hypotheses related to different level employees and their attitudes toward TQM. A theoretical framework guides the analysis and proposes that there is causal direction between its factors. Information comes from the whole population of the EPA regional office. Two statistical analyses were used in this article, descriptive statistics and correlation to show that middle and lower managers have positive views of TQM; however, technical and professional employees are the least favorable.

The article is well written in a simple language and concise manner that attracts to reading it continuously and developing its intellectual essence gradually. The abstract gives a succinct overview of the article and includes enough information that helps the readers determine if of their interest. According to Coughlan, Cronin and Ryan (2007, P. 660) the purpose of the study is the research problem and should be mentioned clearly in the introduction to indicate to the readers what to be studied. The reviewed article includes a clear purpose which is studying employee attitudes toward TQM in EPA as a public organization. Scientific terms have multiple meanings and the researcher should steer the attention of the reader to specific ones (Firestone, 1987). The rhetoric of the article reviewed presents effective writing and the meaning of the scientific terms are presented clearly, for example the researcher clearly states that the word 'value' in the article means providing good service and not calculated in terms of profit like in business.

"Theoretical frameworks tend to be better developed in experimental and quasi- experimental studies and often poorly developed or non-existent in descriptive studies" (Coughlan, Cronin and Ryan, 2007, P. 660). The reviewed article is a quasi- experimental study based on a theoretical framework that is clearly identified through a "model of attitudes toward TQM"

(Zeitz, 1996). A theoretical framework should identify various concepts studied in the research and the relation between them (Cronin and Ryan, 2007, P. 660). The theoretical framework used in the reviewed article strengthens its content through an integrated model of the factors discussed in the study: Position and values, exposure to TQM, attitudes, and awareness of TQM; this model is suggested to be used in future research (Zeitz, 1996).

The reviewed article reports ample information about the research measures which helps scholars studying public administration to progress in the practice and theory of research in this topic. Some social phenomena in public administration are ambiguous like employee motivation and organizational effectiveness; other phenomena are contentious like measuring the quality of outcomes in education and the effectiveness of the programs (Wright, Manigault, and Black, 2004). Public administration scholars thus tackle issues in exploring social phenomena that are hard to be studied, "reporting information regarding research measures helps scholars improve their own research practice by building on the strengths and weaknesses of other research" (Wright, Manigault, and Black, 2004, p.751).

A deep understanding of the measurement approach is revealed that provides confidence in the research results. Most phenomena that researchers want to study in public administration are hard to be measured directly, some are measured indirectly in which a degree of error in measurement is inevitable (Maddala, 1992). Scholars need to compensate for and limit measurement error through advanced statistical techniques and assess the degree that the indicators accurately measure the intended phenomena since measurement errors lead scholars to discover variable relations that are not necessarily existing or do not find enough evidence when relations exist (Berry, 1993).

The article shows how literature review and interviews with employees guided the development of the research. It also includes some reliability evidence of the attitude measures like: Cronbach's alpha. Indisputably, readers can have a clear understanding of the methodology and can judge potential limitations of the article. In addition to that, the author helps in future research through validating and developing measures in which researchers may use in exploring public administration programs like TQM.

For each of the research measures the article provides two types of information. First it provides a general background of the measures and data collection method. "The choice of methods also has important implications for research measurement, because it signals the reader about potential limitations of the study related to the weaknesses of the data collection method" (Wright, Manigault, and Black, 2004, p. 751). Since the article includes a self-administered survey, it addresses concerns of non response bias, and potential biases in interviews that may happen from the interviewers' approach. According to (Wright, Manigault, and Black, 2004) if measures are based on previous research, they should have been effectively applied and survived in peer review stage, or the article should address biases in case the survey is self-administered.

The literature review primarily helps in developing the research question and identifying the data collection method through a deep and broad reading about the topic in the research question (Coughlan, Cronin and Ryan, 2007, P. 660). Based on a broad and deep literature review of the major TQM scholar, Zeitz (1996) suggested 6 hypotheses. For example hypothesis 1: "Lower to middle level managers will have less favorable view of TQM" (Zeitz, 1996, p. 122) is based on literature review of Deming and Carr Littman who conclude that lower and middle managers mostly resist TQM programs. According to Coughlan, Cronin and Ryan (2007, P. 661) quantitative research can adopt many strategies in the data collection step like questionnaires, interview, attitude scales and observational tools. In the reviewed article two strategies are used: interviews and questionnaires. In most of the cases chi-square is used as a test where employees are categorized based on their position at work and attitudes towards TQM. Although the article uses the appropriate quantitative measures in studying

TQM, other articles that are not necessarily studying the same topic show clearer quantitative analysis. Kretovics, Crowe, and Hyun (2005) present a clear quantitative analysis in studying faculty perception of summer compressed courses. Their article explains clearly when descriptive statistics was used and when ANOVA was used different from the reviewed article where we had to analyze the reason of using chi square in which the statistical analysis are only clearly presented in the attached appendices.

Different Publications Approaching Public Administration and TQM

According to Box (1992), evaluation attempts of public administration research questions used to be biased to quantitative analysis in most instances. Scholars have recognized the importance of the two methods in approaching public administration problems and started to focus on either quantitative or qualitative methods (Brower, Abolafia, and Carr, 2000). There are some questions that have been raised about the quality of quantitative research in public administration; Adams and White (1994) consider that many of such quantitative articles were not guided by explicit conceptual or theoretical frameworks. Houston and Delevan (1994) also consider that many of them do not include hypothesis testing, appropriate research designs and suitable statistical techniques. In this section, some qualitative articles are reviewed to explore the qualitative methods they adopted in approaching quality management in public administration compared to the reviewed quantitative article. Some qualitative and mixed methods researches are assessed based on the purpose, methodology, qualitative instruments and designs, and the type of understanding and information produced in addition to the context of the study including the sampling and the scope of the research.

Robertson and Prebble (2008) research studies public administration through a case study of an academic department in a public university in New Zealand. The article uses qualitative analysis and qualitative tools such as focus groups. It is action research and the main approach is total system intervention, the intended outcome of the research was finding if the studied department was doing the right things in the offered programs and in their content. The purpose of the article was giving a valuable report for improvements of TQM in higher education at the national level. The theoretical framework and methodology are based on critical systems thinking (CST). According to Robertson and Prebble (2008) inputs from students were collected, and since there were 400 students in that department, conducting individual interviews was impractical and focus groups were used. The researchers requested from all the people in the department to give a meaningful understanding for the word "quality" which expressed potential interventions for quality improvements that they suggested. The study shows that audit processes and other quality models didn't give enough attention to processes, educational theories, and student learning. The qualitative analysis through the critical systems framework identifies problems, and offered methods in improving management systems in universities. Regarding the context of the research, only a university department is included as the scope but the findings are generalized although there would be vital variations in New Zealand universities. Although the study argues that identifying problems helped to solve them but the article didn't represent that clearly. Nevertheless, the results would be helpful for benchmarking to improve quality in New Zealand higher education, and thus achieve the purpose of the article. Thus the methodology used in this qualitative article highlights problems that face TQM in public organization and try to find solution when the methodology used in Zeitz (1996) quantitative article is limited to the measurements of employees attitudes.

The pragmatists combine the qualitative and the quantitative methods, they believe that the two methods provide the reader with different types of information and are used for triangulation to have more confidence in the conclusion of the research (Firestone, 1987). Anyamele, 2005 used mixed methods in studying TQM as a type of public administration in Finnish higher education. The article focuses on the role of leaders to develop and maintain

quality management. The article found that TQM help universities to adapt to change and become learning organizations. The scope includes senior managers in academic and administrative departments in Finnish higher education institutes. The European Foundation for Quality Management (EFQM) was used as a theoretical frame that was used to construct a questionnaire. The article used quantitative analysis of the data collected from questionnaires; however, the results depend mainly on qualitative analysis of interviews although only five interviews with different senior managers were conducted and focused only on the strength of Finnish higher education management. Anyamele (2008) concluded that TQM is adopted in universities that have excellent leadership skills in which the findings are similar to some of Zeitz (1996) findings that show the importance of managers' role in helping employees to have a positive attitude of TQM.

Hsieh, Chou, and Chen (2002) study TQM in the new public management and show that its implementation was a result of community entities pressure and global competition in the public sector. TQM was approached through an empirical study of the National Tax Administration of Taipei (NTAT) in Taiwan; the study shows that there was a problem in implementing TQM due to the nature of TQM, turnover of managers in the public sector and the culture in the studied department. Deming considers that implementing quality management successfully requires leadership commitment which is very hard to be achieved if accompanied with high managers' turnover (Walton, 1986). The article argues that although there are many successful stories of TQM in the service industry of the private sector, it is hard to adopt TQM practices in the public sector since services are provided rather than goods. Hsieh, Chou, and Chen (2002) argue that there are vital problems facing TQM in the public sector, yet the new public management and TQM are successful although some studies like Kosh (2003) argue that TQM has failed in every jurisdiction that has been tried in, and governments are retreating from the new public management and from TQM. Hence Hsieh, Chou, and Chen (2002) focus on the nature of TQM that makes it hard to be implemented in public organizations which give a broader picture of approaching TQM than Zeitz (1996). In Zeitz (1996) article, the main argument was to study how employees would accept or reject TQM as a type of public administration, considering TQM as a successful managing system in public organizations. Ignoring the debate about this issue in the reviewed article is a limitation that positions this article with those who defend TQM in public organization. Nevertheless, it is beneficial to come across the state of the current debate in this area. Some researchers believe that TQM can be adopted in any organization including the public sector. Pike and Barnes (1996, p. 24) defines TQM:

TQM is a way of managing to improve the effectiveness, flexibility and competitiveness of a business as a whole. It applies just as much to service industries as it does to manufacturing. It involves whole companies getting organized in every department, every activity and every single person at every level.

According to Tuttle (1994), the reasons that led the industry first to adopt TQM, leads the public sector to implement it TQM which are basically the old management systems that are not able to work in a changing and competitive world. Nonetheless, many scholars believe that TQM as a new public management are not necessarily successful. Sirvanci (2004) identifies a number of challenges facing TQM in public organizations such as leadership, customer identification, performance measures, and organizational and cultural issues. Brown and Koenig (1993) believe that the problem of TQM in the public sector and specifically higher education is the resistance it gets from faculty because it causes less professional benefits and more committee work. Entin (1993) argues in a research conducted on ten universities and colleges in Boston that senior managers usually have enthusiasm to adopt TQM, but faculty resistance cause a gap between academic institutions and employers' requirements. However; Zeitz (1996) found that training and awareness of TQM has vital impact on employees' attitudes in regards to implementation barriers, management support and job satisfaction.

Conclusion

Quantitative and qualitative research use different methodologies to study the same problem and results may be complementary. The research method should follow the research question in a manner that gives thorough and useful answers (Johnson and Onwuegbuzie, 2004). The above studies try to find answers to the possibility of implementing TQM in the public sector. In quantitative methods, instrumentation and design show how errors and bias are illuminated, in qualitative methods, rich description is presented and details are given to the reader in order to make sense of the situation (Firestone, 1987).

Quantitative research presents the positivist paradigm where behaviour can be explained through objective facts while qualitative research presents the phenomenological paradigm where there are multiple realities that are socially defined (Firestone, 1987). We cannot conclude that any of the research methods is more legitimate in studying TQM as a public administration; each study contributes to the literature based on its methodology that strengthens or limits the findings.

References

- [1] G.B. Adams and J.D. White, Dissertation research in public administration and cognate fields: An assessment of methods and quality, *Public Administration Review*, 54(6) (1994), 565-576.
- [2] S.C. Anyamele, Implementing quality management in the University: The role of leadership in Finnish universities, *Higher Education in Europe*, 30(3) (2005), 357-369.
- [3] R.D. Behn, The big questions of public management, *Public Administration Review*, 55(4) (1995), 313-324.
- [4] W.D. Berry, *Understanding Regression Assumptions*, (1993), Newbury Park, CA: Sage.
- [5] R.C. Box, An examination of the debate over research in public administration, *Public Administration Review*, 52(1) (1992), 62-69.
- [6] R.S. Brower, M.Y. Abolafia and J.B. Carr, On improving qualitative methods in public administration research, *Administration & Society*, 32(4) (2000), 363-398.
- [7] D.J. Brown and H.F. Koenig, Applying total quality management to business education, *Journal of Education for Business*, 24(4) (1993), 34-52.
- [8] M. Coughlan, P. Cronin and F. Ryan, Step-by-step guide to critiquing research- Part 1: Quantitative research, *British Journal of Nursing*, 16(11) (2007), 658-663.
- [9] D. Entin, Case study number one: Boston, less than meets the eye, *Change*, 25(3) (1993), 28-31.
- [10] W.A. Firestone, Meaning in method: The rhetoric of quantitative and qualitative research, *Educational Researcher*, 16(7) (1987), 16-21.
- [11] D.J. Houston and S.M. Delevan, A comparative assessment of public administration journal publications, *Administration & Society*, 26(2) (1994), 252-271.
- [12] D. Houston, T. Robertson and T. Prebble, Exploring quality in a university department: Perspectives and meanings, *Quality in Higher Education*, 14(3) (2008), 209-223.
- [13] A.T. Hsieh, C.H. Chou and C.M. Chen, Job standardization and service quality: A closer look at the application of total quality management to the public sector, *Total Quality Management*, 13(7) (2002), 899-912.
- [14] R.B. Johnson and A.J. Onwuegbuzie, Mixed methods research: A paradigm whose time has come, *Educational Researcher*, 33(7) (2004), 14-26.
- [15] J.V. Kosh, TQM: Why is its impact in higher education so small? *The TQM Magazine*, 15(5) (2003), 325-333.

- [16] Z. Lan and K.K. Anders, A paradigmatic view of contemporary public administration Research, *Administration & Society*, 32(2) (2000), 138-166.
- [17] G.S. Maddala, *Introduction to Econometrics*, (1992), New York: Macmillan.
- [18] J. Pike and R. Barnes, *TQM in Action*, (1996), London: Chapman & Hall.
- [19] M.B. Sirvanci, Critical issues for TQM implementation in higher education, *TQM Magazine*, 16(6) (2004), 382-386.
- [20] R.E. Slavin, Education research can and must address "What works" questions, *Educational Researcher*, 33(2004), 27-28.
- [21] T. Tuttle, Is total quality worth the effort? How do we know? *New Direction for Higher Education*, 21(32) (1994), 21-32.
- [22] M. Walton, *The Deming Management Method*, (1986), New York: The Putnam Publishing Group.
- [23] B.E. Wright, L.J. Manigault and T.R. Black, Quantitative research measurement in public administration: An Assessment of journal publications, *Administration & Society*, 35(6) (2004), 747-764.
- [24] G. Zeitz, Employee attitudes toward total quality management in an EPA regional office, *Administration & Society*, 28(1) (1996), 120-143.