THE UTILIZATION OF MANAGEMENT ACCOUNTING TECHNIQUES
WITH EMPHASIS ON QUANTITATIVE ANALYSIS IN THE
PUBLIC SECTOR: BUILDING AN EFFECTIVE
FINANCIAL MANAGEMENT SYSTEM

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Organizations use a variety of information and techniques in performing managerial functions. Management is especially challenged in this era of declining resources and demand for greater services and accountability. Thus, management has sought means to enhance the efficiency of its operations. It is the premise of this study that the use of management accounting techniques with emphasis on quantitative analysis enhances management capacity in the public sector. The purpose of this study was to examine the extent to which U.S. city governments use management accounting techniques, with emphasis on quantitative analysis, in planning and controlling their operations. This study also explores factors that are associated with the extent of use of these techniques. A research framework was developed based upon a review of the literature on diffusion of innovation, management information systems, operations research, and accounting.

The data was collected with a questionnaire which was mailed to the finance directors of 600 randomly selected city
governments with populations between 25,000 and one million. Multiple regression analysis was used to explain relationships between variables. A variety of descriptive data were also presented. Based upon 54 percent response rate, the findings show that city governments make moderate use of five techniques. These techniques ranked according to the mean of extent of use are: forecasting, cost-benefit analysis, variance analysis, cost-effectiveness analysis, and flexible budgeting. The use of the other five techniques included in this study was found to be fairly low. These techniques are: network analysis, inventory models, simulation models, linear programming, and queuing models. The findings also show that responding city governments use quantitative management techniques to analyze a variety of problems. The most often reported impediments to the use of these techniques are (1) lack of time to analyze real problems, (2) inadequate training, and (3) lack of understanding by those using the results. Respondents positively perceived the value of quantitative analysis. The most often reported benefits are (1) better quality decision-making, (2) more accurate forecasts, (3) more effective planning, and (4) cost saving. Using regression analysis, the variables that were found to have statistically significant associations are as follows: accounting system orientation; city size; extent of computerization, certificate of achievement, perceived value of the techniques; training, and top management support. The
variables in the regression equation explain 52% of the variation in use ($R^2=.52$). Based upon this study's findings, practical implications are discussed. Suggestions are also made for future research into this topic.