Measuring Policy Implementation: Sustainable Procurement Policy in Local Governments

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ABSTRACT

In the U.S., state and local governments purchase $1.72 trillion goods annually, which accounts for 25 - 40% of every state and local tax dollar spent, and between 15% - 30% of U.S. GDP. Government purchased items include vehicle fleets, construction materials, chemicals, electronics and office materials, all of which contribute to global climate change during their production, use, and disposal. Spurred by President Clinton's 1998 Executive Order 13101 ("Greening the Government Through Waste Prevention, Recycling and Federal Acquisition") and then by President Obama's Executive Orders (13514 and13693) to reduce greenhouse gas emissions and stimulate demand for sustainable products, sustainable purchasing programs and policies have been established in nearly every state, and more than 500 local governments have followed suit. Despite this, many state and local governments that have adopted a sustainable procurement policy (SPP) have failed to implement them fully. Before researchers can begin to examine the antecedent forces that impede or propel SPP implementation, there is a need for a reliable and valid measure of SPP implementation, which to our knowledge, has been scantily examined in the context of state and local governments. This paper seeks to fill this gap by constructing a composite index of the extent or level of SPP implementation by local governments, based on an original survey of the directors of finance, environment and public works departments in all U.S. cities with at least 50,000 residents. Survey data include detailed information about the characteristics of cities' procurement systems and processes.

We draw on transaction cost economics, population ecology, and the resource-based view of the organization, along with a principal component analysis to select survey questions and data items for inclusion in the composite index that encompass the following dimensions of the extent or level of SPP implementation: breadth and scope of SPP across city departments and product categories, embeddedness of environmental sustainability practices in procurement processes (e.g., routine/less complex versus non-routine/more complex purchases, inclusion of environmental sustainability criteria in technical specifications), the intensity of implementation (e.g., the inclusion of life cycle costs and greenhouse gas emissions reductions and the use of ecolabels as criteria in purchasing decisions), and engagement and coordination with vendors in the supply chain. We evaluate each data item's contribution to face validity, unidimensionality, specificity, and variance in appraising SPP implementation as a construct. We examine the empirical relationships among data items, score the index—including weighting and aggregation—and validate it. Validation of the proposed index includes robustness and sensitivity analyses, such as item analyses to assess the extent to which the index is related to individual items that are included in it and regression-based uncertainty analyses to assess how well the index predicts related measures. The development of a reliable and valid measure for the implementation of SPP across cities is a critical first step for understanding the emergence, evolution and effects of environmentally sustainable public procurement.