

Modeling Differences:
the application of the Logic Model to
public policy analysis

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Abstract

This paper presents the results of an experiment in applying the Logic Model to public policy analysis. Masters in Public Administration students prepared Logic Models to represent opposing views of controversial public policy issues in a Public Budgeting class. Examples of the application of the Logic Model to policy analysis are included and the pedagogical lessons learned are discussed.

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Program evaluation measures how effective organization activities have been in accomplishing organizational goals and objectives when there is no profit motive or market system to do so. Program evaluation is primarily used by non-profit and public sector organizations. The perennially tight budgets in the public and non-profit sectors (recently exacerbated by economic recession, corporate accounting scandals, and the War on Terror) and the expansion of government involvement in more aspects of life have caused an increase in the sophistication and number of program evaluation methods. With less revenue forecasted and demand for services increasing, the efficacy of each dollar spent by public and non-profit organizations will be even more closely scrutinized, necessitating the continuous improvement of evaluation methods.

An evaluation technique that has gained increasing attention and use is the Logic Model. Four reasons for its widespread acceptance and use are: the cost-free access to its use; the simplicity of its construct; its flexibility to accommodate the complex breadth and depth of public sector and non-profit activities; and the helpful, cheerful assistance provided by its originator, Joseph Wholey (Wholey, 1987). One of the most useful aspects of the Logic Model is the structure it provides to make explicit the implicit and underlying assumptions specific to the program under evaluation. Recent examples of Logic Model use for evaluation include: a university cooperative extension service (UWEX 2002), the Division of International Health of the Center for Disease Control (DIH 2002), a National Science Foundation Project (NSF 2002), child care subsidies (CCPFC 2002), and a community health promotion program (RHBC 2002).

Essentially, the purpose of this paper is to apply the technique used to evaluate ex post the ultimate impact of the implementation of public policy (ie. program evaluation) ex ante, in the development stage of policy. Using the Logic Model to analyze policy is, in effect, starting further upstream the process of making explicit the underlying theories and assumptions of policy. It is anticipated that the use of the Logic Model in public policy analysis may bring greater clarity, comprehensiveness, and quality to the development of public policies. The Logic Model's potential is presented here by identifying: the parts of the Logic Model; the relationship between systems theory and Logic Models; and by describing its use to evaluate opposing views of public policies in an MPA Public Budgeting class.

Logic Model Description

The Logic Model is a visual tool to describe the underlying logic or conceptual framework of the subject under study. Table 1 shows that the Logic Model draws its basic structure from systems theory. Systems theory is an approach to information gathering or processing whose primary feature is the acknowledgment of interconnectedness. As noted in Falcone (2001),

“The academic search is preponderantly a search for the order and structure that explains and predicts the phenomena under study. For many academic disciplines, the quest begins with categorization, classification, or formation of a typology. Then, knowledge exploration follows two tracks, one within, breaking component parts into their sub-components, and one without, aggregating component parts into systems and systems into networks of increasing synergy and complexity” (p. 10).

The Logic Model follows the aggregation track, organizing the components of programs into a coherent whole to enable their assessment.

The word system and the concept of interconnectedness have ancient roots (Latin *systema* and Greek *synistanai*) yet the formal emphasis on identifying interconnectedness in scientific inquiry began in the 1600's with Isaac Newton's analysis of the solar system (Mesarovic and Takahara, 1989). The paradigm shift that fostered this systematic inquiry was Judeo-Christian belief. As cited and discussed in Pearcey and Thaxton (1994), the beliefs listed in Table 2 initiated rather than hindered empiricism (Whitehead 1925, Foster 1934, Easley 1962, Russell 1985, Lindberg 1990, Martin 1991).

One prominent feature of systems science that resulted from these beliefs and that therefore undergirds the Logic Model, is the a priori acceptance of absolute truth, that we live in a rational, orderly, cause and effect world. In the 17th, 18th, and 19th centuries systems science found application in many academic disciplines such as math, physics, engineering, and management. Subsequently in the 20th and 21st centuries, systems science has found a wide variety of applications in, for example, computers, electric power systems, transportation, urban planning, public health, and construction. The following basic steps in systems analysis developed through its applied use:

1. identify the problem
2. identify and describe system parts and relationships
3. develop mathematical or logical models
4. analyze alternatives to improve performance re cost, size, effectiveness, risk
5. select the best system on the basis of selected criteria
6. build/implement selected system (White, H. and S. Tauber, 1969).

In its simplest form, as per its applied use, a system has inputs, throughputs, and outputs. Replicating this simple structure (Table 1), the Logic Model thus has inputs, throughputs, outputs, and outcomes. Applying the Logic Model to the evaluation of a public program, inputs consist of the population impacted, the environmental context of the program, and resources used or needed for the program. The throughput has two parts, first, the rationale (theory component) that explains the

transformation of inputs to outputs and, second, the mechanism (intervention) by which transformation occurs. Outputs are the immediate products of the intervention, usually measured by the volume of work completed. Outcomes are the initial, intermediate and long-term benefits or changes for individuals or populations that are intended to result from the intervention (United Way, 1996).

Applied to the evaluation of public policy, inputs consist of the stakeholders; the physical, social, legal, and political context; and the resources needed or impacted by the policy. The throughput has three parts: the identification of the problem; the rationale that explains the beliefs about the issue for which the policy is being developed; and the action to accomplish the intended effects of the policy which could be legislation, regulation, executive order, court decisions, formal procedures/processes, or a policy statement. Outputs are the immediate measurable yield of the action which could include dollars of funding, number of organizations, programs or changes in administrative behavior, processes, or procedures, etc. Outcomes are the short-term, intermediate and long-term intended goals, objectives, and (or unintended) consequences of the policy.

Methodologyⁱⁱ

To demonstrate in an experiential way that a public budget is a quantitative statement of beliefs and values, a course project was designed for twenty-one Masters in Public Administration students enrolled in a graduate level Public Budgeting class at the University of New Mexico. The initial instructions were for students to conduct a fiscal impact analysis of a selected public policy on a relevant public organization's budget. To do so, students had to either pick a controversial issue in the public arena from a list (Table 3) or identify one themselves. Next, students were asked to select a public organization that would be involved in or affected by the issue, obtain a copy of the organization's budget, and write a description of the organization using the list of organization characteristics in Table 4.

Students were then asked to find two peer-reviewed articles that took opposing views on the issue and write a brief critique of each article. Using the organization description, the organization's budget, and the critiques, students were asked to prepare two fiscal impact analyses speculating about the potential consequences of each opposing view on the selected organization's budget.

Initially students were asked to find peer-reviewed academic journal articles. For some of the issues, clear position papers in peer-reviewed journals for both proponents and opponents of the issues were not readily available. Therefore articles from the popular press and government reports were also used. To assist students in identifying the key features of the opposing policy positions in the literature, the following methodology was implemented which experimentally applied the Logic Model to policy analysis.

In two successive class sessions, the Logic Model was presented to the students with handouts of an article describing its application in the evaluation of a program to prevent homelessness in addicts (Conrad, 1999). Students then constructed two Logic Models, one for each of their articles. Draft models were submitted for review and, after feedback from the instructor, a second version of the models was completed. Then, the interventions, outputs, and outcomes in the Logic Models; organization descriptions; and the organizations' budgets, were used to prepare the two fiscal impact

analyses speculating about the possible consequences of each opposing view on the selected organization's budget.

Findings

Of the forty-two Logic Models completed by the class, two, school vouchers and Internet taxation, were selected, edited, and are presented here to show the versatility and usefulness of the toolⁱⁱⁱ. To construct the first column in the table, inputs, one might think of Pol de Limbourg's *February*, a medieval calendar painting, that depicts all the persons, animals, and activities on a peasant farm both inside and outside of a farmhouse and surrounding area in winter. Inputs comprehensively identify all the players involved (stakeholders); the context (geographic, social, political, and legal) in which they are operating; and the resources impacted or required. In this class, the students were required to identify only the type not the actual amount of resources impacted or required. The stakeholders for school vouchers include the taxpayers who will pay for the vouchers, the teachers, school administrators, students and their families that will participate in the use of the vouchers (Tables 5a-5b). The stakeholders for Internet taxation are state and local governments whose revenues are impacted, individual consumers who pay sales tax, and businesses who charge and remit sales tax (Tables 6a-6b). While it is conceivable that opposing views might perceive differences, the inputs for the majority of issues will be the same for both viewpoints, as they are for school vouchers and Internet taxation.

The next two columns in the Logic Model are throughputs which include the identification of the problem, the beliefs about the problem, and the action to be taken. To identify the problem, one can consider the root words of the word *problem* which are, in Greek, *pro forward* + *ballein to throw* (Funk and Wagnalls, 1980). Two questions to ask to help identify the problem are: what in the current state of affairs regarding this issue will become (throw forward) a difficulty in the future and/or why is there a need for a policy? The identification of the problem may be the same for opposing views of an issue or it may be different. For school vouchers, there is agreement that education is not what it could and should be (Tables 5a-5b). For Internet taxation, there is disagreement; with the opposition forecasting the suppression of Internet commerce and supporters citing the impact on state and local government sales tax revenue from tax avoidance (Tables 6a-6b).

The second section of throughputs, beliefs about the problem, is the locus of the key differences in viewpoints. This section affords one of the greatest benefits of the Logic Model, requiring the clear articulation of the theories, hypotheses, suppositions, and assumptions about the issue/problem. It describes an understanding of causation from a viewpoint and identifies whose interests are being represented, protected, or promoted by the viewpoint. Regarding opposition to school vouchers, for example, the viewpoint "the lack of sufficient funds has caused poor quality education" makes explicit the belief that there is a direct causal relationship between the amount of money expended to educate and education attainment (Table 5a). For support of Internet taxation, the perspective "the loss of sales tax revenue from Internet sales will lead to a government deficit" indicates the belief that there is a direct causal relationship between the untaxed sales through the Internet and whether governments spend more revenue than they receive (Table 6a).

The third section of throughputs, the action to be taken, flows directly from the beliefs about the problem and will also be a point of divergence for opposing viewpoints. Some examples of a

recommended action include initiating informal or formal organization of vocal opposition, support, studies, legislation, regulations, executive orders, formal procedures or processes, policy statements, or specified activities. In the first example, supporters recommended implementing school vouchers and the opposition recommended initiating a lobbying effort to stop school vouchers and increase school budgets for teacher salaries and computer technology (Tables 5a-5b). In the second example, supporters recommended devising and implementing an Internet sales tax and the opposition recommended maintaining tax-free Internet sales and study of the issue (Tables 6a-6b).

The fourth column of the Logic Model is outputs which is the immediate measurable yield of the action which could include: dollars of funding; amounts of work produced; organizations or programs initiated; numbers of changes in administrative behavior, processes, or procedures; amount of opposition or support generated; and the amount of legislation, regulation, court decisions, policy statements. For example, the outputs for the opposition to school vouchers viewpoint is the blocking of legislation to implement school vouchers and dollars of additional funding for teacher salaries and computer technology. The output for the support of school vouchers is the legislation and funding to implement school vouchers (Tables 5a-5b). The outputs for the opposition to Internet taxation are a moratorium on Internet sales tax and the initiation of a study of the issue. The output for the support of Internet taxation is the legislation to establish an Internet commerce tax (Tables 6a-6b).

The fifth and final column of the Logic Model is outcomes which are the short-term, intermediate and long-term intended goals, objectives, and intended (and, projected usually by the opposing view, unintended) consequences of the policy. Outcomes may be a nexus for the re-intersection for some viewpoints, as there may be agreement about what the ultimate desirable end state regarding the issue should be. This is partially true for the school voucher example. The opposition and support outcomes are different for one short-term outcome: public school teacher salaries will increase for the opponents and incompetent schools, teachers, and administrators will not have permanent tenure for the proponents. For the bulk of the outcomes, the two sides are in agreement: desiring in the short-term increased access to technology; in the intermediate term improved quality of education; and in the long-term a better educated citizenry (Tables 5a-5b).

Uniformity in the desired end state does not occur in the Internet taxation example, as articulated in the articles upon which the Models were based. This, however, may be an artifact of basing the Models on only one article for each viewpoint. It is likely that both proponents and detractors of Internet taxation ultimately desire viable and healthy Internet commerce, although this was not mentioned in the proponent article. Instead, the proponent article emphasized the viability of government reliance on sales tax revenues, while detractors of Internet taxation emphasized the expansion of Internet commerce (Tables 6a-6b).

Pedagogical Lessons Learned

Because the goal of the exercise was to make clear that a budget is a quantitative statement of beliefs and values, it seemed reasonable to select controversial issues for study. The expectation was that, for controversial policy issues, beliefs and values would be more easily identified and the contrast between the opposing views' impacts on budgets would be greater. However, the original goal to make clear that a budget is a quantitative statement of beliefs and values might be accomplished more

effectively by selecting one relatively noncontroversial issue that would impact one organization's budget for the following reasons.

For controversial subjects, it is easier to find rhetorical, hyperbolic, flaming-type documents filled with accusations concerning the opposing view than it is to find position papers with a comprehensive presentation of the proponent's view. While this only emphasizes the need for the use of the Logic Model in policy analysis, hence this paper, it was very time-consuming to locate the latter type of article.

In addition, many MPA students had very strong personal views about the subjects they selected. In both the search for articles and in the presentation of the views, these students were reluctant to present the opposing view fairly or at all. Interestingly, it was not an infrequent occurrence that students brought two articles that were variants of the same view and expressed great consternation when reminded that the requirement was for two opposing views. For example, one student with two papers opposing social security reform was dumbfounded when told he needed one article supporting social security reform saying: "But they want to change it!!" Another student presented none of the material in the proponent article with a view different from her own on the causes for violent crime and, instead, filled the Logic Model for the viewpoint different from her own with extreme assertions not mentioned anywhere in that article.

Next, the skill of understanding and fairly presenting differing perspectives on public policy issues is important to aid in policy formulation, implementation, and evaluation. However, there are enough topics in the area of public budgeting to more than fill a graduate semester-length class. In addition to locating articles, students required fairly extensive assistance in selecting local, state, or federal organizations affected by the issues, in obtaining the organizations' budgets, in describing the organization's characteristics, and in speculating about the impacts on the organizations' budgets. As it is only one small part of the material to be covered in a public budgeting class, this exercise might be better suited for a policy analysis class where it could appropriately take a more central role.

With regard to teaching the use of the Logic Model, giving students the components of the Logic Model as applied to policy analysis and an example of the Logic Model as it is used in program evaluation was not effective. In the future it would be better to use a handbook that describes each section of the Model in greater detail. Also, the most efficacious way to develop the entries for a specific issue would entail using multiple sources rather than a single source, as time constraints required. Constructing one Model for one perspective of an issue from multiple sources would enable a more comprehensive Model to be constructed. Representation or acknowledgment of alternative perspectives could be included in the theory component to incorporate this important aspect of administrative training.

Discussion and Conclusion

As can be seen in the foregoing models, the basic beliefs that undergird each policy issue are made apparent through applying the structure of the Logic Model to the argument presented. The Logic Model assists by making very clear the disparity of views, beliefs and values, and perceived causal connections of the spectrum of interests for a given issue.

Weber (1922), in his description of the features of an ideal bureaucracy, asserted that those working in the public sector should exhibit neutral competence in their work life ("When I am at work, I do my job without personal feelings/biases entering into it!"). Early writers in the discipline of public administration concurred, suggesting that politics was separate from the administration of government (Wilson 1887, Goodnow 1900). Politics describes the process of resource distribution among competing interests. Ideally, in a representative government, the distribution occurs according to the beliefs and values of resource contributors (taxpayers). The link made here is that the aggregation of individual feelings/biases (public interest/beliefs and values) ostensibly form the decision criteria for the political distribution of resources. An individual public employee's biases may be either aligned or unaligned with the public weal and interest. Instead of expecting that a public employee will not allow their personal beliefs and biases to influence them, a more realistic expectation is that they will be trained to identify, understand and, within reason, incorporate the beliefs and values of the public they serve as well as their own in the decision-making resource-allocating process within their domain of control.

The purpose of preparing models for both sides of the two issues shown here is threefold. First, it illustrates how the logic model can illuminate the extent of both similarities and differences in perspectives as to what the problem actually is and who is affected and in what manner. Second, it emphasizes the importance of and provides a mechanism for public managers to give all viewpoints a place at the table. And finally, in conclusion, by requiring the causal beliefs of each side of an issue to be made explicit, public managers and stakeholders can comprehend each other's views; their own biases; what information might bring better clarity to a discussion; and what prioritization of values might bring a satisfactory resolution to all parties on a given issue.

The use of the Logic Model is perhaps a step toward the implementation of Stuart Nagel's win-win philosophy: 'In the win-win philosophy,' Nagel said, 'we want to contribute an analytical framework which analyzes problems to arrive at solutions faster with less anguish than others that involve a compromise of two sides' (Ornatek, 1999).

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Table 1: The Logic Model Framework for Program Evaluation

Inputs				Theory		Intervention	Outputs	Outcomes		
population	environmental context: physical legal political		resources	concept of problem	assumptions	activities		Initial	Intermediate	Long-term

The Logic Model is presented in a chart with four components that flow in linear sequence by time from left to right

1. inputs: population, environmental context, and resources
2. throughputs: the rationale (theory component) that explains the transformation of inputs to outputs and, the mechanism (intervention) by which transformation occurs
3. outputs: the immediate products of the intervention, usually measured by the volume of work completed
4. outcomes: short-term, intermediate and long-term benefits or changes for individuals or populations that are intended to result from the intervention

Table 2: Judeo-Christian beliefs fostering empiricism

1. unlike belief systems that teach that nature is an illusion the Bible teaches that nature is real.
2. the Bible teaches that, as a part of God's creation, the material world is good not evil, therefore valuable and worthy of study;
3. unlike belief systems that deify nature, the Bible de-deifies nature, allowing it to be an object of study rather than one of worship;
4. unlike belief systems that have either one or many capricious gods, the Bible is resolute in communicating that there is:
 - a. one God who alone is the source of all things,
 - b. whose character is invariable,
 - c. therefore, through constancy, is a God of rationality and order not disorder,
 - d. therefore, all God creates reflects rationality and order in precise ways;
5. unlike belief systems that consider humans to be incapable of accurate understanding, the Bible teaches that God created man in His image, with the capacity to “look and see”, using careful observation to discern His order of all aspects of life;
6. unlike belief systems that place humans on equal footing with nature as object to object, the Bible teaches that God gave humans stewardship responsibility, as subject to object, to manage and care for creation - for it and human benefit.

Table 3: Public Policy Issues

1. school choice/education vouchers
2. welfare reform
3. social security reform
4. health care reform
5. global warming
6. ABM / Missile Defense
7. U.S.-Taiwan- China Policy
8. balanced budget for US federal government
9. root causes for violent crime
10. three strikes you are out legislation
11. police - community policing
12. federal management of America's land resources
13. air traffic control / deregulation of airports
14. raising the minimum wage
15. funding of United Nations
16. NATO
17. military readiness and manpower
18. gun control
19. gambling
20. abortion
21. Internet taxation
22. regulation of media - re violence
23. regulation of media - re pornography
24. regulation of media - re alcohol & tobacco advertising
25. trade agreements with other nations
26. financing new sport stadiums, funding - Olympics
27. school prayer
28. tax cuts, optimal tax burden as percent of income
29. bi-lingual education
30. international investment flows (capital controls)
31. affirmative action set asides
32. multi-culturalism
33. nuclear waste deep burial policy
34. sex education
35. capital punishment
36. regulation of diesel fuel burning vehicles
37. decriminalization of illegal drugs
38. euthanasia
39. human embryo research
40. terminal seed patents
41. food irradiation
42. elimination of farm price supports

Table 4: Organization Characteristics

1. age of organization, how started
2. mission
3. size - number of employees, size of budget, number of branches
4. structure - organization chart, level of government
5. oversight - legislative committees
6. customers, clients of organization
7. organization executive - appointed, elected, civil servant
8. predominant professions represented among organization employees
9. economic environment
10. culture
11. sources of funding
12. policies and procedures

Table 5a: opposition to school vouchers People for the American Way (1996).

Inputs	Throughputs - theory	Throughputs - action	Outputs	Outcomes
<i>physical context:</i> - towns, cities, USA	<i>identify problem:</i> education is not what it could and should be	<i>intervention:</i> - lobbying effort against school vouchers - put more money into public school teacher salaries and computer technology	- stop legislation to implement vouchers - additional dollars for teacher salaries and computer technology	<i>short:</i> - public school teacher salaries will increase - access to technology will increase
<i>social context:</i> importance of educated citizenry	<i>beliefs about problem:</i> - the lack of sufficient funds has caused poor quality education - vouchers will drain resources from public schools - with vouchers, the best students will go to private schools - voucher system will lack accountability - students in private schools will not do better than public school students - teachers will teach better when given more money - technology will improve education			<i>intermediate:</i> - quality of education will improve
<i>political context:</i> - public school systems - teachers' unions				<i>long term:</i> - citizenry will be better educated
<i>economic context:</i> - funding of K-12 schools				
<i>legal context:</i> responsibility/control of education of children				
<i>stakeholders:</i> - taxpayers - teachers - school administrators - families of students - students				
<i>resources:</i> - property tax dollars				

Table 5b: support for school vouchers Boaz, D. and M. Barrett (1996).

Inputs	Throughputs - theory	Throughputs - action	Outputs	Outcomes
<i>physical context:</i> City or County, USA	<i>identify problem:</i> education is not what it could and should be	<i>intervention:</i> - introduce competition in school system through use of vouchers	- legislation to implement voucher system - competition introduced into system - incentive to improve quality is created	<i>short:</i> - incompetent schools, teachers, and administrators - will not continue indefinitely - access to technology will increase
<i>social context:</i> importance of educated citizenry	<i>beliefs about problem:</i> - lack of competition in educational system has caused the deterioration of education quality - current system is unfair because lower income families cannot opt for better education choice - public schools are not accountable to the public (existence of monopoly guaranteed funding regardless of quality of product produced) - current system has institutionalized incompetence - existing evidence shows that private schools do a better job for less cost			<i>intermediate:</i> - quality of education will improve - efficiency of education will improve
<i>political context:</i> - public school systems - teachers' unions				<i>long term:</i> - citizenry will be better educated
<i>economic context:</i> - funding of K-12 schools				
<i>legal context:</i> responsibility/control of education of children				
<i>stakeholders:</i> - taxpayers - teachers - school administrators - families of students - students				
<i>resources:</i> - property tax dollars				

Table 6a: opposition to Internet taxation Goolsbee, A. and J. Zittrain (1999).

Inputs	Throughputs - theory	Throughputs - action	Outputs	Outcomes
<p><i>physical context:</i></p> <ul style="list-style-type: none"> - past sales tax boundaries determined by geographic boundaries, Internet without geographic boundaries 	<p><i>identify problem:</i> aggressive enforcement of Internet taxation can potentially suppress development of Internet commerce</p>	<p><i>intervention:</i></p> <ul style="list-style-type: none"> - maintain Internet as global free trade zone - establish Advisory Commission to study issues and data 	<ul style="list-style-type: none"> - moratorium on Internet sales tax - initiate study of Internet sales tax 	<p><i>short:</i></p> <ul style="list-style-type: none"> - moratorium on Internet sales tax in short term - state and local Internet sales tax losses are minimal
<p><i>social context:</i> importance of fostering commerce vs generating needed government revenues</p>	<p><i>beliefs about problem:</i></p> <ul style="list-style-type: none"> - revenue loss estimates ignore possibility of trade creation - state and local government taxing authority does not extend beyond jurisdiction borders - timing of Internet tax policy is crucial - aggressive enforcement will only raise a small amount of revenue - calculating and remitting sales tax with > 6,400 different tax rates is burdensome, especially to smaller businesses 			<p><i>intermediate:</i></p> <ul style="list-style-type: none"> - provide affordable way for small businesses to compete with foreign and domestic large corporations
<p><i>political context:</i></p> <ul style="list-style-type: none"> - business interests vs government interests 				<p><i>long term:</i></p> <ul style="list-style-type: none"> - Internet related jobs will expand and help US economy
<p><i>economic context:</i></p> <ul style="list-style-type: none"> - new venue for business 				
<p><i>legal context:</i> freedom of commerce vs right to tax</p>				
<p><i>stakeholders:</i></p> <ul style="list-style-type: none"> - state and local governments - individual consumers - businesses 				
<p><i>resources:</i></p> <ul style="list-style-type: none"> - sales tax dollars 				

Table 6b: support for Internet taxation Owen (1998).

Inputs	Throughputs - theory	Throughputs - action	Outputs	Outcomes
<i>physical context:</i> - past sales tax boundaries determined by geographic boundaries, this is without geographic boundaries	<i>identify problem:</i> states' concern that current revenue sources are being shifted to electronic environment	<i>intervention:</i> - redefine nexus - design plan to tax Internet commerce - pass legislation to tax Internet commerce	- legislation to implement Internet commerce tax	<i>short:</i> - capture revenue not currently received from Internet commerce
<i>social context:</i> importance of fostering commerce vs generating needed government revenues	<i>beliefs about problem:</i> - taxation of goods and services is a valid source of revenue for state and local governments - electronic commerce should be taxed the same as conventional commerce - the loss of tax revenue will lead to a deficit for government - government deficit will lead to a reduction in government services - federal regulation (since it crosses state boundaries) of electronic commerce is appropriate and desirable			<i>intermediate:</i> - local government services maintained or increased
<i>political context:</i> - business interests vs government interests				- <i>long term:</i> - tax uniformity - tax neutrality
<i>economic context:</i> - new venue for business				
<i>legal context:</i> freedom of commerce vs right to tax				
<i>stakeholders:</i> - state and local governments - individual consumers - businesses				
<i>resources:</i> - sales tax dollars				

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End Notes

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ii Special thanks to all the students in PA544 that participated in this exercise.

iii Since applied use of the logic model is the subject of this paper, the organization descriptions and fiscal impact analyses are not included.