

## **FACTORS INFLUENCING IMPLEMENTATION OF DEVELOPMENT PROJECTS: AN EMPIRICAL STUDY OF SELECTED AFRICAN COUNTRIES**

**Millicent Addo\* and Khashruzzaman Choudhury\*\***

### **ABSTRACT**

*Over the last forty years, implementation research has widely covered the philosophy, strategies, and methods of implementation. While several factors have been identified as influencing implementation, outlining the relative importance of explanatory factors can be quite challenging due to existing gaps in the literature. This study assesses how some important factors influence the implementation rate of projects. The study results show that project size, clarity of objectives, external funding, and political conditions are significant determinants of the rate of implementation. Some policy implications of this study are securing more funds and improving the political conditions surrounding projects to accelerate implementation.*

### **INTRODUCTION**

Research on implementation has been carried out from different perspectives such as research strategies, standards of evaluation, concepts, focal subject areas, and methodologies (Winter, 2007). Perhaps, a majority of implementation studies have been based on problems faced during implementation, as well as barriers to implementation and implementation failures. Implementation research has evolved over time and has proceeded in three directions during three generation.

The first generation implementation studies were mostly case studies. These exploratory and theory-generating studies in the 1970s examined problems that occurred between policy definition and its execution. Most of these studies had pessimistic views on implementation. Two good examples of such studies were by Pressman and Wildavsky (1973) and Bardach (1977). While Pressman and Wildavsky emphasized that the actions of multiple actors with different aims or goals could result in delay, distortion, or even failure in policy implementation, Bardach echoed the aspects of conflicts in implementation.

The second wave of implementation studies consisted of those which emphasized the top-down, bottom-up and synthesis approaches and began in the early 1980s. They were more sophisticated and theoretical (deLeon & deLeon, 2002), focusing on model construction

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\* Texas Southern University

\*\* Jackson State University

(framework of analysis) and research strategies, and some of them had more optimistic views on successful implementation (Winter, 2007). While top-down studies (for instance Mazmanian and Sabatier 1981, 1983; Nakamura and Smallwood, 1980; Berman, 1980) assumed a "command and control" approach to policy implementation, bottom-up studies (Lipsky 1971, 1980; Hjern 1982; Hjern and Hull 1983) advocated the importance of street level bureaucrats to the success of implementation. The synthesis approach combined the best features of the top-down and the bottom-up approaches. For instance, Elmore (1985) recommended the use of both forward and backward mapping; and Sabatier (1986) suggested the advocacy coalition framework for implementation.

The third wave of implementation studies was to bridge the gap between the top-down and bottom-up approaches by combining aspects of both approaches in theoretical models, and also according to Goggin, Bowman, Lester, and O'Toole (1990) to establish a more scientific approach to implementation studies than that followed by the previous studies. These studies sought to explain the variation of behavior across time, policies, and units of governments (See for instance Berry, Berry and Foster, 1998; Jennings and Ewalt, 2000) and to predict the type of implementation behavior likely to occur in the future.

Other approaches to implementation studies include the sectarian approach, performance-based approach, process studies and results-based studies (outcome evaluation). The different approaches to implementation studies, suggested above, indicate that the nature of implementation differs from one program or project to another.

Literature provides us with a host of factors that influence implementation such as clarity and consistency of goals (Mazmanian and Sabatier, 1981; 1983); communication and coordination (Hogwood and Gunn, 1984), resources, staff, and bureaucratic structure (Edwards, 1980); inter-organization relationships and support for the program (Mazmanian and Sabatier, 1981, 1983; Van Meter and Van Horn, 1975); attitudes and disposition of implementers (Van Meter & Van Horn 1975); and factors external to the implementing agency (Hogwood & Gunn, 1984).

While implementation literature has covered many aspects from theory-generation, models or frameworks for analysis, to problem identification and barriers to implementation, a substantial gap exists in the literature despite the progress made. Especially with regards to outlining the relative importance of explanatory factors (Winter, 2007), and in the context of quantitative studies for the needed statistical research designs (Goggin *et al.*, 1990).

### **Purpose of Study**

This research identifies and evaluates the factors or conditions from the literature which favorably (or otherwise) impact upon the implementation of a selected number of externally assisted development projects in Africa. The study employs a macro approach to examine the effect that important factors such as resources (project size), project years, number of implementing agencies, clarity of objectives (clearly stated objectives), the proportion of external funding, political conditions, and per capita GDP have on the implementation of a selected number of projects.

## **Hypotheses**

The study hypotheses were as follows:

- H1: Project size is a significant determinant of the rate of implementation.
- H2: Project years significantly affect the rate of implementation.
- H3: The number of implementing agencies significantly affects the rate of implementation.
- H4: Clearly stated objectives significantly determine the rate of implementation.
- H5: The proportion of funding from external sources has a significant effect on the rate of implementation.
- H6: Political conditions are a significant determinant of the rate of implementation.
- H7: Per capita GDP significantly affects the rate of implementation.

## **METHODOLOGY**

A total of one hundred and five (105) projects, with available data, were randomly selected from seventeen Sub-Saharan African Countries. Projects were selected from various sectors such as health, education, agriculture, environment/natural resource, transport, energy and services sectors. There were two main reasons for such a selection: first, influential macro factors are the same for each project regardless of sectors; and second, there are not sufficiently large numbers of projects from a particular sector to justify statistical work involving an adequate sample. The projects selected were implemented between the period 1991 and 2008.

The selection of the seventeen countries was based on three major reasons: selecting relatively big countries in terms of population; selecting countries with a large number of available projects, as well as data on these projects; and excluding all countries with long periods of unrest and island nations. Data used in this study was obtained from the World Bank, Organization for Economic Cooperation and Development, the International Monetary Fund, World Economic Outlook Database, and country publications.

After a thorough review of the literature, the following independent variables were chosen for the study: project size, years of implementation, the number of implementing agencies, clarity of objectives, the proportion of external funding, existing political conditions and per capita gross domestic product (GDP). These variables appeared to be the most important and measureable in relation to other factors such as the attitudes and disposition of implementers.

### **Measuring the Dependent Variable**

According to May (1999), most conceptual frameworks in the implementation literature are weakly developed; they lack adequate concept definitions and specification of causal mechanisms. To date, the literature shows some disagreement on the term 'implementation' and on what the important dependent variable is in implementation research. One of the problems is that the concept or term 'implementation' is often used to describe the implementation process and the output – and sometimes the outcome as well – of the implementation process.

In many studies, outcomes have been used as dependent variables. In such cases, the 'policy goals' may have been explicitly stated, but equally they may have been attributed by the researcher. "The extent to which the latter becomes a problem may depend on the extent to which there is seen to be an uncontroversial shared goal". Outcome variables such as unemployment levels, child unemployment, equal education opportunities, pollution levels, crime levels and road accidents have been used by implementation studies (Hill & Hupe, 2002).

The issues surrounding the choice of dependent variables make it difficult for researchers to arrive at clear recommendations. Winter (2007) suggests the use of implementation output/performance (using behavioral output variables to characterize the performance of implementers in service deliveries, or transfer payments to citizens, or regulations enforcement) as one dependent variable in implementation research. On the other hand, Meier and Gill (2000) advocate and explore the use of 'substantively weighted analytical techniques' (SWAT) to explain the behavior of particular implementation actors.

The dependent variable, the rate of implementation, was measured based on the performance of implementing agencies. Specifically, the ratings on agency/agencies performance as reported in the Implementation Completion Reports (ICR) of the World Bank, for the different projects, were used. The possible ratings for agency/agencies' performance were highly unsatisfactory, unsatisfactory, satisfactory, and highly satisfactory. For measurement purposes, the ratings were assigned the following values: highly unsatisfactory – 1, unsatisfactory – 2, satisfactory – 3 and highly satisfactory – 4.

### **Measuring the Independent Variables**

Project size was measured in terms of the financial size of the project, the total amount of money spent on implementing the project. It was expressed in constant United States dollars (USD). Years of implementation was measured as the number of months equivalent to the total number of years over which each project was implemented. The number of implementing agencies was measured simply as is, that is the number of agencies involved in the actual implementation of the project. A binary measure of 1- clear and 0- not clear was used in measuring clarity of objectives. External funding (or the proportion of external funding) was measured in terms of the total project funds from external sources as a percentage of the overall project cost. GDP was measured as the average GDP in constant US dollars, over the years of project implementation. Political stability on the other hand, was measured by the index (percentile rank) number reported by Kaufmann, Kraay, and Mastruzzi (2009) in the Worldwide Governance indicators (WGI).

### **Model Estimation**

A multinomial logistic regression model is used to estimate the effects of selected variables on the rate of implementation of projects because the dependent variable was categorical with four values. The dependent variable in the model is the rate of implementation, measured in terms of four categories as per the World Bank. The categories are: highly unsatisfactory - 1, unsatisfactory - 2, satisfactory - 3, and highly satisfactory - 4. The independent variables are project size, years of implementation, the number of implementing agencies, clarity of objectives, and external funding, existing political conditions, and per capita GDP

The multinomial logistic regression model uses the maximum likelihood estimation method. For a multinomial logistic regression with  $n$  independent observations,  $p$  explanatory variables, and a qualitative response variable with  $k$  categories, the logits of the multinomial case are constructed by using one of the categories as the base level; and all the logits are constructed relative to this base level (Chatterjee and Hadi, 2006). The equation to be estimated is represented as follows:

$$\text{Log}[(P_j(X_i))/(P_k(X_i))] = \beta_{0j} + \beta_{1j}X_{1i} + \beta_{2j}X_{2i} + \dots + \beta_{pj}X_{pi}$$

For this study,  $n$  is 105,  $p$  is 7, and  $k$  is 4. Therefore, the equation can be written as:

$$\text{Log} [P_j(X_i)] = \frac{\exp(\beta_{0j} + \beta_{1j}X_{1i} + \beta_{2j}X_{2i} + \dots + \beta_{7j}X_{7i})}{1 + \sum_{j=1}^3 \exp(\beta_{0j} + \beta_{1j}X_{1i} + \beta_{2j}X_{2i} + \dots + \beta_{7j}X_{7i})}$$

The multinomial regression model above generates three ( $k - 1$ ) sets of parameter estimates which compare the different levels of the dependent variable to the base level, which is highly unsatisfactory.

**Study Limitations**

There were two main limitations to the study. First, the model used did not highlight the interaction among variables and the data specification did not capture changes in period over time. Second, some arbitrariness may have been present in the selection of the countries and the projects. Some countries were excluded from the selection and some projects were dropped due to insufficient data.

**RESULTS**

The results of this study show that project size, clarity of objectives, the proportion of funding from abroad, and political conditions have significant effects on the rate of implementation of externally assisted development projects. Project size and clarity of objectives showed negative significant relationships with the rate of implementation at the level  $p = 0.00$ , while the proportion of funding from abroad and political conditions exhibited positive significant relationships the rate of implementation at  $p = 0.00$ .

No significant relationships were found between the rate of implementation and the remaining variables: project years, the number of implementing agencies, and per capita GDP. Thus, these three variables do not affect the rate of implementation of externally assisted development projects. The multinomial regression results are summarized in Table 1 below.

**DISCUSSION**

**Significant Factors**

An increase in project size by \$1 million will lead to a 0.04 decrease in the implementation rate of projects rated satisfactory compared to those rated highly unsatisfactory. Similar is the case for projects rated highy satisfactory. While the literature (e.g. Hogwood and Gunn, 1984; Mazmanian and Sabatier, 1983) calls for adequate resources to ensure effective implementation,

Table 1  
Multinomial Regression Results

<i>agper</i>	Coefficient	Standard Error	Z
2			
Project size	-0.04	-	-
Project years	1.83	103.36	0.02
Number of agencies	1.94	454.97	0.00
Clarity of objectives	-39.4*	4.81	-8.19
External funding	1.36	-	-
Political conditions	0.44*	0.04	10.54
Per capita GDP	0.02	11.12	0.00
Constant	-157.28	-	-
3			
Project size	-0.04*	0	-17.04
Project years	1.85	103.36	0.02
Number of agencies	2.02	454.97	0.00
Clarity of objectives	-38.37*	4.84	-7.93
External funding	1.33*	0.02	58.08
Political conditions	0.45*	0.04	11.58
Per capita GDP	0.02	11.12	0.00
Constant	-155.63	2.53	-61.52
4			
Project size	-0.04*	0	-11.37
Project years	1.87	103.36	0.02
Number of agencies	1.28	454.97	0.00
Clarity of objectives	-13.9	-	-
External funding	1.39*	0.04	32.3
Political conditions	0.53	-	-
Per capita GDP	0.02	11.12	0.00
Constant	-190.41	-	-

(*agper*=1 is the base outcome)

$R^2 = 0.298$  (Cox-Snell), 0.351 (Nagelkerke); Pseudo  $R^2 = 0.187$ ; Model  $\chi^2 = 37.16$ ;  $p < 0.01$ \*

this finding does not necessarily mean decreasing the resources allocated to various projects, but to make sure that when allocated, these resources should be used efficiently towards achieving project goals. It makes sense that a large project (as project size increases) might involve several and/or complex details which can create problems with its implementation.

The negative relationship between clearly stated objectives and the rate of implementation is contrary to findings in the literature (see for instance Mazmanian and Sabatier, 1983). A possible reason for this finding could be that specification of objectives in clearer terms reduces the scope of description and corruption in a project which ties the hands of implementing officials, leaving them with very little incentives to accelerate project implementation. The authors do not over-emphasize this point but recommend further investigation with more data.

A higher proportion of project funds coming from abroad indicate a high reliability of funds to aid implementation and completion, thus an important significant finding of the study. The results also show that the more stable a country is (i.e. a high ranking of its political conditions), the higher the implementation rate of its projects. This finding is consistent with the literature (e.g. Mazmanian and Sabatier, 1983).

### **Non-Significant Factors**

Years of implementation, the number of implementing agencies, and per capita GDP had no significant effects on the rate of implementation. The authors therefore recommend additional studies with more data to test these hypotheses. While per capita GDP did not seem to affect the rate of implementation of projects, a higher per capita GDP will have two effects in two directions on projects. The positive effect is that it will enable countries to provide investible resources thereby inducing more foreign aid from donors. The second effect is that a high per capita income may discourage donors to provide aid because such aid is basically given on the basis of need. The results of this study seem to suggest that these two effects neutralize each other. The authors therefore recommend further investigation with more data and/or different models.

### **POLICY IMPLICATIONS**

As the study findings show that project size is a significant factor to implementation, African countries should be careful in selecting projects, especially those with substantial sizes. Over the years, these countries have adopted projects of various sizes for reasons such as: (i) the availability of funds for their own budget to meet project costs; (ii) the availability of budget matching of donated external funds; and (iii) the desire to cater to micro-areas with micro-clientele. No doubt these projects did contribute to development, but their contribution would have been much greater if the projects were of the right size, for the right time frame, and right goals and objectives.

While this study found a relationship between clarity of objectives and the rate of implementation. Researchers have clearly emphasized the importance of clearly stated objectives to effective implementation. It is therefore imperative that African governments continue to go for development projects with clearly stated objectives but at the same time, these project objectives must be in line with the governments' overall goals and policies to achieving economic and sustainable development in their respective countries; so that the projects chosen might serve the true needs of the people and do not end up becoming "white elephants".

Also, the importance of proportion of funding from abroad to the implementation process lies in the probability of accomplishing a majority of set project goals or targets (all other things being equal) in a timely fashion. As the bulk of project funds usually come from donors, it is imperative for recipient governments to ensure that their financial systems are reformed and equipped to meet international standards, as well as meeting specific procedural requirements for a timely or regular disbursement of funds.

Last but not least, with political conditions being a significant determinant of the rate of implementation, it means that governments in African countries should strive to promote policies

the create stable political conditions or environment. Unstable political conditions, usually arising from coups d'état, cause unnecessary delays in project implementation. In some cases, projects may be halted for long periods and continued when the new military government has put its own implementation team in place or a new civilian government is restored. In extreme cases, the funds for project implementation may be discontinued altogether by donors if they feel that the funds may not be used for intended purposes as affirmed by Celasun and Walliser (2008).

Although the study found that years of implementation (length of ime) and the number of implementing agencies are not significant determinants of the rate of implementation, these factors should not be disregarded. African countries should exercise careful planning even before beginning project implementation to correctly anticipate and plan for the time-period which will be required to implement these projects. Thus, there can hardly be any substitute for prior planning so that the time decided upon, regardless of the mechanisms through which it was decided, should have been fore thought, fore planned, and provided for.

African countries should go in for more collaborative projects involving both domestic and external agencies. In retrospect, such collaboration not only increases the size of the project capacity or resources but also ensures that the agencies involved, either by rules or necessity, or by their willingness to ensure success, increasingly work as watch-dogs on each other, boosting the rate of implementation of projects.

## **RECOMMENDATIONS**

First, these governments should only adopt the necessary projects which would be truly beneficial to their people and economies. Second, governments should ensure that there is adequate monitoring throughout the entire implementation period to prevent any unnecessary and/or avoidable delays or disruptions to implementation schedules. Third, governments should make sure that people are educated about the acceptance of certain projects that may require locals to desist from activities that have negative impact on their lifestyles or the environment; or those projects that may require local contributions to ensure their long-term sustainability. Last but not least, governments should make sure that the implementing agencies keep detailed records of data throughout the period of implementation. This kind of detailed reporting would help policy makers and other researchers to evaluate the projects and make appropriate recommendations to governments.

## **SUGGESTIONS FOR ADDITIONAL STUDIES**

The model employed in this study tells us about the variables that are significant determinants of the rate of implementation. However, due to limitations in model and data specification, the model only explains an input-output process without accounting for changes in periods over time. Therefore, we suggest a study that makes use of a model which highlights interactions among the various influencing factors or variables. We also suggest a study involving more countries and a larger number of projects, as the results of such a study could make generalization and inferences easily acceptable. In addition, we suggest more case studies which empasize quantitative analysis of implementation.



## REFERENCES

- Bardach, Eugene (1977), *The Implementation Game*. Cambridge, MA: MIT Press.
- Berman, Paul (1980), Thinking About Programmed and Adaptive Implementation: Matching Strategies to Situations. In Helen M. Ingram and Dean E. Mann (eds.) *Why Policies Succeed or Fail*, (chap. 8), Beverly Hills, CA: SAGE.
- Berry, Frances S., Berry, William D. & Foster, Stephen K. (1998), The Determinants of Success in Implementing an Expert System in State Government. *Public Administration Review*, 58(4), 293-305.
- Celasun, Oya & Walliser, Jan. (2008), Managing Aid Surprises. *Finance and Development*, 45(3), 34-37.
- Chatterjee, Samprit & Hadi, Ali S. (2006), *Regression Analysis By Example*. (4<sup>th</sup> ed.) New Jersey: John Wiley & Sons.
- deLeon, Peter & deLeon, Linda. (2002), What Ever Happened to Policy Implementation? An Alternative Approach. *Journal of Public Administration Research and Theory*, 12(4), 467-492.
- Edwards, George C. III. (1980), *Implementing Public Policy*. Washington, DC: CQ Press.
- Elmore, Richard F. (1985), Forward and Backward Mapping: Reversible Logic in the Analysis of Public Policy. In K. Hanf and T.A.J. Toonen (Eds.), *Policy Implementation in Federal and Unitary Systems*. Dordrecht: Martinus Nijhoff, 33-70.
- Goggin, Malcom L., Bowman, Ann O'M., Lester, James P. & O'Toole, Laurence J. Jr. (1990), *Implementation Theory and Practice: Toward a Third Generation*. Glenwood, Ill: Scott Foresman/Little, Brown.
- Hill, Michael & Hupe, Peter. (2002), *Implementing Public Policy: Governance in Theory and Practice*. London: SAGE Publications.
- Hjern, Benny. (1982), Implementation Research: The Link Gone Missing. *Journal of Public Policy*, 2, 301-308.
- Hjern, Benny & Hull, Chris. (1983), Implementation Research as Empirical Constitutionalism. *European Journal of Political Research*, 10(2), 105-115.
- Hogwood, Brian W. & Gunn, Lewis. (1984), *Policy Analysis for the Real World*. Oxford: Oxford University Press.
- Jennings, Edward T. Jr., & Ewalt, Jo Ann G. (1998), Interorganizational Coordination, Administrative Consolidation, and Policy Performance. *Public Administration Review*, 58(5), 417-426.
- Kaufmann, Daniel Kraay, Aart and Mastruzzi, Massimo (2009), Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996 – 2008. World Bank Policy Research Working Paper No. 4978.
- Lipsky, Michael (1971), Street Level Bureaucracy and the Analysis of Urban Reform. *Urban Affairs Quarterly*, 6, 391-409.
- Lipsky, Michael. (1980), *Street-Level Bureaucracy*. New York: Russell Sage Foundation.
- May, Peter J. (1999), Toward a Future Agenda for Implementation Research: A Panelist's Notes. Prepared for the Annual Meeting of the Western Political Science Association in Seattle. Department of Political Science, University of Washington.
- Mazmanian, Daniel A. & Sabatier, Paul A. (1981), *Effective Policy Implementation*. Lexington, MA: Lexington Books.

- Mazmanian, Daniel A. & Sabatier, Paul A. (1983), *Implementation and Public Policy*. Glenview, IL: Scott Foresman.
- Meier, K. J. and Gill, J. (2000), *What Works: A New Approach to Program and Policy Analysis*. Boulder, CO: Westview Press.
- Nakamura, Robert T. & Smallwood, Frank. (1980), *The Politics of Policy Implementation*. New York: St. Martin's.
- Pressman, Jeffery L. & Wildavsky, Aaron B. (1973), *Implementation*. Berkeley, CA: University of California Press.
- Sabatier, Paul A. (1986), Top-Down and Bottom-Up Approaches to Implementation Research: A Critical Analysis and Suggested Synthesis. *Journal of Public Policy*, 63, 21-48.
- Van Meter, Donald S. & Van Horn, Carl E. (1975), The Policy Implementation Process: A Conceptual Framework. *Administration and Society*, 6 (February), 445-488.
- Winter, Seren C. (2007), Implementation Perspectives: Status and Reconsideration. In B. Guy Peters and Jon Pierre (Eds.), *Handbook of Public Administration (Concise Paperback Edition)*. London: Sage Publications.