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ABSTRACT

A three-dimensional model was developed to assist researchers in conceptualizing the research-study-impact process. Drawing on communication and decision making literature, the model relates time, action, and audience dimensions. The results of these relationships is labeled "institutional study impact." Impact is viewed as the outcomes from a variety of audiences producing various actions over a longitudinal time period. A longitudinal case-study approach is the general research metodology used to implement the model. A variety of criterion measures and data collection instruments are used to insure an exhaustive and reliable assessment of the research-impact process. To provide a comprehensive analysis mechanism, a Research Impact Gram (RIG), adapted from the sociologists' sociogram, which incorporates the time, audience, and action dimensions, is used. Other quantitative measures can focus on comparing attitudinal changes over time by audience type, and communication networks can be constructed as an aid in determining dissemination time estimates and communication links. Qualitative analysis can focus on the written and verbal feedback on the report's content, format, and significance. Decision making reactions can be categorized and labeled. Data analysis limitations inherent in the model are that measures become more unobtrusive as the audience goes from primary to tertiary; data become less reliable as the time dimension lengthens; and action becomes more difficult to assess when the behavior is either nonresponsive or rejecting. (DB)

A Model for Assessing Impact of Institutional Studies

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Institutional research has produced a large number of research studies for decision makers in higher education. In most cases the research is disseminated only within the institution and the nature of the research can be categorized as applied rather basic. Worthen and Sanders (1973) differentiate applied from basic research in the following way:

> "Applied research, when successful, results in plans, blueprints, or directives for development in ways that basic research does not. In applied research, the knowledge produced must have almost immediate utility, whereas no such constraint is imposed on basic research."

Since the research studies are developed in response to institutional problems and needs, the assumption made by the researcher is that his report will have institutional "impact." A theoretical framework is needed to assist institutional researchers in assessing the impact of their research studies.

Review of Literature

No model is available in the literature which would assist the researcher in examining the impact of his research report. Research utilization literature typically focuses on the change process or on the communication process.

Guba (1965) has identified four stages in a change continuum involving research, development, diffusion and adoption elements. Literature is available for each of the stages. Croft (1971) has developed an instrument for assessing research report adequacy; Lin (1968) has written on the diffusion process; and Farr (1969) has designed strategies for the developmental and action phases. Farr and Pingree (1970) in an extensive annotated bibliography on the research utilization process have identified over 200 relevant articles. Based on this literature the authors have formulated 15 propositions on the

research utilization process. The emphasis of the propositions is on the diffusion process and on developmental strategies. Using a case study approach in a school system, Steinhoff (1968) has attempted to evaluate a federally funded project's implementation, but the focus was on assessing various communication procedures rather than on identifying the overall study impact.

Traditional evaluation strategies (e.g., Stufflebeam, et al., 1971) focus on institutional, program and course processes and outcomes and thus offer little guidance in developing a useful approach to evaluating the research report impact process.

Model

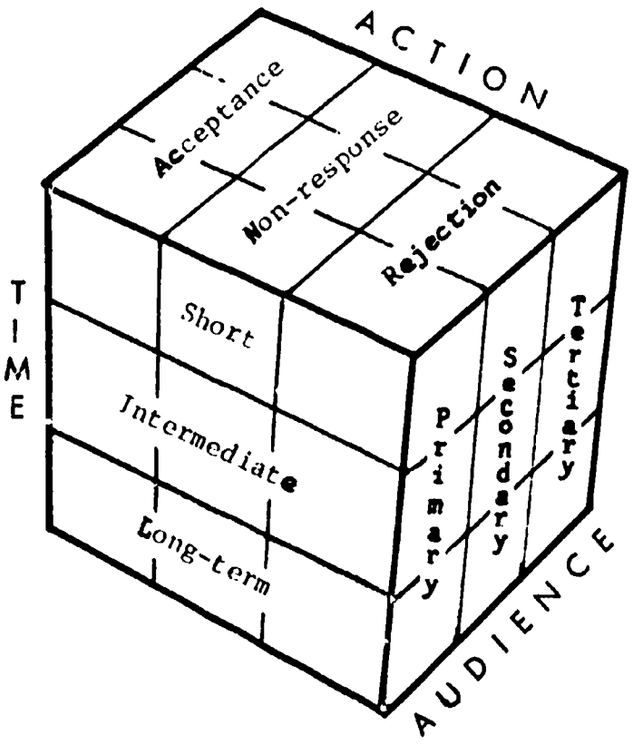
A three-dimensional model was developed to assist researchers in conceptualizing the research study impact process. Drawing upon communication and decision-making literature, the model (see Figure 1) relates time, action and audience dimensions. The result of these relationships is labelled "institutional study impact." Impact is viewed as the outcomes from a variety of audiences producing various actions over a longitudinal time period. The components of the model are:

> Time--Van Dalen and Meyer (1966) cite that there is a 25 year lag between dissemination of research reported in the literature and their eventual implementation. Within an institution no comparable time estimate has been made; however, because of the nature of the document being disseminated, a time-frame encompassing several periods is advocated. Three time levels are identified: short (from dissemination until three months later), intermediate (from three months until a year later), long-term would be from one year until 5 years.

Figure 1

Model For Assessing Impact of

Institutional Studies



Action--Halpin (1966) suggests we suffer less from a poverty of findings than we do from the lack of courage on the parts of the audience who review research to act upon these findings. Havelock (1973) sees 6 stages in the process of an individual adopting an innovation. For purposes of a more simplified model, these six stages have been modified and merged into three action phases: "acceptance," where the audience has accepted the report and its findings and then takes an observable action; "non-response" revealed through stalling or delaying tactics, raising questions designed to obscure the findings or simply ignoring the report; "rejection" evidenced by the audience outright refusal to accept the report's findings or refusal to use the findings in any future actions.

Audience--Farr and Pingree (1970) identify four audiences for educational information--teachers, researchers, administrators and the public. For the proposed model, each of these four audiences can comprise one of the three audience levels in the model. The primary phase of the audience dimension represents the requesting individual or group who initiated the study. In many cases this would be the institutional decision-makers to whom the director of institutional research reports. Secondary audiences are persons who routinely receive report copies, persons who immediately report to the primary audience or persons to whom the primary audience reports. The tertiary or third audience level are people within the institution who are not immediately identifiable as report recipients or are not typical users of research report findings.

Methodology

A longitudinal case study approach is the general research methodology used to implement the model. A variety of criterion measures and data collection instruments are suggested to insure an exhaustive and reliable assessment of the research impact process. For each of the following time periods, criterion measures and appropriate instrumentation are suggested:

Short-Term--To obtain immediate attitudinal feedback from the primary group, a short checklist or rating scale could be used to inquire into the report's adequacy, understandability and relevance. Face-to-face interactions with this group would provide informal initial reactions and suggestions for report clarification. The intermediate audience can be identified from the report dissemination list. This group's attitudes could be solicited through either the same rating scale used for the primary group, through a more general rating scale or through a semantic differential. Unobtrusive measures at this time could be the appearance of administrative memos citing the report, number of people requesting the report and informal, unsoliticted feedback. The tertiary audience can only be identified at this time. This can best be done through keeping track of persons requesting the report and through solicitation of the primary and secondary groups to identify those persons with whom they have shared the report.

Intermediate--More concrete forms of impact can be observed at this stage. Indirect observations of the various audiences will reveal whether the report findings are being acted upon. Typical questions would be: Have the results been

referred to a committee? Have the results initiated or contributed to an external funding request? Each audience should be given another opportunity to give attitudinal feedback and to identify additional people whom have become aware of the research report.

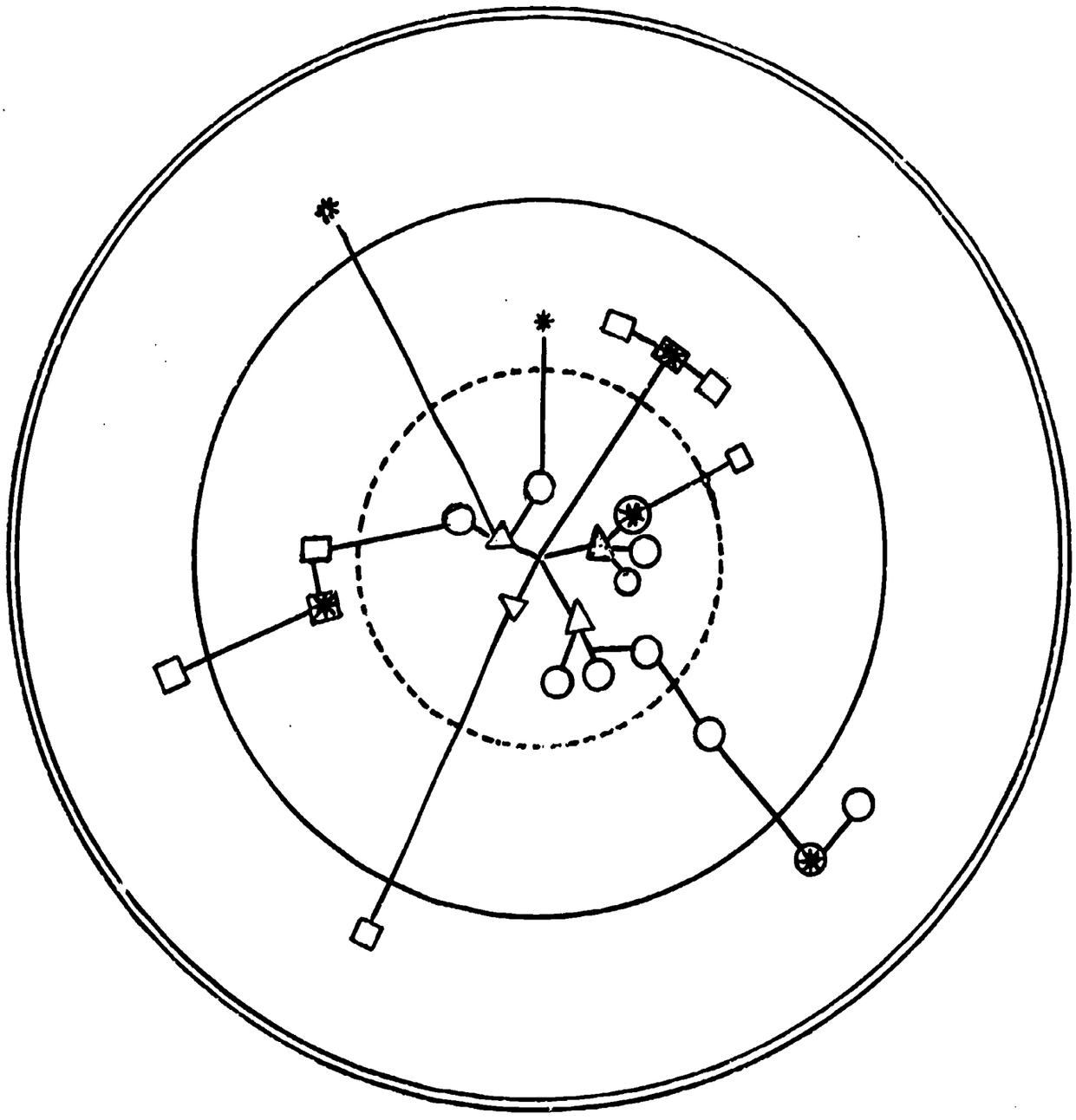
Long-Term--In many cases a study may have had its final impact before reaching this time period. Most often, however, the lag between dissemination and implementation will make this phase the most fertile time for a study's impact. Indirect or anecdotal data gathering would be most frequently utilized at this level. Questions which would be helpful at this period of evaluation are: Have any observable changes been made in personnel, equipment or procedures? Have any additional studies related to original study been requested? Are report copies still being requested?

Analysis

In an effort to provide a comprehensive analysis mechanism, a Research Impact Gram (R.I.G.) (see Figure 2) has been adapted from the sociologists' sociogram (e.g., Gronlund, 1959). R.I.G. is a comprehensive graphic analysis device which incorporates the time, audience and action dimensions. To demonstrate R.I.G.'s potential, hypothetical data are depicted in Figure 2. Within each of the time circles, the various audience types are represented using different character designations. The straight line connections between the characters identify communication links within and between audiences types. Asterisks have been superimposed on the audience types when an observable action has occurred. In some cases the observable action may result in a different time circle than when the audience first received the report.

Figure 2

Research Impact Gram



AUDIENCE:

△ = Primary

○ = Secondary

□ = Tertiary

TIME:

◌ = 0 - 3 Months

○ = 3 Months - 1 Year

◎ = 1 - 5 Years

✱ = OBSERVABLE ACTION

As will often happen in research dissemination, primary and secondary audiences will dominate the early time circles and tertiary audiences will be more abundant within the third time frame.

R.I.G. provides an analysis of the total number of people who were exposed to the study by audience type as well as the observable actions by audience type. Ratio calculations can be determined for the number of persons exposed to the study and the number of actions. Also, R.I.G. can incorporate Halpert's (1966) suggestion that a research utilization index can be calculated by dividing the number of units (audiences) applying the results of a particular piece of research by the total number of units capable of applying such results.

R.I.G. can depict the dynamic aspect of the research communication process. As audience types are identified, characters are added and the chart expands accordingly. "Research Expansiveness Index" (R.E.I.), a term adapted from sociometric group expansiveness analysis (Kerlinger, 1964), can be calculated by comparing the number of tertiary audiences with their primary and secondary links. Studies with high R.E.I.'s would display large numbers of tertiary audience types in relation to the primary-secondary audiences.

Other quantitative measures can focus on comparing attitudinal changes over time by audience type. Also, communication networks can be constructed and will assist in determining dissemination time estimates and communication links (Farr, 1967). Insights into the communication networks (both informal and formal) of an institution can provide the researcher with valuable insights.

Qualitative analysis will focus on the written and verbal feedback on the report's content, format and significance. Decision-making reactions can be categorized and labelled. These in time can be incorporated into R.I.G.

Several data analysis limitations are inherent in this model. Measures become more unobtrusive as the audience goes from primary to tertiary. Data

become less reliable as the time dimension lengthens, and action becomes more difficult to assess when the behavior is either non-responsive or rejecting.

Conclusions

Because of its simple conceptual framework the model has a number of limitations. The impact process is a complex one involving a wide range of uncontrollable variables which make causal analysis difficult. Organizational features impinge on the report acceptance process, e.g., the formal-informal decision-making processes, commitment to modern management techniques. Human dynamics and communication patterns are difficult to study and present a number of intervening variables which need to be controlled. The nature of the report, how well it is written, the topic under consideration, and the extent of its dissemination would all seem to influence institutional impact. The nature of the audience in terms of its research sophistication and willingness to read and use research results should also be considered in the impact process.

The model and its implementation would seem to imply a number of future studies. Does the impact of research findings vary directly in relation to the organizational level which requested it? Does the initial decision made by the primary audience affect the long-term impact of the study? Does the report form influence subsequent decision-making by audience level? Does the evaluation process produce a "Hawthorne effect" which thereby increases the use of research results?

The educational significance of the model is that it provides a simple conceptual framework which can be implemented easily by institutional researchers in determining the extent and nature of the impact of his research report. In this era of accountability the institutional researcher cannot avoid evaluation of one of the major outcomes of his job: the research report.

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