

University of Mississippi

eGrove

Proceedings of the University of Kansas
Symposium on Auditing Problems

Deloitte Collection

1-1-1988

Discussant's response to "Using and evaluating audit decision aids"

Stephen J. Aldersley

Follow this and additional works at: https://egrove.olemiss.edu/dl_proceedings



Part of the [Accounting Commons](#), and the [Taxation Commons](#)

Recommended Citation

Auditing Symposium IX: Proceedings of the 1988 Touche Ross/University of Kansas Symposium on Auditing Problems, pp. 026-031;

This Article is brought to you for free and open access by the Deloitte Collection at eGrove. It has been accepted for inclusion in Proceedings of the University of Kansas Symposium on Auditing Problems by an authorized administrator of eGrove. For more information, please contact egrove@olemiss.edu.

Discussant's Response to "Using and Evaluating Audit Decision Aids"

Stephen J. Aldersley
Clarkson Gordon

It is a pleasure to have the opportunity to comment on a paper dealing with a subject which has occupied a considerable portion of my time during the past few years—Audit Decision Aids. It should, therefore, not come as too much of a surprise that I agree with much of what is in the Ashton-Willingham paper. Throughout the paper I found myself nodding in agreement with the points being made. However, there are still a number of areas where I think the authors' efforts at organizing and categorizing the issues have led to unwarranted oversimplification. I will direct my commentary to these areas. I intend to follow the basic outline of the Ashton-Willingham paper and will conclude my comments with some observations on what I perceive to be a couple of particularly difficult audit areas that just might lead to important decision aids.

The theme of this paper can probably be stated along the following lines: Decision aids have a role, . . . but they need a cost benefit justification. The theme for my comments is related to the definition of decision aids adopted in this paper, i.e., "any explicit procedure for the generation, evaluation and selection of alternatives (courses of action) that is designed for practical application and multiple use." When you read the rest of the paper you wonder whether the authors have used a *complete* decision aid definition. They appear to have set up several straw men that are subsequently criticized and discredited. Would it not be appropriate to include some evaluative criteria in the definition of the decision aid? My contention is that if you don't, you may have a decision *anti-aid* instead. The courses of action should be "towards some well-defined objective" in a more complete definition of a decision aid.

Development Issues

One oversimplification in the paper is the distinction made between research-based as opposed to experience-based development approaches. The paper implies a dichotomy whereas, in practice, things are not nearly as simple. Although a decision aid may use a research base during development, it will not evolve into a tool solely from that perspective. The reason decision aids are often even considered is usually experience-based. Although one might argue that this is empirical research, the empiricism tends to be anecdotal rather than based on any research design. There are many examples from the past 20 or 30 years. For instance, analytical auditing and the related flow-charting technique grew out of our audit practice needs for concise system descriptions. Statistical sampling was implemented because of actual deficiencies encountered in the use of non-statistical techniques. Regression-based analytical review was introduced because of dissatisfaction with the quality of judgmental

results and we implemented assertion-based auditing to clarify the link between internal control work and the primary audit objectives. In all of these cases the initial need for the technique arose out of common problems encountered in practical application of audit techniques. I imagine other firms have had similar experiences.

However, it would be an oversimplification on my part if I were to completely discount the importance of a research base behind any one of these audit techniques. The development of any decision aid is not a static process. It is highly iterative. Initial stages of the decision aid may be built on prototypes, whether or not the decision aid is computer based. Field testing will play an important role in the initial stages, but practical application is the principal source of many refinements and the future evolution of the decision aid.

None of this should come as a surprise to anyone familiar with the practical application of decision aids, particularly in the context of an audit practice.

Decision Aids and Training

Decision aids are presented almost as an exclusive alternative to training. But the reality in an audit practice situation is that decision aids are often a part of training.

The entire discussion ignores the nature of the auditing business. Our new staff are well educated, intelligent and motivated, but they have no practical experience. Despite university courses, their practical knowledge of the audit process is limited. In many cases, at least in the Canadian environment, they do not even have an accounting or auditing education. All of this is exacerbated by the need for our staff to develop it extremely rapidly. We fully expect our staff to act as senior on most, if not all, of our small audits at the start of their second year. They quickly become seniors on very large audits and then managers in charge of a staff together with a reasonable portfolio of clients. In this environment, decision aids are not as important as training aids particularly in view of the fact that a significant amount of learning occurs on the job. This is an important aspect of the auditing business because training is one of the largest costs in a public accounting practice. The overlap between decision aids and training aids is, therefore, considerable.

Claims about Decision Aids

Ashton-Willingham list a number of claims made about decision aids (e.g., accuracy improvement and consistency, communication, distribution of expertise, staff training, ease of documentation effort, and time savings) in the context of their evaluation. From the practice point of view, many of these claims are assessed on a specific basis. In some cases, e.g., statistical sampling and regression analysis, the accuracy can be established through analytical means whereas empirical methods are necessary in other areas. For example, one of the major benefits of decision aids is the common language they introduce for technical matters so that professional staff who encounter problems are able to communicate the problem and then understand the response. The evidence for this is the high degree of consultation between staff members on technical matters; something which we observe in our internal quality control reviews.

A primary objective of decision aids is often time savings and this can be evaluated very directly using year-to-year comparisons with, and without, use of particular techniques. Although in some cases the learning curve confounds the results, it is still possible to get a reasonable estimate of time savings from this approach. Thus, although many decision aid benefits are not measured with a design-based approach, there are often semi-formal measures taken to determine whether or not a particular decision aid has achieved its objective.

Effects on Judgment

The observation that a decision aid increases rather than decreases the emphasis on judgment is entirely consistent with our experience. So often we find that our staff recognize that they have a problem simply because we have structured the issue for them. This permits a much more rational, consensus-based approach to resolving difficult situations. It also raises the issue of structuring the judgment inputs to a decision aid. As I mentioned at the outset, a complete decision aid should be capable of achieving a well-defined objective, and therefore some structuring of the judgmental inputs to the decision aid will often be necessary before one can consider the decision aid complete in any practical sense.

The illustration dealing with increasing versus decreasing consistency is not entirely pertinent to the critical issue here. The possibility that sample extents (sizes) vary more when a decision aid is employed may result from an incomplete or improperly defined decision aid. Although within the context of the particular task, consistency is desirable, there will be cases when the consistency requirement is with respect to a more general objective. For example, if one restricts consideration to the sample extent issue, using a sample size of 60 all the time is certainly consistent but, from the more important audit objective, it may be like a broken watch—correct only twice a day. If the consistency is not with respect to the correct objective, then the benefits of the decision aid may be foregone.

I can illustrate the consistency issue somewhat further by drawing on one of the decision aids used in our audit practice, our “source of assurance plan,” which we use to document our risk analysis for a particular financial statement assertion. Using four categories for the major sources of assurance, our auditors would begin with an assessment of inherent assurance and follow with an assessment of internal control assurance. Figure 1 presents three quite different approaches to the source of assurance analysis which result in quite different audit strategies. In Case 1, there is no reliance placed on internal control and very limited reliance placed on analytical review since the majority of the audit assurance is obtained through substantive tests of details. This can be contrasted with Case 2 in which a regression-based analytical review is performed but is also supplemented by a preliminary review and evaluation of specific assertion-related internal controls. The 3rd case represents an approach that would involve a dual purpose test on specific internal controls together with re-performance of the control procedures.

The important thing in all three cases is that the total assurance is the same. Because each of the factor limitations are set on a firm-wide basis, we have a very high degree of consistency with the applied audit effort in terms of the overall assurance objective.

STRATEGY ALTERNATIVES FOR AN ASSERTION

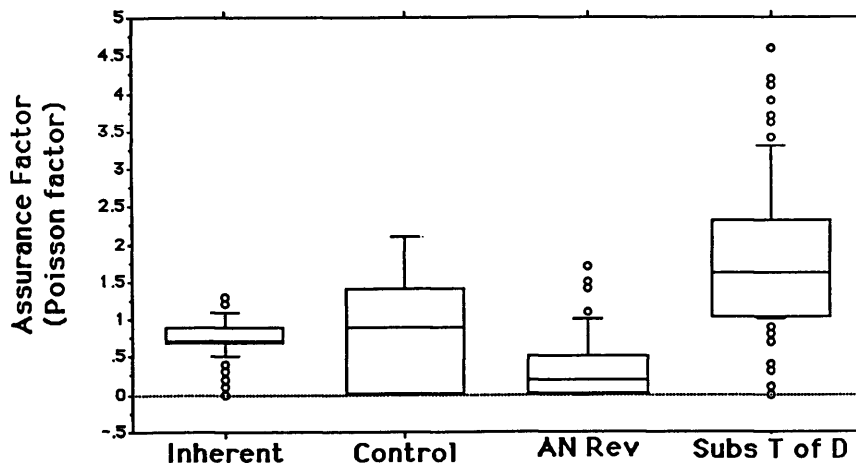
	<u>CASE 1</u>	<u>CASE 2</u>	<u>CASE 3</u>
INHERENT	.7	.7	.7
CONTROL	0	.9	2.1
ANALYTICAL REV	.8	3.0	.8
SUB. TESTS OF DETAILS	3.1	0	1.0
TOTAL	<u>4.6</u>	<u>4.6</u>	<u>4.6</u>

Figure 1

While presumably the staff will choose the approach which is the least costly in their particular circumstance, other factors may enter into their decision. For example, some of our auditors simply aren't comfortable with relying on internal controls and will prefer to take a substantive audit approach. Others are not comfortable with regression analysis techniques and will prefer either the substantive testing or the internal control approach. It is important to recognize that, in any situation, the assessment of the cost involved is not a simple procedure and can vary quite significantly from one situation to the next, even though they may appear similar.

Some idea of the degree of variability in the situation can be seen in the box plot in Figure 2 which shows the distribution of assurance factors for various source of assurance analyses from a number of representative sampling situations. An important objective of the source of assurance decision aid is to control any undesirable variability, i.e., we attempt to make sure that the audit effort is of a relatively consistent level across our audit practice. However, within that constraint, we permit a considerable amount of variability in order to accommodate specific needs of the situation (you could argue that this is just flexibility) and also the specific capabilities of the individual staff involved in the engagement.

Source of Assurance Distribution



The above box plots show the distribution of assurance factors for the source of assurance analysis on 485 representative samples from 60 randomly selected audit engagements.

Figure 2

Effects on the Firm

One of the realities of modern day auditing is the increased structure of audit methodologies. This is clearly a necessary response to the increased complexity of the business environment that we face. Not only are our clients becoming more complex, but our own auditing standards are becoming more and more prescriptive as they gradually evolve into a form of decision aid. For example, SAS 47 makes explicit requirements for planning audits and evaluating their results and the new "expectation gap" SASs contain some very explicit recommendations with respect to audit approach. This trend is unlikely to abate in the foreseeable future.

Automation is often viewed as a potential substitute for labor, even in the auditing profession. An important prerequisite for effective audit automation is the increased structure of audit methodologies. There is a direct relationship between the degree of structure in an audit approach and its amenability to automation. Without structure, you will probably develop an expensive printing press if you automate an audit task.

Although it is an important factor, one must recognize that automation of an existing manually performed process requires a significant time saving in order to offset the automation cost. True substitution is often possible only by developing a new process. There are significant limits here in the audit profession. The auditor acts as an interface between the client's business environment and his audit objectives. The primary practice skill is adaptability due to the wide range of clients and the constantly changing business environment. One of the key things is the ability to learn quickly. All of these

factors introduce limitations on the extent to which the substitution of capital for labor can be effective in an audit practice situation.

Decision Aids and the Art of Auditing

Decision aids have been used by auditors for decades, ever since the first auditing textbooks were published. While these early decision aids were often limited to a listing of audit steps, they were the forerunners of the computerized decision support/expert systems in use today. I predict that we will see more use of decision aids in the future. Our environment will only become more complex, yet the basic raw material of our business, the people we hire and train, are not going to be inherently more intelligent than in the past. However, because of their environment they are probably going to be better able to make the best use of the decision aids we provide them. Ashton-Willingham have provided a timely overview of the important issue of audit decision aid evaluation and I think they will most surely have achieved their objective of "stimulating discussion among auditing practitioners and researchers."

I would like to leave you now with two of my favorite "chestnut" problems, concerning the "art" of auditing. Perhaps they may someday be amenable to a decision aid approach.

One of the most interesting morsels of audit folklore is that legendary technique demonstrated by the experienced auditor who walks into a client, looks around, and decides that the inventory is wrong based on what he has seen. The "smell test" is a mysterious and unexplainable procedure applied by the auditing profession. When it works, we all admire the auditor who performed the feat, but when it fails, no one seems to notice. How does the smell test work? How does an experienced auditor determine that a particular transaction is sufficiently unusual to warrant further investigation? We have a lot of audit staff who would like to be able to duplicate this feat.

A possibly more difficult problem is the issue of auditing accounting estimates. The real problem here is what constitutes a best estimate? The mean? The median? The mode? Even if we were all well calibrated Bayesians we would often still be in trouble if the range of acceptable values was ten times materiality. Part of the solution may be to increase disclosure when the range of acceptable values is unacceptably large. But one of the interesting paradoxes of auditing is that when the range of acceptable values is several times materiality, the chance of the estimate disagreeing materially with the eventual outcome turns out to be extremely high but the chance of an accounting error is actually considerably less. The paradox lies in the fact that all auditors believe and say the opposite. Can we solve this problem with a decision aid?