Subjectivity in developing and validating causal explanations in positivist accounting research

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ABSTRACT

Eliminating alternative causal explanations plays an important role in establishing causality. We analyze two strategies researchers use to eliminate alternatives to their preferred causal explanations: providing persuasive evidence against other plausible explanations and developing a preferred explanation in such a way as to limit the number of alternatives against which evidence needs to be provided. Although positivist accounting research aims at objectivity in the use of these strategies, we argue that subjectivity plays an important role as well. We identify and discuss relatively more objective and more subjective components of these strategies for validating and developing causal explanations.

Introduction

The accounting research that is sometimes labeled as positivist aims at empirically validating general causal explanations of accounting-related phenomena—that is, causal explanations that apply to many instances of a given phenomenon. This research aims at objectivity, in the sense that empirical results and the inferences drawn from them are meant to be independent of the characteristics of the individual researcher. Thus, results of such research are intended to be:

- replicable by other researchers in the same setting;
- reliable across settings that meet the conditions stated by the relevant theory; and
- persuasive within a community of researchers (that is, the results have the power to change the beliefs of other researchers in the community).

Paradoxically, the objective development and validation of causal explanations in this literature are often dependent on subjective judgments and decisions. We identify key sources of subjectivity and trace their influence on developing and validating causal explanations.

The remainder of our article is organized as follows: The next two sections lay the groundwork for our analysis by providing definitions of key terms and identifying the role of eliminating alternative explanations in establishing causality. The following sections analyze how researchers eliminate alternatives to their preferred causal explanations by validating their preferred causal explanations through persuasive evidence against other plausible alternative explanations and/or by developing their preferred causal explanations in such a way as to limit the number of alternatives against which evidence needs to be provided. In these sections we identify important subjective judgments and decisions that researchers make in both validating and developing their preferred causal explanations. The final section concludes.

Definitions

Positivist research

The accounting research that is sometimes labeled as positivist investigates elements of accounting practice that are common to many instances rather than the unique configuration of common and non-common elements that...
occur in any single instance. Researchers attempt to draw inferences about these common elements from a limited sample of observations. Thus the validity of inferences from the particular to the general is a core concern for this research.

The term “positivist” has been used loosely in accounting research, as in other contemporary social science research, often to denote quantitative hypothesis-testing research. Scholars who do such research often do not accept the classic positivist program of treating the social sciences as identical to natural sciences and discovering stable “laws.” Nor do they share the position of some earlier major advocates of positivism, from Comte (Andreski, 1974) to Friedman (1953), that social science should aim at predictions based on observed regularities rather than an understanding of causal processes.

Objective and subjective

Objectivity in developing and validating causal explanations is often considered important in positivist research. We use the term “objectivity” in the sense of epistemic, not ontological, objectivity (Searle, 1995). “Assertions (knowledge and judgments) can be considered [epistemically] objective to the extent that the community in question has agreed-upon criteria for evaluating the justification or evidence for those assertions.” (Shapiro, 1997, p. 166). Many accounting phenomena are ontologically subjective, in the sense that they are socially constructed, but analysis of these phenomena can be epistemically objective. As an example of this distinction, paper money is ontologically subjective: it is money because people treat it as money, not because of properties of the paper that are independent of human judgments and decisions. But money is epistemically objective: there are agreed-on criteria for evaluating whether a particular piece of paper with “5 dollars” on it is really money rather than a counterfeit, a toy, or a note about the price of tea.

The objective–subjective distinction is a continuum, not a dichotomy. At the purely objective end of the continuum, a large community agrees completely about the criteria for evaluating assertions (e.g., inferences) and applies these criteria in uniform ways. At the purely subjective end, there is no agreement about criteria for claiming that one assertion is more valid than another; diverse individual judgments cannot be reconciled or ranked. In the middle range of the continuum are degrees of agreement that vary both with respect to the breadth of the community that agree on criteria and the completeness of their agreement.

Causality

We assume that the concept of causality in accounting research is consistent with a probabilistic version of the counterfactual-conditional account of causality. In this concept of causality, “If event x and event y are distinct actual events, then event y causally depends on event x if and only if, if event x had not occurred, then the probability of event y’s happening would be less than if event x had happened”. (Menzies, 2009) Thus, for example, developing an argument that managers’ use of a particular accounting practice x causes high levels of performance y means developing an argument that high levels of performance would be less probable if x were not used.

This definition of causality may seem to exclude many variables used in accounting research, because accounting variables are often represented as facts (e.g., precision of accounting information) rather than events. But in many cases the “fact” is a summary representation of an event or set of related events. For example, to say that accounting information in a given setting has high precision as a measure of managers’ efforts is to say that a certain set of events—managers’ effort choices and accountants’ recording and analysis of indicators of these effort choices—has occurred in this setting.2

The role of alternative causal explanations

The concept of causality described above has important implications for developing and validating causal explanations in accounting research, because it makes the role of alternative explanations for y salient. For example, evidence that organizations with high performance (y) use accounting practice x more often than low performers does not by itself provide strong support for an argument that x has a causal influence on y, because it does not provide strong evidence about other plausible counterfactual conditions. That is, it does not provide evidence that the high-performing organizations probably would have had lower performance if they had not used x, and that the low-performing organizations probably would have had higher performance if they had used x, other things equal. It is possible in principle that the high-performing organizations would have had high performance even without using x—thus causality cannot be claimed—because there is an alternative explanation: the higher performance of these organizations was caused by some other factor z that tended to co-occur with x.

Because the counterfactual by definition is an event that does not occur, researchers do not have direct evidence of what would have happened to a given set of organizations at a given time if they had used different accounting, all else equal. Much of the process of validating a causal explanation consists of finding or creating high-quality proxies for these nonexistent counterfactuals, such as:

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1 For example, Mayntz (2004, p. 239) identifies a large body of social-science research that aims “to avoid the vain search for social laws;” and Engel (2013, p. 6) summarizing behavioral economic research, argues, “Behavioral researchers have no reason to expect natural laws. They may at best find typical patterns.”

2 Some versions of the counterfactual–conditional approach to causation also allow for the use of variables that cannot be represented as events: “The [counterfactual conditional] definition of causal dependence . . . takes the primary relata of causal dependence to be events. . . However, very different conceptions of events are compatible with the basic definition. Indeed, it even seems possible to formulate it in terms of facts rather than events (For instance, see Mellor, 1995, 2004).” (Menzies 2009).
• comparing the performance of matched pairs of organizations that are as similar as possible on all performance-relevant features except the specific accounting practice;
• comparing performance of the same organizations before and after implementation of the accounting practice, during time periods that include as few other confounding events as possible; or
• randomly assigning the accounting practice to some organizations and not others.\(^3\)

Thus, an important part of validating a researcher’s preferred causal explanation (i.e., the explanation that is the focus of the validation process in a study) consists of eliminating alternative causal explanations.\(^4\) Table 1 summarizes the ways in which researchers can aim to eliminate alternative explanations, and limitations to the objective accomplishment of these aims. We next provide a brief overview of Table 1, followed by more extensive analysis in the remaining sections of this article.

Researchers can eliminate alternative causal explanations by explicitly providing persuasive evidence against them (“Validating” in Table 1) and/or by reducing the number of alternatives against which researchers need to provide evidence (e.g., by specifying the preferred causal explanation narrowly so that fewer alternative explanations are plausible) (“Developing” in Table 1). The success of validating preferred causal arguments by gathering persuasive evidence can be limited in two important ways. First, research designs that provide strong evidence against one alternative often provide weak evidence against some other plausible alternatives: hence a single study with a given design is unlikely to provide strong evidence against all plausible alternatives, and researchers must trade off one kind of validity against another. Second, the number of plausible alternative explanations can be quite large, and providing evidence against them all can require more data collection, more complex research designs, and/or more extensive knowledge on the part of researchers than is feasible.

The strategy of reducing the number of alternatives ex ante when developing a preferred causal explanation can help researchers to cope with the problem of large numbers of alternatives, but it has the potential to create additional limitations to the persuasiveness of a study. First, there is a tradeoff: narrower specification of a preferred causal explanation can make it easier for researchers to persuade others that the evidence they have gathered validates their preferred explanation, but narrower specification can also make it more difficult to persuade others that the study is interesting. Second, plausible alternatives are sometimes excluded merely because researchers are unaware of them, especially when these alternatives are outside the scope of the researchers’ preferred theoretical perspectives. Third, a study can fail to be persuasive to readers with different prior beliefs because it does not report the limitations to inference that result from excluding alternatives ex ante.

Excluding alternative causal explanations through the processes of validating and/or developing a preferred causal explanation includes some judgments and decisions that are relatively objective. That is, they are located nearer the objective end of the objective–subjective continuum and can lead to agreement among researchers with initially different views about the accounting issue but similar views about what constitutes persuasive evidence. For example, researchers with different views about the effectiveness of monetary incentives may be able to agree that a given study showing no effect has been able to eliminate the alternative explanation “low statistical power of test” by using a large sample.

As we argue below, however, there are also subjective judgments and decisions in these research processes about which researchers are not likely to agree so easily. Multiple types of validity exist, and a single study typically cannot maximize all types simultaneously; the tradeoff decisions that researchers must make in consequence are subjective to a considerable degree. Moreover, the success of even a relatively objective process like providing persuasive evidence against alternatives depends on choices made during the development of a preferred causal explanation. Alternatives that are excluded during development will not be exposed to the potentially more objective processes of validation; and researchers may disagree, on relatively subjective bases, about the appropriateness of excluding specific alternatives in the development process.

\(^3\) Although random assignment is often not feasible at the level of independent organizations in the natural environment, it can be used with organizational subunits in field experiments or with laboratory “organizations” consisting of small numbers of individuals.

\(^4\) Note that “explanation” does not necessarily mean “single-factor explanation,” and thus excluding alternative explanations does not mean rejecting complex multi-factor causality. An explanation can be a model specifying multiple causal factors and the forms of their relations with each other and the dependent variable of interest (see Luft & Shields, 2003 for more detail). Alternative explanations would then be models specifying different sets of causal factors and/or forms of relation.

**Validating preferred causal explanations**

Because the research we address aims at validating general causal explanations based on sets of specific observations, the validity of inference from the particular observations to a broader population is crucial in assessing how well a study validates the causal explanations it makes and invalidates all plausible alternative causal explanations. The predictive validity framework in Fig. 1 (adapted from Runkel and McGrath (1972)) provides a widely accepted organizing framework for validating such inferences.\(^5\) Inferences about the conceptual (theoretical) relation between the independent and dependent variables (link 1) are made by validating link 4 between the operationalized independent and dependent variables. Valid inference about the conceptual relation also requires that links 2 and 3 between the conceptual and operational

\(^5\) This framework was introduced to the accounting literature by Libby (1976) and used by Libby, Bloomfield, and Nelson (2002) to analyze experimental research in financial accounting. Note that, in order to present validity issues clearly, this figure represents a simple causal relation without interactions, endogeneity, etc. The causal diagram can readily be modified to include more complex relations (see Luft & Shields, 2003; 2007).
variables are valid and that other variables that can influence the dependent variable are controlled for in link 5.

Validating these links requires researchers to provide evidence that an apparent association between the operationalized independent and dependent variables is more consistent with their preferred causal explanation (link 1) than with other alternatives such as the following:

- The apparent association between the operationalized variables is not caused by a real association but by violations of the assumptions of the statistical tests employed.
- The real cause of variation in the dependent variable is not the conceptual independent variable in the researcher’s preferred causal explanation but a different variable that is poorly chosen operationalized independent variable actually captures.
- The operationalized variables are associated with each other, not because x causes y (as in the researcher’s preferred causal explanation), but because y causes x, or x and y have a common cause z.
- The study makes a general claim that x causes y, but a more valid alternative explanation is that x causes y only under certain conditions that were present in the context of the study but are not universally present.

In terms of the widely used threats-to-validity framework (Shadish, Cook, & Campbell, 2002), these alternative explanations represent threats to statistical conclusion validity, construct validity, internal validity, and external validity, respectively. Because these threats are different, created by different alternative explanations, the research processes that reduce one threat will not necessarily reduce—and may in fact increase—other threats. The existence of such tradeoffs creates important limitations to researchers’ ability to validate their preferred causal explanations through relatively objective process of providing persuasive evidence (limitation A1 in Table 1).

**Tradeoffs among validity types**

The design of any particular study—for example, its choice of research method and data sources—involves tradeoffs among the different types of threats to validity. For example, the choice of using a laboratory experiment typically reduces threats to internal validity through random assignment of sampling units to experimental conditions but can raise questions about construct or external validity. Similarly, when researchers use archival

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6 For example, questions can arise about whether performance reports provided to laboratory experiment participants capture the same theoretical properties as a set of performance reports in natural environments (construct validity). Questions can also arise about how large a set of performance reports in natural environments actually have these properties (external validity).

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**Table 1**

Validating and developing researchers’ preferred causal explanations as a process of eliminating alternative causal explanations.

<table>
<thead>
<tr>
<th>A. Validating preferred causal explanations</th>
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<tbody>
<tr>
<td><strong>Aim:</strong> Provide persuasive evidence that invalidates all plausible alternative causal explanations</td>
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<tr>
<td><strong>Limitations to objective achievement of aim:</strong></td>
</tr>
<tr>
<td>(1) Validity tradeoffs. Providing more persuasive evidence against one alternative causal explanation often entails providing less persuasive evidence against some other plausible alternatives</td>
</tr>
<tr>
<td>(2) Numerous plausible alternative explanations. Providing evidence against all plausible alternatives would require more data collection, more complex research designs, and/or more extensive theoretical knowledge than is feasible</td>
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<table>
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<tr>
<th>B. Developing preferred causal explanations</th>
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<tr>
<td><strong>Aim:</strong> Reduce the number of alternative causal explanations against which persuasive evidence must be gathered, by narrow specification of context, causal-chain segment, etc.</td>
</tr>
<tr>
<td><strong>Limitations to objective achievement of aim:</strong></td>
</tr>
<tr>
<td>(1) Reduction in researchers’ ability to persuade others that their preferred causal explanations are interesting when they are very narrowly specified</td>
</tr>
<tr>
<td>(2) Exclusion of plausible alternatives merely because they are outside of the researchers’ preferred theoretical perspectives</td>
</tr>
<tr>
<td>(3) Failure to report limits of inference. Studies that provide evidence consistent with a preferred causal explanation do not necessarily provide evidence against other explanations if these other explanations have been excluded in the development process</td>
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</table>

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**Fig. 1.** Predictive validity framework (adapted from Runkel and McGrath (1972)).
and survey data, their sample choices create validity trade-off choices. For example, a more diverse sample can increase external validity by enabling researchers to test for interactions, but can increase threats to statistical conclusion validity and construct validity.7

In consequence of these design choices, the validation process will be able to exclude some alternative causal explanations persuasively, at the cost of providing only limited evidence against some other alternatives. Judgments about acceptable tradeoffs among threats to validity are more subjective than judgments about whether a specific threat (e.g., low statistical power, an interaction) has been eliminated. There is no common measure of validity across the types that would allow researchers to provide evidence that they are giving up only \( v \) units of one kind of validity to gain \( v + n \) of another kind of validity. Moreover, as Shadish et al. (2002) argue, the relative importance of different kinds of validity can vary across research contexts, such as basic versus applied research.8 But there is no standard set of weights for the different validity types that would move researchers with different initial judgments toward agreement about whether the gain is greater than the loss in any particular tradeoff among validity types.

Because there are neither summary measures nor agreed-on weights for the different types of validity, judgments about the acceptability of particular tradeoffs are relatively subjective. Perhaps in consequence (since tradition can substitute for objective validation as a basis for agreement), these judgments are much influenced by the traditions of sub-communities of researchers. For example, some sub-communities are more likely than others to accept \( p = .06 \) as adequate support for a hypothesis. Similarly, some sub-communities are more likely to be more concerned about the threats to external validity in laboratory experiments or single-site field studies, while others are likely to be more concerned about threats to internal and construct validity in large-sample archival and survey studies.

Numerous plausible alternative explanations

Identifying all plausible alternative explanations is a challenge because the social sciences offer a very diverse and extensive range of theories that are potentially relevant to accounting. Economics, psychology, and sociology theories are commonly employed in accounting research (Chapman, Hopwood, & Shields, 2007), and other disciplines such as anthropology, history, political science, and neuroscience can also play a role. Moreover, the diversity of relevant theories within each discipline is large. (See Birnberg, Luft, & Shields, 2007 for an example of the diversity of psychology theories relevant to accounting.)9

Not all social science theories will be direct competitors in explaining a given accounting phenomenon, but often the number of possible explanations is nontrivially large. Ittner, Larcker, and Meyer (2003) provide a good example, identifying eight plausible explanations (two based on economics theories and six based on psychology theories) for the magnitudes of incentive weights on performance measures in a large bank’s balanced scorecard. A longer list of plausible alternatives could be composed for many accounting research questions. For example, Table 2 provides a (non-exhaustive) list of 14 plausible causal explanations (E1–E14) of why some decision makers would rely more heavily on apparently relevant accounting information in making a particular decision than others do.

The plausible alternatives to a researcher’s preferred causal explanation can be so numerous and diverse that the process of validating the preferred explanation by providing evidence against all identified alternatives can, in principle, become unmanageable (limitation A2 in Table 1). More plausible explanations provided by more diverse theories often mean that more different independent variables are potentially relevant. Using a larger number of variables is likely to require more data collection, more complex research designs to take into account the relations among these variables, and/or more knowledge on the part of researchers to deal with the resulting theoretical and methodological issues. Meetings these requirements can be costly or infeasible, and hence researchers often use the process of developing their preferred causal explanations to reduce the number of alternative plausible explanations against which they need to provide evidence.

Developing preferred causal explanations

A broad-based literature search will often generate a large number of plausible causal explanations related to a particular research question, like the 14 alternatives that appear in Table 2. How many of these are in fact competing explanations against which evidence must be gathered depends on how the researchers’ preferred causal explanations are developed and thus how they are specified in their final form. As explained in more detail below, some criteria for excluding alternatives through development are shared by many researchers, even though they differ about specific accounting issues; and thus eliminating alternative explanations by these means can be regarded as relatively objective. However, as with validation, subjective judgments play a key role in developing preferred causal explanations and can create limitations to researchers’ success in persuading others who initially hold different views about whether the researchers’ preferred explanation is valid.

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7 Larger samples can have more uncontrolled variation that reduces the power of tests (statistical conclusion validity), for example when data are collected from a larger number of firms and/or industries that vary in ways not captured adequately by control variables. Larger samples can also decrease the likelihood that a given operational variable is really capturing the same construct in the diverse units of observation in the sample (e.g., does activity-based costing have the same essential properties in all the different organizations in the sample?).

8 For example, “Basic researchers have high interest in construct validity because of the key role that constructs play in theory construction and testing. Applied researchers tend to have more interest in external validity ...” (Shadish et al. 2002, p. 100).

9 Balakrishnan and Penno (2013) illustrate the combinatorial explosion of alternative causal explanations when many explanatory factors are available and researchers do not include all possible factors in their preferred model.
Plausible alternative explanations can be eliminated relatively objectively by specifying the preferred causal explanation more narrowly, so that explanations which would be plausible alternatives to a broadly stated preferred explanation become logically inapplicable to the narrower version of the explanation. For example, the statement of the preferred causal explanation can explicitly limit the context to which it is intended to apply—organizations or markets of a certain size or structure, individuals with a certain level of expertise or motivation, short-term or long-term variation only, etc.—in order to exclude explanations based on variation in these individual, market, or organizational characteristics.

Research settings are then chosen to be consistent with the narrowly specified context. For example, researchers who are interested in the effects of noise in accounting information (E1 in Table 2) might want to avoid the need to measure and model individual variation in risk attitudes (E2), estimation error (E3), and/or mental models (E4), because their research designs are already complex, or they doubt that the available theoretical or empirical models and/or operationalization of constructs will allow them to control effectively for individual variation from all these sources.

To avoid dealing with these variables, researchers can develop a noise-based explanation that explicitly narrows its applicability by stating assumptions about alternative explanations that limit their influence. For example, the explanation can be specified to apply only to settings where (a) risk aversion is high enough that the uncertainty created by noise will matter, (b) estimation error is low enough that individuals can distinguish higher from lower noise reliably, and/or (c) individuals’ mental models are similar enough that the implications of different noise levels for individual decisions are reasonably similar across individuals and predictable by the researcher. The research setting then needs to be matched to such assumptions: for example, a setting might be found where individuals rely on a trusted system for key estimates rather than making their own estimates with their own idiosyncratic errors.

Another relatively objective way to reduce the number of plausible alternatives through development of the preferred explanation is to specify only a narrow segment of the causal chain, to which only some alternative explanations are logically applicable. For example, accounting information received by different sets of users can be differentially noisy (E1) because it is produced by different technologies (E14): there is a causal chain leading from technology to noise to information use. Researchers may specify that they are only interested in the effects of noise and not in its causes. Given this specification, technology is not a factor that competes with noise to explain the use or non-use of accounting information, and researchers do not need to collect information on technology variation to validate their preferred causal explanation.

Reducing the number of plausible alternatives through narrow specification often contributes to the effectiveness and efficiency of research design. It enables researchers to document the explanatory power of their preferred causal explanation without using inordinately complex research designs and statistical analyses to control for or eliminate alternatives. Narrow specification also can create limitations, however (see Table 1, Part B). Narrow specification often raises questions about how interesting a limited context or limited segment of a causal chain is (limitation B1). Sometimes researchers exclude alternative explanations in

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Table 2
Selected alternative explanations for why some decision makers rely more on apparently relevant accounting information than others.

<table>
<thead>
<tr>
<th>Difference between users and non-users of relevant accounting information</th>
<th>Relevant theory</th>
</tr>
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<tbody>
<tr>
<td>E1. Accounting information received by users is less noisy than that received by non-users</td>
<td>Economics, psychology</td>
</tr>
<tr>
<td>E2. Users of (noisy) accounting information are more risk-averse than non-users</td>
<td>Economics, psychology</td>
</tr>
<tr>
<td>E3. Non-users overestimate and/or users underestimate the noise in accounting information</td>
<td>Psychology</td>
</tr>
<tr>
<td>E4. Accounting information plays a smaller role in non-users’ than in users’ mental models</td>
<td>Psychology</td>
</tr>
<tr>
<td>E5. Leadership style of users and/or their superiors is more accounting-oriented</td>
<td>Psychology</td>
</tr>
<tr>
<td>E6. Users (non-users) work in environments where reliance on accounting is (is not) consistent with social or professional norms</td>
<td>Sociology</td>
</tr>
<tr>
<td>E7. Users have more accounting training than non-users and therefore are more confident that they can use the information effectively</td>
<td>Psychology</td>
</tr>
<tr>
<td>E8. Users belong to a national culture that is more compatible with strong reliance on accounting information than non-users</td>
<td>Psychology</td>
</tr>
<tr>
<td>E9. Non-users have better access to high-quality information that substitutes for accounting than users do</td>
<td>Economics</td>
</tr>
<tr>
<td>E10. Users have better access to complementary information that improves the usability of the accounting information</td>
<td>Economics</td>
</tr>
<tr>
<td>E11. Users have more ego-involvement with the accounting because they have been more involved in creating the specific accounting measures than non-users have</td>
<td>Psychology</td>
</tr>
<tr>
<td>E12. Users (non-users) work in settings where powerful coalitions that would be advantaged (disadvantaged) by reliance on accounting have encouraged (limited) its use in decisions</td>
<td>Economics, sociology</td>
</tr>
<tr>
<td>E13. Users, more than non-users, work in settings where the use of accounting is a signal of skills that are important for promotion to higher-level jobs</td>
<td>Economics</td>
</tr>
<tr>
<td>E14. Users work in settings with more advanced technology, which provides more up-to-date and/or more transparently presented versions of the accounting information</td>
<td>Various theories</td>
</tr>
</tbody>
</table>

Notes: 1. E = Explanation.
2. See Hartmann (2000) for a review of literature that proposes and investigates many of these explanations.
the development process not because they are logically implausible but merely because they are outside the researchers’ preferred theoretical perspectives (limitation B2). Finally, researchers sometimes fail to report adequately the limits to inference that result from their exclusion of alternative explanations in the development process (limitation B3).

Choices of which alternatives to exclude and which limitations to report often depend on researchers’ choices of theoretical perspectives, which are highly subjective decisions. Researchers often make these decisions early in their careers, based on their preferences, abilities, and experiences, as well as on institutional forces such as the availability of training and research support. There is no objective way of determining (for example) whether sociology is in general a “better” theoretical perspective as a basis for accounting research than psychology, or vice versa.11

Because a choice of theoretical perspective is typically a long-term choice to build expertise in one particular set of theories and research methods and not others, it tends to constrain subsequent, more study-specific choices. Thus, some of the research choices that follow from a choice of theoretical perspective are also highly subjective and cannot meaningfully be labeled right or wrong. Just as it is not “wrong” to be an economist and “right” to be an anthropologist, so the choice of primary objects of study (e.g., individual versus social processes, markets versus organizations) cannot be objectively right or wrong in general: such choices are not subject to agreed-on criteria that would determine which of these objects of study it is “better” to know about. In the following subsections we analyze the three limitations presented in Table 1, Part B, indicating how each of these is linked to researchers’ subjective choices of theoretical perspectives.

Narrow specification and interestingness

Choice of theoretical perspective is a strong subjective influence on researchers' judgments about the interestingness of any given research question and the causal explanation that is proposed to answer it. In Davis' (1971) widely cited definition, interesting studies are those that share most of their audience's assumption-ground but deny some particular assumption.12 Thus, judgments of the interestingness of research questions are highly audience-specific: “Propositions are interesting or uninteresting only in relation to the assumption-ground of some audience.” (Davis, 1971, p. 32). In such cases there is no objective method, transcending audience assumption-grounds, of determining which audience's preferred questions are “more interesting.”

As researchers narrow the applicability of their preferred causal explanations in order to improve their chances of success in validation, they risk making their studies less interesting to some potential audiences, because narrower explanations may no longer be a good fit to the assumption-ground of these audiences. For example, suppose a preferred causal explanation focuses only on the individual level of analysis and excludes explanations at organizational and social levels. (Note that this does not mean denying the relevance of organizational and social levels of explanation; it simply means that these levels are outside the scope of investigation in the particular study.) An individual-level explanation is likely not to seem interesting, and thus not valuable and persuasive, to researchers whose preferred theoretical perspective includes the assumption that explanations should focus primarily on higher levels of analysis.

Researchers often strive to interest and persuade relatively broad audiences (not just their few closest colleagues), and thus they can be willing to make a tradeoff in developing their preferred causal explanation. Rather than maximizing their chances of validation success by specifying their preferred explanations very narrowly, they trade off chances of validation success against chances of interesting a broad(er) audience. But just as there is often no objective method of determining which audience’s preferred questions are more interesting, there is also no objective method of determining what the optimum point is in such tradeoffs. Hence beliefs can sometimes differ in objectively unresolvable ways about whether a given study has made an appropriate tradeoff of this kind.

In the two following sections, we argue that excluding alternative explanations in the development process sometimes runs the risk of slipping from justifiable narrow specification into two less justifiable research practices: excluding plausible alternatives merely because they are outside of the researcher’s preferred theoretical perspective, and failing to report the limitations of the inferences that can be made when alternatives are excluded through narrow specification of preferred causal explanations.

Exclusions based on researchers’ preferred theoretical perspective

Researchers trained in one theoretical perspective sometimes have limited acquaintance with other perspectives. Insofar as plausible alternative causal explanations are excluded from consideration in a study simply on the basis of convenience—that is, alternatives are excluded because the researcher is neither aware of them nor equipped to deal with them—it is unlikely to inspire confidence in the validity of the study’s inferences. Insofar as exclusions are based on a belief that causal explanations from other theoretical perspectives are so generally implausible or uninteresting that they do not need to be considered explicitly, it is also likely to limit the persuasive power of the study.

11 Max Weber identifies the paradox that scientists (among whom he includes natural scientists, social scientists, and scholars of the humanities) all believe that their particular scientific activities are especially worthwhile, “But they cannot prove scientifically that this is the case.” (Weber, 1958, p. 145).

12 Similarly, Bartunek, Rynes, and Ireland’s (2006) survey of editorial board members of the Academy of Management Journal found that the most frequently given reason for why an article is interesting is that it is counternormative, in that it challenges established theories, is contrary to folk wisdom, or creates an “aha” moment. But see Towry (2012, p. 26) for important caveats to this view: for example, the “risk that we will encourage poorly developed, convoluted theories, as authors embark on a ‘search for surprise.’”
Accounting research increasingly does not take this approach but explicitly considers multiple theoretical perspectives in individual studies. For example, Libby et al. (2002) describe how research studies that integrate theories from economics and psychology have contributed to a better understanding of financial accounting by specifying more clearly the mechanisms affecting individual and market behavior. In management accounting research, Covaleski, Evans, Luft, and Shields (2003, 2007) identify opportunities and provide guidelines for budgeting research that integrates theories from economics, psychology and sociology.

**Failure to report limits of inference**

Studies that do not adequately report their limitations are not likely to be persuasive, because they claim broader applicability or more certainty than can be justified by the evidence they provide. The limitations that need to be reported depend in part on the choices researchers make in developing their preferred causal explanations. For example, when researchers specify a preferred causal explanation narrowly so that it applies only to a particular context (e.g., time frame, organization type), they need to make clear to readers that their study makes no inferences about other contexts. Failure to report such limitations can easily arise when plausible alternatives are outside of researchers’ (subjectively) chosen theoretical perspectives. If these alternatives are excluded in development simply because researchers are unaware of them or unprepared to deal with them, then researchers will also be unaware of the resulting limitations.

Even when researchers are aware of plausible alternatives and have excluded them via narrow specification, they sometimes fail to make it clear that their studies provide no evidence about these alternative explanations. For example, evidence of the importance of individual-level variables is not by itself evidence against the importance of culture or vice versa. Individual-level studies often hold culture constant and thus provide no evidence about effects of cultural variation. Similarly, evidence of strong effects of monetary incentives in settings where social norms have little variance—or evidence of strong social-norm effects in settings with little monetary-incentive variance—does not enable researchers to make inferences about the relative importance of money versus social norms. Whether a study is informative about causal explanations other than the researcher’s preferred explanation depends on whether other explanations were even considered and whether the (often limited) research setting chosen was one in which these other explanations could plausibly have had significant effects.

**Conclusion**

Philosophers have commented on the subjectivity of empirical inquiry even in the natural sciences:

There are, of course, general maxims for empirical enquiry—for example, the very fact that we speak of empirical enquiry reflects one of them: ‘Don’t try to figure out in a purely a priori way how nature works.’… But which theories we should test…; when a theory has been sufficiently tested to warrant provisional acceptance, and when it has been tested enough to be relied on, at least until a better theory comes along; these are all matters which in practice scientists decide partly on the basis of tradition… and partly on the basis of intuition. (Magee, 1978, p. 232).

Subjective intuition can be a source of creativity, and tradition can support potentially useful regularities of scholarly practice when no logically or evidentially compelling reasons for regularity are available. But reliance on relatively objective—explicit, shared, logically and evidentially based—criteria remains an ideal in positivist accounting research.

A widely accepted strategy for implementing the positivist ideal relies on using the predictive validity framework (Fig. 1) and explicitly and systematically addressing threats to the validity of empirical inferences. Addressing these threats means validating a researcher’s preferred causal explanation by providing evidence against plausible alternatives and/or developing the preferred causal explanation in such a way as to limit the number of alternatives about which evidence must be provided. Insofar as these approaches to developing and validating causal explanations make acceptance of a study’s inferences more persuasive to a broad community of researchers and thus less researcher-dependent, they increase the objectivity of research.

The positivist ideal of objectivity also includes explicit awareness and reporting of the subjective judgments and decisions involved in developing causal explanations and making research-design choices. Because these judgments and decisions can exclude alternative plausible explanations from being considered and can reduce the evidence gathered against these alternatives, they constitute important limitations on validation of a study’s inferences. Reporting these limitations—that is, reporting the (often unavoidably) subjective nature of developing and validating causal explanations—can, perhaps paradoxically, increase the objectivity of a research study. Researchers who espouse different, and potentially conflicting, specific theories are more likely to agree about the validity of the inferences that can be drawn from a particular study—that is, the inferences will be less researcher-dependent and thus less subjective—if the limitations of these inferences are fully reported.

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13 For example, it is not evident that $p < .05$ is the optimal cutoff for acceptable inferential results, but it is efficient for the scholarly community to accept such a common cutoff rather than argue about it in the review process of every hypothesis-testing paper submitted to journals.
References


