

# Rigor and Relevance Remodeled

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**Abstract.** In the debate on rigor and relevance in MIS Quarterly Vol. 23 No. 1, March 1999, some models that presented the concepts as conflicting were presented. This paper reviews the debate, defines a number of concepts, and concludes by presenting a model of the relationships between rigor and relevance that is more complete with respect to the earlier debate; that is neutral towards different research methodologies and different research topics; and that presents the two concepts as supporting each other rather than being in conflict. We believe the model is useful for the purpose of being able to assess research efforts from a position that is not biased by methodological or other preferences.

## 1 Introduction

A series of articles published in MIS Quarterly in March 1999 (Vol. 23 No. 1) debated the question, why does not IS research produce knowledge that is both scientifically rigorous and relevant to practice? The debate left the impression that it is relevance to practice rather than rigor that is missing, and that the concepts are in conflict rather than in support of each other.

Although the discussion brought up many insights, some key concepts were left not well defined, or they were used in an incomplete way so that the discussion appeared somewhat fragmented. This paper is a modest attempt to complete the discussion by making some aspects of what has been proposed as a tension between the rigorous and the relevant a little more tangible. Thus, it is an attempt to apply rigor and relevance to the notions of rigor and relevance.

In the MISQ 1999 debate, some models that presented the relationships between rigor and relevance as conflicting concepts were presented. Models are important for guiding thought, and as we believe that the models presented do not cover the debate appropriately this paper concludes by presenting a model of the relationships between rigor and relevance that is more complete with respect

to the earlier debate, that is neutral towards different research methodologies and different research topics, and that presents the two concepts as supporting each other rather than being in conflict. We believe such a model is useful for the purpose of being able to assess research efforts from a position that is not biased by methodological or other preferences.

The problem situation, as inferred from the debate, can be discussed in terms of the following items:

- The process of doing research
- The product of research
- The audience for the product of research
- The communication channels through which the product of research is delivered to an audience

In this paper we discuss the relations among these items. Using the arguments in the MISQ debate we propose a model that covers the whole debate. The model shows that the terms rigor and relevance cannot be rigorously defined independently of the actors in the system. This means there is a “rigor of relevance” (the rigor by which researchers are able to find out and answer to the concerns of their perceived audiences without drifting in order to achieve other goals) and a “relevance of rigor” (the level to which the researcher is able keep the decided-upon level of thoroughness suggested by relevance). Before discussing these concepts, let us briefly review the debate in terms of the views of the rigor–relevance relationship.

## 2 In Search of Rigor and Relevance – Reviewing Existing Models

In order to construct a new model of rigor and relevance that includes the issues and concepts introduced in the debate, we first review some existing models.

### 2.1 Rigor versus Relevance – a Dichotomy Model

One model of the relation between rigor and relevance suggests that we can only obtain better rigor by sacrificing relevance, and vice versa; to increase the level of relevance, we must give up some rigor. This model corresponds to what has been proposed as a fundamental tradeoff in observational research (Mason, 1989) in which the two dimensions degree of reality (corresponds to relevance) and degree of control (corresponds to rigor) are in dialectical opposition. Mason also notes that while the dimensions are in opposition, “one is not the logical negation of the other” (p. 6). In the MISQ debate, Benbasat & Zmud (1999) seem to subscribe to this view. Their argumentation and suggestions imply that it is indeed a matter of rigor versus relevance (as the title of their article in fact suggests) and not a discussion about ways to be both relevant and rigorous.

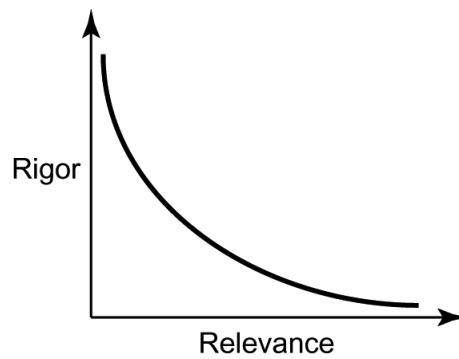


Figure 1. Model of rigor and relevance as a dichotomy

## 2.2 The Impact Frontier Model

Davenport & Markus (1999) refer to an alternative model to the relationship between rigor and relevance, called the impact frontier model. Here, the researcher is seen as having the potential to contribute to both business and academic communities by choosing to position a publication differently depending on the kind of impact wanted. The main idea behind this model is that the “impact quotient” of a product of research is not dependent of its communication channel. A product of research published in a rigor-oriented journal may have the same, less, or more impact than an article published in a relevance-oriented magazine.

While it is debatable if this model answers any questions about the concepts of rigor and relevance, it does help us realize that there are more dimensions to the question than introduced in the rigor/relevance dichotomy model of Figure 1. It also recognizes that the impact of a product of research is not based solely on its communication channel, i.e. where it is published, but rather on the accessibility to and acceptance of that channel by the target audience, and that the product of research has properties that must be aligned to the audiences’ needs. Thus, the impact frontier model acknowledges the importance of having a clear conception of the target audiences.

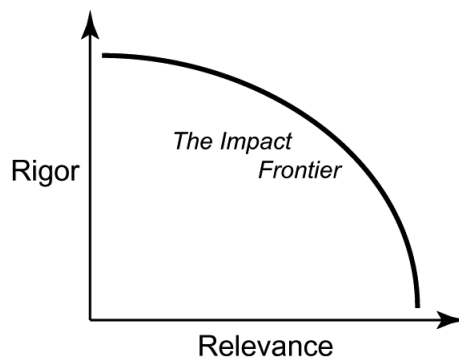


Figure 2. The Impact Frontier Model (Davenport & Markus, 1999)

## 2.3 The Consumable Research Model

The Robey & Markus (1998) consumable research model proposes to break the conception of rigor and relevance as dialectical dimensions. Robey & Markus believe that assumption is dangerous, because it “deceives us into thinking that we have to choose between rigor and relevance” (p. 9). The curve in Figure 3 suggests that there is no “either or” relationship between rigor and relevance, and it is indeed possible as well as desirable to increase both simultaneously. The authors make four recommendations for achieving this:

1. Practitioner sponsorship as a mechanism to ensure that the outputs of a research effort meet the needs of those who pay.
2. The IS community must be open to and learn to use research practices from other fields than the traditional social sciences. Research models from fields such as policy studies and education, disciplines that tend to value both rigor and relevance, should be just as applicable and useful within IS.
3. The style of the resulting research reports must be appealing to the intended audience.
4. Identifying appealing alternatives to academic journals as outlets.

While the Figure 3 model does serve the purpose of illustrating the view that there is no either-relevance-or-rigor, it fails to illustrate the authors’ concerns about how to actually achieve as much as possible of both qualities, since in the model, more of either seems to entail more of the other.

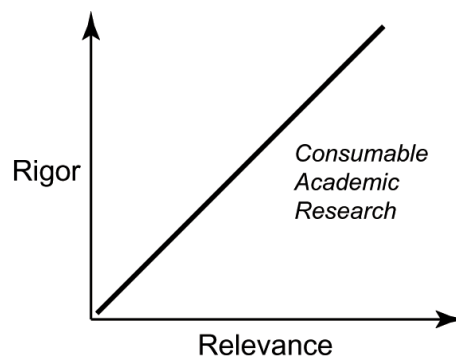


Figure 3. The Consumable Research Model (Robey & Markus, 1998)

## 3 Investigating Central Concepts

While neither of the models introduced in the debate explicitly defines the relation between relevance and rigor, they all contain some implicit or explicit view of that relationship. The authors also provide a number of suggestions on how to achieve a high degree of relevance, including the following desirable attributes of the research product:

- It should address problems, challenges or concerns of a perceived audience
- It should be practically applicable to the target audience

- It should be current in its focus on technology and business issues
- It should be accessible to the intended audience, i.e. the researcher should communicate the product to the audience through an appropriate—for the audience—communication channel
- Its topic should hold a high degree of future interest from intended audiences
- It should focus on conveying issues of the topic, e.g. practical solutions to a perceived problem, rather than issues of methodology
- It should align its style, its language of communication, to suit the needs and prerequisites of the intended audience

As for the research process, to achieve some degree of relevance the following attributes should be considered:

- Choose or find the audience you want to address carefully
- Identify concerns within the target audience, e.g. look to practice to identify research issues and topics, and do not to the current IS literature be the primary influence

The MISQ 1999 debate did not make clear how, if in any way, these qualities pertaining to relevance are in opposition to, or in support of, doing rigorous research. So as to investigate the relationships between the qualities, things need to be sorted out. The problem area, as described by the earlier papers in this debate, can be discussed in terms of the following items:

- The process of doing research
- The product of research
- The audience for the product of research
- The communication channel through which the product of research is delivered to an audience

Let us now discuss the relations among these items.

### 3.1 The Process and the Product of Research

When examining the debate, it is sometimes unclear whether the authors are talking about the product of research or the process of research, and to what extent a specific argument put forward applies to both, or if not, to which. By process of research we refer to the act of applying some scientific method to collect data and perform analysis. The process of research does not imply using a particular method or approach, only that such are in fact used.

The process of research may be considered separate from the product of research, by which we refer to the interface between the researcher and the audience. Currently, the most prominently known, used, and demanded interfaces in the IS community are the published articles and books. For instance, a paper may be viewed as the product of a particular research effort that most of the time is the only point of contact between the audience and the researcher, and thus the only source the audience can utilize to gain knowledge about the undertaken research endeavor.

Obviously, the process and the product of research are not always clearly separate as seen from the perspective of the researcher, for whom the product is often merely the result of the process. From the perspective of the audience, however, the product is a representation of a process into which they do not have direct insight. The fact that both rigor and relevance are expressed through the product from

the perspective of the audience but not necessarily so from the perspective of the researcher makes it useful to separate the process and the product of research for our purposes. By making this separation, it is possible to put any style of rigor into the process of research regardless of the audience(s) later to be addressed. The researcher might want to present the results to two different audiences, e.g. both an academic conference and a popular science magazine. This is possible to do by giving the product of research, i.e. in this case the two very different articles that need to be produced, different styles of rigor. Note that the research process on which both the popular science article and the academic conference article is the same, and thus so is the process rigor. The popular science article however, does not mediate this process rigor as rigorously. This means the popular science article has a product rigor that better suits its particular audience (a more relevant rigor, see next section).

### 3.2 Rigor, and “Relevance of Rigor”

Rigor denotes a structured and controlled way of planning, carrying out, analyzing, evaluating and producing products of research, independently of the research method used. However, different methods and theories require different measures to be taken in order for a particular study to be regarded as rigorously executed. Different methods thus have different styles of rigor. Rigor in ethnographic research is not achieved the same way as rigor in experimental studies. Being rigorous is simply to devote oneself to being thorough and careful, and to use the tools provided or suggested by the method in an accurate way. Rigor applies to both the process and the product of research.

Rigor is also about placing the study in a wider context, for instance to find communities outside IS which study the same or analogous topics and to what extent that work is applicable (which, by the way, indicates a weakness in the rigor of this paper).

To achieve relevance of rigor, the style of rigor must be decided through the needs and the requirements that follow from the concerns of the intended audience. The appropriate style of rigor is thus established in a dialogue with the audience through the properties of its concerns. This decided-upon kind of thoroughness suggested by relevance should then constitute the rigor searched for in the research endeavors, a goal of rigor that the researcher should strive to achieve. If the researcher is able to satisfy this goal, a high degree of relevance of rigor is attained.

Unfortunately, the rigor demanded by the audience is not always the same as that required by other actors that influence a particular piece of work, such as journal editors, academic supervisors and other gatekeepers of the communication channels. However, by distinguishing between the product and the process of research this is not an insurmountable dilemma. The process can be executed methodologically rigorously, while the product is not transparent to—or mediates—the same style of rigor, provided, of course, that the research method used caters for all the styles of rigor that will be necessary for the different prospective products.

Relevance of rigor, then, is the level to which the researcher is able to maintain the decided-upon kind of thoroughness suggested by relevance.

### 3.3 Relevance, and “Rigor of Relevance”

As of above, relevance can only be established in dialogue with and through the concerns of a specific audience. Relevance may thus be defined as the act of making efforts into research issues that is of concern to a perceived audience. A clear conception of the intended audience is a key concern for the process of establishing relevance.

Relevance applies both to the process and the product of research, and measures need to be taken in both areas. In the process of research, relevance is established through finding an audience and understanding that audience's concerns. The product of research should then manifest the established relevance by exhibiting properties that correspond to the needs of the intended audience.

Thus, rigor of relevance is the rigor by which researchers find out and answer to the concerns of their perceived audience(s), and not — consciously or unconsciously— drift in relevance for the purpose of achieving other goals, which would make the stated target audiences serve as tools to reach other, unspoken, audiences.

### 3.4 Audience

The audience is the explicit or implicit group or groups of people towards whom a product of research is directed, through some communication channel.

### 3.5 Communication channel

The communication channel is the means by which a researcher communicates with the intended audience. Channels include for instance journal articles, conference articles, books, textbooks, web pages, talks, and presentations. Clearly, the choice of communication channel is of key importance, since it is the means by which a research effort is communicated to its intended audience. However, certain gatekeepers, such as journal editors and publishers, influence the extent to which the researcher is able to choose the communication channel that seems most appropriate for a specific product of research. This may result in a situation where the researcher has to choose another channel, such as another journal, another conference, or publication on a web page. This channel of communication may be less accessible to the intended audience, and the research product may thus reach only a sub-group within the target audience, or even a completely different audience for which the relevance of the product is significantly lower.

## 4 A Richer Model of the Rigor—Relevance Relation

Having defined some concepts, we now present a model that gives a richer – and both more rigorous and more relevant to researchers – picture of the relationship between the concepts of rigor and relevance than those introduced earlier. More rigorous because it includes the distinction between the process and the product of research and it represents the intended audience. More relevant to researchers because it shows how relevance is established and how rigor is both influenced by and in support of relevance, and it makes visible the role of the communication channel.

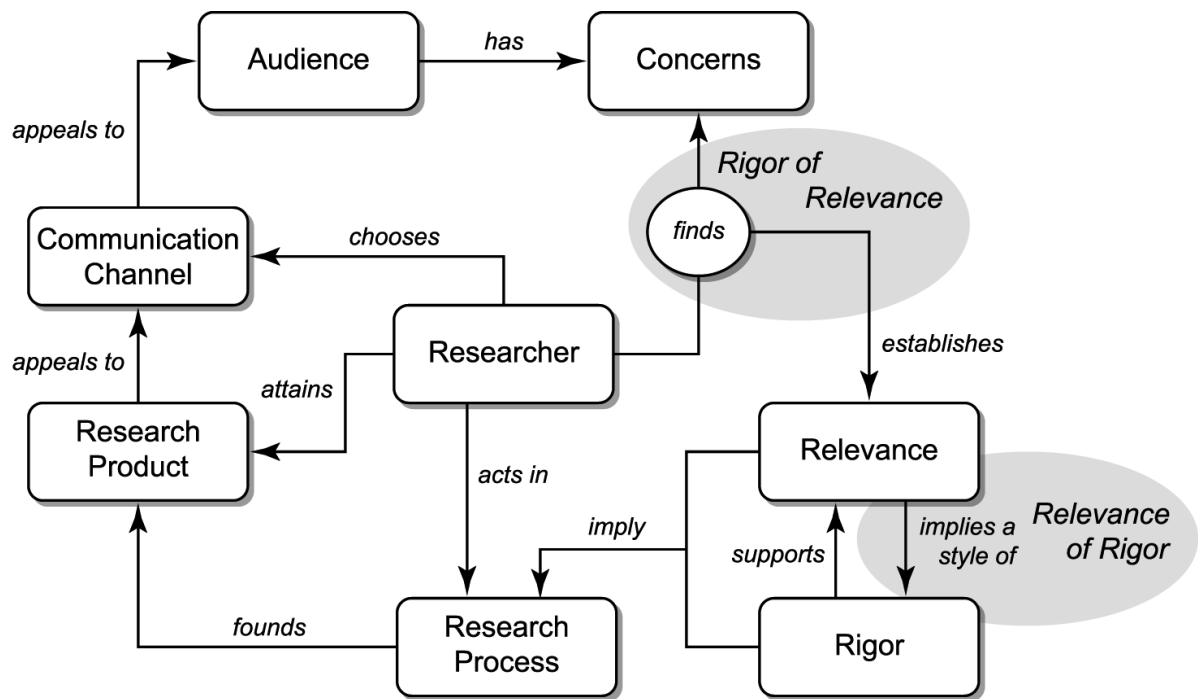


Figure 4. A Richer Model of the Rigor—Relevance Relation

In this model, the relationship between rigor and relevance is not that of a dichotomy. Rather, the concepts support each other. In consent with Keen (1991), the model suggests that relevance implies rigor. Relevance is established through the researcher choosing an audience that has specific concerns. The researcher should find these concerns, and the thoroughness by which s/he is able to find and uphold them is termed rigor of relevance. Finding these concerns establishes relevance for the chosen audience.

Relevance implies the rigor of both the product and the process of research. Specific concerns of a target audience suggest how the researcher should approach the research object. The researcher should not first decide on methodology and then look for issues to solve; rather, the research topic that comes from the audience's concerns should suggest the way the research is done. Issues of methodology, then, should be decided according to a perceived issue, and not be an end in itself. The fact that relevance should imply rigor is termed relevance of rigor. However, once relevance is established, rigor is in support of relevance.

The model also introduces the role of the communication channel, which relates in different ways to the audience, to the researcher, to the product of research, and to rigor and relevance. A potential problem here is that the communication channel typically suggests a certain style of rigor, which sometimes may be unaligned to the rigor suggested by the established relevance. This is to say that the style of rigor required by e.g. an academic journal may not be the same as that needed by the audience. If the rigor of the research product does not correspond to the standards of the journal, it may not become published and so it will not be accessible to the audience. If the product of research is aligned to the standards of the communication channel, and this standard is not the style of rigor searched for and implied by the audience through rigor of relevance, the product of research has a



lesser degree of relevance of rigor, and thus it may have less impact on the audience than would a product of research with a higher degree of relevance of rigor.

## 5 Conclusions

This paper has continued the discussion of relevance and rigor within IS research by questioning the view of rigor and relevance as a dichotomy. Existing models of the relationships and dependencies between the concepts of rigor and relevance have been examined and questioned, and a new and richer model of the relationships has been introduced. Two main issues have been revealed. First, it is important to separate the process of research from the product of research. Second, it is important to be specific about and to know the target audience and their concerns, which establish relevance.

Working definitions of the concepts introduced by different authors have been produced. Relevance has been defined as the act of making efforts into research issues of concern to a perceived audience. Rigor of relevance has been defined as the rigor by which researchers are able to find out and answer to the concerns of their perceived audiences without drifting to achieve other goals. While rigor generally denotes a structured and controlled way of planning, carrying out, analyzing, evaluating and producing products of research, relevance of rigor has been defined here as the degree to which the researcher is able to maintain the decided-upon kind of thoroughness suggested by relevance.

The advantage of our model compared to those earlier presented is that it is more complete with respect to the prior debate, that it is neutral towards different research methods and different research topics, and that it presents the concepts rigor and relevance as supporting each other rather than being in conflict. We believe this makes the model useful for the purpose of being able to assess research efforts from a position that is not biased by methodological or other preferences.

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