

# **Toward a Conceptualization of Research Output Quality**

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## **Introduction**

The evaluation of scholarly output is of great importance to the academic field. The results of this evaluation are used for decisions that materially affect the lives of those in academia from promotion and tenure to grants, fellowships, and other material resources. The current method of evaluating output within the Information Systems (IS) discipline has been traditionally the counting of publications in journal ranking lists. A key premise to this method is the placement of the article in a particular venue is an indicator of the quality of the article. In line with venue placement being an indicator of quality, a large literature stream exists to support this method including attempts to identify high quality journals; methods to identify the antecedents to quality and the ranking of scholars using this method.

However, the concept of scholarly output quality has been under-theorized (Dean et al. 2011; Locke and Lowe 2002; Straub 2008) leading to a number of criticisms such as being politically influenced (MacDonald and Kam 2007) as well as leading to misleading results (Singh et al. 2007; Truex III et al. 2011). In this paper, we investigate the existing studies in IS related to journal and researcher ranking and find that all the studies possess this *atheoretical* engagement with quality. Quality is continually referenced but never defined or seriously engaged. Quality may be the focus of the analysis of scholarly output but has not been developed. The lack of definition for quality is not only an issue for IS but also for many fields, e.g. accounting as Locke, et al. (2002) points out.

In this paper, we develop the quality assertion. First, we review the various definitions of quality in use, then we review the literature to search for quality in the IS literature. Then we develop the concept of quality as portrayed in literature. Following a summary of the state of the literature, we proffer a reconceptualization of quality for evaluation of academic research output and discuss implications of this reconceptualization for academic research.

## **Literature Review**

In this section, we first review the concept of quality from the literature. Then we explore how the IS field has dealt with the concept of quality in their ranking studies. We find the term “quality” is used in the IS literature on rankings in a common sense and unproblematic manner. No attempt is made to conceptualize or define the notion before it is operationalized. We find a systematic attempt at a definition only in the information quality literature (Wang and Strong 1996), one that adopts the definition of quality from the product manufacturing field. But in general the notion of quality, where used or explicated at all, is ill defined and in a very loose sense.

### ***Conceptualizations of Quality from Product Manufacturing Practice***

In the literature concerning ‘quality’, essentially three different definitions of quality have been espoused which we denote as “production” quality, “consumption” quality and “transcendent” quality. *Production quality* is associated with the notion of “conformance to specification” (ASQ

2008; Crosby 1979). In other words, does the production process produce output that conforms to the specification for the product? Other ways of viewing this include “number of defects” (Motorola.University 2008) or “uniformity around a target value” (Taguchi 1992). All of these definitions contain the idea of an ideal target or specification, which the production process is to achieve. We do find in the software production process a conformity to specifications are used. In production contexts, the goal of a quality effort is to reduce the product’s variance as compared to a specified *ideal or product template*. For example, the manufactured item is examined by devices measuring to an exacting set of specifications: dimensional, weight, fit/finish, functional performance, response time, maximum temperature resistance, power output, etc. The closer the item comes to specifications for it, the higher its quality is held.

A second definition, *consumption quality*, is associated with the notion of “fitness for use” (ASQ 2008). That is, can the item as produced meet the needs of those who use it? Related interpretations of this sort include “Degree to which a set of inherent characteristics meets requirements” of a customer as determined by the customer (ISO 2005), “What the customer gets out and is willing to pay for” (Drucker 1985). In these definitions the emphasis is on whether or not the consumer of the product can use the product and if they use it, does that product conform to their needs and performance expectations? The product does not have to be used as designed; rather it can be used in any way that the customer desires. Quality is a performative measure derived from the customers interactions with the product wherein the resulting *fitness for use*, as perceived by the customer, is the measure of the product’s quality. For example, quality might be how well a customer perceives that a clothes dryer dries clothing. If it dries to the level desired by the customer, then the dryer is of high quality. If the dryer leaves the clothes wet, it would be considered it to be of lesser quality. Of course, a customer may not know the concept of a clothes dryer and looking at the dryer decides to use the dryer as a chicken coop. If the customer decides that the dryer used as a chicken coop is rather small and the coup spins around, he may consider it to be of low quality as a chicken coop regardless of its clothes drying potential. The consumption quality notion is reflected in a long stream of research in the information quality field starting with Wang and Strong (1996) and associates (Lee et al. 2002; Madnick et al. 2009; Strong et al. 1997; Stvilia et al. 2007; Wang 1998). Other papers in the information quality area have adopted this approach as well, e.g. in examining why users accept certain information on the web (Reih (2002) where Taylor (1986) and Wilson (1983) implicitly adopt information quality.

The third approach to quality is one in which quality is not defined but assumes that what is meant by the term is assumed to be understood and accepted. This non-definition of quality is defined by Garvin (1984) as the *transcendent view*. A *transcendent view* considers quality to be something that cannot be articulated; we know a quality product when we see it but find it hard to pinpoint particular characteristics that make it a quality product:

*"Quality is neither a part of mind, nor is it part of matter. It is a third entity which is independent of the two ... even though Quality cannot be defined, you know what Quality is!" (Pirsig (1974)*

The *transcendent view* of quality is concerned with quality aesthetics and can be likened to primitive Platonic concepts such as “beauty” and “truth”; by being exposed to a succession of quality objects we develop a *sensitivity* for quality. Editors may claim they recognize good research when they see it, as a result of the sensitivity they have developed through exposure to many research publications. This is indeed the defensive explanation used by many editors when challenged to defend the quality of any given work. In the transcendent sense, quality is a naïve, subjective, and path dependent conceptualization in which the standards used to identify quality are particular to the evaluator and arise from the evaluator’s experiences. Quality is path dependent based on where one has received his or her training, one’s position/research in the field, the standards by which one is evaluated, interactions with peers, and the expectations of one’s employers.

Whereas the notion of quality standards has been a robust discourse in other fields for generations, notably that of art history and art criticism, our own field seems unaware of these other intellectual traditions. For instance the notion of transcendental quality as a warrant to clear and universal adjudication of quality was discredited and abandoned decades ago in the

field of art history and art criticism (Innis 2009; Langer 1957; Langer 2000). The transcendent view of quality is simply a naïve and indefensible notion.<sup>1</sup>

### ***The Approach of the IS literature***

The literature generally acknowledges there is no accepted theory of quality for the evaluation of academic research output (Dean et al. 2011; Locke and Lowe 2002). In addition, no empirical study exists that we are aware of, which would demonstrate for example, that MISQ and ISR are the highest quality IS journals. Instead the literature is a series of papers in which attempts are made to analyze what are considered to be proxies for quality.

To investigate the way the concept of research output quality has been handled in the IS literature, a review was made of papers within the IS field which attempt to assess research output quality. To collect the papers for study, we began with 39 papers in the IS literature that attempt to rank journals, scholars or departments across the IS and related disciplines. These papers were accumulated through the authors' seven years of work in this area. This review shows the form of quality used in those studies is unanimously of the transcendent approach. Except for one paper (Clarke 2008), no attempt to define quality was made. Instead in these papers, we find the term "quality" or cognates such as "prestige," "top," "value," etc. is used in an implicit and common sense manner. Yet somehow, despite this lack of conceptual clarity, efforts have been made to define various measures for quality. Straub and Anderson (2010) seem to summarize the general approach to the topic used in the IS discipline. They have suggested that journal quality is

*... an assessment of journal attributes that focuses on the process of reviewing papers, the publication of papers that make significant intellectual contributions to the field, and the subsequent stature of the journal that results from the former two attributes. (p. iv)*

For them, quality is an "assessment" of the processes in which the reviewing and publication of papers is performed. They do not describe the characteristic properties of quality or how we might distinguish it from other related concepts. The two processes of reviewing and publication are antecedent to the judgment of quality. In consonance with this definition, they state:

*[L]et us suggest that a concept like journal quality lies almost completely in the minds of scholars because quality itself is highly abstract, .... Without clearly mapped physical markers, we can come up with a set of metrics that will approximate this construct, but never tap into it without a large dose of humility ... It is not even remotely similar to the construct of something physical like ball bearing quality, where we can measure with small degrees of precision the variances of machine tools in creating the balls, their housings, and the processes that assemble these. (Straub and Anderson 2010, p. x).*

Here, they make a clear statement of the transcendence view of the concept of quality that they hold. For them quality is "almost completely in the minds of scholars." Therefore, quality is not something external to viewers but rather a subjective judgment that scholars make. Scholars explicitly reject the "conformance to specification" formulation of quality as not possible. While we can develop metrics to measure quality, we need to recognize that we are not really tapping into the concept.

This use of the transcendent view of quality has resulted in issues related to assessing the quality of journals. Dennis, et al. (2006) observe:

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<sup>1</sup> A question may be raised here as to the suitability of these kinds of definitions for the assessment of research output quality. We are not mass-producing research products; therefore research output should not be compared to an ideal archetype; academic research has to do with surpassing ideal types rather than conforming to them. In response, we might ask, what is the point of research output? We argue that it is to document an investigation into a phenomenon that has resulted in some new knowledge. In that sense, we might consider research, documentation of the process by which knowledge was developed. The investigatory process followed might then be considered an "information manufacturing" process that goes through very definite steps such as formation of the research question, literature review and analysis, design of the investigation, data collection, analysis, documentation, review, revision, and publication. We therefore consider adaption of product-manufacturing quality assessment definitions and methodologies to the process of the development of academic knowledge appropriate.

*Recent studies of faculty opinions show considerable differences of opinion among researchers in different parts of the world over what constitutes the top research journals (Lowry, et al. 2004; Mylonopoulos and Theoharakis 2001; Peppers and Ya 2003; Rainer and Miller 2005; Saunders 2005b). The study by Lowry et al. (2004) shows researchers in all regions, on average, agree that the top two IS journals are MIS Quarterly (MISQ) and Information Systems Research (ISR) (respectively), but beyond this, there is less agreement. The third place journal differs by region, but even so, in each region, the third place journal is scored at less than half the quality of ISR, suggesting that the top two journals are clearly the best, with others noticeably lower in perceived quality than MISQ and ISR. The study by Mylonopoulos and Theoharakis (2001) places these two journals first and second in North America, but adds Communications of the ACM (CACM) as either first or second in other regions, with MISQ and ISR second or third. CACM publishes primarily short articles in a magazine format targeted at computer science practitioners, and is typically not considered a pure research journal (Dennis et al. 2006, Appendix A).*

Based on these issues, we rule out the transcendent approach as a valid way to proceed and in the next section will analyze the quality as conformance to specification and as fitness for use approaches as the foundation for a conceptualization of research output quality.

## **A Conceptualization of Research Output Quality.**

We use the term research output to refer to the documentation of an investigation into a phenomenon that has resulted in the generation of new knowledge. Thus research output can refer to a book, a journal article, or a conference proceeding.

### ***Research Output Quality***

Before we can address the issue of conceptualizing research output quality, we need to address the issue of why we need such a conceptualization. Comments exist that we often argue about the quality of a journal but why do we need to discuss article quality? The answer to the question is quite simply, article quality is the basis of tenure, promotion, and funding decisions. How the articles of a scholar are perceived is, at least in part, a determiner of the scholar's receipt of various rewards. If we are to make a fair and democratic business of evaluating scholars, then we need to have some sort of standard of what "quality" research is. We cannot continue to allow an atheoretical and subjective evaluation of "quality" to continue.

If, then, we are to alleviate the atheoretical use of quality within the literature and place it on a firm footing, the concept of research output quality should be defined and theorized. In this section, we have provided a beginning of an effort to explore and operationalize the idea of quality scholarly output. We saw above that of the three different conceptualizations of research quality, the IS field uses a "transcendental" approach and reviewed the issues associated with that approach.

We also argue the use of the "conformance to specification approach" is not possible. For the conformance to specification approach to be used there must exist very detailed specifications. Detailed specifications do not exist. As we showed earlier with the Straub and Anderson (2010) notion, we are not dealing with quality in the sense of the quality of a ball bearing.

The foundation of the conceptualization of quality as conformance to specification is the idea of an ideal target or specification, which the production process is to achieve. The goal of a quality effort is to reduce the variance from the ideal. Reduction of variance from the ideal presumes there exists a clear and precise notion of the "ideal" state. In manufacturing, there is a specification, which includes precise measurable dimensions, and other specifications. This operationalized specification is notably missing in the field of academic research. One could argue numerous standards have been produced for positivist research (Carte and Russell 2003; Chin et al. 2003; Gefen and Straub 2005; Klein and Kozlowski 2000; Petter et al. 2007; Straub et al. 2004), interpretivist research (Klein and Myers 1999) or critical research (Myers and Klein 2011), however each of these proposed standards are filled with "guidelines", "rules of thumb", and other fuzzy standards that are insufficient to serve as "ideal" states or a precisely measureable statement of quality to compare with research output in similar fashion as commercial production quality.

Such guidelines and 'rules of thumb' are problematic for two reasons. On one hand they are a kind of 'contingency approach' (Davis 1971) to quality. On the other hand they are the guidelines to assemble elements in some 'right' order then the designation of quality might be assigned to a

work. Except that it generally does not work this way. Jones (2004) illustrates the case in an examination of papers given “the best paper” awards for the IS fields top journals and conferences. His investigation looked at the papers and compared them to the then standing guidelines for how good quality papers must present research methods. His finding was that almost none of the “best papers” met those standards. The difficulty with such lists, guidelines, and contingency approaches is even if such ideal specifications can be generated and agreed upon no clear or single configuration/array of the elements that guarantee a quality publication exists.

Thus extreme difficulties exist in creating an operationalization of this definition. The “performance to specification” approach cannot serve as the definition for academic quality and we move on to the second definition.

### ***Research Output Quality as Fitness for Use***

In considering research output quality as its being fit for use, we have to first define what use the research output will fit. The outputs of research can be used for a number of different purposes: for example for practitioners to inform their practice and thus use the research to improve their work or output, for other researchers to use it as the basis for the foundation for their research either to replicate the study at hand, to verify the findings, or to extend or challenge the conclusions of the study, for government policy formulation, etc. For any of these purposes, the research is of high quality if it is considered to be good enough for the purpose to which the user wishes to use it.

A publication would be of “high quality” if the ideas contained in the publication are taken up by the field and inform future research or practice with its observations. Thus the point of research outputs is to report and present findings in such a way that it will tell the user something new about reality so they can improve their practice or extend knowledge. Quality research provides useful information to both practice and research that is useful for them in their pursuits.

If we limit our discussion of research output quality to the academic world, how can we know if a research output is useful and therefore of high quality? To answer the question, we must review the dialogic nature of academic research. Latour (1987) provides us an interesting model of how this occurs. He indicates that a statement by itself is not considered true or false, but its fate is determined by how those in subsequent statements use the statement given. These uses may be what he terms “positive modalities” or “negative modalities.” Positive modalities accept the truth of the statement and move the reader toward application. Negative modalities question the statement and move the reader backward to question how the statement was generated and in particular the errors involved in the generation of the statement. In considering Latour’s concept, we see that positive modalities would consider the statement fit to use and therefore of high quality, while negative modalities question its usefulness and therefore its quality.

Given this conceptualization of scholarly output quality, we can identify the following propositions. First, fitness for use is necessarily a subjective value judgment. Without a firm specification we have to leave the evaluation of fitness for use in the hands of the receiving scholar. While their analysis is necessarily path dependent, we recognize that by looking at what the field *does* instead of the opinions of a few empowered experts, we can discern the opinion of the field (crowd) about the paper. The evidence Surowiecki (2005) presents that crowd sourced decisions, under the right circumstances, yield superior and more accurate ‘results’ than expert decision making is being increasingly born out in studies on crowd sourced decision-making in many fields. Genome research (Malone et al. 2010) examines how harnessing the power of the crowd leverages new ways to express old problems and opens previously missed solution spaces. Terwiesch and Xu (2008) examine how motivating crowds to participate yields superior solution options. The areas of finance and stock picking, product innovation and design, and long distance search research also support Surowiecki’s assertions that an open, transparent, and ‘democratic’ engagement of the crowd is wise and offers surprisingly efficient outcomes (Afuah and Tucci 2011; Jeppesen and Lakhani 2010; Poetz and Schreier 2011; von Hippel 2005).

Second, as a subjective value judgment, scholarly output quality is a construction. Following the constructivist learning model of Kolb (1984), we recognize that individual theory building is a

result of an internal conversation that we have with ourselves in interaction with the world. This interaction and our subsequent reflection upon experience allow us to construct a worldview of how the world is and how it works. The 'world' would include our view of scholarly output that is useful for their research. Thus each individual over their experiences in doctoral studies, and their subsequent research activity builds a view of what would be useful for them in their own research and their worldview thus provides a basis for the assessment of scholarly output. Again, these independent views are expressed as a field and through examining the response of the entire field we can get a perspective on what the field perceives as fitness for use.

Third, different agencies, groups of individuals going through similar life circumstances (Archer 1995), will tend to develop similar perceptions of fitness for use. These groups may be formed by coalescing around a certain scholar or philosophical position. They may also be from a certain doctoral program, university department, or coalition of researchers. Whatever the source, they will tend to have similar life experiences that drive their research programs, goals, and views of what is correct research. Influenced by these groups and the experiences they share, they will tend to develop similar views of what makes certain scholarly output more fit for research than others.

Fourth, the assessment of scholarly output must be performed by as large a group from the field as possible. Because the judgment is subjective, we cannot allow small groups of scholars to make the determination for us. By using a large group, we avoid sampling errors and we harness the "wisdom of crowds" as discussed above to determine how fit for use an example of scholarly output is.

Fifth, the process also improves on the transcendent approach by making the evaluation more open and transparent. Properly operationalized, this assessment should be fully open, a kind of democratic discourse (Truex III et al. 2011). The examination and discovery of positive and negative modalities is one that is open to all, and assertions of quality on this basis can be easily checked.

Sixth, there is empirical support for this notion. Serenko and Dohan (2011) compared expert survey and citation impact studies. In their paper, they reported the field of study and current research interests of respondents color their perception of the quality of the journal. This parallels a finding by Walstrom and Hardgrave (1995) in which they found that journal rankings were positively influenced by research interest, familiarity, and discipline. These findings would seem to support the notion that there is a correlation in the minds of the respondents of which journals are useful to them and the concept of higher quality.

Finally, the concept of modalities allows us to profile the use by the field. We can see where a paper was used as a mere example of something, a proof text, or an underlying framework. We can also see negatively where a paper was used as a negative example, or was subjected to a fundamental critique.

## **Discussion**

This paper has reviewed the quality literature and identified three different definitions for quality. A review of the IS literature has shown that IS has tended to use the *transcendent* definition of quality which led to quality being a subjective evaluation. Being subjective, there are no empirical studies that demonstrate the quality of articles or journals. With the lack of quality articles being the case, we argue subjective evaluation exists because of a power-based negotiation within the field, which determines the papers and journals that will be considered "high quality."

In place of subjectivity, we offered a definition of research output quality based on quality as "fitness for use". Following Latour (1987), we argued that citations to papers appear as different modalities. Positive modalities, which cite the paper approvingly, move the reader toward application of the concepts of the paper while negative modalities, those that cite the paper to have issues with it, move the reader toward contesting the findings of the paper.

For researchers, this paper marks the first attempted definition of academic research quality that we are aware of. In place of the subjective definitions and surveys of opinions, we now have a conceptualization of quality, theoretically founded in the quality literature that leads us to a more

objective way to conceive of quality and to operationalize its analysis. This conceptualization is a great improvement over the subjective transcendent conceptualization used today. This research can open the determination of quality to the entire field, freed from the domination of well-meaning “senior scholars.” Research output quality as “fitness for use” as determined by the actual use of the literature by the field is emancipating in that it allows an open and objective evaluation of the quality of research.

Given that the conceptualization of research output quality advocated here, the extent to which the field believes that published research is useful for their own studies, is a path dependent, subjective value judgment. The question arises: “how is this any different or better than the transcendent approach utilized in the literature?” As we argued above, it is superior in that rather than base the assessment of quality in the hands of only a few people we base it in the judgment of the large numbers of the field. As discussed above, a larger number of people examining a work in terms of suitability for their research are superior to a smaller number of experts in finding issues. The operationalization of this approach is much more than a simple counting of citations or “Facebook likes” but rather relies on sophisticated scientometric analysis such as that described in (Cuellar et al. 2016) This is not to say that the larger community judgment is perfect or is immune to bias, but rather that by exposing the research output to the field and then measuring what they do with it, we get to see the actual impact on the field by the original work.

### ***A Research Agenda***

As a nascent area for research, there are many aspects that require development:

#### **Operationalization of the Concept**

As discussed above, investigation is necessary to determine how these quality modalities manifest in the empirical world. Since we are talking about the use of papers by other scholars, we could argue these modalities would manifest themselves in citations. To identify these modalities in the citation of papers, we must go beyond the simple counting of citations, we must consider the modality of the citation. The way in which these modalities manifest themselves will vary. Positive modalities might vary from heavy reliance on the concepts of the paper in their paper: for example using it as the underlying framework, as a support for their logic, to provide concepts for their paper, as an incidental citation or example. Negative modalities will be citations as bad examples or specific refutation. To operationalize quality, you would need to evaluate both the positive and negative citations. These different modalities can lead us to a typology of usage of one paper within another one.

This typology could be used in the development of analysis technology to evaluate papers. Citing papers could be parsed to identify the modality of citation employed within the paper and a modality evaluation assigned. Such a computation however does not capture the situation where a paper is not considered to be useful enough for a citation. We refer to this kind of modality as the negative modality of silence. Some other kind of analysis that compares the net citation modality level for a paper against other papers is needed to account for this kind of silent modality. Additional work would be needed to determine how to use this methodology to evaluate scholars.

#### **Antecedents of Fitness for Use**

This area considers the different causes for various modalities of quality. Why is a paper cited or not cited? How does the scholar’s view of fitness for use come about? Why is it that a paper is simply ignored rather than negatively cited? Various studies at the individual level of analysis could be done to understand the psychology of citation and of the formation of the mental construct of fitness for use so that we can understand how a scholar forms his or her concept of what research is useful for them to further their work.

Another area is of social antecedents. In what way do social structures influence scholar’s choices of which work to draw upon to develop their research? How do these social structures influence the development of their worldviews? In this line of research, investigations would be made to show the impact of ideological and material structures on the individual in the formation of his or her views of fitness for use.

Another implication that derives from this study is that venue of publication should be irrelevant in theory. However, because of existing social structures, the uptake of a scholar's ideas is distorted by perceptions of the journal quality. In an ideal world, where the paper is published will not make a difference in the use of the paper by the field. However, because of distortions in the ideology of the field, different venues do convey enhancements to the perception of quality of the article and make it more likely to be cited regardless of actual quality. This area calls for sociological studies to determine the effect of publication venue, peer perception, institutional pressures on the perception of usefulness for the scholar or on the visibility of a paper for a scholar.

Explanatory research can also be done to determine why authors achieve the levels of quality that they do. Perhaps some of the antecedents of quality can be determined such as social activity, publishing in highly visible venues, or citing other important work. Other antecedents might be due to their doctoral training, associations, or strength of their co-authors.

### ***Implications for Practice***

For the practice of evaluating research output, this conceptualization of quality points toward changes in the methodology of evaluating scholarly output and for the promotion and tenure process among others. In an ideal world, journal lists would not be needed. Researchers should labor to get their work vetted as best they can and then make the paper available for access by others. Other scholars would review and then adopt their ideas or not. Those responsible for assessing the quality of research outputs would request information in the various scientometric statistics in order to evaluate the scholar, journal, or institution.

In the publication process, journals should migrate to review and repository institutions. They should function, as they do now, as volunteer review organizations that provide research and writing assistance to researchers. But rather than simply trying to accept/reject articles, they should seek to be assistance organizations, helping researchers develop their work. Ideally, this assistance could begin back in the research conceptualization phase rather than waiting for a paper to be written. They could help researchers design their work and then provide consultation on the execution and documentation of their results. The search facilities now available such as Google Scholar can level the playing field amongst all articles so that they are all equally accessible.

### **Conclusion**

In this paper, we have seen the current method of evaluating scholarly output is that of counting papers published in ranked journals. This methodology assumes the publication of papers in a particular journal is a warrant for assuming it has a certain level of quality. However, the concept of scholarly output quality has not, to this point, been conceptualized in a way that has been generally accepted. A review of 39 papers in the IS literature dealing with scholarly output quality has shown that quality is generally used in an implicit, undefined, and generally unproblematic way within the literature. As many researchers have realized this leads to contradictory and otherwise inconsistent results. To resolve this issue, this paper has proposed that scholarly output quality may be conceptualized as "fitness for use", i.e. is the paper under consideration useful for informing my research. Fitness for use deals with how the field uses scholarly output and can deal with the output in positive or negative modalities.

This conceptualization of scholarly output quality is proposed as a subjective evaluation: constructed by individuals based on their experience, influenced by the different experiences of various groups which results in different perceptions of fitness for use, should be done by as large a group in the field as possible to avoid bias, and in so doing, would create a more open and transparent method of evaluating quality.

Finally, a research agenda was created that includes the need to develop an efficient and effective means of operationalizing this concept in order to utilize it in practice and research to be done on the antecedents of fitness for use.



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