IMPACT ASPIRATIONS OF MIS JOURNALS: AN ONTOLOGICAL ANALYSIS

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Abstract

Journal impact is an ill-structured, complex construct. Present bibliometric and survey measures do not capture it fully. The paper deconstructs the combinatorial complexity of the construct using an ontology which encapsulates 2500 potential components of the construct. The ontology is a parsimonious, systemic, and systematic representation of journal impact. The paper presents an ontological analysis of the impact aspirations of 31 top MIS journals (from one of the published surveys) based on their editorial statements. These statements were mapped to the ontology by the authors using consensus coding. The ontological and heat maps derived from the editorial statements reveal significant 'bright', 'light', and 'blank/blind' spots – aspects with heavy, light, and no emphasis. The differences in luminosity pose a number of questions about the impact these journals seek in the emerging turbulent, competitive research publication market. A comparison of these maps with the journals' bibliometric and survey impact measures highlights the differences between the impact measures, their strengths and weaknesses. The ontology and ontological mapping can be used by the journal editors to realign their impact aspirations and strategies in the emerging marketplace.

Keywords: Journal impact, Bibliometrics, Ontological analysis.

1 INTRODUCTION

Scientific journals seek to further knowledge in their disciplines –Management Information Systems (MIS) is no exception. Articles published from time to time document the state-of-the-art of MIS (Culnan 1987; Culnan & Swanson 1986; Hirschheim et al. 2012; Straub 2008), meta-analysis of its publications (Córdoba et al. 2012; Janssens et al. 2006; Willcocks et al. 2008), and bibliometric and citation analyses (Grover et al. 2006; Lowry et al. 2013; Straub & Anderson 2010) to describe and assess the scientific activity in the discipline and its impact (Dean & Lowry 2011; Lowry et al. 2013; Truex et al. 2011). Such assessment of scientific productivity and impact helps discover trends and patterns of contributions that guide decisions, for example, about individual, collaborative, university, and national research agendas.

The whole new field of bibliometrics has emerged to measure journal impact (De Bellis 2009). At the core of all bibliometric measures is the assumption that each citation is an instance of the impact of an article – the larger the number of citations the greater the presumed impact of an article and the journal publishing it. From this base, the measures are adjusted for a number of potential biases like self-citations and collusions. The increasing ease of availability of citation data has made citation-based impact measures popular. Their criticism has also been increasing. A citation may reflect true impact – an intellectual debt to the author and an ethical acknowledgement of the same, or reference to a basis of the work citing it. It may also be simply a passing acknowledgement, proforma, socially necessary, or coerced. Today, it is particularly easy to cut and paste references. The impact would be minimal in the latter cases. It is difficult to discern the true impact from the other types of impact from the bibliometric data. Thus, while a classic article which sets the agenda for research in a domain is likely to be heavily cited (and rightly so) by those extending and following the agenda, all heavily cited articles may not be classics.

Other problems with citation-based systems to measure quality and visibility have also been highlighted. They focus narrowly on citation ratios than on knowledge generation and transfer (MacRoberts & MacRoberts 1989). In addition, different techniques applied to the same set of literature may rank them differently (Barnes 2005), making the task of judging the value of a research system – in this case a journal – difficult (Straub & Anderson 2010). The latter can affect the perceptions and selection of outlets for the research conducted by scholars (Mylonopoulos & Theoharakis 2001), the way universities and research institutions set the incentives for researcher contracts, and institutional accreditation considerations (Baskerville 2008; Katebattanakul et al. 2003).

It is axiomatic that the bibliometric techniques measure only what is published and indexed. Such an obvious assertion is relevant to organizing research agendas that seek to make influential contributions to the field, or just finding the right outlet to publish a given piece of research. If agendas are designed around citation indicators, a herd effect on hot topics would concentrate the knowledge generated and transferred on a narrow set of topics and journals, while other important and even seminal issues may be overlooked.

Somewhat different measures of journal impact are obtained through various forms of voting by scholars in the domain (in a sense citations too are a form of voting.) The votes are obtained via surveys. The design of the survey instrument, its definition of journal impact, and the chosen sample will affect these measures. The responses to the surveys are subjective and self-reinforcing. Their results are criticized as being more measures of popularity than of impact. They are also susceptible to the herd effect.

A second axiom of publication is: we can only read and assess what is written. It is true for published articles as well as editorial statements. The formal statements by journal editors could be as enlightening as the metrics of their publications to communicate the value and intended impact of the journals. Ideally, they have to be as clear and formal as publishable research works. If a journal's aims and scope are well defined and communicate the journal's functions, relevance, rigor and expected

impact, then authors' decisions about research outlets and institutions' decisions about incentives for publications and justifications for accreditation based on research productivity could rely on these statements.

We are motivated to discover if the complexity of journal impact in a discipline such as MIS can be mapped to describe its bright, light and blind/blank spots. These spots represent areas of knowledge where considerable, little, or virtually nothing is being published by a sample of highly rated MIS journals. Bibliometric analysis could well describe the first two categories - bright and light - but fail to reveal the blind/blank spots where research agendas may need to be nurtured the most.

Overall we are motivated by the question whether the perceived impact of highly ranked journal's is by design (as articulated in their editorial statement), or simply an artefact of ranking.

2 ONTOLOGY OF JOURNAL IMPACT

The ontology of journal impact is shown at the top of Figure 1. Four illustrative components derived from the ontology, with an example of each, are listed below it. Further below is the glossary of terms in the ontology. In the following we will discuss the rationale for and the logic underlying construction of the ontology. A detailed description of ontological meta-analysis and synthesis is provided by Ramaprasad et al. (Ramaprasad & Syn 2013; Ramaprasad, Syn, & Thirumalai 2014; Ramaprasad, Syn, & Win 2014)

Journal impact is an ill-structured, complex construct. Both the above types of measures of journal impact result in ranking the journals. While rankings are popular and convenient, they do not reveal the full complexity of a journal's impact on the advancement of knowledge. The impact may be more nuanced than is revealed in either type of ranking. A high quality niche journal, for example, may be neither highly cited nor broadly known. Its rank may not be high but yet it may have a significant impact on the advancement of knowledge in its defined niche. To capture the nuances of their impact we propose mapping the topography of the journals instead of ranking them.

An ontology is a way of deconstructing and structuring the combinatorial complexity of a construct. In Figure 1 Journal Impact as a construct has been deconstructed into five dimensions, each represented by a column. Each column expresses the dimension as a taxonomy of its constituent elements. The taxonomies are logically constructed from the common terminology in the body of knowledge and discourse on each dimension.

Impact – the rightmost dimension in the ontology is a taxonomy of five ordinal categories. At the top is agenda-Setting research. Such research sets the agenda for future by introducing new paradigms, frameworks, methods or breaking away from olds ones. Agenda-setting research papers are the ones that are likely to be classics, perhaps revolutionary – to have the greatest impact upon the domain of research. The second category in the taxonomy is agenda-Extending research. Such research extends the existing paradigms, frameworks, and methods significantly but does not break away from them – radical perhaps, but not revolutionary. Papers in this category are likely to be semi-classics – to have significant impact on the domain of research. The third category is agenda-Following research. Such research works within the existing paradigms, frameworks, and methods confirming them, modifying them, and refining them. Papers in this category add to the body of knowledge – they add incrementally to the body of knowledge. As they accumulate, one of them may become the final straw which breaks a paradigm, method, or framework. Agenda-Neutral research, as the name suggests does not fit any paradigm, framework, or method. It is eclectic and perhaps interesting. It can reveal the boundaries and limits of the present paradigms, frameworks, and methods. It may catalyze agenda-Setting research by posing new questions and new problems. The last category is agenda-Correcting research. Such research is infrequent but important. It corrects the errors in the other types of research described above. It may stop a line of research, change its directions, or spawn an entirely new branch.

Journal

Function		**Relevance**		**Rigor**		**Temporality**		**Impact**	
Solicit	**[+]**	Theoretical	**[+]**	Definitive	**[+]**	*A priori*	**[agenda-]**	Setting	**[research]**
Review		Empirical		Predictive		*Ex-ante*		Extending	
Edit		Applied		Explanatory		*In praesenti*		Following	
Disseminate		Grounded		Descriptive		*Ex-post*		Neutral	
Retract		Integrative				*A posteriori*		Correcting	

Illustrative components (total number = 5*5*4*5*5* = 2500):

Solicit theoretical definitive *a priori* agenda-setting research.

Example: A grand theory of technology acceptance.

Disseminate applied descriptive *a posteriori* agenda-neutral research.

Example: Dissemination of case studies.

Disseminate empirical predictive *ex-ante* agenda-extending research.

Example: Replication of an empirical study in a different context.

Review empirical definitive *ex-post* agenda-extending research.

Example: Review of a meta-analysis of research in a domain.

Glossary:

Journal Function:

Solicit: To proactively invite articles for publication in areas of interest.

Review: To assess the quality of an article for publication.

Edit: To modify the article style and presentation.

Disseminate: To propagate the articles via different media.

Retract: To withdraw an article already published.

Relevance:

Theoretical: Logical theory construction, development, advancement, refinement.

Empirical: Empirical testing of theories and consequent hypotheses and propositions.

Applied: Theoretical and empirical application to a practical problem.

Grounded: Theory development from grounded observations.

Integrative: Integrative review/survey of theoretical/empirical research.

Rigor:

Definitive: Validation/invalidation of a definitive causal relationship.

Predictive: Validation/invalidation of a predictive but not a causal relationship.

Explanatory: Validation/invalidation of an association.

Descriptive: Description of the entities, their structure, functions, and patterns.

Temporality:

A priori: Prior to the observation of a phenomenon.

Ex-ante: Prior to an event.

In praesenti: During an event.

Ex-post: Following an event.

A posteriori: After the observation of a phenomenon.

Impact:

Agenda-setting: Setting the agenda for future research.

Agenda-extending: Extending the agenda of research through revisions and refinements.

Agenda-following: Following the present agenda of research.

Agenda-neutral: Idiosyncratic research not fitting any agenda.

Agenda-correcting: Correcting errors in the present agenda of research.

Figure 1 Ontology of journal impact

Journal Function – the leftmost dimension in the ontology is a taxonomy of five sequential categories of actions performed by a journal. The first is to proactively Solicit research for publication in the journal. With the increasing number of journals (especially electronic), competition for quality papers, competition for reputed outlets, competition for diligent reviewers, and the reduced lead times for publication the nature of solicitation too is undergoing rapid change. A journal by its very existence solicits research for publication – it is its bread and butter. Some solicit proactively and others passively.

Reviewing the articles for quality and fit to qualify them for publication is the second category. Except some open-source electronic journals almost all journals review the articles. The number of stages and the method of reviewing may vary considerably – one-stage, two-stage, single-blind, double-blind, open peer-review, etc. In addition to aiding selection of articles for publication Review also provides feedback to the authors about the quality and the fit of the articles. The feedback is intended to aid the authors and improve the quality of research. Editing the articles is the third Journal Function. Editing may be minor – to fit the format of the journal and correct spelling and grammar errors. It may also be major – to improve presentation and the translation of a non-native author. The increasing diversity of authors, their global location, and the competition for good research and outlets is increasing the importance of Editing. Dissemination, and associated with it archiving, of research has been historically an important function of a journal. When journals were primarily paper-based dissemination was limited to primarily mailing them to the subscribers – it was passive. Now, with multiple media for dissemination, increasing role of indexing services and citations, and the competition for attention of researchers and readers Dissemination has become proactive. It has become synonymous with the promotion of the journals and the articles therein. Last, Retraction is a function which has emerged recently. It is the withdrawal of an article already published; the withdrawal may be triggered by plagiarism, falsification of data, incorrect analysis, invalid results, and a number of other factors. It is an important corrective Journal Function. Although still rare, its frequency is increasing. It is likely to grow due the pressures of the competition and reduced cycle-times mentioned earlier.

Crossing Impact with Journal Function we obtain 25 possible combinations. A journal may Solicit agenda-Setting research, Disseminate agenda-Following research, Retract agenda-Extending research, and 22 other combinations. These combinations can be further refined by considering the Relevance, Rigor, and Temporality of research. We will discuss these three dimensions next.

The Relevance of an article may be Theoretical, Empirical, Applied, Grounded, and/or Integrative. The categories are nominal. Theoretical articles are logically constructed based on abstract constructs and concepts. They may articulate theoretical paradigms, frameworks, or models. Empirical articles, by contrast, are data driven. The data may be qualitative or quantitative; they may be collected using a variety of methods and analyzed using a range of techniques. Applied articles are based on the application to practice – in 'real life'. They entail the translation of theoretical and empirical research to practice, and the feedback from practice to theoretical and empirical research. Grounded research is rooted in and emerges from the phenomenon which is the object of research. The phenomenon itself becomes the data. The data are documented qualitatively and quantitatively, and organized and analyzed to abstract conceptual and theoretical explanations of the phenomenon. Integrative research synthesizes an existing body of research – theoretical, empirical, applied, and grounded – and interprets it. It provides insights into the consistencies, inconsistencies, gaps, and potential advances in the research. The genre of meta-analysis fits into this category and so do the traditional review papers.

The Rigor of an article may be Definitive, Predictive, Explanatory, or Descriptive. The categories are ordinal. The ultimate, somewhat ideal, purpose of research is to obtain Definitive knowledge – one which asserts a definitive causal relationship. Such knowledge is usually the product of well-controlled, double-blind, experimental studies. This 'gold standard' is difficult to achieve in information systems research but is an iconic goal. Predictive research asserts a temporal association sequence (for example – leads to) without asserting a causal relationship. It may be called the 'silver standard'. The temporal association may arise from a known or unknown causal mechanism or

combination of causal mechanisms. The temporality may be ordinal (simply A follows B), or interval/ratio (A follows B in X time units). Explanatory research simply asserts an association – neither temporal nor causal. It may be called the 'bronze standard'. The association may be intuited, validated statistically via correlation, or both. Correlation may be an indicator of predication or causation, but is not synonymous with them. Descriptive research is simply an articulation of the entities constituting the phenomenon of interest, their structure, functions, and patterns. It does not assert association, prediction, or causation. It is simply the 'basic standard'. The rigor of research in any domain usually progresses from the Descriptive to the Definitive (hence the ordinality of the categories). The advances in a domain are based on feed-forward and feedback between these categories of research.

The Temporality of a research article is defined with reference to the phenomenon or the events constituting the phenomenon. The categories are ordinal. *A priori* research is focused on phenomenon which is unknown or unobserved. It seeks to conceptualize and observe them. Higgs Boson, for example, was conceptualized long before it was observed, before anybody imagined the existence of such a particle. *Ex-ante* research is focused on an event prior to its occurrence. *In praesenti* research is focused on an event in real time, as it occurs. *Ex-post* research focuses on an event after its occurrence. *A posteriori* research focuses on a phenomenon after it has occurred. *A priori* research is the beacon of scientific research – to describe, explain, predict, and control events and phenomena before they occur. It would have been interesting to have had such research about the impact of social media like Facebook and Twitter. There isn't – although there is a profusion of *A posteriori*, *Ex-post*, and *In praesenti* research and now some *Ex-ante* research. *A priori* research is difficult in the social and behavioral sciences.

The five dimensions are arranged left to right with adjacent signs, words, and phrases such that reading left to right concatenating a category from each dimension forms a natural English sentence. Each such sentence is a potential component of a journal's impact. Four illustrative components with examples are shown in Figure 1. They are:

1. Solicit theoretical definitive a priori agenda-setting research.
   Example: A grand theory of technology acceptance.
2. Disseminate applied descriptive a posteriori agenda-neutral research.
   Example: Dissemination of case studies.
3. Disseminate empirical predictive ex-ante agenda-extending research.
   Example: Replication of an empirical study in a different context.
4. Review empirical definitive ex-p*ost* agenda-extending research.
   Example: Review of a meta-analysis of research in a domain.

These four and 2496 others encapsulated in the ontology are logically the potential components of a journal's impact. The ontology deconstructs the construct and presents its combinatorial complexity concisely and thus helps us take a systemic view of the problem of journal impact systematically.

A component derived from the ontology may or may not be instantiated in a particular journal. Studying across journals, some components may be instantiated frequently, some infrequently, and others not at all. We will label the frequently instantiated components the 'bright' spots; the infrequent ones the 'light' spots, and the overlooked ones the 'blind/blank' spots.

The luminosity of each spot is a product of two opposing dynamics. A 'bright' spot may be so because it is effective and important; it may also be a consequence of habit and herd effect, irrespective of whether is effective or important. A 'light' spot may be so because it is ineffective and unimportant; it may also be a consequence of difficulty of implementing it, irrespective of its potential effectiveness or importance. A 'blind/blank' spot may have been simply overlooked by design or by accident; or, it may be infeasible.

Knowing the 'bright', 'light', and 'blind/blank' spots their antecedent reasons will help develop more systemic and systematic approaches to the challenge of journal impact. In this first step of our program of research we map the impact aspirations of the top 31 IS journals (from one of the surveys) based on their published editorial statements. In subsequent steps we propose to map the editors' perceptions of their aspirations as well as that of the papers in the journals over the past five years. This journal impact maps will help clarify the connotation of impact and its relationship to bibliometric and survey rankings.

3 METHOD

In the following we describe the sample of journals used in our study and their bibliometric attributes. Next, we describe the method of coding these journals' editorial statements on to the ontology. Last, we describe the method of analysis. In the next section we present the results.

3.1 Journal Sample and their Bibliometric Attributes

The journal selection is based on the general interpretations made in previous studies regarding the journals that constitute the core of information systems. Lowry et al. (2013) developed a bibliometric analysis of the quality of information systems journals. In this analysis, they considered a wide range of journals that had a connection with information systems although they established a core of journals that constitutes the field. Some previous studies in this direction were also presented by Lowry et al. (2004) and Lewis et al. (2007). Other authors have analyzed the journals giving a more general perspective that considers journals from other fields including Barnes (2005) and Mylonopoulos and Theoharakis (2001). Note that journal analyses are very common in the literature in many disciplines including economics (Stern 2013), finance (Currie & Pandher 2011) and accounting (Chan et al. 2009).

The core of journals selected for the analysis comes from the list of journals available in Web of Science (WoS) with a strict focus on information systems and the assumptions made by Lowry et al. (2013). This study includes 29 of the 31 journals considered in this paper and was very helpful for classifying the journals that are strictly at the core of the field. The other two journals included in the analysis are Data Base for Advances in Information Systems and Business & Information Systems Engineering. These two journals were not included in Lowry et al. (2013) but are indexed in WoS and have a clear focus on information systems. Therefore, they have also been included. Note that many other journals could have been included and many of them are very close to the field publishing papers on information systems. However, in order to produce robust results for a research field it is necessary to consider only those that are clearly on the topic. Otherwise, many inconsistencies could arise.

The 31 journals selected are shown in Table 1. Each journal is presented with some key bibliometric indicators in order to see the general position of the journal in the field (Merigó et al. 2015). The ranking is based on the h-index (Hirsch 2005).

As expected, MIS Quarterly (MISQ) is the journal with the highest number of citations and h-index. Information Systems Research is in the second position. Note that each indicator may provide a different ranking due to the specific characteristics of each journal. In order to obtain a general indicator, the final column shows a combined index that uses a weighted average of the TC, C/P and H, giving 50% to the TC, 30% to C/P and 20% to the *h*-index. According to this method, the results are similar to the initial ranking although the Journal of Management Information Systems and European Journal of Information Systems improve one position each in the ranking.

3.1.1 Coding

We downloaded the editorial statements of the journals into an Excel tool developed by one of the authors to aid coding. Using the tool a coder can map each statement to the elements of the ontology it addresses.

R	Journal Name	IF	5IF	TP	TC	C/P	H	Z
1	MIS Quarterly	5.405	8.157	764	64,880	84.92	123	1.00
2	Information Systems Research	2.322	4.276	590	28,101	47.63	85	0.52
3	Information & Management	1.788	3.392	1,364	32,373	23.73	79	0.46
4	Decision Support Systems	2.036	2.651	2,200	30,759	13.98	65	0.39
5	Information Processing & Management	1.069	1.481	1,533	20,651	13.47	60	0.30
6	Journal of Management Information Systems	1.925	3.305	556	15,919	28.63	57	0.32
7	Information Systems Journal	1.333	2.786	351	6,267	17.85	42	0.18
8	European Journal of Information Systems	1.654	2.619	625	9,642	15.43	42	0.20
9	International Journal of Electronic Commerce	2.150	2.350	300	5,973	19.91	41	0.18
10	Journal of Strategic Information Systems	2.571	3.130	328	6,256	19.07	39	0.18
11	International Journal of Information Management	2.042	2.243	965	8,770	9.09	38	0.16
12	Journal of Information Technology	3.789	4.917	509	5,861	11.51	35	0.14
13	International Journal of Technology Management	0.492	0.659	1,767	8,155	4.62	29	0.13
14	Information Systems Frontiers	0.761	1.181	506	3,024	5.98	24	0.08
15	Information Systems Management	0.820	1.087	722	3,712	5.14	24	0.09
16	Enterprise Information Systems	N/A	N/A	155	2,007	12.95	23	0.10
17	Journal of the Association for Information Systems	1.250	2.795	247	2,402	9.72	23	0.09
18	Electronic Commerce Research and Applications	1.304	1.990	339	2,422	7.14	23	0.08
19	Journal of Computer Information Systems	0.742	0.801	1,103	4,607	4.18	23	0.09
20	J. Organizational Computing and Electronic Commerce	0.471	0.563	234	1,497	6.40	18	0.06
21	Journal of Global Information Management	0.483	0.556	133	905	6.80	16	0.06
22	Data Base for Advances in Information Systems	0.056	N/A	157	1,038	6.61	14	0.05
23	Information Technology and Management	0.897	0.942	146	711	4.87	12	0.04
24	MIS Quarterly Executive	1.031	1.699	100	397	3.97	11	0.03
25	Information and Organization	2.538	2.508	81	480	5.93	11	0.04
26	Information Research: An International Electronic Journal	0.660	0.925	579	625	1.08	10	0.02
27	Business & Information Systems Engineering	1.095	1.106	128	268	2.09	8	0.02
28	Information Systems and e-Business Management	0.348	0.561	132	339	2.57	8	0.02
29	Electronic Markets	0.769	N/A	100	186	1.86	6	0.02
30	Journal of Global Information Technology Management	0.500	N/A	48	66	1.38	4	0.01
31	Journal of Organizational and End User Computing	0.417	N/A	70	68	0.97	4	0.01

Abbreviations: R = Rank; IF = Impact Factor for 2013; 5IF = 5-year Impact Factor for 2013; TP = Total number of papers; TC = Total number of citations; C/P = Citations / Papers; H = h-index; Z = Weighted average (0.5*TC + 0.3*C/P + 0.2*H).

Table 1 List of 31 MIS journals in Web of Science

In the first cycle, three of the four authors coded the statements independently. The final coding was based on a consensus of the three during a face-to-face discussion. The coding was strictly based on what was stated. The coders sought to minimize imputing aspirations based on their knowledge of the journals and the papers published by them. Their assumption was that the editorial statement should stand by itself, just as articles published in these journals are expected to stand by themselves.

We note that a journal's statement may instantiate multiple components, a component, parts of multiple components, or part of a component of the ontology. Thus, there was no restriction on how many elements of the ontology could be encoded with reference to a statement, or a requirement that a statement should be encoded with reference to all the dimensions of the ontology. Thus a statement could be encoded to: (a) an element from each dimension, (b) multiple elements from each dimension, (c) an element from some dimensions, or (d) multiple elements from some dimensions. Of the 31

statements all but five were coded on all the dimensions. A total of 934 components out of the possible 2500 in the ontology are instantiated in the corpus. The 934 instantiated components occur 2,864 times in the corpus. The 30 partial components occur 36 times.

We also note that the coding was binary – whether the element (or its synonym) was present or not in the statement. The coding was not weighted; each statement was assigned equal weight.

3.1.2 Analysis

The data were analyzed using the same Excel tool used for coding to generate the following ontological maps of journal aspiration: (a) the frequency of occurrence of each element (monad) in the ontology, (b) comparative maps of journal ranked 1-10, 11-20, and 21-31, and (c) a heat map of the most frequent 50 components. These maps are presented and discussed in the section below.

In order to provide robust results, the analysis was assessed independently by all the authors of the paper using a Delphi method were each author studied the data individually providing individual assessments. Once all the results were given, the authors met in order to provide feedback between them, evaluate their results and reach a consensus regarding the individual aspirations of the journals.

Note that the impact aspirations of the journals are considered according to the information that they provide in the aims and scope. Although many of them may have an implicit aspiration, this paper strictly focuses on the information that is presented in the aims and scope of the journal. Therefore, one of the objectives of the paper is to identify journals that are currently providing information that is not strictly aligned with their main interests. In this case, the suggestion made by this paper would be to revise the aims and scope of the journals that believe that their current presentation is not in accordance with their objectives. This would be useful for the scientific community because prospective authors would get a picture of the main interests of the journals.

4 RESULTS

4.1 Ontological Map of Monads

The ontological map of monads for all the 31 journals is shown in Figure 2. It shows the frequency of occurrence of each element in the editorial statements of the 31 journals. The frequency count for a dimension (column) may sum to more than 31 due to multiple elements being coded for a journal. The length of bar below each element is scaled to the maximum count in the ontology (31).

The dominant Impact sought by these journals is through the publication of agenda-Extending research, followed by agenda-Following research, and then by agenda-Setting research. Very few aspire to publish agenda-Correcting and agenda-Neutral research.

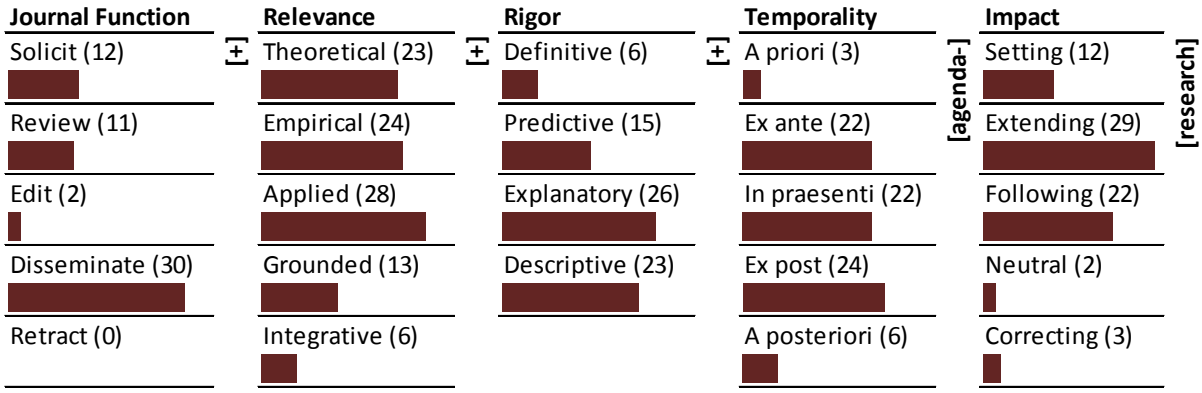

Figure 2 Ontology map of monads

In their Function, these journals aspire dominantly to Disseminate research, and secondarily to Solicit and Review. A couple mentions Editing and none mentions Retraction.

As a group, in terms of Relevance, they seek to publish Applied, Empirical, and Theoretical research. Grounded research is lower in the order, and Integrative research much lower.

In terms of Rigor, the dominant emphasis is on Explanatory and Descriptive research. Predictive research ranks lower, and Definitive research is the lowest and at a significant distance.

Last, in terms of Temporality Ex-post, Ex-ante, and In praesenti form the dominant focus; A posteriori and A priori research rank very low in their order.

Thus, one could paraphrase the dominant emphasis of the 31 journals based on the ontological map as follows:

> Disseminate applied/empirical/theoretical/ explanatory/descriptive ex-post/ex-ante/in praesenti agenda-extending/agenda-following research.

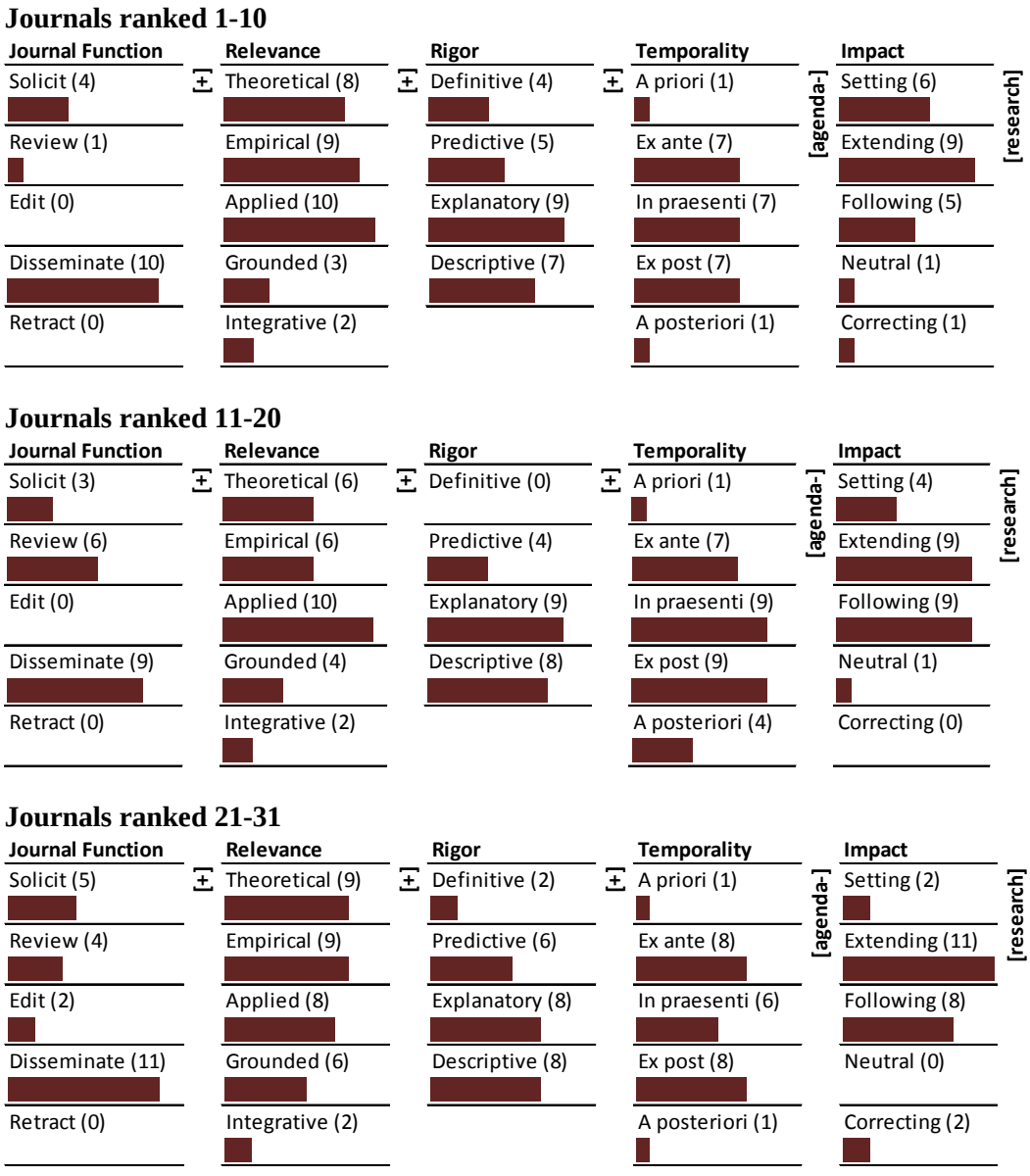

Figure 3 Comparative ontology map of monads

4.2 Comparative Ontological Map of Monads

Comparative maps of journal ranked 1-10, 11-20, and 21-31 are shown in Figure 3. The overall profile of the three groups is very similar but there are significant and noticeable differences. The similarities and differences are described below.

In terms of Impact the top group focuses slightly more on agenda-Setting research than the second group, and it in turn emphasizes it a little more than the third group. By the same token, the second and third group's emphasis on agenda-Following research is greater than the first group's.

The profiles of Relevance of the three groups are very similar except for the ascending emphasis on Grounded research from groups 1 to 3. Similarly, the profiles of Rigor are very similar except for the first group's relatively greater emphasis on Definitive research, second group's non-emphasis, and the third group's relatively modest emphasis. The Temporality profiles of the three groups are very similar.

4.3 Heat Map of Top-50 components

The heat map of the most frequent 50 components is shown in Figure 4. It is color-shaded into three bands for ease of reading – the cut-offs between the bands are arbitrary. The component is listed on the left and the frequency of its occurrence in the corpus of editorial statements is listed on the right. The 50 components are instantiated a total of 691 times. They thus constitute the top 24% of the total instantiations. The heat map validates the dominant emphasis inferred from the ontological map of monads (Figure 2).

5 DISCUSSION

The aspirations of the top-ranked journals are surprisingly modest, at best. They aspire to be more reactive than proactive, and more passive than active. They aspire to be followers and not leaders of the agenda in the domain – a contradiction for the top-ranked journals. Thus, they appear to be ranked highly because their articles happen to be cited most frequently or acclaimed by the scholars in the field – not necessarily because they sought to publish classics which will be cited frequently and acclaimed for it. These findings raise the question whether the journals' rankings are by design or default – after all any ranking will yield a first and a last. If they are by design, they provide leadership to the domain; if they are by default, they are simply acclaimed leaders of the domain.

We note that the dominant focus of the editorial statements (Figure 4) is on dissemination of agenda-extending and agenda-following research. It is not on soliciting (and disseminating) agenda-setting research. The top ten journals emphasize agenda-setting a little more than the second-ten, and the bottom-eleven (Figure 3). However, all three groups emphasize dissemination more than solicitation.

In the same vein, the dominant focus of the editorial statements (Figure 4) is on descriptive, explanatory, and predictive research – not on definitive research. The top ten journals emphasize definitive research a little, the second-ten not at all, and the bottom-eleven some (Figure 3). However, all three groups emphasize descriptive, explanatory, and predictive research more than definitive research.

Further, the dominant focus of the editorial statements (Figure 4) is on *ex-ante*, *in praesenti*, and *ex-post* research – not on *a priori* and *a posteriori* research. The profile is the same for the top-, second-, and bottom-eleven journals in the sample. Thus, there appears to be little emphasis on futuristic or historical research. Their time horizon is narrow.

In terms of relevance, the dominant focus is on theoretical, empirical, and applied research. There is some emphasis on grounded research but very little on integrative research. This profile is more or less

Disseminate applied descriptive ex post agenda-extending research	20
Disseminate applied explanatory ex post agenda-extending research	19
Disseminate applied explanatory ex post agenda-following research	18
Disseminate applied descriptive ex post agenda-following research	18
Disseminate empirical explanatory ex ante agenda-extending research	17
Disseminate empirical explanatory ex post agenda-extending research	17
Disseminate empirical descriptive ex post agenda-extending research	17
Disseminate applied explanatory in praesenti agenda-extending research	17
Disseminate theoretical descriptive ex post agenda-extending research	16
Disseminate empirical explanatory ex post agenda-following research	16
Disseminate empirical descriptive ex ante agenda-extending research	16
Disseminate applied explanatory ex ante agenda-extending research	16
Disseminate applied descriptive ex ante agenda-extending research	16
Disseminate applied descriptive in praesenti agenda-extending research	16
Disseminate theoretical explanatory ex ante agenda-extending research	15
Disseminate theoretical explanatory ex post agenda-extending research	15
Disseminate theoretical descriptive ex ante agenda-extending research	15
Disseminate empirical explanatory ex ante agenda-following research	15
Disseminate empirical explanatory in praesenti agenda-extending research	15
Disseminate empirical descriptive ex post agenda-following research	15
Disseminate applied explanatory in praesenti agenda-following research	15
Disseminate theoretical explanatory ex post agenda-following research	14
Disseminate theoretical descriptive ex post agenda-following research	14
Disseminate empirical descriptive ex ante agenda-following research	14
Disseminate empirical descriptive in praesenti agenda-extending research	14
Disseminate applied explanatory ex ante agenda-following research	14
Disseminate applied descriptive ex ante agenda-following research	14
Disseminate applied descriptive in praesenti agenda-following research	14
Disseminate theoretical predictive ex ante agenda-extending research	13
Disseminate theoretical explanatory ex ante agenda-following research	13
Disseminate theoretical explanatory in praesenti agenda-extending research	13
Disseminate theoretical descriptive ex ante agenda-following research	13
Disseminate empirical explanatory in praesenti agenda-following research	13
Disseminate theoretical descriptive in praesenti agenda-extending research	12
Disseminate empirical predictive ex ante agenda-extending research	12
Disseminate empirical descriptive in praesenti agenda-following research	12
Disseminate grounded explanatory ex post agenda-extending research	12
Disseminate grounded descriptive ex post agenda-extending research	12
Disseminate theoretical explanatory in praesenti agenda-following research	11
Disseminate applied predictive ex ante agenda-extending research	11
Disseminate grounded explanatory ex post agenda-following research	11
Disseminate grounded descriptive ex post agenda-following research	11
Disseminate theoretical predictive ex ante agenda-following research	10
Disseminate theoretical predictive in praesenti agenda-extending research	10
Disseminate theoretical predictive ex post agenda-extending research	10
Disseminate theoretical descriptive in praesenti agenda-following research	10
Disseminate empirical predictive in praesenti agenda-extending research	10
Disseminate applied predictive ex post agenda-extending research	10
Disseminate grounded explanatory ex ante agenda-extending research	10
Disseminate grounded descriptive ex ante agenda-extending research	10

Figure 4 Heat map of top-50 components

similar across the three groups of journal (Figure 3). Combined with the lack of emphasis on *a priori* and *a posteriori*, the lack of stated emphasis on integrative research suggests a lack of receptivity to historical and futuristic reviews in the domain.

Last, we also note the absence of emphasis on retraction in the function and very limited emphasis on correction in the outcome. There appears to be little scope for corrective feedback.

Aspirations are important, for they set the tone and tenor of the journal's functions. For example, the nature of the review will likely be more open and critical if a journal seeks agenda-setting articles as opposed to agenda-extending articles. Similarly, unless a journal solicits theoretical, definitive, and *a priori*, articles in its editorial statement it may not receive any and hence will not be able to publish any. Such theorizing will be left to other disciplines.

The publications in these journals are expected to define the advancement of the knowledge in the domain. The above findings raise the question whether the journals simply aspire to be gatekeepers of the domain and not leaders of the domain. As such, even the top-ranked journals appear not to aspire to lead the generation of new definitive knowledge, integrate the past knowledge for the future, and to retract/correct the knowledge. The journals may be the leaders ranked by various criteria and by acclamation, but they do not seem to aspire to be leaders in the generation of the domain knowledge. Thus, we believe that the perception of impact of the top-ranked journals in MIS is an artefact of ranking and not by design.

6 CONCLUSION AND LIMITATIONS

We have presented an ontological framework of journal impact and mapped the aspirations of the core 31 journals (by ranking) in MIS onto the framework. The framework articulates the concept of journal impact more comprehensively than is done in ranking, from the point of view of advancing the knowledge in the domain.

One may argue that the editorial statement do not fully reflect the aspiration of a journal. It may be deliberately written blandly to be inclusive. And, perhaps they are not widely read or adhered to. Further, they may not form the basis of publication decisions except in a few rare cases. Perhaps the publication decisions are driven by the editorial staff's perception of the journal's orientation and its history. If these were true, would they also not reflect a lack of explicit focus and purpose of the journals? In a sense, they would validate the results of our study. They would strengthen the argument that these journals' rankings are an artefact and not by design; they are gatekeepers of knowledge and not leaders in the generation of knowledge.

One may also argue that the aspiration as practiced may be quite different from what is stated. And as such, one may conclude that the ontological maps do not reflect the true aspirations of the journals. We agree that these arguments reflect potential shortcomings of the mapping. At the same time, it would be appropriate to hold the journal editors to the same standard that they expect of the authors. Just as a paper submitted for publication is expected to stand on its own, shouldn't the editorial statement stand on its own too? We hope that at the very least this paper holds a mirror to the editorial statements and helps align their stated and intended aspirations. While redefining their aspiration we hope too that the leading journals (by citation and acclamation) do aspire to lead the advancement of knowledge in the domain, as they should. We propose to obtain feedback from the editors on these issues.

The state-of-the-aspiration mapped in this paper may be quite different from the state-of-the-practice evident from the articles published in these journals. In the next phase we will map all the articles from these journals over a five-year period onto the ontology to contrast aspiration and practice.

Yet, if the perceived impact of the top-ranked journals is to be by design and not an artefact, the editorial policies of the journals will have to be articulated more clearly. The journal's functions will have to be realigned with the policies.

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