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Strategic Signalling and Awards: An Investigation into the First Decade of AIS Best Publications Awards

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Abstract

Professional organizations for academics such as the Academy of Management and Association for Information Systems (AIS) create best publications awards to honour and promote exemplary contributions that align with the core values and priorities of their distinct fields. Despite the strategic importance of awards, researchers rarely investigate meaningful patterns implicit in the contribution characteristics of award-winning articles. We conduct a reconstructive study of the 10-year history of the AIS Best Publications Awards by outlining a framework that reveals contribution characteristics, demographic patterns, and citation histories of the award-winning articles. Comparing the AIS results to a complete sample of MIS Quarterly paper-of-the-year articles (1993-2015) demonstrates consistent patterns implicit in IS articles that win best publications awards. We develop a model that explains both how these awards shape patterns and discusses what changes might be needed as the field confronts new realities. Our analyses reinforce the importance of taking strategic actions to support the continuous development of the field and advance literature on change and evolving trends in academic fields.

Keywords: Strategic, field development, academic, research, patterns, award, best paper, association for information systems, information systems

Introduction

Scholars often demonstrate reflexivity about their disciplines by exploring how research topics and academic journals progress over time and how strategic priorities evolve (Colquitt and Zapata-Phelan 2007; Gable 2010; Merali et al. 2012; Sidorova et al. 2008). Research on strategy broadly suggests that professional organizations use signalling mechanisms such as awards to direct attention to high-level priorities (Frey 2006; Skaggs and Snow 2004). In the realm of science, granting awards for outstanding contributions is an influential initiative with a powerful social function to signify special accomplishments reflective of a profession's most important core elements. Best publications awards are widely understood as symbolic recognitions of high quality work that is presented at a conference or published in a journal.

In the management field, several divisions of the Academy of Management recognize best papers annually, and in the past ten years the Association for Information Systems (AIS) has recognized up to five articles at its annual International Conference on Information Systems (ICIS). Bestowing awards to papers that represent exemplary contributions is understandably a strategic means to expose and advance the values and priorities of the profession. For example, each year, selection of the AIS award-winning articles is made by the "senior scholars best publications committee," which reviews the nominations made by journal editors and selects a group of semi-finalists for further consideration. The committee finalizes the selection of award-winning articles following review of the nominations (AIS 2016).

Despite the strategic importance of awards, scholars rarely investigate meaningful patterns implicit in the contributions made by award-winning articles. There is dearth of insight into the notion of professional awards as a strategic mechanism that signals values and priorities of the entire field. Nonetheless, award-winning articles can serve as isomorphic pressures (DiMaggio and Powell 1983) that influence researchers'

perceptions of values and priorities of the field. Contribution characteristics of research that has attracted official recognition can then be emulated and accumulate over years and solidify as consistent patterns influencing the field. Vigilant research is required to help us understand whether and how strategic signalling through awards produces consistent patterns, which in turn helps to identify strategic reorientations necessary to fuel the sustainability of the field (Colquitt and Zapata-Phelan 2007; Merali et al. 2012).

In this study, our goal is to explore strategic signalling in information systems research by delving into patterns in the contribution characteristics implicit in the sample of AIS Best Publications Awards. In particular, we ask: *What contribution patterns do articles that receive AIS Best Publications Awards represent?* To address this research question, we conduct a reconstructive study of the complete 10-year history of the AIS award-winning articles since the inception of the program in 2006 through 2015. Using insights from prior research on scientific awards (MacLeod 1971; Coupé 2003) and theoretical contributions of journal articles (Colquitt and Zapata-Phelan 2007; Sutton and Staw 1995; Whetten 1989), we perform a content analysis of 45 award-winning articles to identify contribution characteristics associated with best publications awards. While we focus initially on theoretical contributions, given their centrality in prior research, we also include methodological contributions due to the presence of highly cited methodology articles in our sample. We then compare the results with data from the complete set of 22 *MIS Quarterly* Paper-of-the-Year awards (1993-2015).

Analysis of the complete sample of 67 award-winning articles reveals patterns in terms of contributions to theory building, theory testing, and method expansion. This finding aligns with research on strategic change that views organizations and the various groups within them as interpretive communities with sense making capabilities (Balogun et al. 2015; Kaplan 2008). We develop a model that explains why best publications awards contribute to the development of patterns, and how the formation of patterns is

linked to the dynamics of change in organizational values and priorities. By highlighting the role of best publications awards in shaping patterns, we build on IS studies that stress the importance of taking strategic actions to support the continuous development of the field (Gable 2010; Merali et al. 2012; Sidorova et al. 2008). In addition, our analyses and model advance literature on evolving trends in academic fields (Becher and Trowler 2001; Colquitt and Zapata-Phelan 2007; Merali et al. 2012).

The next section offers a background on scientific awards followed by a discussion of the most widely acknowledged criterion for bestowing awards: theoretical contributions. We then present the research methodology, including the criteria used to score the articles. We next present our results, followed by a discussion of the implications of analysis for research and for the award-granting process.

Awards in Science

The study of awards relates to many topics of central importance in sociology, education, economics and psychology, the most important ones being symbolic and nonmonetary incentives, reputation, social status, self-esteem, social comparisons, and motivation (Baurmann 2002; Bourdieu 1979; Boyt et al. 2001; Brennan and Pettit 2004; Glejser and Heyndels 2001; Marmot 2004). From the Academy Awards (“Oscars”) in motion pictures to the Booker prize in literature and the Sports Personality of the Year in sports, awards are ubiquitous in all spheres of society (Czarniawska 2000). For centuries, academia has used an elaborate and extensive system of awards to recognize and enhance scientific discoveries (Frey and Neckermann 2009). Scientific awards are typically sponsored by professional associations of scientists and academicians and therefore may be considered as a type of extrinsically administered reward, in contrast to intrinsic rewards that ensue directly from participation in scientific activities.

Academic awards are important because they signal what kind of behavior or

contribution is valued by the scientific community as judged by the award donor (MacLeod 1971). The institutions bestowing awards organize special presentation ceremonies, promote the occasion of awards in media, and exhibit the awards visibly. Such signalling in professional associations is relevant and influential because academics are accustomed to pursuing their own interests rather than “following orders”, and thus strategic signalling through awards is more likely to shape academic fields.

Although some programs of scientific recognition carry monetary awards, most are non-material or symbolic, contrast with strategy formulation and implementation in more hierarchically structured organizations, and do not dictate new strategic directions. By publicizing the winners’ ground-breaking works, these awards motivate scholars, intensify the competition for scientific discoveries, and stimulate increased scientific production. Scholars are motivated to seek awards because they help to establish a social distinction that is not achievable by other means. As Huberman et al. (2004) have shown experimentally, people value status independently of any monetary consequence and they are even willing to incur material costs to obtain status.

The material cost involved in granting an award is minimal compared to the social value it creates and the indirect benefits it may bring the recipient (Coupé 2003). Not surprisingly, the recipients of awards tend to exhibit loyalty and bond psychologically to the award giver. Awards may strengthen professional bonds by displaying exemplary accomplishment achieved within the profession while granting recipients the status of role models. The motivating potential of awards is believed to be particularly great in professions where intrinsic motivation is important and is unlikely to be crowded out by monetary compensation (e.g., volunteering and humanitarian sectors, academia, arts, military, and public service).

Despite many desirable effects, signalling through awards may also produce unintended or unexpected consequences as authors attempt to strategically position

their work to be worthy of awards. For example, Zuckerman finds that the Nobel Prize reinforces competitiveness, generates strain in collaborative relationships, and heightens disappointment when only one co-worker in a science team receives the award. Awards may also divert scientists' energies away from research on deep, intractable problems and toward a limited range of more tractable problems whose solutions are likely to attract the attention of prize juries (Zuckerman 1992). Zuckerman (1967) also discusses the psychological and social consequences of the Nobel Prize for its recipients, showing that in the period immediately following the prize the productivity of laureates declines as a result of changed role obligations and activities.

Research also chronicles problems that may occur due to the decreased legitimacy of an award (Czarniawska 2000; Glejser and Heyndels 2001). Awards are most effective as a motivational device when their legitimacy is maintained in the long term. As such, award-granting institutions need to maintain award legitimacy by guarding against the erosion of criteria and ensuring that awards go only to a limited number of deserving persons (Frey 2006). Legitimacy may be further preserved by adopting a rigorous and transparent evaluation process that takes into account not only the award criteria, but also the selection committee, judgmental process, and the associated timelines. Credibility of the selection committee is also important. An extreme example outside the realm of science is the Catholic Church, which has an elaborate system to ensure that only those persons who pass the church's carefully formulated standards receive the honor to be sanctified (Frey 2006). Over the years, the Catholic Church has empowered an ingenuous institution (the *advocatus diabolicus*) with the task of finding both positive and potentially harmful evidence in the lives of people proposed as *sancti*.

The literature on scientific and professional awards thus gives valuable insight into the nature of awards (extrinsic, nonmaterial), their motivating potential (reputation

enhancement), and the importance of legitimacy in preserving the value of awards to the recipients and to the scientific community. Strategic signalling through establishing an award program is therefore an effective means for strategically shaping priorities in academic associations. In the following section, we examine perhaps the primary criterion used in evaluating award-worthiness of research articles in IS: the presence of a strong theoretical contribution.

Theoretical Contributions

It is commonly acknowledged that research articles worthy of publication in leading journals should make a theoretical contribution of some kind. The importance of making a theoretical contribution is conveyed through countless numbers of professional workshops, “meet-the-editors” panels, decision letters from journal editors, and editorial essays (Sutton and Staw 1995; Whetten 1989). AIS and the Academy of Management regularly sponsor workshops, symposia and panels on publishing, where this theme is repeated. While no one entering the academic world should be surprised or alarmed at the expectation that research papers need to make a theoretical contribution, it is worthwhile unpacking what it means to make a theoretical contribution and to consider additional criteria that also make worthy contributions.

According to Colquitt and Zapata-Phelan (2007), theoretical contributions can be examined along two dimensions: theory building and theory testing. We use these two dimensions as described below as an initial lens to examine contribution characteristics implicit in articles that receive AIS Best Publications Awards.

Theory Building

The first dimension, theory building, refers to the extent to which an article introduces relationships, frameworks, or perspectives that serve as the foundations for new theory. Theory building can be executed at different levels (low, moderate, high) (Colquitt and Zapata-Phelan 2007). Table 1 summarizes the theory building levels.

Table 1. Theory Building Levels		
Area	Levels	
Low Level of Theory Building	1	Replicators of existing theory: Articles that replicate existing theory attempt to cross-validate the findings of earlier empirical studies. These studies offer neither new original relationships nor models and theoretical perspectives. Constructive replications though tend to avoid imitation of the earlier study's methods and are clearly vital for establishing the external validity of prior findings.
	2	Examiners of untested theory: Articles that examine untested theory conduct an initial test of a previously built theory, so that the theory is more likely to become the focus of future research. While being insightful, they do not add to the ideas present in existing theory, nor do they introduce new theoretical constructs.
Moderate Level of Theory Building	3	Introducers of a new mediator or moderator of an existing relationship or process: Articles that introduce new mediator or moderator describe how a relationship or process unfolds, or where, when, or for whom that relationship or process is likely to be manifested. These studies clarify or supplement existing theory while not fundamentally altering the core logic of an existing theory.
High Level of Theory Building	4	Examiners of new unexplored relationship or process: Articles that examine new unexplored relationships or processes change current thinking about existing concepts and interactions between them. Therefore, these studies can serve as the foundation for brand new theory.
	5	Introducers of new theoretical construct (model, framework, theoretical perspective): Articles that introduce a new theoretical construct such as a model, perspective or framework represent the highest level of theory building. This is because they create a completely new theoretical construct or significantly re-conceptualize an existing one. New constructs such as new theoretical models, frameworks and perspectives create a radical departure from existing work and generate new research directions.

Theory Testing

The second dimension of theoretical contributions, theory testing, refers to the degree to which an article grounds prediction with reference to existing findings, conceptual frameworks, models or theories. For example, some studies are high in theory testing because they develop hypotheses by grounding prediction with direct reference to existing theory (e.g., action theory, sense marking theory), whereas some others are low in theory testing because they are purely conceptual papers or simply reference general ideas from past research (e.g., arguments on information goods pricing). Theory testing can be executed at different levels (low, moderate, high) (Colquitt and Zapata-Phelan 2007). Table 2 summarize the theory testing levels.

Table 2. Theory Testing Levels		
Area	Levels	
Low Level of Theory Testing	1	Inductive articles: Pure inductive articles utilize empirical data but the data that are gathered are not used to explicitly test existing theories (e.g., grounded theory research). These articles emphasize the creation of propositions that can be tested in future studies. However, theory testing is an absent element in them.
	2	Grounded prediction with reference to past general findings: Articles may solely reference to general ideas from past research (e.g., a paragraph reciting the findings of past studies) to test priori hypotheses (e.g., same sort of relationships). These articles are still low in theory testing because they lack an examination of existing theory that paints a clear picture of concepts and relationships between them.
Moderate Level of Theory Testing	3	Grounded prediction with reference to past conceptual arguments: Articles that base their prediction on conceptual arguments supplied by scholars in past research clarify or supplement existing arguments. These articles, however, are moderate in theory testing because they rely on arguments that have not been developed or refined enough to constitute true theory.
High Level of Theory Testing	4	Grounded prediction with existing models: Articles that ground prediction with reference to existing models, diagrams and figures come very close to high levels of theory testing. Models, diagrams and figures provide the symbolic representation of theory and explicitly delineate the causal connections among a set of variables. However, the logical nuances behind the boxes and arrows are still often lacking.
	5	Grounded prediction with existing theory: Articles that ground prediction with reference to existing theory are very high in theory testing because they delve into the underlying processes that explain relationships, touch on neighboring concepts or broader social phenomena, and describe convincing and logically interconnected arguments.

Research Method

We adopted a form of reconstructive analysis, which is most prominently described as an approach to critical ethnography in educational research (Carspecken 1996). Although we did not initially conceive the study as ethnographic, the artifacts being examined are examples of cultural products (literally “texts”) that are open to interpretation. Ethnographers typically examine such texts, which are tacitly understood within specific cultural settings, to reflect upon their meaning and significance to the culture. Reconstructive analysis allows for the articulation of tacit understandings in ethnographic texts by first joining in the social setting being studied, and then reflecting on the text so as to objectify understandings using the logic of the setting. We view this as an appropriate approach to analyzing award-winning articles because both authors are engaged participants in the academic community being studied, and our objective is to elicit contribution characteristics that operate implicitly within the setting. Our

participant status allows us to understand the context intimately, thereby supporting the “native” discourses related to criteria, the structure of journals and conferences, and the content of the texts being analyzed.

Our primary sample was the entirety of award-winning articles chosen by AIS in the first ten years of its award program. The coding of the articles was performed by using paper copies of all articles so that notes could be recorded. Several types of information were collected for each article, including author demographics, citation counts, and theory contribution characteristics, each described below.

First, for demographic patterns, the following data were collected: (1) year of the award, (2) journal outlet, (3) publication year, and (4) author details (first author’s gender, affiliation, and nationality). Second, citation counts were calculated from the Institute for Scientific Information’s (ISI) Social Sciences Citation Index (SSCI), which provides citation counts for articles published in thousands of journals since 1954. Citations were recorded in June 2016. Citation counts are commonly used as a scientific metric for assessing the impact and quality of academic article (Colquitt and Zapata-Phelan 2007). Third, for theoretical contributions, the theory building and theory testing levels shown in Tables 1 and 2 were used to code the articles. If studies represented blends of several theory-building and theory-testing components, those that were most central to the article were chosen. Papers without theory building or theory testing contributions were coded as 0.

Of the 45 articles, 36 were empirical articles, one was a pure method piece (Gregor and Jones 2007), and eight were review and/or conceptual papers (Burton-Jones and Gallivan 2007; Dennis et al. 2008; Faraj et al. 2011; Hirschheim and Klein 2012; Leonardi and Barley 2008; Markus and Silver 2008; Watson - Manheim et al. 2012; Winter et al. 2014). Several of these articles focus on research methods rather than theoretical contributions. The particular discovery that a pure method article (Gregor and

Jones, 2007) received the highest number of citations in the entire sample led us to add a third dimension, expanding methods, as a criterion to evaluate award-winning articles.

As a criterion, “expanding methods” is the degree to which an article makes methodological contributions beyond established research practices. The content analysis indicated that some methodological contributions introduce new research method guidelines (Agarwal et al. 2012; Arazy et al. 2010; Bapna et al. 2008; Gregor and Jones 2007); others offer methodological principles for paying attention to important theoretical concepts (Burton-Jones and Gallivan 2007); and some others provide empirical evidence confirming current methodological concerns (Ba et al. 2010; Chi et al. 2010; Cyr et al. 2009; Gerpott 2011). Grouping similar contributions resulted in developing three types of method expansion articles: **introducers of research method guidelines** (coded as 1), **introducers of methodological principles emphasizing existing theoretical constructs** (coded as 2), and **providers of empirical evidence highlighting methodological concerns** (coded as 3). Papers without methodological contributions were coded as 0.

Collectively, Figure 1 portrays the three criteria used in the analysis. The theory-building and theory-testing criteria vary along a range from low (or non-existent) at the origin to high. The method-expanding criterion also varies along a range but reflects differences in the kind of contribution rather than the degree of contribution. The three-dimensional criteria space allows the location of individual articles in comparison to others, as will be shown in the Results section. Finally, we used the same analysis process for the sample of *MIS Quarterly* Paper-of-the-Year’s articles (1993-2014). The objective was to compare and contrast the AIS results with those from a similar but different sample to help confirm (or disconfirm) the AIS findings. In terms of similarities, both samples represent IS articles that have received formal awards. In terms of differences, unlike the *MIS Quarterly* sample, the AIS sample is open to a wider range of

outlets (including management and organizational journals). The *MIS Quarterly* awards also were given for more than a decade before the AIS Best Publications Awards were initiated.

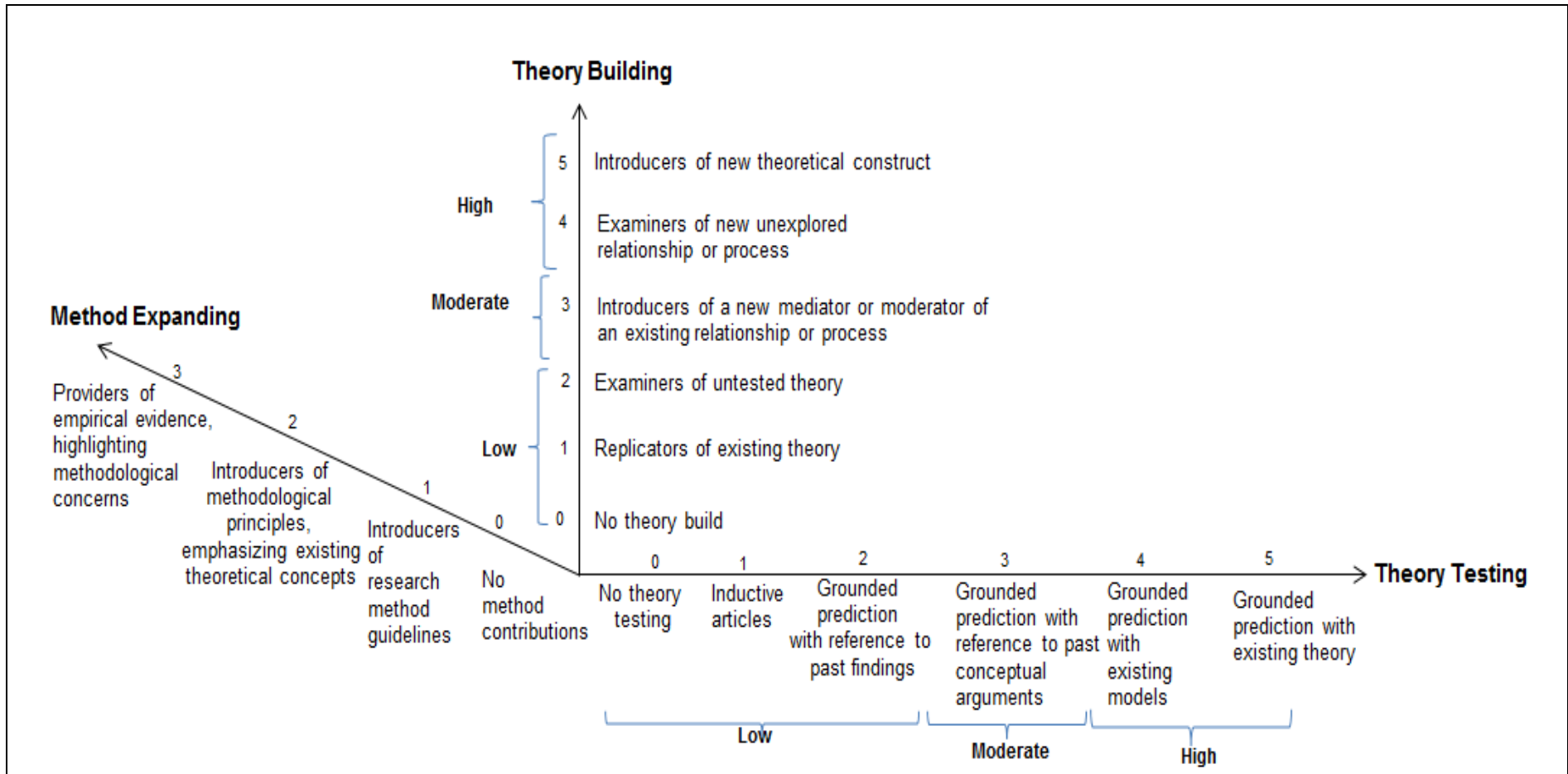


Figure 1. Contribution Dimensions (Theory Building, Theory Testing, Method Expansion)

Results

Demographic Patterns

The full listing of articles and associated demographic data are shown in Appendix 1. All 45 papers are listed in the reference section, where they are marked by an asterisk. Appendix 1 shows the title of the article, year of the award, journal, total citations, citations per year, single or multiple authorship, and the first author's gender, national and institutional affiliations.¹

Table 3 summarizes the basic demographic information of the sample. In terms of geographical affiliation, articles with lead authors from US-based institutions are the majority (71%) while 29 percent of the articles (13 out of 45) have a non-US based lead author affiliation. Almost half of the non-US authors are affiliated with universities in either Canada or the United Kingdom (7 out of 13), and the remaining authors are distributed across institutions in Australia, Germany, Hong Kong, Israel, Singapore, and Sweden. With respect to gender, 51 percent of the articles are associated with male first authors, and 49 percent are associated with female first authors. Of 45 papers, 41 (91%) are co-authored while only four (9%) are solo-authored.

¹ The national and institutional affiliation data must, of course, be interpreted with some care given the rather fluid movement of scholars across institutions and national boundaries at different times in their careers. Both national and institutional affiliations reflect the information printed on the article when published. While there is a predominant pattern of "US-affiliated" authors and institutions, many authors have international origins and professional experience. As well, co-author affiliations are excluded. More extensive analysis of the global dynamics of IS researchers would be interesting but beyond the focus of the current study.

Table 3. Sample Demographics (AIS Best Publications Awards)	
Area	Information
Years	2006-2015
Total papers	45 papers (5 per year except for 2008 (3) and 2009 (2))
Journals	Journal of the Association for Information Systems: 8 articles (18%) Information Systems Research: 7 articles (16%) Management Information Systems Quarterly: 6 articles (13%) Information and Organization: 5 articles (11%) Journal of Management Information Systems: 4 articles (9%) Journal of Strategic Information Systems: 3 articles (6%) Organization Science, Information Systems Journal, MISQ Executive: 2 articles each (4% each) ACM Transactions on MIS, Business & Information Systems Engineering, Information Systems Frontiers, Management Science, Information Technology & People, and European Journal of Information Systems: 1 article each (2% each)
First author's affiliation country	32 (71%) US-based 13 (28%) non-US based
First author's gender	23 articles (51%) (Male) 22 articles (49%) (Female)
Authorship	Co-authorship: 41 papers (91%), Single authorship: 4 papers (9%)

Figure 2 provides a longitudinal portrait of the sample including citation counts. The most cited article is Gregor and Jones (2007) with 926 citations, followed by Pavlou and El Sawy (2006), with 701 citations, and Dennis et al. (2008) with 632 citations. Leading citations per year are: Gregor and Jones (2007) (103 citations per year), Dennis et al. (2008) (79 citations per year), Pavlou and El Sawy (2006), and Tsai et al. (2011) (both 70 citations per year). Citation counts favour older papers rather than newer ones for the obvious reason that older papers have been available for citation for a longer time. Therefore, it is clear in Figure 2 that the most recent papers have many fewer citations. This may not be an indication of their ultimate contribution, however.

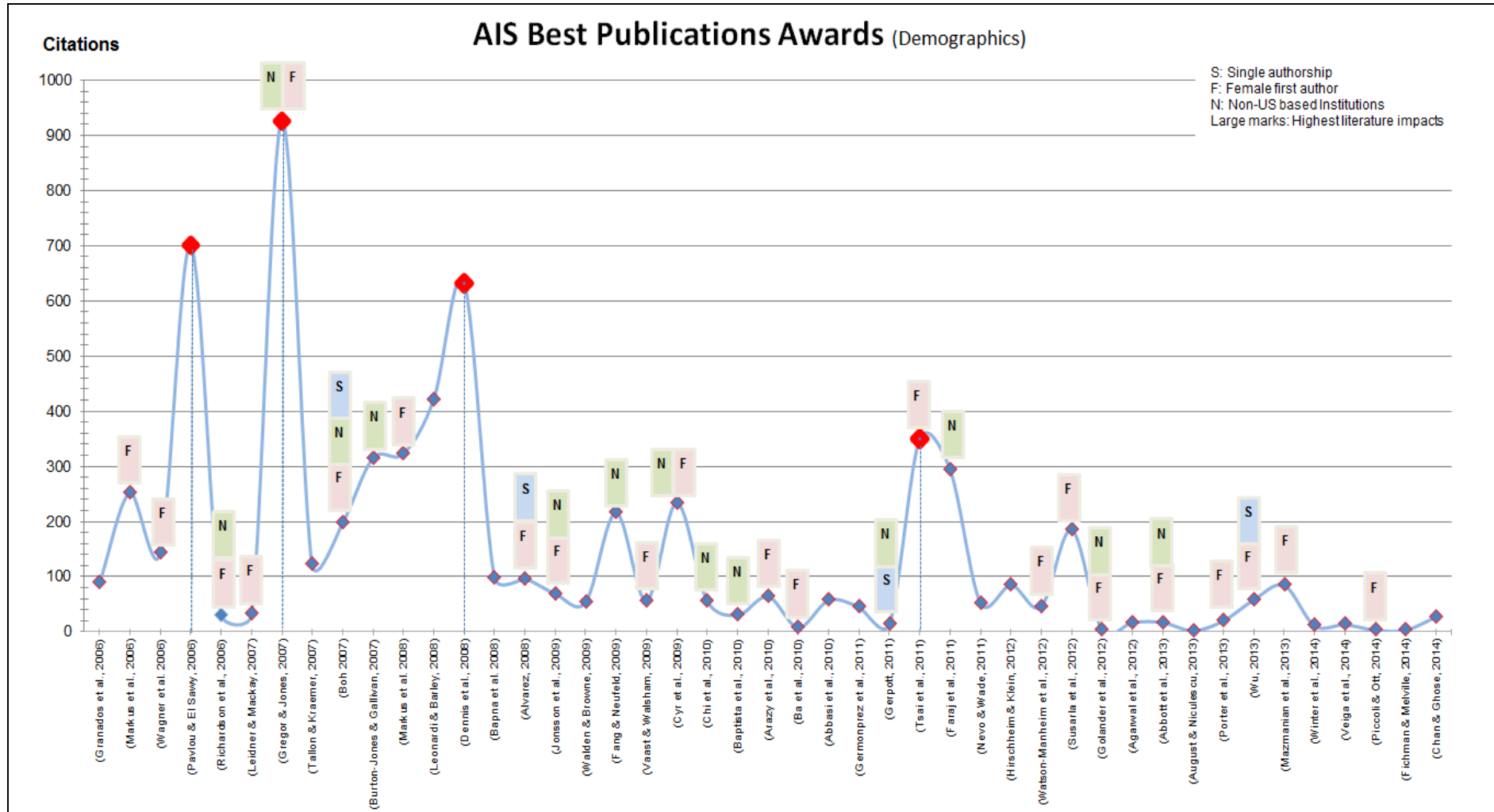


Figure 2. Demographic Trends for AIS Best Publications Awards

Detailed Analysis

Based on the criteria provided in Tables 1 and 2, Appendix 2 categorizes the 45 papers against the coding scheme. For example, articles were coded (1) **high in theory building** if they introduced a new theoretical construct (model, framework, theoretical perspective) or examined an unexplored relationship or process, (2) **low in theory building** if they had replicated existing theory or only examined an untested theory, (3) **high in theory testing** if they had grounded prediction with existing models or theory, and (4) **low in theory testing** if they were purely conceptual or inductive articles, or had grounded prediction only with reference to past suggestions in the literature. Examples of the articles associated with different combinations of theory building and theory testing levels are provided in Table 4.

Table 4. Types and Examples (AIS Best Publications Awards)		
Theory Building	Theory Testing	Examples
High	Low	(Leonardi and Barley 2008): is high in theory building because it develops a new perspective (socially-constructed technological change). It is low in theory testing because it is a pure conceptual study. (Granados et al. 2006): is high in theory building because it develops a theoretical perspective that explains the role that IT plays in affecting market information, transparency and market structure. It is low in theory testing because it is a pure inductive study.
High	Moderate	(Pavlou and El Sawy 2006): is high in theory building because it examines unexplored relationships (impact of IT functionalities on building competitive advantage). It is moderate in theory testing because it grounds prediction with conceptual views on the impact of IT on competitive advantage. (Ba et al. 2010): is high in theory building because it examines unexplored processes (conditions upon which copy permission setting leads to highest profit for the creator of a virtual good). It is moderate in theory testing because it grounds prediction with arguments on information goods pricing.
High	High	(Tallon et al. 2007): is high in theory building because it examines unexplored processes (how perceptions influence extent of IT impacts). It is high in theory testing because it grounds prediction with sense-making theory. (Bapna et al. 2008): is high in theory building because it examines new relationships (impact of IT artefacts such as online marketplaces on the welfare of users of these artefacts). It is high in theory testing because it grounds prediction with action theory.
Low	Low	(Gregor and Jones 2007) and (Agarwal et al. 2012): are low in theory building and testing because they are pure method pieces with no theory building and testing elements.
Low	High	(Abbasi et al. 2010): is high in theory testing because it grounds prediction with existing statistical learning theory. It is low in theory building because it only replicates existing theory. (Cyr et al. 2009): is high in theory testing because it grounds prediction with visual rhetoric theory. It is low in theory building because it replicates the theory in the context of studying user perceptions in website design.

Table 5 summarizes this information to show the number of articles associated with five article types, each associated with a different combination of theory building and theory testing. As shown, Types 1, 2, and 3 include 22, 5, and 13 articles representing high levels of theory building and low/ moderate/ high levels of theory testing, respectively; and Types 4 and 5 include 3 and 2 articles with low levels of theory building and low/high levels of theory testing, respectively. Table 5 suggests that the majority of the AIS articles fall within the category of **high theory building** (40 articles, 89%) and the subcategory of **examiners of new relationships** (24 articles, 60% of this category). In terms of theory testing, a majority of the articles fall within the category of **low theory testing** (25 articles, 60%) and the subcategory of **inductive articles** (14 articles, 60% of this category). In addition, the articles **grounding prediction with existing theory** (high theory testing) are as common as **inductive articles** (14 articles).

Table 5. Coding Matrix (AIS Best Publications Awards)									
Theory Building		Theory Testing						TOTAL	
		L			M	H			
		0	1	2	3	4	5		
H	5	7 <i>(highly cited paper)</i>	6		<i>Type2</i> <i>(5 papers)</i>	<i>Type3</i> <i>(13 papers)</i>	3	16	40
	4	<i>Type1</i> <i>(22 papers)</i>	7	2	5 <i>(highly cited paper)</i>	1	9 <i>(highly cited paper)</i>	24	
M	3							0	0
L	2	<i>Type4</i> <i>(3 papers)</i>	1			<i>Type5</i> <i>(2 papers)</i>		1	5
	1						2	2	
	0	2						2	
TOTAL		9	14	2	5	1	14		45
		25			5	15			

L: Low, M: Moderate; H: High

We add the third dimension, method expansion, to show the number of articles associated with different levels of theory building, theory testing, and method expansion (See Table 6). Although majority of the articles (36 out of 45, 80%) do not offer methodological contributions, four studies introduce research method guidelines/principles (code 1) (Agarwal et al. 2012; Arazy et al. 2010; Bapna et al. 2008; Gregor and Jones 2007), one article introduces guiding principles for cross-level theoretical models (code 2) (Burton-Jones and Gallivan 2007), and four studies focus on methodological concerns in conducting research (code 3) (Ba et al. 2010; Chi et al. 2010; Cyr et al. 2009; Gerpott 2011). As shown in Table 6, the most populated category of articles is **high theory building/ low theory testing/no method expansion** (21 articles), followed by articles associated with **high theory building/ high theory testing/no method expansion** (10 articles).

Table 6. Three Dimensions Coding Matrix (AIS Best Publications Awards)							
Type	Theory Building	Theory Testing	Method Expansion				TOTAL
			0	1	2	3	
1	High	Low	21 (<i>highly cited paper</i>)	-	1	1	23
2	High	Moderate	4 (<i>highly cited paper</i>)	-	-	1	5
3	High	High	10 (<i>highly cited paper</i>)	2	-	1	13
4	Low	Low	-	2 (<i>the most cited paper</i>)	-	-	2
5	Low	High	1	-	-	1	2
TOTAL			36	4	1	4	45

Table 7 provides examples of the articles associated with the method expansion articles (codes 1-3) (for additional information refer to Appendix 3).

Table 7. Method Expansion Examples (AIS Best Publications Awards)		
Code	#	Sample
1	4	(Gregor and Jones 2007) introduces guidelines for conducting design research. (Bapna et al. 2008) develops guidelines for how additional data can be used to conduct robustness analysis (and the necessary adjustments to the estimates). (Arazy et al. 2010) extends prior guidelines for conducting design science research by reinforcing the importance of theory-driven design. (Agarwal et al. 2012) develops new methodological guidelines for studying cyber-collective movements.
2	1	(Burton-Jones and Gallivan 2007) introduces methodological principles to pay attention to multi-level theoretical constructs in conducting research on IT use.
3	4	(Cyr et al. 2009) demonstrates evidence that highlight the importance of incorporating mixed methodologies in conducting research. (Ba et al. 2010) expands Bass model by highlighting the importance of considering the customer base concept and the S-shape of the population. (Gerpott 2011) brings out methodological concerns associated with self-reporting measures in TAM. (Chi et al. 2010) represents a pioneering effort at the importance of collecting secondary data about actual voluntary IT use.

Comparing the AIS and MISQ Samples

This section provides the comparisons between the sample of AIS Best Publications Awards (AIS sample) and the sample of the MISQ Papers of the Year (1993-2014) (MISQ sample). Demographic details of the MISQ sample are provided in Appendix 4.

First, comparing the demographics suggests relatively similar patterns. Specifically, (1) single authorship is not common in either sample (9% AIS versus 14% MISQ); (2) affiliation of the first author with non-US based institutions represents a similar percentage (29% versus 27%); (3) the method articles are largely contributed by lead authors affiliated with non-US based institutions (60% AIS and 66% MISQ of method articles have non-US based lead author affiliation), and (4) we observe fewer articles to be associated with a female first author in the MISQ sample (49% for AIS versus 27% for the MISQ).

Second, similar to the AIS sample, the most cited article is a method piece (Klein and Myers 1999). The next most cited papers are high in theory building, high in theory testing, or high in both (Dennis et al. 2008; Hitt and Brynjolfsson 1996; Lapointe and Rivard 2005; Leonardi 2011).

Third, Appendix 5 categorizes the 22 MISQ papers against the coding scheme. Table 8 summarizes this information to show the number of articles associated with each of the five article types. Similar to the AIS sample results, the majority of the MISQ articles fall within the category of **high theory building** (77%), but with the subcategory of **introducers of new theoretical construct** representing the great majority of this category. The subcategory of **grounded prediction with existing theory** is also a common subcategory. While purely conceptual papers are also common, the number of inductive articles in the MISQ sample is small compared to AIS list (13% versus 31%). As a result, although we observe a relative balance between the number of articles with low and high levels of theory testing (9 and 10 articles), a high level of theory testing is dominant. Most of the articles also fall within the category of **high theory building/ low theory testing**, followed by articles associated with **high theory building/high theory testing**.

Table 8. Coding Matrix (MISQ Sample)									
Theory Building		Theory Testing						TOTAL	
		L			M	H			
		0	1	2	3	4	5		
H	5	5 <i>(highly cited paper)</i>	2		1 <i>(highly cited paper)</i>		3 <i>(highly cited paper)</i>	11	17
	4	Type1 <i>(8 papers)</i>	1		2 Type2 <i>(3 papers)</i>	Type3 <i>(6 papers)</i>	3	6	
M	3							0	0
L	2	Type4 <i>(1 paper)</i>				Type5 <i>(4 papers)</i>		0	5
	1						4 <i>(highly cited paper)</i>	4	
	0	1 <i>(most cited paper)</i>						1	
TOTAL		6	3	0	3	0	10	22	
		9			3	10			

L: Low, M: Moderate; H: High

Adding the method dimension, Table 9 corroborates the results of the AIS sample, indicating that most of the articles fall within the category of **high theory building/low**

theory testing/ no method expansion, followed by articles associated with high theory building/ high theory testing/no method expansion.

Table 9. Three Dimensions Coding Matrix (MISQ Sample)							
Type	Theory Building	Theory Testing	Method Expansion				TOTAL
			0	1	2	3	
1	High	Low	7 (1 highly cited paper)	-	1	-	<u>8</u>
2	High	Moderate	3 (1 highly cited paper)	-	-	-	3
3	High	High	6 (1 highly cited paper)	-	-	-	6
4	Low	Low	-	1 (the most cited paper)	-	-	1
5	Low	High	3 (1 highly cited paper)	-	-	1	4
TOTAL			19	1	1	1	22

Discussion and Model Development

We outlined a three-dimensional framework to investigate the contribution characteristics implicit in the 10-year history of the AIS Best Publications Awards (Figure 1). Our discussion begins with the identification of four meaningful patterns drawn from the analysis. We then develop a pattern-oriented model that explains the role of best publications awards bestowed by a professional organization like AIS in shaping patterns that establish and reinforce community values and priorities over time (Figure 3). We conclude with thoughts on sustaining the legitimacy of awards by reconsidering award criteria, allowing a wider range of contribution characteristics and criteria to receive recognition from AIS and individual journals, and by establishing a transparent process for evaluating articles.

Contribution Characteristics: Four Patterns

The primacy of theory building

The first pattern drawn from our analysis suggests that most of the award winning IS articles rate high on theory building. The most common category is **examiners of new relationships**, followed by **introducers of new theoretical constructs**. We compare the results with the sample of MISQ Paper of the Year awards and observe a similar pattern (with the exception that in the MISQ sample the most common category

is **introducers of new theoretical constructs**). Thus, collectively, the results from both samples (67 award-winning articles) suggest that awards are given to articles that emulate more established academic fields by emphasizing theory building. This suggests that the awards signal movement of the field toward becoming a distinct discipline rather than a discipline that mostly borrows theory from others. By introducing new concepts relevant to IS, award-winning articles make the IS field more distinct and legitimate (King and Lyytinen 2004; Lyytinen and King 2004). The importance of this priority is signalled strategically through the bestowing of awards.

A critical issue with developing new theoretical constructs is whether the construct in question is really new or whether it represents “old wine in new bottles” (Spell 2001). Although we did not seek to judge the originality of theory developed by IS scholars, it would appear that best papers often build new theory by extending or elaborating existing theory. For example, Markus and Silver (2008) extend DeSanctis and Poole’s (1994) adaptive structuration theory by proposing new concepts such as technical affordances, which originated in ecological psychology. Thus, while new to IS, theory building is typically rooted in earlier work. Likewise, Abbott et al. (2013) build upon concepts of boundary spanning to create a “creolization” framework that encompasses multiple levels of analysis, as a novel way of theorizing network expansion and multiplicity across boundaries. Thus, this approach to theory building is incremental and strategically designed to fill holes or shift attention rather than to build completely original theory.

The primacy of theory building is evident in two types of studies. First, there are articles that approach theory building by offering commentary on prevailing theory and advocating new theoretical directions. These studies take provocative, future-oriented perspectives on research and theory rather than develop precise constructs. For examples, Leonardi and Barley (2008) challenge past approaches to theorizing IS

materiality, and Winter et al. (2013) propose an update to socio-technical systems theory that more directly acknowledges the role of IT in removing boundaries of both organizations and information systems.

Second, there are studies that use inductive research methods to generate new theory. Although sometimes challenged as a legitimate scientific method in IS research (Tsang 2014), inductive case studies contribute to the field's theory-building ambition. When conducted rigorously, for example by using grounded theory methodology, inductive theory-building articles link abstract constructs to tangible evidence drawn from the actual world of IS implementation and use. Award-winning articles such as Wagner et al. (2006) and Mazmanian et al. (2013) illustrate inductive theory building well. However, we find that inductive articles are less common among MISQ Paper of the Year articles (13% versus 31% for AIS sample).

Theory testing and a growing balance

The second pattern drawn from our analysis reveals that a substantial number of the AIS and MISQ award-winning articles rate low on theory testing. These studies are either pure conceptual articles or inductive articles that do not have a strong theory testing element. Although theory building appears to be a more valued contribution characteristic, it is important to note that new theory needs to be tested, refined, and applied before it can be taken as established knowledge. Without more extensive testing or verification of theories developed, the discipline cannot claim that its theoretical contributions stand as confirmed knowledge or form a validated basis for practice. In conventional views of science, theory testing is inextricably bound to theory development: early tests of a theory typically concentrate on establishing the validity of the theory's major propositions; subsequent tests explore mediators that explain core relationships and the moderators that establish the theory's boundary conditions; further tests may expand the theory by adding antecedents or consequences that were not part

of the original formulation. Thus, in no way should researchers view theory development and testing as separate activities. According to Bergh (2003), research that makes both theoretical and empirical contributions is powerful and facilitates a paradigm's development.

Interestingly, the results also indicate that the subcategory of **grounded prediction with existing theory** (high theory testing) is as common as inductive articles (low theory testing) among winning articles. The finding that opposite levels of theory testing are equally prominent in award-winning articles suggests an interesting balance that is also evident in MISQ Paper of the Year articles. Numerous scholars have cautioned that too much focus on establishing greater legitimacy through creating a strong theoretical core (theory building) reflects the field's anxiety (King and Lyytinen 2006). Our findings demonstrate positive progress away from the "anxiety discourse" that may signify the discipline's maturation as a more balanced field.

Furthermore, we note regional differences in understanding the potential and possibilities of working with empirical data. Specifically, the data suggest that across all theory-testing levels, scholars with non-US affiliations have contributed most to the inductive articles category (Appendix 3). Inductive research, which is designed to use empirical data to develop propositions that can be tested in future studies, appears more frequently in AIS sample that includes both American and European journals, while deductive hypothesis testing is more commonly published in the MISQ sample. Thus, AIS awards, which include articles published in both American and European journals, reflect the diversity of views involving theory testing and empirical work.

The importance of methodological contributions

The third pattern suggests that methodological contributions are infrequent in the sample of AIS award winners. However, method-expanding contributions (Gregor, 2007; Klein and Myers, 1999) are the most widely cited articles in both the AIS and MISQ

samples, suggesting their importance. In the case of Gregor and Jones (2007), the contribution consists of methodological guidance for design research, which deviates from the dominant social science paradigm guiding most IS research (Gregor and Hevner 2013). Likewise, in the case of Klein and Myers (1999), interpretive studies are less common in IS, and an article articulating principles for conducting interpretive field studies in IS is understandably widely cited. Despite their relative infrequency, methods papers enjoy more frequent citations in the method sections of all empirical papers (Gerow et al. 2010). However, their selection as best publications by AIS and MISQ suggests recognition of their value beyond simply justifying or explaining a specific study's methodology. In IS, the articles on design science and interpretive research can serve to champion emerging minority voices and help to establish them as legitimate alternatives to more conventional forms of research (Gregor and Hevner 2013; Pries-Heje and Baskerville 2008).

Demographic patterns

Our demographic data show that award-winning articles tend to be co-authored (91%) rather than single authored (9%). Indeed, co-authored papers have become increasingly common in leading IS outlets, and co-authoring is positively related to citations (Gallivan and Ahuja 2015). We also observe signs of gender equality: lead authors are evenly split between male and female gender categories. While a more complete analysis of authorship affiliations would doubtlessly reveal dynamic and nuanced international authorship patterns, lead authors with non-US affiliations are a minority group. Specifically, scholars with non-US affiliations are first authors on only 18 of 67 (27%) award-winning papers across both samples. In interpreting this result, it is also useful to take into account that almost half of the non-US scholars are affiliated with Canadian universities. This suggests the possibility of a regional bias, which we discuss in the next section.

Strategic Signalling through Awards

A model of strategic signalling and pattern formation

Professional organizations, like AIS, occupy a place in institutional theory as elements of an institutional field, or environment (DiMaggio and Powell 1983; Scott 1995). These organizations tend to have limited formal authority due to their voluntary nature, yet sustain their external influence over universities and individual scholars by signalling through conferences, allied journals, and other more symbolic means. Notable activities like creating AIS Best Publications Awards celebrate exemplary achievements, signal the kind of contribution that is valued by the community as judged by the award donor, and shape the priorities of the field. By publicizing awards that align with professional values and priorities of the field, the contribution characteristics as well as demographics of award-winning articles are brought into the attention of other researchers. In turn, the contribution characteristics that are consistently rewarded over years accumulate and form patterns that influence researchers' perceptions of values and priorities of the entire field. Thus, researchers' sense making about successful contribution characteristics develops from this interpretive context (Balogun et al. 2015; Kaplan 2008). Consequently, individual members of the profession are more likely to undertake research studies that mirror exemplary choices implicit in award-winning articles. Similar research characteristics can accumulate and reinforce specific research directions. The repeating cycle serves to solidify the core values manifest in the four patterns identified in the previous section (theory building, theory testing, method expansion, and demographics). These patterns reflect what the professional community stands for, how it socializes new members, and who it exalts as award winners.

We illustrate the processes that generate these patterns in Figure 3. The model suggests common patterns in contribution characteristics of articles are formed by individuals' choices that mirror researchers' perceptions of priorities and values of the

discipline. This finding reinforces research on strategic change that views organizations and their institutional fields as interpretive communities with sense making capabilities (Balogun et al. 2015; Kaplan 2008).

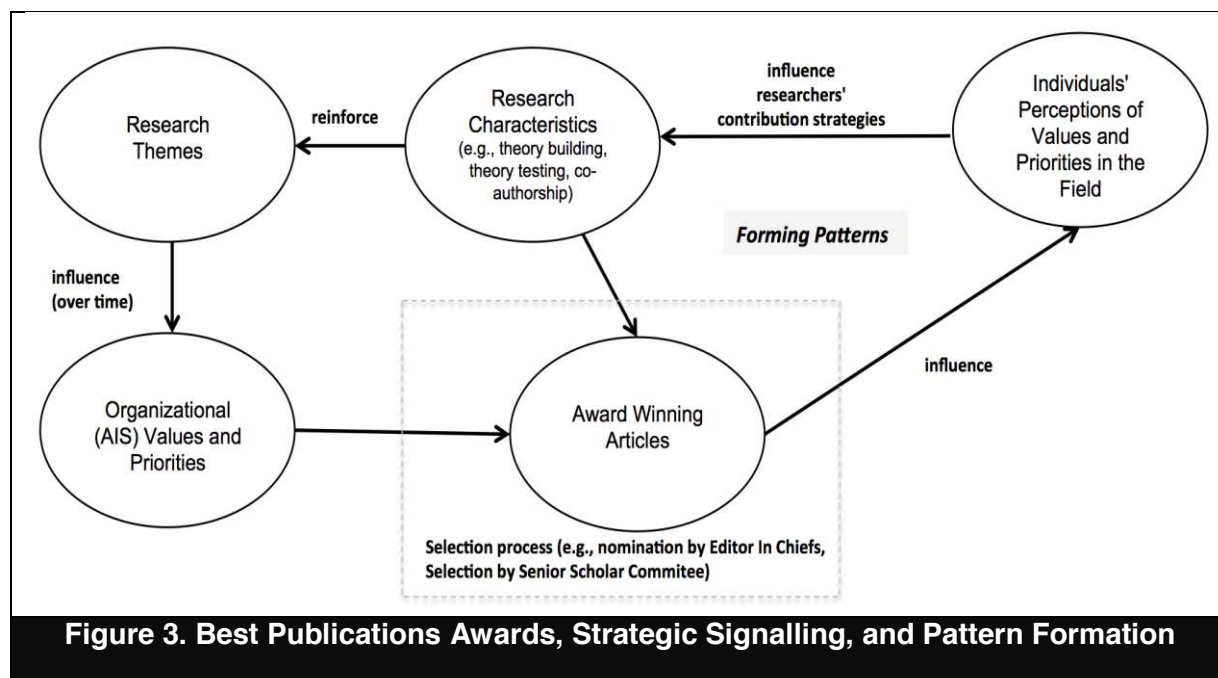


Figure 3. Best Publications Awards, Strategic Signalling, and Pattern Formation

An important implication of the model is that the formation and reinforcement of patterns may eventually result in a need to revisit professional values and priorities. Such a shift occurred in the Academy of Management, with the flagship *Academy of Management Journal* strategically modifying its primary focus on quantitative methods by giving awards to qualitative articles for several years after 2004 (Colquitt and Zapata-Phelan 2007). The reinforcing cycle suggests that, like the Academy of Management, AIS could become watchful not only of patterns solidified in the four areas of our discussion, but also of desirable newer patterns. As the “anxiety discourse” over IS’s identity as a discipline subsides, it may embrace diversification of values, even though it may move against the accepted mainstream. In retrospect, IS has already benefited from including diverse elements throughout its relatively brief history as an academic discipline, and diverse research paradigms have been included: interpretive and critical realist philosophies of science, and design research, for example.

Along these lines, one pattern that invites attention is our finding on regional representation: of 67 award-winning articles only 18 out of 67 (27%) had non-US affiliations lead authors. This pattern suggests that the criteria and selection process have favoured North American research. This imbalance is ironic since the IS academic discipline evolved in Northern Europe and North America at the same time (1960s-1970s). Since 1990, ICIS has regularly been held outside of the United States and AMCIS has a broad international reach that includes Asia and the Pacific Rim. Thus, it is not clear why the criteria and processes used to identify award-winning articles do not produce a more balanced distribution of author affiliations. Since both IS and business in general are clearly global in nature, academic values and priorities need to mirror that reality (Galliers and Meadows 2003).

Another issue pertaining to revisiting professional values and priorities is how to harness IS research to become more impactful, that is, research with direct relevance to practice. This can be achieved by identifying key problem areas related to IT technologies and their inadvertent negative consequences. The emergence of new problems associated with social media and other technological advances, for examples, could spawn plenty of research that is relevant to both practice and theory: proliferation of brief messages on social media authored by contributors ranging from teens to heads of state appears to have become normalized, inadvertently marginalizing the status of lengthier, evidence-based arguments; social media can also “weaponise” groups to advance their interests: businesses may be targeted by “firestorms” of consumer criticism and forced to devise counter strategies (Hauser et al. 2017); online activists may marshal protests of political injustice while dealing with the threat of reprisals (Ghobadi and Clegg 2015). Current research on open source communities (Carillo, et al. 2017) also suggests that theoretical contributions do not need to be diminished in order

to focus on practical problems. To the contrary, theory can be instrumental to the understanding of practical problems and help guide their ultimate solutions.

At a more global level, IS research can be directed toward grand challenges. We belong to a world with increasing challenges that are partially created by technology and can be addressed by better technology solutions. The contributions of these studies are directed toward stakeholders outside of academia (government policy makers, public and private organizations). Whether it is related to economic volatility, climate-change-induced natural challenges or political instability, NGOs, politicians and entrepreneurs could leverage new technologies such as the Internet of Things and artificial intelligence to address global issues (George et al. 2016). Solving societal problems could be seen both as a moral imperative and as an exciting opportunity for scholars to guide policy makers with empirically robust evidence and strong theory. But despite the value of responding to such grand challenges, IS has yet to realize its full potential in addressing societal problems. More likely, innovations such as the Internet and the strategic use of IT stem from initiatives coming from outside academic IS research (Ciborra 1998). In a recent editorial focusing on climate change as one of the most critical challenges facing our lives, Gholami et al. (2016) indicate that too few IS scholars engage in impactful research that offers solutions for dealing with climate change. Calls for more impactful research are heard recently in the IS field, highlighting renewed importance and urgency of the issue (Rai 2017; George et al. 2016; Majchrzak et al. 2016).

Therefore, it would seem appropriate, given an interest in impactful research, to celebrate it. By acknowledging excellence that yields practical breakthroughs, professional awards can reinforce research undertaken to address both common problems of practice and grand societal challenges. Senior scholars' best publications committees may also consider expanding award criteria to honour such contributions. In the past few years, many organizations have celebrated and publicized their successful

contributions to solving global issues (George et al. 2016). This could be a valuable and impactful exercise for the IS field.

One barrier that needs to be overcome to achieve truly impactful research is the presumption that relevant research is less rigorous than theory development and theory testing. However, we might reject the assumption of zero-sum trade-offs between rigor and relevance (Aguinis et al. 2014). Lewin's (1951) familiar statement that "nothing is so practical as a good theory" suggests that strengthening our theory-development capabilities can help enhance the link between theory and practice. Caring about global issues should not be seen as a separate exercise. We concur with Ciborra (1998) that scholars can benefit from going into the world of practice with an eye toward innovating the foundations of new instances of information research. Indeed, engagement with practice may inform theory development. Initiatives such as engaged scholarship, despite their tensions and pitfalls, can help leverage the knowledge provided by a broad set of stakeholders to understand the complex dynamics that require urgent research attention (Mathiassen and Nielsen 2008; Ward 2012). Following these strategies, researchers can write articles that are both rigorous and relevant, designed for consumption by various stakeholders (Robey and Markus, 1998).

Criteria and Processes

In our earlier review of the awards literature we raised questions about the legitimacy of awards. We found that when the number of awards is limited and the selection criteria and process are transparent, awards are more likely to be seen as legitimate. Although our model in Figure 3 refers to the process of selecting awards, we had little information about either the criteria or the process used in the selection of AIS (or MISQ) publications awards. We do know that annually, a designated member of the AIS Senior Scholars sends invitations to current journal editors asking for a single

nomination of an article published in the previous year. We do not know how many editors are contacted or which journals are included in this invitation.

Some of the rules governing the selection process are explicit (AIS 2016). The rule that each journal editor-in-chief may submit only one paper to the competition is an interesting one, ostensibly used to spread recognition across various journals. This rule may, however, not produce the best five papers published in a given year. Arguably, a large journal that publishes more articles could claim that the best five articles were all published in that journal. Clearly, the IS Senior Scholars who created the nomination process sought greater inclusion regarding journals and styles of research. This favours journals with more specialized aims and scope, such as *Journal of Strategic Information Systems* and *Information and Organization*, which have each received multiple AIS awards.

Once papers are nominated, AIS Senior Scholars choose which five (or fewer) articles deserve the award (AIS 2016). This stage of the process is less transparent than it might be. Selection committee members may be identified by name, criteria may be established, but the final choice appears to be more arbitrary than it needs to be. We have even less information about the criteria and process that individual journal editors use to nominate papers for the AIS award. Presumably, the criteria and process vary at the discretion of the editors. Some editors-in-chief may form a committee of senior and/or associate editors to nominate, screen, and select a year's best publication. Others may simply make the decision on their own. Without impugning the judgements of journal editors or the quality of articles that they nominate, it remains a rather opaque process in which the criteria may vary across journals.

To our knowledge, no one has publicly raised issues of legitimacy surrounding the criteria or process used in nominating or selecting award-winning articles. Since the number of awards is limited to five or fewer, legitimacy is preserved. Thus, we can

conclude that the AIS Best Publications Awards competition appropriately weighs both inclusion and legitimacy. However, it would be beneficial to be more specific about award criteria and perhaps provide journal editors with some specific, relevant, and fairly applied best practices or criteria to follow in nominating articles (e.g., theoretical and methodological contributions in Figure 1). We do not advocate a strong move towards objective criteria because the number of objective criteria might be too limited to serve as more than supplements to expert judgments. In evaluating the contributions of IS articles, there should be criteria and awards that celebrate unique contributions, provocative, future-oriented perspectives, and “interesting” studies (Barley 2006; Davis 1971).

Limitations and Future Research

We acknowledge three limitations that open potential opportunities for future research related to our work. First, in our analysis both national and institutional affiliations are drawn from the information printed on the article when published. As well, co-author affiliations are excluded. More extensive analysis of the global dynamics of IS researchers and co-authorship practices could provide additional useful insights. Current discourse about researchers and journals often is based on simple distinctions based on region (e.g., North American vs. European). Since research activity is scarcely bounded geographically, we believe that a more dynamic and fluid understanding of research styles and historical roots deserve investigation. In addition, research values and priorities may meld into interesting combinations that require more sensitive classifications schemes. Finally, inclusion of co-author demographic patterns would perhaps reveal a greater amount of diversity than our approach of only using demographic data for the lead author.

Second, the coding scheme (Figure 1) did not capture the relative rigour of both theory building and theory testing. While it might be assumed that awards recognize

rigor, exceptions are possible. For example, Leidner and Mackay (2007) is coded high in theory building because it offers new constructs. However, their process of theory building is not rigorous primarily because *MISQ Executive's* editorial policies emphasize practical contributions over theory.² Future research could expand our coding scheme by incorporating elements that take the quality of theoretical contributions into account. For example, an expanded coding scheme may explain better how, in some instances, grounded prediction from past findings tests theory better than grounded prediction with existing theory.

Third, we observed a growing balance between theory building and theory testing, linking it to the increasing maturity of the field and a positive progress away from the anxiety discourse. As a next step, we invite future research to challenge our results, investigate the underlying processes that contribute to this balance, and examine further how best publications awards can be utilized strategically to facilitate these processes.

To conclude, our study increases the reflexivity of scholars relative to the signalling function of best-paper awards in shaping field-level values and priorities. We hope that our findings serve as catalyst to spur debate on contribution patterns in award winning articles, evolving trends, and strategic development of the IS field. As a diverse, relevant and resilient academic field, we can become more mindful of the unique and powerful influence of our collective contributions over theory and practice (Hirschheim and Klein 2012), and best publications awards are positioned perfectly to fulfil this purpose.

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² Indeed, the terminology applied to constructs in their article belies any temptation to treat their theory as rigorous. Keep-It-Running CIO, Value-Adding CIO, and Big-Bang CIO are non-academic terms chosen to appeal to practitioners. We do not intend to demean this type of contribution, as we have argued that impactful research should be rewarded.

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Appendix 1

Study	Journal	Title	Award Body	Year of Award	Total Citations	Citations per year	Single Authorship	1st Author Demographics		
(Granados et al. 2006)	JAIS	The impact of IT on market information and transparency: A unified theoretical framework	AIS	2006	90	9	-	Male	US	University of Minnesota
(Markus et al. 2006)	MISQ	Industry-wide information systems standardization as collective action: the case of the US residential mortgage industry	AIS	2006	252	25	-	Female	US	Bentley College
(Wagner et al. 2006)	IO	The creation of 'best practice' software: Myth, reality and ethics	AIS	2006	144	14	-	Female	US	Cornell University
(Pavlou and El Sawy 2006)	ISR	From IT leveraging competence to competitive advantage in turbulent environments: The case of new product development	AIS	2006	701	70	-	Male	US	University of California, Riverside
(Richardson et al. 2006)	ITP	Combining social shaping of technology and communicative action theory for understanding rhetorical closure in IT	AIS	2006	31	3	-	Female	Canada	HEC Montreal
(Leidner and Mackay 2007)	MISQE	How incoming CIOs transition into their new jobs	AIS	2007	32	4	-	Female	US	Baylor University
(Gregor and Jones 2007)	JAIS	The anatomy of a design theory	AIS	2007	926	103	-	Female	Australia	Australian National University
(Tallon and Kraemer 2007)	JMIS	Fact or fiction? A sensemaking perspective on the reality behind executives' perceptions of IT business value	AIS	2007	122	14	-	Male	US	University of California, Irvine
(Boh 2007)	IO	Mechanisms for sharing knowledge in project-based organizations	AIS	2007	198	22	Yes	Female	Singapore	Nanyang Technological University
(Burton-Jones and Gallivan 2007)	MISQ	Toward a deeper understanding of system usage in organizations: a multilevel perspective	AIS	2007	315	35	-	Male	Canada	University of British Columbia
(Markus et al. 2008)	JAIS	A foundation for the study of IT effects: A new look at DeSanctis and Poole's concepts of structural features and spirit	AIS	2008	323	40	-	Female	US	Bentley College
(Leonardi and	IO	Materiality and change:	AIS	2008	422	53	-	Male	US	Northwestern

<u>(Barley 2008)</u>		Challenges to building better theory about technology and organizing								University
<u>(Dennis et al. 2008)</u>	MISQ	Media, tasks, and communication processes: A theory of media synchronicity	AIS	2008	632	79	-	Male	US	Indiana University
<u>(Bapna et al. 2008)</u>	ISR	Consumer surplus in online auctions	AIS	2009	98	12	-	Male	US	University of Minnesota
<u>(Alvarez 2008)</u>	ISJ	Examining technology, structure and identity during an enterprise system implementation	AIS	2009	96	12	Yes	Female	US	Lawrence Berkeley National Laboratory
<u>(Jonsson et al. 2009)</u>	IO	Turn to the material: Remote diagnostics systems and new forms of boundary-spanning	AIS	2010	69	10	-	Female	Sweden	Umeå University
<u>(Walden and Browne 2009)</u>	JAIS	Sequential adoption theory: a theory for understanding herding behavior in early adoption of novel technologies	AIS	2010	54	8	-	Male	US	Texas Tech University
<u>(Fang and Neufeld 2009)</u>	JMIS	Understanding sustained participation in open source software projects	AIS	2010	216	31	-	Male	Hong Kong	City University of Hong Kong
<u>(Vaast and Walsham 2009)</u>	ISR	Trans-situated learning: supporting a network of practice with an information infrastructure	AIS	2010	56	8	-	Female	US	Long Island University
<u>(Cyr et al. 2009)</u>	MISQ	Exploring human images in website design: a multi-method approach	AIS	2010	234	33	-	Female	Canada	Simon Fraser University
<u>(Chi et al. 2010)</u>	ISR	Information technology, network structure, and competitive action	AIS	2011	56	9	-	Female	US	Rensselaer Polytechnic Institute
<u>(Baptista et al. 2010)</u>	JSIS	Paradoxical effects of institutionalisation on the strategic awareness of technology in organisations	AIS	2011	30	5	-	Male	UK	University of Warwick
<u>(Arazy et al. 2010)</u>	JAIS	A theory-driven design framework for social recommender systems	AIS	2011	64	11	-	Male	Canada	University of Alberta
<u>(Ba et al. 2010)</u>	ACM T MISQ	Why give away something for nothing? Investigating virtual goods pricing and permission strategies	AIS	2011	8	1	-	Female	US	University of Connecticut
<u>(Abbasi et al. 2010)</u>	MISQ	Detecting fake websites: the contribution of statistical learning theory	AIS	2011	57	10	-	Male	US	University of Wisconsin–Milwaukee
<u>(Germonprez</u>	JAIS	Secondary design: A case of	AIS	2012	45	9	-	Male	US	University of

<u>et al. 2011)</u>		behavioral design science research								Wisconsin-Eau Claire
<u>(Gerpott 2011)</u>	ISF	Determinants of self-report and system-captured measures of mobile Internet use intensity	AIS	2012	14	3	Yes	Male	Germany	University of Duisburg-Essen
<u>(Tsai et al. 2011)</u>	ISR	The effect of online privacy information on purchasing behavior: An experimental study	AIS	2012	350	70	-	Female	US	Carnegie Mellon University
<u>(Faraj et al. 2011)</u>	OS	Knowledge collaboration in online communities	AIS	2012	294	59	-	Male	Canada	McGill University
<u>(Nevo and Wade 2011)</u>	JSIS	Firm-level benefits of IT-enabled resources: A conceptual extension and an empirical assessment	AIS	2012	52	10	-	Male	US	University at Albany
<u>(Hirschheim and Klein 2012)</u>	JAIS	A glorious and not-so-short history of the information systems field	AIS	2013	85	21	-	Male	US	Louisiana State University
<u>(Watson-Manheim et al. 2012)</u>	ISJ	Perceived discontinuities and constructed continuities in virtual work	AIS	2013	46	12	-	Female	US	University of Illinois at Chicago
<u>(Susarla et al. 2012)</u>	ISR	Social networks and the diffusion of user-generated content: Evidence from YouTube	AIS	2013	185	46	-	Female	US	Carnegie Mellon University
<u>(Golander et al. 2012)</u>	AIS T HCI	Trends in Website Design	AIS	2013	3	1	-	Female	Israel	Ben-Gurion University of the Negev
<u>(Agarwal et al. 2012)</u>	BIS E	Raising and rising voices in social media	AIS	2013	17	4	-	Male	US	University of Arkansas
<u>(Abbott et al. 2013)</u>	JSIS	From boundary spanning to creolization: A study of Chinese software and services outsourcing vendors	AIS	2014	17	6	-	Female	UK	Brunel University London
<u>(August and Niculescu 2013)</u>	MS	The Influence of Software Process Maturity and Customer Error Reporting on Software Release and Pricing	AIS	2014	2	1	-	Male	US	University of California, San Diego
<u>(Porter et al. 2013)</u>	JMIS	A test of two models of value creation in virtual communities	AIS	2014	20	7	-	Female	US	Rice University
<u>(Wu 2013)</u>	ISR	Social network effects on productivity and job security: Evidence from the adoption of a social networking tool	AIS	2014	58	19	Yes	Female	US	University of Pennsylvania
<u>(Mazmanian et al. 2013)</u>	OS	The autonomy paradox: The implications of mobile email	AIS	2014	84	28	-	Female	US	University of California,

		devices for knowledge professionals								Irvine
<u>(Winter et al. 2014)</u>	IO	Beyond the organizational 'container': Conceptualizing 21st century sociotechnical work	AIS	2015	11	6	-	Female	US	University of Maryland
<u>(Veiga et al. 2014)</u>	EJIS	The longitudinal impact of enterprise system users' pre-adoption expectations and organizational support on post-adoption proficient usage	AIS	2015	13	7	-	Male	US	University of Connecticut
<u>(Piccoli and Ott 2014)</u>	MISQE	Impact of Mobility and Timing on User-Generated Content	AIS	2015	3	2	-	Male	US	Louisiana State University
<u>(Fichman and Melville 2014)</u>	JMIS	How posture-profile misalignment in IT innovation diminishes returns: Conceptual development and empirical demonstration	AIS	2015	3	2	-	Male	US	Boston College
<u>(Chan and Ghose 2014)</u>	MISQ	Internet's Dirty Secret: Assessing the Impact of Online Intermediaries on HIV Transmission	AIS	2015	27	14	-	Male	US	New York University

Appendix 2

Theory Building		Theory Testing					
		L			M	H	
		0	1	2	3	4	5
H	5	(Burton-Jones and Gallivan 2007) (Markus and Silver 2008) (Leonardi and Barley 2008) (Dennis et al. 2008) (Hirschheim and Klein 2012) (Vaast and Walsham 2009) (Winter et al. 2014)	(Granados et al. 2006) (Markus et al. 2006) (Leidner and Mackay 2007) (Faraj et al. 2011) (Watson - Manheim et al. 2012) (Abbott et al. 2013)	-	-	-	(Richardson et al. 2006) (Walden and Browne 2009) (Arazy et al. 2010)
	4	-	(Wagner et al. 2006) (Alvarez 2008) (Jonsson et al. 2009) (Baptista et al. 2010) (Germonprez et al. 2011) (Mazmanian et al. 2013) (Chan and Ghose 2014) (Piccoli and Ott 2014)	(Gerpott 2011) (August and Niculescu 2013)	(Pavlou and El Sawy 2006) (Boh 2007) (Susarla et al. 2012) (Golander et al. 2012) (Ba and Pavlou 2002)	(Chi et al. 2010)	(Tallon and Kraemer 2007) (Bapna et al. 2008) (Fang and Neufeld 2009) (Tsai et al. 2011) (Nevo and Wade 2011) <u>(Porter et al. 2013)</u> (Wu 2013) (Veiga et al. 2014) (Fichman and Melville 2014)
M	3	-	-	-	-	-	-
L	2	-	-	-	-	-	-
	1	-	-	-	-	-	(Cyr et al. 2009) (Abbasi et al. 2010)
	0	(Gregor and Jones 2007) <i>(most cited paper, method expansion)</i> (Agarwal et al. 2012)	-	-	-	-	-

Bold items: Articles with non-US based lead author affiliation (at the time of publication)

Appendix 3

Type	Theory Building	Theory Testing	Method Expansion			
			0	1	2	3
1	High	High	(Richardson et al. 2006) (Tallon and Kraemer 2007) (Fang and Neufeld 2009) (Walden and Browne 2009) (Tsai et al. 2011) (Nevo and Wade 2011) (Porter et al. 2013) (Wu 2013) (Veiga et al. 2014) (Fichman and Melville 2014)	(Bapna et al. 2008) (Arazy et al. 2010)	-	(Chi et al. 2010)
2	High	Moderate	(Pavlou and El Sawy 2006) (Boh 2007) (Susarla et al. 2012) (Golander et al. 2012)	-	-	(Ba et al. 2010)
3	High	Low	(Wagner et al. 2006) (Alvarez 2008) (Jonsson et al. 2009) (Baptista et al. 2010) (Germonprez et al. 2011) (Mazmanian et al. 2013) (Chan and Ghose 2014) (Markus and Silver 2008) (Leonardi and Barley 2008) (Dennis et al. 2008) (Hirschheim and Klein 2012) (Vaast and Walsham 2009) (Winter et al. 2014) (Granados et al. 2006) (Markus et al. 2006) (Leidner and Mackay 2007) (Faraj et al. 2011) (Watson - Manheim et al. 2012) (Abbott et al. 2013) (August and Niculescu 2013) (Piccoli and Ott 2014)	-	(Burton-Jones and Gallivan 2007)	
4	Low	Low	-	(Gregor and Jones 2007) (Agarwal et al. 2012)	-	-
5	Low	High	(Abbasi et al. 2010)	-	-	(Cyr et al. 2009)

Bold items: Articles with non-US based lead author affiliation (at the time of publication)

Appendix 4 (MISQ Paper of the Year Sample)

Study	Journal	Title	Award Body	Year of Award	Citations	Citations per year	Single Authorship	1st Author Demographics		
<u>(Orlikowski 1993)</u>	MISQ	CASE tools as organizational change: Investigating incremental and radical changes in systems development	MISQ	1993	1596	69	Yes	Female	US	MIT
<u>(Hess et al. 1994)</u>	MISQ	Computerized loan origination systems: an industry case study of the electronic markets hypothesis	MISQ	1994	317	14	-	Male	US	ValueQuest, Ltd.
<u>(Mukhopadhyay et al. 1995)</u>	MISQ	Business value of information technology: a study of electronic data interchange	MISQ	1995	990	47	-	Male	US	Carnegie Mellon University
<u>(Hitt et al. 1996)</u>	MISQ	Productivity, Business Profitability, and Consumer Surplus: Three Different Measures of Information Technology Value	MISQ	1996	1699	85	-	Male	US	MIT
<u>(Ngwenyama et al. 1997)</u>	MISQ	Communication richness in electronic mail: Critical social theory and the contextuality of meaning	MISQ	1997	831	44	-	Male	US	University of Michigan
<u>(Kumar et al. 1998)</u>	MISQ	The merchant of Prato-revisited: toward a third rationality of information systems	MISQ	1998	378	21	-	Male	Netherlands	Erasmus University
<u>(Klein et al. 1999)</u>	MISQ	A set of principles for conducting and evaluating interpretive field studies in information systems	MISQ	1999	4239	249	-	Male	US	State University of New York
<u>(Majchrzak et al. 2000)</u>	MISQ	Technology adaptation: The case of a computer-supported inter-organizational virtual team	MISQ	2000	868	54	-	Male	US	University of Southern California
<u>(Te'eni 2001)</u>	MISQ	A cognitive-affective model of organizational communication for designing IT	MISQ	2001	446	30	Yes	Male	Israel	Bar-Ilan University
<u>(Jaspersen et al. 2002)</u>	MISQ	Review: power and information technology research: a metatriangulation review	MISQ	2002	339	24	-	Male	US	The University of Oklahoma

(Lamb et al. 2003)	MISQ	Reconceptualizing users as social actors in information systems research	MISQ	2003	719	55	-	Female	US	University of Hawaii
(Swanson et al. 2004)	MISQ	Innovating mindfully with information technology	MISQ	2004	641	53	-	Male	US	University of California, LA
(Lapointe et al. 2005)	MISQ	A multilevel model of resistance to information technology implementation	MISQ	2005	792	72	-	Female	Canada	McGill University
(Markus et al. 2006)	MISQ	Industry-wide information systems standardization as collective action: the case of the US residential mortgage industry	MISQ	2006	252	25	-	Female	US	Bentley College
(Burton-Jones and Gallivan 2007)	MISQ	Toward a deeper understanding of system usage in organizations: a multilevel perspective	MISQ	2007	315	35	-	Male	Canada	University of British Columbia
(Dennis et al. 2008)	MISQ	Media, tasks, and communication processes: A theory of media synchronicity	MISQ	2008	632	79	-	Male	US	Indiana University
(Cyr et al. 2009)	MISQ	Exploring human images in website design: a multi-method approach	MISQ	2009	234	33	-	Female	Canada	Simon Fraser University
(Abbasi et al. 2010)	MISQ	Detecting fake websites: the contribution of statistical learning theory	MISQ	2010	57	10	-	Male	US	University of Arizona
(Leonardi 2011)	MISQ	When flexible routines meet flexible technologies: Affordance, constraint, and the imbrication of human and material agencies	MISQ	2011	459	92	Yes	Male	US	Northwestern University
(Polites and Karahanna 2012)	MISQ	Shackled to the Status Quo: The Inhibiting Effects of Incumbent System Habit, Switching Costs, and Inertia on New System Acceptance	MISQ	2012	154	39	-	Female	US	Bucknell University
(Xu and Zhang 2013)	MISQ	Impact of Wikipedia on market information environment: Evidence on management disclosure and investor reaction	MISQ	2013	24	8	-	Male	China	Tsinghua University
(Chan and Ghose 2014)	MISQ	Internet's Dirty Secret: Assessing the Impact of Online Intermediaries on HIV Transmission	MISQ	2014	27	14	-	Male	US	New York University

Appendix 5

Theory Building		Theory Testing					
		L			M		H
		0	1	2	3	4	5
H	5	(Te'eni 2001) (Jasperson et al. 2002) (Swanson and Ramiller 2004) (Burton-Jones and Gallivan 2007) (<i>method expansion</i>) (Dennis et al. 2008) (<i>highly cited</i>)	(Orlikowski 1993) (Markus et al. 2006)		(Leonardi 2011) (<i>highly cited</i>)		(Ngwenyama and Lee 1997) (Lamb and Kling 2003) (Lapointe and Rivard 2005) (<i>highly cited</i>)
	4	-	(Chan and Ghose 2014)		(Mukhopadhyay et al. 1995) (Xu and Zhang 2013)		(Kumar et al. 1998) (Majchrzak et al. 2000) (Polites and Karahanna 2012)
M	3	-	-	-	-	-	-
L	2	-	-	-	-	-	-
	1	-	-	-	-	-	(Hess and Kemerer 1994) (Hitt and Brynjolfsson 1996) (<i>highly cited</i>) (Cyr et al. 2009) (<i>method expansion</i>) (Abbasi et al. 2010)
	0	(Klein and Myers 1999) (<i>most cited paper, method expansion</i>)	-	-	-	-	-

Bold items: Articles with non-US based lead author affiliation (at the time of publication)