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Examining the True Impact of IS Research

Anton Manfreda
University of Ljubljana, Faculty of Economics, anton.manfreda@ef.uni-lj.si

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Anton Manfreda
University of Ljubljana, Faculty of Economics, Kardeljeva ploscad 17, 1000 Ljubljana, Slovenia
Email: anton.manfreda@ef.uni-lj.si

Abstract
The IS field is growing rapidly and new technological developments are providing new possibilities for business improvement. Therefore, there is a great opportunity for academic IS research due to the new business models, new procedures or even new, unprecedented problems. However, the research does not always hold out the prospect of developing or upgrading the IS field since many papers are merely published for the sake of publishing itself. They neither develop the theory, nor help the business. The aim of this research is thus to examine the impact and relevance of IS research by different stakeholders, namely academics, IS managers, top managers and students. The research will outline problems related to IS research dissemination among various stakeholders and present practical directions for future research.

Keywords: IS research, IS managers, relevance, IS impact

1.0 Introduction

Even though the information system (IS) field is quite a new discipline, it has been well researched. One of the main strategic research topics is the relationship between IS and top managers, a subject of research for over 50 years. In the academic literature, it has namely been claimed that the relationship between business and IS has been problematic since the emergence of computer applications intended for general business use in the 1960s (Doll & Ahmed, 1983; Ward & Peppard, 1996). Academics often denote this inefficient relationship between top and IS managers as a gap or even a "cultural" gap between the two sides (Coughlan, Lycett, & Macredie, 2005; Grindley, 1992) and define it as a lack of understanding between management and IS personnel in an organisation (Coughlan, et al., 2005; Peppard & Ward, 1999). However, in the contemporary world we may have 'a new gap', a gap between IS research and IS needs or, even more accurately, a gap between IS research and the value of IS research. Yet, research only has a value if it has an impact.

Given that the business-IS gap leads to different views and expectations from both IS personnel and top managers and thus prevents the company developing a competitive advantage based on IS (Grindley, 1992), one may claim that 'the new gap' leads to different expectations between researchers and other interested stakeholders. Nevertheless, several papers contribute neither to developing the theory, nor to

improving the performance of business, even though almost every paper claims it is making a significant impact on either theory, practice or both.

The purpose of this research is thus to examine the impact and relevance of IS research by different stakeholders: academics, IS managers, top managers and students. Considering the various stakeholders and consequently different perspectives and expectations, the main problems related to the impact and dissemination of IS research can be outlined together with practical directions for future research.

This research in progress begins with a short background, followed by a presentation of the research methodology and data analysis proposal. At the end, a short concluding remark is made.

2.0 Background

2.1 Academic IS research

In the last few years, hijacked journals and predatory publishers have been presenting the threat and possible fear that not all research is intended for developing the theory or improving business performance, but there may be some other urge to publish. Due to numerous academic cyber criminals operating in the last year, it has even been claimed that the years 2012 and 2013 are the years of fake journals, and 2014 the year of fake impact factors (Jalalian & Mahboobi, 2014).

Nevertheless, considering only SSCI-ranked journals in the field of Information Science and Library Science there were 3,574 published papers, while considering SCI-ranked journals in the field of Computer Science and Information Systems there were 11,383 published papers in 2013 (Web of Science - Journal Citation Report, 2013). Based on the number of published articles, the research question arises of whether all of these papers achieved their purpose and, even more importantly, how to measure the success of the research reported in them.

An example of the relevance and importance of the research topic is evident from Figure 1. The figure illustrates the number of articles published in the last 25 years related to one randomly selected research topic. The publication databases included in the figures are Science Citation Index Expanded (SCI-expanded) and Social Sciences Citation Index (SSCI). Figure 1 presents the number of articles published each year since 1991 that include the keywords “information technology” or “information systems” together with:

- “implementation failure” in the topic of the article;
- “project failure” in the topic of the article; or
- “failure” in the title of the article.

As evident from the figure, except for some minor deviations the number of articles is rising in the last 25 years. Consequently, it would be anticipated that given the numerous research available there should be fewer IS project failures. However, if that were true, there would no longer be any detailed research on the topic of IS project failure. This is obviously not the case.

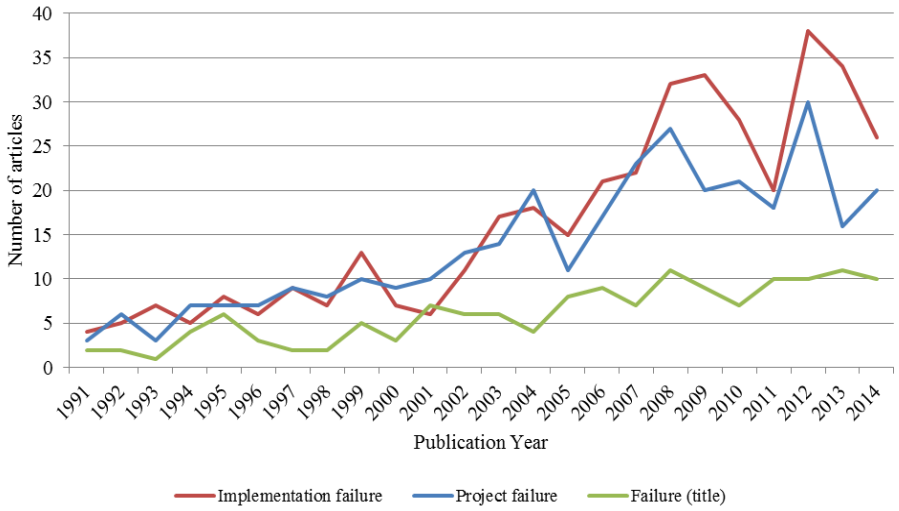

Figure 1: Number of articles related to IT or IS and failure

2.1 Academic IS curriculum

The gap between IS research and IS needs may also be related to skills and knowledge. Due to the rapid changes in the IS field, academics, students and experts are namely dealing with the knowledge and skills needed to effectively operate in a changing technological and business environment (Nelson, 1991; Niederman, Brancheau, & Wetherbe, 1991). Since the environment and the IS field itself is changing quickly, many curriculums at universities are not harmonised with business needs as there are numerous technical subjects that hold no real value in the market (Lee & Fang, 2008; Yen, Chen, Lee, & Koh, 2003) and therefore the curriculum is lagging behind the actual needs of the market. One could therefore infer that also IS research is less relevant to practice.

Based on the literature review, in-depth interviews with IS managers and top managers, the following research problem is exposed: Academics often publish research papers due to promotion rules and not based on actual market needs or fundamental research projects. Consequently, the impact and relevance of such research is questionable and its dissemination among IS practitioners, experts or students is considerably less than it should be. Based on the research problem, the following hypotheses are proposed:

- H1: Top managers are insufficiently aware of research topics related to IS.

- H2: IS managers and IS practitioners are insufficiently aware of research topics related to IS.
- H3: Students are insufficiently aware of research topics related to IS.
- H4: Academics are unable to process knowledge related to IS that accumulates each year.

3.0 Research Methodology

The research question will be empirically tested using data from different stakeholders. Since IS research is relevant to students, academics and organisations, all of these stakeholders are invited to participate in the research.

With the intention to test the proposed hypotheses, different questionnaires are being developed; one for IS managers and top management, one for students interested in the IS field, and another for academics involved in IS research. The main part of the questionnaires is the same for all stakeholders, namely examining the relevance of selected highly ranked journals and their recognition among different stakeholders; however, there are also specific items for each individual stakeholder. Comparing these questionnaires will help in finding differences and similarities among the stakeholders and expose the relevance and dissemination of IS research.

Pretesting will be conducted in March 2015 using semi-structured interviews with selected IS managers, top managers, undergraduate and postgraduate students and two academics involved in IS research. Based on the pretesting phase, a set of measurement items will be formulated in even greater detail. In May 2015, an on-line questionnaire will be available for distribution among selected stakeholders. In its initial stage, the research will be conducted in Slovenia, although researchers from different countries will be invited to participate in order to make the research highly relevant.

The journals to be used in the questionnaires were selected based on their ranking in the 2013 JCR Social Science Edition as the latest ranking list widely available. The list of top 20 journals according to the impact factor in the Information Science & Library Science category is presented in the table below.

Rank	Journal Title	JCR Data		
		Total Cites	Impact Factor	5-Year Impact Factor
1	MIS Quarterly	8705	5.405	8.157
2	Journal of The American Medical Informatics Association	5937	3.932	4.182
3	Journal of Information Technology	1282	3.789	4.917
4	Journal of Informetrics	1152	3.580	3.609
5	Journal of Strategic Information Systems	878	2.571	3.130

6	Information and Organization	338	2.538	2.508
7	Information Systems Research	4393	2.322	4.276
8	Scientometrics	5129	2.274	2.294
9	Journal of The American Society for Information Science and Technology	5125	2.230	2.381
10	International Journal of Information Management	1169	2.042	2.243
11	Government Information Quarterly	879	2.033	2.015
12	Journal of Computer-Mediated Communication	2368	2.019	4.346
13	Journal of Management Information Systems	3021	1.925	3.305
14	Journal of Health Communication	1925	1.869	2.355
15	International Journal of Computer-Supported Collaborative Learning	417	1.830	2.609
16	Information & Management	3384	1.788	3.392
17	Annual Review of Information Science and Technology	481	1.727	3.022
18	European Journal of Information Systems	1441	1.654	2.619
19	Social Science Computer Review	701	1.542	1.686
20	International Journal of Geographical Information Science	2653	1.479	1.954

Table 1: List of top 20 journals based on impact factor

4.0 Data analysis and results

An exploratory factor analysis using SPSS will be conducted to define the factors that are important in IS research for different stakeholders. Further, t-tests will be used to identify the main differences among the stakeholders involved, although for the category presentation and analysis descriptive statistics are sufficiently informative.

4.1. Category presentation and analysis

In the 2013 JCR Social Science Edition, the Information Science & Library Science category is composed of 84 SSCI-ranked journals. A draft presentation of the category is shown in the figures below.

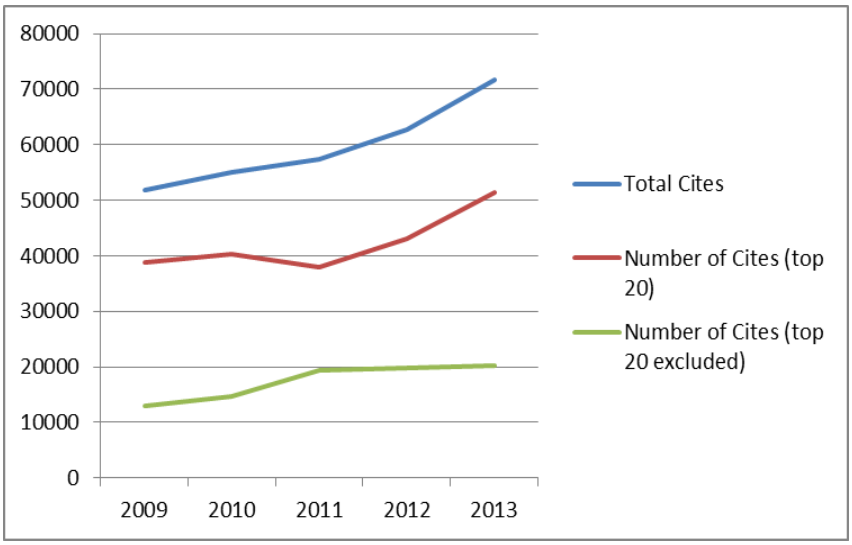

Figure 2: Number of total cites in the last 5 years

As evident from Figure 2, the top 20 journals based on the impact factor account for more than 70% of all cites, while the number of these journals represents approximately 25% of all journals in the Information Science & Library Science category. Considering the most cited journals in 2013, the top 3 cited journals among all 84 journals in the category account for 28% of all cites, while the top 5 cited journals account for 41% of all cites. The remaining 59% cites are distributed among the other 79 journals.

Figure 3 presents the number of articles in each year and the number of cites to articles published in each year. The growing number of articles is a consequence of number of journals in the category rising from 66 in 2009 to 84 in 2013.

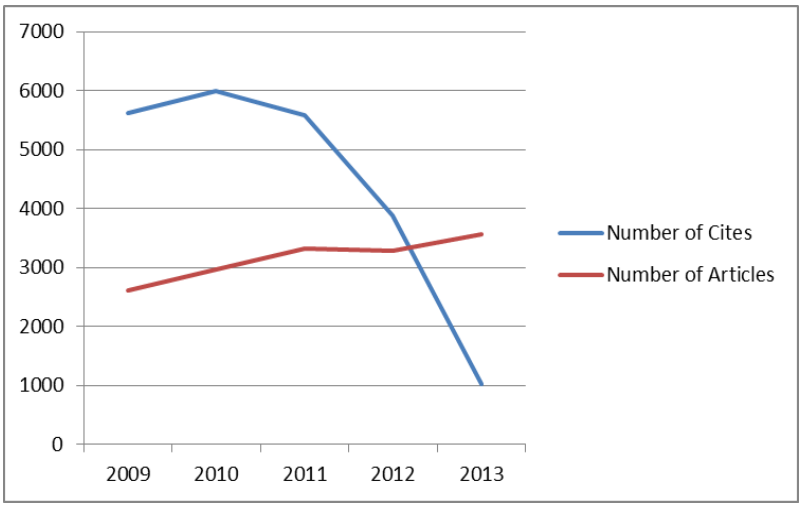

Figure 3: Number of cites and articles in the last 5 years

At the conference, a pretesting phase will be presented together with particular items included in the questionnaires. Some important aspects of IS research and the main

problems with their relevance and dissemination may be already observed from the pretesting phase.

5.0 Conclusion

The paper presents a plan for a relatively provocative study. Since the IS field is rapidly growing with new technological developments and almost unlimited possibilities for using the technology in business process development, there is also an enormous place and opportunity for academic IS research. However, this research may not always help develop the IS field. Namely, several papers are published merely for the sake of publishing itself. They neither develop the theory, nor develop the business.

The purpose of this study is therefore to shed light on IS research from various perspectives. Thus, apart from academics IS managers, top managers and students are involved in the study. This study will examine the impact and relevance of IS research and outline problems related to IS research dissemination among various stakeholders and present practical directions for future research. After all, the need to make research matter will become ever more important in any discipline facing a flood of articles. Nevertheless, research only has a value if it has an impact. Otherwise, it remains only a paper. Since there are already too many papers, there is a strong need to make research matter.

References

Coughlan, J., Lycett, M. and Macredie, R. D. (2005) *Understanding the business-IT relationship*, International Journal of Information Management, 25 303-319.

Doll, W. J. and Ahmed, M. U. (1983) *Diagnosing and Treating the Credibility Syndrome*, MIS Quarterly, 7 21-32.

Grindley, K. (1992) *Information systems issues facing senior executives: the culture gap*, The Journal of Strategic Information Systems, 1 57-62.

Jalalian, M. and Mahboobi, H. (2014) *Hijacked Journals and Predatory Publishers: Is There a Need to Re-Think How to Assess the Quality of Academic Research?*, Walailak J Sci & Tech,

Lee, S. and Fang, X. (2008) *Perception Gaps about Skills Requirement for Entry-Level IS Professionals between Recruiters and Students: An Exploratory Study*, Information Resources Management Journal, 21 39-63.

Nelson, R. R. (1991) *Educational Needs as Perceived by IS and End-User Personnel: A Survey of Knowledge and Skill Requirements*, MIS Quarterly, 15 502-525.

Niederman, F., Brancheau, J. C. and Wetherbe, J. C. (1991) *Information Systems Management Issues for the 1990s*, MIS Quarterly, 15 474-500.

Peppard, J. and Ward, J. (1999) *'Mind the Gap': diagnosing the relationship between the IT organisation and the rest of the business*, The Journal of Strategic Information Systems, 8 29-60.

Ward, J. and Peppard, J. (1996) *Reconciling the IT/business relationship: a troubled marriage in need of guidance*, The Journal of Strategic Information Systems, 5 37-65.

Web of Science - Journal Citation Report. (2013): Thomson Reuters.
Yen, D. C., Chen, H.-G., Lee, S. and Koh, S. (2003) *Differences in perception of IS knowledge and skills between academia and industry: findings from Taiwan*, International Journal of Information Management, 23 507-522.