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## **The Supervisor's Dilemma: Is Reconciliation Possible between the Candidate's Needs and the Supervisor's Integrity?**

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### **Abstract**

*The supervisor of a graduate research candidate has a responsibility to the candidate to provide guidance throughout the project. It is necessary to ensure that the candidate accumulates a comprehensive understanding of the research endeavour, delivers a dissertation that evidences that understanding, and makes a sufficient contribution. Through that process, the candidate achieves 'rite of passage' to a research career. On the other hand, the supervisor also has a responsibility to themselves and their profession: to sustain their own integrity.*

*The Information Systems discipline has been dragged towards a state in which rigour dominates relevance to an untenable extent, and the real-world value of too much of the research that is conducted and published is diminishingly small. Nowhere is the tension so great as in the research domain that is the focus of the Bled eConference. The dilemma that I expand on in this paper is created by the conflict between the current expectations of the discipline and the needs of real-world-relevant research.*

Keywords: doctoral supervision, eInteraction research, instrumentalist research, researcher perspective, rigour, relevance

## **1 Introduction**

The Call for the Special Track on Research Supervision Dilemmas framed the research supervision experience in terms of four perspectives: research output, student, supervisor and institution. This paper addresses the intersection of the second and third of these perspectives.

The OED defines a dilemma as a condition in which the alternatives to be chosen among are equally unfavourable, resulting in a position of doubt or perplexity. The author perceives a dilemma when contemplating the supervision of postgraduate research candidates in the discipline of Information Systems (IS) and in the research domain of eInteraction. Expressed concisely, the interest of the candidate in achieving conformance with contemporary

disciplinary norms leads to choices of topic, theory and research design that can readily come into conflict with the supervisor's academic and professional values and personal integrity. In order to put flesh on that vague statement, it is necessary to review a number of aspects of the practice of research into topics relevant to the Bled eConference.

The research domain of interest to the Bled eConference has migrated over a quarter-century, from EDI, via eCommerce and eBusiness, to a very broad range of uses of networking facilities in industry and government, and more recently by individuals, groups and society as a whole (Clarke 2012). The term 'eInteraction' has been suggested as the unifying element of the conference's contemporary focus (Clarke & Pucihar 2013). The eInteraction domain has a number of characteristics that present great challenges to researchers, which are outlined in Exhibit 1.

The paper commences by highlighting relevant aspects of the nature of research, and some key characteristics of the eInteraction research domain. It then considers four particular areas of concern. This enables the Supervisor's Dilemma to be articulated, and approaches to its resolution to be investigated.

## **2 Research and Research Supervision**

This section briefly identifies some key aspects of research, and of the research domain of relevance to the Bled eConference. Firstly, several approaches can be adopted to research. Of those outlined in Exhibit 2, Instrumentalism has particular significance.

Research in areas of relevance to the Bled eConference has become professionalised, and the general expectation exists that, in order to be regarded as a researcher, a person will have completed a relevant doctorate. A candidate's motivations in undertaking a doctorate are varied (e.g. Phillips & Pugh 1994, pp. 22-25), and are commonly some combination of:

- to attain education and training relevant to the conduct of research
- to make a contribution to a discipline and/or the accumulated knowledge about a particular research domain
- to gain access to the research profession
- to gain a prenominal (Dr) and/or postnominal (PhD), as evidence of advanced university education

### **Exhibit 1: Characteristics of the eInteraction Research Domain**

**Immaturity.** The IS discipline dates from the mid-1960s, and the eInteraction research domain emerged (depending on the definition adopted) only in the late 1980s or early-to-mid 1990s. Neither is 'virgin territory' or 'a green-fields site'. On the other hand, both lack stable, widely-accepted bodies of theory

**Instability of Phenomona.** Ways in which eInteraction phenomena are unstable include (Clarke 2001):

- rapidly changing technologies and processes, with maturation frequently over-run by the next innovation, and divergence trumping each convergence
- rapidly changing conceptions of services and markets (e.g. PDAs intersect with portables, but become tablets and intersect with smartphones; social networking services transmogrify into social media; employer-imposed devices give way to 'bring your own device')
- the continual emergence of new applications of technologies
- co-option of technologies by users ('the street finds its own uses for things')
- the rapid evolution of participant behaviour
- rapid shifts in perceptions of need by both providers and users

**The Drivers.** The domain is largely driven by technological innovation by business enterprises, and as a result is dominated by 'marketing hype' and misinformation. This is particularly the case during the early phases of the innovation process, which is precisely when research could offer participants a great deal of value

**The 'Casino Mentality' among Innovators.** The business models underlying many services are creative, to be point of being imaginary. This creates tendencies towards a 'dot.com boom and bust cycle'. (Remarkably, articles on social media that contain the term 'dot.com' appear to use it only to refer to the events of 1999-2000, and not in relation to post-2004 services). A sceptical view was expressed in Silver (2008): "the obvious needs saying: Don't believe corporate hype. Corporations exist to make profits, not public goods. Usually, when they say 'community' they mean 'commerce', and when they say 'aggregation' they mean 'advertising'. ... What were once dot.coms are now called Web 2.0 startups, but the goal remains the same: to make millions by selling out to Google, Yahoo!, or Microsoft. From San Francisco to Silicon Valley, the newest gold rush is on, call it California Ideology 2.0 ..."

The Plethora of Confounding Variables, including:

- overlapping technologies and substitutability among products
- geographical unboundedness
- cultural variation

- the ill-definedness of cultural boundaries

**The Interconnectedness among Phenomena.** The considerable interplay among variables in the models that researchers develop undermines the applicability of causal notions and demands a degree of holistic treatment of the field under study

**Inadequate Bodies of Theory.** Of particular concern are notions of culture, and cultural differences in social and economic behaviours

## **Exhibit 2: Approaches to Research**

**Pure Research,** sometimes referred to as Basic Research. This is undertaken 'because it's there', with an intention to contribute to abstract, theoretical understanding

**Applied Research.** This is theory-driven or tool-driven. It takes existing theoretical or procedural understanding, and applies it to some research domain. At its best, this is highly productive 'normal science', and at its worst it is ineffective and misleading ('when you have a hammer in your hand, everything looks like a nail')

**Instrumentalist Research.** This is problem-driven. It situates a problem within a research domain, but then seeks out and refines or develops theories and procedures in order to work towards a solution to the problem. Rather than 'I have a hammer, so go and find me a nail', the approach is 'I need to firmly connect two pieces of timber, so find out how to do it'

It is a requirement for the award of a doctorate that the candidate demonstrate that they have made a sufficient 'contribution'. However, much of the time and effort is invested in the learning process, and considerable formalism is involved in satisfying examiners. As a result, the topic is generally very tightly focussed by the time of submission. Hence it is unreasonable to expect the contribution to be at the level of a 'breakthrough' discovery or invention. Major new advances of such kinds more commonly arise from the cumulative efforts of teams – both localised and virtual – than from individual PhD candidacies.

A key consideration is the extent to which the doctoral program needs to ensure that the individual achieves a comprehensive background in the philosophy of research, and familiarity with the full range of research techniques. In disciplines that have strong paradigms, it might be appropriate for PhDs to receive limited education in research, and be subject to tightly-focussed training in the particular 'normal science' current in that field. However, neither the IS discipline nor the eInteraction domain has been 'industrialised' in this way. Breadth in both education and training are clearly essential in these fields.

The motivations for a supervisor vary (e.g. Phillips & Pugh 1994, pp. 25-26), but are commonly some combination of:

- to develop the next generation of researchers – perhaps for reasons of service or altruism, or as a form of deferred and indirect reciprocity for the efforts of the person's own supervisors, years earlier
- to gain intellectual stimulation

- to have a junior colleague undertake work in an area closely related to, and at least to some extent contributing to, the supervisor's own research
- to contribute to a broader research program for which the supervisor is responsible or in which the supervisor is a participant
- to assist in the projection of the supervisor's theories and/or procedures to the world
- to have a research assistant
- to satisfy an expectation of the supervisor's employer and/or peers

The aspects of research and supervision identified in this section provide the backdrop against which the supervisor's dilemma can be developed.

### **3 Specific Areas of Concern**

This section identifies a number of specific issues in the contemporary research arena, which together give rise to the supervisor's dilemma.

#### **3.1 The Perspective Adopted by the Researcher**

A particular concern arises at the stage when a candidate is selecting, or being guided in the selection of, a topic-area, an approach and general research questions that are to be addressed.

It is common for proposals to be clear about the intended unit of study or unit of analysis. This may be a technology, an event, an object, a person, a relationship (such as a dyad), a group, an organisational unit or a legally-defined organisation, or an aggregation of organisations such as an industry sector, or a region or nation.

On the other hand, the perspective that the researcher is adopting is seldom as carefully considered, and it frequently remains implicit. It is infeasible for research to be conducted in the abstract. Although the increased adoption of interpretivism in recent years has resulted in some broadening of thinking within the discipline, any particular observation of a research domain has to be from a specific point of view. In most contexts, the interests of the various players are so diverse that the points of view of no more than a few can be accommodated, and in many circumstances only one.

**Most commonly, the perspective adopted is that of a single corporation or other organisation**, such as a government agency or a not-for-profit organisation. It is of course entirely valid to adopt such a perspective.

**However, other organisations also have perspectives**, and they are likely to diverge from those of the organisation that is the host or sponsor of an IT application. The conventional competitive model recognises customers, suppliers, and providers of similar goods or services and of substitute goods or services. To that must be added regulators.

Moreover, there are many perspectives other than those of individual organisations, and these tend to be under-represented in eInteraction research. **One example of an under-represented perspective is that of individual employees and contractors**, not as agents of

the organisation, but as people. **Even more than users, the interests of 'usees' are frequently overlooked.** The term 'usee' was coined within the socio-technical tradition to refer to individuals who are not direct participants in an IT application but are affected by it (e.g. Clarke 1992). This may include an organisation's suppliers and customers, but also licensees, other people whose data are handled by an organisation, and people adjacent to an organisation's facilities.

Beyond the level of individual organisations and particular categories of people, **there is a significant shortage of research work with a public policy orientation**, whether it be from the viewpoint of industry sectors and segments, of economies, of societies, of humanity or of the biosphere.

One extremely rough measure of the extent of adoption of broader perspectives is that the 16,000 entries in the AIS eLibrary in April 2013 include only 18 which have the term 'public policy' in the Abstract; and of the 600 papers in the Bled Proceedings since 2001, precisely zero have the term in the Abstract. At a slightly less superficial level of examination, a scan of papers that have the word 'privacy' in the Abstract suggests that the majority of papers (360 in AISeL as a whole, including 8 at Bled) consider privacy from the perspectives of marketers and service-providers, not of the people whose privacy is affected by IT. Similarly, although there has recently been a surge in 'green' topics (with AISeL showing counts for 2009-12 of 19, 20, 28 and 34 compared to 9 for the whole of the period 1998-2008), rather than adopting the perspective of humanity or the biosphere, many are trapped inside a corporate view.

Examples of topics that eInteraction research all-too-seldom addresses, let alone adopts as the focal-point of the work, include skills formation; employment and other income-distribution mechanisms; the differential needs of, and impacts on, people and communities in urban, regional, rural and remote areas; impact and implications for cultural and linguistic minorities; technology design for people with physical and cognitive impairments; impacts of data surveillance on users and usees; consumer needs and consumer rights; and consumer marketing philosophies other than conventional, predatory, mass-marketing approaches, e.g. permission-based, consensual, micro-, 1-to-1, and non-mass.

Given that research from a public policy perspective is at least unfashionable, and perhaps even regarded as inappropriate, it is no surprise that **more questioning approaches to research in IS generally, and eInteraction in particular, remain uncommon and somewhat marginalised.** The critical theory approach recognises the political dimension of IT applications. It involves identifying the interests and agendas of the players that exercise institutional and market power, and considers the tensions and the balances among competing forces in influencing the design of technologies and their applications (Cecez-Kezmanovic 2001). Research that recognises the pragmatics of eInteraction design is important, but most IS researchers avoid such challenges.

The adoption of perspectives alternative to those of individual organisations might be perceived to clash with the professional norms of many in the IS discipline, particularly those in US business schools, and to be more appropriate for humanities academics or liberal arts colleges. Yet, if IT's impacts are as substantial as we think they are, then IS researchers have an obligation to lift themselves outside an exclusively corporate mind-set (Clarke 1988). The

research community as a whole has an obligation to consider information, its handling by humans and organisations, and technologies that support those activities, from all of these perspectives, not from just some of them.

### **3.2 The Selection of a Theoretical Basis for the Work**

The IS discipline now exhibits considerable tolerance for interpretivism and even some for critical theory, but the scientific model continues to be the most conventional approach for candidates to adopt. Researchers need to appreciate the nature of research conducted by others, and hence a sufficient grounding in conventional scientific approaches is essential for every candidate.

This necessitates the accumulation and presentation of a deep understanding of relevant prior literatures, and the selection of a particular body of theory that the work is to extend, apply and enhance. Theories are developed within disciplines. The discipline most directly relevant to the eInteraction research domain is Information Systems. This is, however, still a young discipline, and it has a limited body of widely-accepted theory. It is therefore natural for 'reference theories' to be adopted or co-opted from cognate disciplines.

The act of adoption or co-option does, however, require justification. A researcher needs to identify the criteria that guide the act of selection, and explain how the particular body of theory satisfies them. Yet **many research projects in the eInteraction field instead adopt 'convenience theories', sometimes plucking them from relative obscurity, and exploit them with limited regard to their applicability to the particular research domain.** Examples include:

- Hofstede's cultural factors theory (Hofstede 1980; but see McSweeney 2002)
- Rogers' innovation diffusion theory (Rogers 1962, Rogers & Shoemaker 1971; but see McMaster & Wastell 2005)
- transaction cost theory (Williamson 1981; but see Ghoshal & Moran 1996)
- most glaringly, the Technology Acceptance Model (TAM) (Davis 1989, Davis et al. 1989; but see Benbasat & Barki 2007, Bagozzi 2007)

### **3.3 The Design of Empirical Research**

For the reasons mentioned earlier, the eInteraction research domain is highly challenging, and hence empirical research must be designed with particular care. Yet **much of the empirical research conducted in IS generally, including in the eInteraction domain, demonstrates serious inadequacies.** Exhibit 3 identifies a number of key issues in this area which give rise to the Supervisor's Dilemma identified in the following section.

Research that suffers from such inadequacies may have benefits as a form of training exercise. On the other hand, unless it is accompanied, or rapidly followed, by critical evaluation by the candidate and supervisor, there is a dire risk that the training-exercise will be assumed to be research. That risk is exacerbated by the substantial proportion of the IS literature, not only in



conference proceedings but also in journals, that suffers from these deficiencies and that consequently re-affirms to the candidate that 'this is research'.

### **Exhibit 3: Serious Inadequacies in Empirical Research in IS**

- Semi-structured interviews masquerading as case studies
- Lone cases and shallow cases, which are more properly described as vignettes, and which are valuable as communication tools, but which have insufficient depth to enable reliable inferences to be drawn
- Unauditable cases, whose source is not declared even to examiners and reviewers let alone readers
- Surveys of what people say they do, rather than observations of what they actually do
- Surveys that are used as the sole technique even where:
  - in-depth information is needed as well
  - in-depth information is needed instead
- Proxy populations and sampling frames, especially students
- Over-surveyed populations and minuscule response rates
- Convenience Samples, acquired by means that have little or no methodological validity, such as 'snowball sampling' and open invitations to anyone who finds a URL to fill in a web-form
- Convenience Data. A far-too-common example is a long list of highly ambiguous questions, demanding that respondents choose among usually 5 or 7 highly ambiguous points on highly ambiguous scales, which are then assumed to provide data on a ratio scale, enabling the application of powerful statistical processes. Glorifying such a method with a term like 'Likert scales' does nothing to overcome the problem that the data is contrived, and the statistical results are at least misleading and in many cases dangerous (e.g. Ogden & Lo 2011)

## **3.4 The Dominance of Rigour Over Relevance**

To be of high quality, research in the eInteraction domain must satisfy two criteria:

- it must reach thresholds of rigour in its conception, design and performance
- it must deliver information that is of value to the world through its relevance to some aspect of human understanding and hence decision-making

Important associations with rigour include independence, which may be achieved for example through pure research motivation; theoretical formulations that are explanatory in nature; models that embody determinative causal relationships or at least strong correlations; and quantitative data that is on a ratio scale and hence can be subjected to powerful statistical procedures.

Associations with relevance, on the other hand, are commonly associated with an instrumentalist, or at least applied, motivation; propositions that are predictive and even normative; models that reflect the complexity of the relevant real-world entities and their inter-dependencies; and data that is preferably on a ratio scale, but failing that may be on a cardinal, ordinal or merely nominal scale.

Clearly, *ceteris paribus*, more rigour is to be preferred to less. However, all other things are seldom equal. Critically, the realities of the eInteraction domain, as identified earlier in this paper, create enormous challenges for research in the area. High levels of rigour make demands of researchers that conflict with the need for the results to be useful. A trade-off accordingly has to be achieved between rigour and relevance.

Regrettably, the conventions of the Information Systems discipline have drifted far away from a trade-off, to the point that rigour dominates. Topics are favoured for their researchability rather than for the value that they can deliver. Too much of the research that is undertaken has become detached from reality. Instead of being motivated by the needs of a player or players in the real world, it is funded by a research institution and the approach is shaped by the desire of research institutions for publications to appear in a short list of venues that are highly-regarded by researchers but of no value to real-world players.

Further examples of the increasing disconnection of research is inadequate depth of understanding of relevant technologies, resulting from a drift away from a technology base towards being just a social science. There are insufficient contributions to the design of effective interventions in social systems – although the 'design science' movement seeks to provide an at least partial response to that problem. In addition, normative discussions are deprecated. Vast swathes of the the eInteraction research domain are ceded by Information Systems and its cognate disciplines to other disciplines that are more tolerant of research approaches that support a balance between rigour and relevance.

In the most highly rated journals, the commitment to rigour has been accompanied by intellectualism, aspiring in many cases to vague ethereal postmodernist formulations without discernible real-world implications. Information Systems is becoming a discipline that is capable of talking to itself, but to few outside itself. Researchers who approach the eInteraction research domain from the discipline of Information Systems are trapped into either compromising relevance in order to achieve publishability in top-level research journals, or compromising the acceptability of their work by examiners and reviewers in order to deliver value to real-world decision-makers. Expressed in the briefest possible form, the academy has become hostile to instrumentalism.

## **4 The Dilemma**

The previous section identified four areas in which this author has serious concerns about contemporary research in the IS discipline and in the eInteraction research domain: researcher perspective; theoretical basis; empirical research design; and rigour-relevance balance. These together lay the basis for the 'Supervisor's Dilemma' identified below.

Doctoral supervision involves the need to balance the interests of, at the very least, the candidate and the supervisor. The balancing process becomes more challenging still where additional interests are involved. For example, the candidate may be working within, and may have a scholarship funded by, a particular research program; or the research may be sponsored by a particular corporation; or the candidate may themselves be a staff-member of a research institution.

Even in the simplest circumstance, the PhD candidate needs to qualify within the then-prevailing norms of a discipline, nomatter how problematic they may be; whereas the supervisor wants to reconcile their perceptions of appropriate research with the needs of the candidate.

Of course, not all of the problems identified in this paper actually present in every case, and steering among the shoals is a skill that every supervisor has learnt as part of their own research education, training and practice. Hence, for some candidates, the most jaundiced supervisor can resolve or avoid the dilemma.

Where resolution or avoidance cannot be achieved, the supervisor is confronted by some uncomfortable options, such as the following:

- the supervisor can compromise their own principles, supervise research work that they don't believe in, and assuage their conscience on the basis that the actual harm that will arise is likely to be limited
- the supervisor can guide, or bully, the candidate into research that may not satisfy the candidate's needs
- the supervisor can decline to supervise a particular candidate, to supervise in a particular research domain, or to supervise a candidate who adopts a particular category or categories of approach to research
- the supervisor can 'lie low', or use excuses not to become involved with particular candidates or in particular circumstances, without declaring the real reasons for their avoidance behaviour and hence without contributing to debate or education

Some intermediate options can be concocted, in an endeavour to mitigate the worst of the moral difficulties. For example:

- the supervisor can declare that they will not supervise in a particular research domain, or if a particular category or categories of approach to research is adopted, but at the risk of leaving the candidate still insufficiently educated, and hamstrung in making what may be a crucial decision about their future
- the supervisor can commence a supervision process, but with the declared qualification that the first one or two semesters will include a sufficient grounding in research philosophy that the candidate will have an understanding of the supervisor's misgivings, followed by a re-assessment of the appropriateness of the supervisory arrangements after 6-12 months

## 5 Conclusions

Each supervisor works within a set of norms, some of a disciplinary nature, some related to particular research domains, and some personal. Those norms may be more or less in alignment with the conventions of the discipline(s) within which each particular candidate intends to situate their work.

This paper has outlined a set of concerns that the author has about the current conventions within the Information Systems discipline, in particular as applied to the eInteraction research domain. Depending on the specific circumstances, these can easily give rise to a dilemma, in that it is infeasible to satisfy the needs of both the candidate and the supervisor.

The author has primarily resolved the dilemma by avoiding involvement in supervisions of eInteraction topics, at least within IS-discipline orthodoxies. This works for the individual supervisor, but has the tendency to reduce the pool of supervisors available to candidates, and perhaps the quantum of doctoral-level research undertaken in the area, without providing a stimulus for the resolution of the underlying problems. Hopefully the publication and presentation of this paper may go some small distance to surfacing the issues.

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