

28. Context?

I want to take the discussion of question four—‘*What circumstances might influence the integrative applied research?*’—further than in earlier chapters. The starting point is still that context involves the circumstances that led to the research, may be influential during its life and are likely to affect the provision of integrated research support. But let us extend this to consider that context is the influence on the research of the real world in all its complexity and unpredictability. Then it becomes clear that even something as straightforward as understanding the circumstances that led to the research is likely to have different, and possibly contested, interpretations. Further, it shows the impossibility of predicting accurately which historical, political, cultural and other circumstances will end up being important in how the research is conducted¹ and, especially, how the findings can best be used to provide integrated research support for policy makers and practitioners. Taking context into account when investigating major real-world problems is therefore complex and riddled with imperfection. Nevertheless, it cannot be ignored and there will be some ways of dealing with context that are more profitable than others.

In the examination of context overall and of sources of authorisation, I therefore start with a substantial recapitulation and expansion of the material presented in the individual domains in order to highlight this complexity. In these two areas, as well as in organisational facilitators and barriers, interactions and congruence between the domains are also considered. Taking interactions first, I examine the extent to which the circumstances that influence knowledge synthesis, consideration of diverse unknowns and providing integrated research support for policy and practice change are intertwined and whether key background issues for one domain naturally flow on to affect the others. In terms of congruence, attention is paid to situational factors that set up conflict and how such incompatibilities can best be overcome.

Overall Context

The key here is to understand the big-picture issues that influence

- how the problem manifests and is understood
- the unknowns considered to be pertinent
- the possibilities for acting on the problem and hence where integrated research support might best be targeted.

¹ This is particularly the case for research that will take a number of years.

Interactions immediately become evident. The way the problem manifests and is understood will influence the consideration given to unknowns as well as start to determine what action could be taken. Let us return to the example of building the atomic bomb, where the critical context was World War II. The problem manifestation was developing a more powerful weapon that might be decisive in winning the war. The primary focus for unknowns was on solving technical issues relevant to making the bomb work. Other unknowns such as the long-term consequences on health and the environment were not major considerations and the wartime context led to this narrowing in a way that would probably not have been countenanced during peacetime. Similarly, the background of war meant that massive resources were available and that the military application was paramount. It is instructive to try to imagine how research into nuclear fission might have played out if the investigations had been conducted against the backdrop of society's need for energy supplies in peacetime, rather than the military application in World War II.²

It is one thing to appreciate the importance of context; it is another to take it into account systematically in integrative applied research, especially when the circumstances are not as dramatically evident as in the case of war. Let us concentrate on scoping, which I have pointed out in earlier chapters overlaps with context. Highlighting the importance of a big-picture background ensures that scoping is appropriately broad. In addition, the aims of scoping include ascertaining which contextual factors are most likely to be relevant, as well as how they can be illuminated and taken into consideration. Further, the earlier discussion illustrates that the real world in which the research is embedded is unpredictable, so that nimbleness in understanding and responding to changed circumstances is also required.

For now let us leave aside the dimension of context concerning unpredictability and consider how to respond to the background factors that scoping identifies as most likely to be significant. In principle, this is relatively straightforward, at least in the first and third domains. Disciplines like history, geography, political science and cultural studies can all contribute to understanding how a problem manifests and the possibilities for providing research support.³ If we go back to the example of family violence, history can illuminate how common family violence was in the past and how it was perceived in society. It can also show what actions were taken—both successful and unsuccessful—such as passing laws and changing social customs, which can help in developing measures that might be effective in the current climate. The disciplines might also be pushed

2 Presumably the process would have taken much longer and resources would have been scarcer. Development might have been stymied through patenting of key processes or opposition from other energy interests or concerns about health and environmental consequences.

3 What is needed, however, is a guide that will allow the integrative applied research team to think about what the various disciplines can offer, as discussed in Chapter 7.

to clarify the domain of unknowns. In this instance, history may be able to shed light on how family violence was ignored or denied in the past and how taboos on dealing with certain aspects arose.

A practical challenge comes with resource constraints. These will limit discipline-based investigations.⁴ The ground covered by any discipline could potentially be wide ranging, as demonstrated by the topics a history of family violence could cover. Furthermore, it is unlikely that only one discipline will be relevant. Instead, many disciplines could provide valuable insights. The historical study outlined above would be considerably strengthened by complementary analyses from other disciplines, such as understandings from psychology about the nature of violence, from anthropology about cultural influences on violent behaviours, from law and criminology on the ability to legislate against violence and the effectiveness of such legislation, and so on. Deciding what to cover and how much depth to go into are the two critical issues here.

Interactions and Congruence

Earlier, I used the example of building the atomic bomb to show how key contextual determinants, such as the background of war, affected all three domains in an intertwined manner. Similarly, the history of family violence shows that one discipline can shed light on all three domains and show the interactions of germane background factors. For instance, the perceptions of family violence are strongly linked to unknowns in the form of taboos, as well as to actions taken against this social problem.

The different disciplinary inputs into the family violence example also illustrate challenges related to congruence. For instance, the feminist scholarship that was instrumental in focusing attention on the high prevalence of family violence and its links to the low status of women has also tended to make taboo any consideration of the contributions victims may make to the occurrence of family violence. But for a comprehensive investigation of the problem, the latter is also a legitimate area of inquiry. This example demonstrates incongruence between different disciplinary perspectives, as well as across the knowledge synthesis and unknowns domains.

Incompatibility between what the research finds and what action is possible is also common. An example here concerns problem drinking. Research shows that increasing the price of alcohol and restricting its availability can reduce consumption, but it is difficult to achieve such policy change because of the countervailing pressure on policy makers from the alcohol industry.⁵

⁴ Hence boundary-setting concepts and methods are also relevant for this question.

⁵ See, for example, Babor (2009); Hawks (1992).

Such tensions are inevitable in integrative applied research, which then faces the challenge of whether and how it can appropriately and respectfully deal with two seemingly incompatible areas. The situation is exacerbated by the limitations of time, money and personnel, which restrict what the integrative applied research can take into account. The point here is that it is important to be aware of the inevitability of incongruence and the likely imperfection of solutions.

Tasks for the I2S Development Drive

Collect case examples of how: a) the requisite agility to deal with the inevitable unpredictability was fostered, b) interacting influences between the three domains were managed, and c) the inevitability of incongruence and the likely imperfection of solutions were taken into account.

Work with a range of social scientists to produce a guide for combining considerations of context in the three domains.

Authorisation

The sources of authorisation or legitimacy for the research affect what is investigated, as well as whether and how the findings are implemented. Funding is a primary source of authorisation, but for the sorts of complex issues integrative applied research tackles, support from influential organisations or individuals often also plays an important role.

Integrative applied research may seek one primary source of funding and support, as was the case for building the atomic bomb,⁶ or may seek to balance finances and endorsement across a range of interests, as illustrated by the World Commission on Dams.⁷ Competition may also come into play, as was the case in the Human Genome project, where there were two rival undertakings, with different sources of financial and other backing.⁸ It is also conceivable that there may be different sources of funding and influential support for each of the three integrative applied research domains in a project, where knowledge synthesis may be covered by one funding body, another may underwrite a comprehensive examination of unknowns and a third may finance the provision of integrated research support for policy or practice change. There are therefore many ways in which authorisation can play out in integrative applied research.

6 This is not completely correct. While the effort was mostly funded by the US Government, some relevant research was also conducted in the United Kingdom; see Rhodes (1986).

7 Funding was drawn from 53 public, private and civil society organisations and there was also a balance of interests among the 12 commissioners and the 68-member stakeholder forum (World Commission on Dams 2000).

8 Collins et al. (2003); Lambricht (2002); Sulston and Ferry (2002); Venter (2007).

The key issue regarding authorisation is understanding its consequences. Funding by itself can affect the integrative applied research in significant ways, but impacts generally become more pronounced when the sources of legitimacy move beyond funding to endorsement by influential organisations and individuals. Let us begin by recapping the influence funding can have.

All researchers are aware of how funding shapes what is undertaken. A broad research plan is often modified, with areas for which grant support cannot be secured being dropped. Funding can also have more wide-reaching consequences in that it can open up (or close off) whole areas of research. Over the years funding bodies have become more sophisticated in setting priorities to encourage research in particular areas. When priorities change, researchers often modify their activities. For example, I was one of a number who moved from occupational health research to illicit drugs research when the Australian research funding priorities changed in the early 1990s. A different consideration is that untied funding—on either an institutional or a project level—can be particularly valuable in that it can open up research possibilities and allow risks to be taken.

Funding can be separate from, or inextricably interwoven with, the agendas of influential organisations or individuals. In the former case, the funding may come from relatively neutral bodies, such as government funding agencies, with the agendas of organisations and individuals coming into play quite separately through advisory boards or steering committees. In the latter case, the funder may be a business, government department or civil society organisation which has a vested interest in the outcome. By this I mean that the research results are directly relevant to their activities. The provision of integrated research support is particularly interesting in these cases. On one hand, the chances of implementation of the research findings can be increased, as was the case in the atomic bomb project, not least because those funding the research may be required to demonstrate that the expenditure on the investigation was warranted. On the other hand, research may be discredited if it is too closely tied to a vested interest. This is the case for research funded by the tobacco industry, where there is ongoing lobbying to ban the acceptance of funding from this source.⁹

Of course, most of those who fund research do not want to manipulate the outcomes. The challenge is that it can be hard to differentiate between funders who are genuinely interested in independent research on the problem and those

⁹ For the situation in Australia, see Walsh and Sanson-Fisher (1994), as well as an update from Action on Smoking and Health (ASH) Australia, which reported that in 2009, 21 universities had specific policies limiting acceptance of research funding from the tobacco industry, with 15 reporting a total ban on any such funding (<<http://www.ashaust.org.au/lv4/campus.htm>>, go to 'Survey summary and results table', accessed 2 December 2011).

who want the research to deliver particular findings. This is compounded by the fact that even the most dispassionate research involves making decisions about what will be studied and how, making it hard to rule out unconscious influences on researchers that favour the funder.¹⁰ There are no easy answers here, but making the problem visible can be helpful. A positive move has been the requirement from reputable medical journals that funding sources and potential conflicts of interest are disclosed for each paper they publish.¹¹ While these issues are relevant to research generally, they are very pertinent to integrative applied research, because, as indicated earlier, the scale of such undertakings often means that funding and endorsement have to be sought from those with vested interests.

Authorisation may also have consequences for the conduct of the research, not just how the findings are handled. The atomic bomb project again provides an example. The scientists had to work in secret and for those at Los Alamos their freedom of movement was also severely curtailed.¹² Secrecy is common in security-related and industrial research. Because this restricts the ability to bring in a wide range of perspectives to test the ideas, it is a particular problem for integrative applied research as it can prevent the problem being understood and dealt with to the fullest possible extent, resulting in critical issues being missed.

Interactions and Congruence

A key issue for interactions is how authorisation of one domain can spin off into the others. This has already been alluded to earlier in consideration of research funding by vested interests, but let us tease it out further. Interactions are particularly important when there is one funder for all three integrative applied research domains. The focus is generally on the ultimate application and this can have impacts on how the research is conducted. Groueff¹³ provided an example in his analysis of the atomic bomb project: 'purely academic scientists were given fantastic amounts of money for their laboratories, unlimited supplies of material and personnel, then were told to succeed at any cost...Negative results were not acceptable; even when they offered great theoretical value, they could not be taken into consideration.' In that project the researchers were also shocked to find that some decisions were taken out of their hands. A particular instance involved building and running the plutonium production piles, necessary to

10 Unconscious confirmation bias can have this effect; see Nickerson (1998).

11 See the statement and uniform disclosure form developed by the International Committee of Medical Journal Editors (<http://www.icmje.org/ethical_4conflicts.html>, accessed 23 November 2011).

12 Rhodes (1986).

13 Groueff (1967, p. 181).

scale up the reaction, making the bomb itself feasible. The scientists expected to do this themselves, leading to 'near rebellion'¹⁴ when the task was made the responsibility of the company E. I. du Pont de Nemours (now DuPont).

The issue for congruence is to ensure that any restrictions imposed by different types of authorisation are not in conflict with one another. Imagine that there are two funders, one expecting open publication of the findings, the other expecting confidentiality. Clearly such incompatibility must be recognised and resolved. The two competing undertakings in the Human Genome Project provide an example that also illustrates how complicated interpretation can be. A key issue here was the extent to which the findings would be patented, with each side accusing the other of making patenting (and therefore monopoly commercial access) more likely.¹⁵ As these examples show, contradictory requirements around control of the publication of research findings and ownership of intellectual property are two of the major areas where incongruence plays out.

Lack of congruence can also be evident on advisory boards or steering committees, especially when these bodies represent a range of interests. On the one hand, it is diversity that makes such bodies valuable, because they embody the complexity of the problem being tackled. On the other hand, it can be challenging to make them work well and effectively. One issue is that a consequence of the boundary setting in the project will almost always mean that some interests are excluded and others are marginalised. The challenge is to keep representatives of those interests actively engaged to highlight the research limitations and to keep the overall thinking about the problem broad, although this may not be easy to do. Another issue is that differences in interests become less manageable the closer a project gets to action. Balancing interests in understanding a problem is one thing, balancing them when responding to the problem is much harder. At the latter stage there is generally much more at stake, especially as some actions may not be readily reversible.

Task for the I2S Development Drive
Gather case examples of how integrative applied research teams managed congruence in terms of different restrictions, different interests and other consequences of authorisation.

Organisational Facilitators and Barriers

In considering I2S as a whole, the key issue for organisational facilitators and barriers relates to various aspects of congruence. This occurs both within and

¹⁴ Compton (1956, p. 164).

¹⁵ See Sulston and Ferry (2002) and Venter (2007).

between the domains. For example, there needs to be congruence between what the organisation is setting out to do, especially the research it seeks to foster, and what is facilitated by the structure and culture. For example, if an organisation aims to bring together natural and social science disciplines to tackle complex problems, it cannot have massive disparities in the numbers of natural and social scientists employed or in the funding given to these two areas. Similarly, if an organisation aims to deal with unknowns in new ways in order to more comprehensively understand their potential impacts, it cannot itself be risk averse.

Other challenging issues related to congruence involve the interactions between the research organisation and the policy or practice organisations it is aiming to support. There may be incompatibilities here in both content and process. For example, the research being undertaken may not be exactly what the policy makers or practitioners are looking for. In terms of process, the research organisation may be committed to operating openly in the public sphere, while the policy or practice organisation may be looking for a confidential interaction. Further, some research organisations will have one dominant approach (for example, providing policy briefs or advocacy), whereas others will seek to have a balance of approaches across communication, advocacy and engagement, including both partisan and non-partisan activities. Research organisations with one primary approach will be successful only if the policy or practice organisations respond to that kind of support.

Task for the I2S Development Drive
Compile case examples examining interactions and congruence in organisational barriers and facilitators within and between research bodies and policy and practice institutions.

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