

The Contest for Information Strategy: Utilising an Alternative Approach to Produce “Good Management Practice”

Daniel Neyland and Claire SurrIDGE

Introduction

Information Strategy is increasingly prevalent within British Universities. Its importance gets mentioned in government reports (Dearing, 1996), it is the subject of initiatives run by national funding bodies (HEFCE, JISC) and Information Strategy Committees are run by many Universities. Yet what is it that we know about Information Strategy, what does it do, how does it get done and why does it have so much buy-in? Also, beyond the rhetoric surrounding the notion of Information Strategy, how can Universities successfully Strategise their Information? This paper explores these questions through a detailed investigation of the practice of Information Strategy at two English Universities (called University 1 and 2 for the purposes of this paper). The paper firstly outlines a brief analysis of the current literature from management theory on strategy. Secondly, it presents an investigation of strategy in practice. Thirdly it highlights how the results of this investigation have been put into practice.

The Current Literature

University 1 and 2 agreed that a study of their information strategy practices might prove a useful means of aiding difficulties they were having in both producing information strategies and in thinking about the implementation of those strategies. However, rather than containing studies of strategy in practice, much of the current literature on strategy tends to search for a prescriptive means of establishing the ideal method for carrying out strategy. Goodman and Lawless (1994) look at ways in which to build “defensible competitive advantage,” (1994:288), while Thompson (1995) suggests “successful change needs planning, champions and persistence,” (1995:199) which should be carried out “continually and consultatively” (1995:201). Corral suggests in the academic arena that “Planning helps us to prepare for a better future; it is good management practice and an organisational requirement,” (1994:3). Works which focus more specifically on Information Strategy are much the same, with Davy (1998) suggesting that information is the centre of all business and how information gets used by an organisation is “the determining factor as to how competitive, efficient and, ultimately, profitable they are,” (1998:1). Several members of University 1 and 2 were aware of this literature but were also aware it was some distance from their practice.

There are more critical approaches to strategising such as Bakin (2001) and Levy, Alveson and Willmott (2001), but these studies tend to be critical of the theorising of strategy and do not in themselves constitute a study of strategy in practice. Similarly the histories of strategy available, from Whittington (1993) to Mintzberg (1998) tend to be a history of theoretical approaches to strategy. Within University 1 and 2 the existing management theory had not proved useful. However, as this paper will go on to argue, our analysis of strategy in practice contained at least superficial similarities to the management literature (we will reconsider the strategy literature below).

Aside from questions as to the relevance of the current management literature for University 1 and 2, a study of Information Strategy at English Universities has been carried out by JISC (the Joint Information Systems Council for further and higher education institutions in Britain). The JISC study has been promoted as a means to assist strategic thinking. JISC (1998) suggest that “the best way to think of an Information Strategy is as a set of attitudes which underpin the way in which information is created, communicated, maintained, accessed and managed. An Information Strategy is not just a document, although it is likely that an Information Strategy Framework Document will be produced as part of the process,” (1998:9). The central purpose of a University Information Strategy for JISC is the creation of “a shared vision of the future of the institution,” (1998:9). The JISC project involved 11 sites attempting to deliver an Information Strategy, the process of which fed into some more general JISC guidelines on how an Information Strategy could be produced.

The findings from JISC’s study do amount to a study of Information Strategy in practice of sorts. However, these reports begin from the a priori assumption that a strategy is a good idea, do not contain

a great deal of analysis on what a strategy sets out to do and do not offer a great deal of insight into the application of strategies and the practice of strategising.⁽¹⁾ University 1 and 2 identified a need for a study of strategy in practice which could assess the validity, possibility and potential content of a strategy and this is where this paper seeks to step in. This paper is one product of the EVINCE project, a HEFCE funded initiative analysing IT change in 3 English Universities. The project utilises an innovative combination of theory and method in order to produce Good Management Practice principles. The method deployed is ethnography and the theory drawn upon is from Science and Technology Studies.

Ethnography is a research method based on observation of and participation in particular social groupings⁽²⁾. In the EVINCE project, this method has been combined with theoretical insights from Science and Technology Studies (STS).⁽³⁾ STS looks at areas such as interaction between humans and computers, designing technology with intended uses and users, controversies over certain technologies and so on. The innovative aspect of the EVINCE project was to use this theoretical and methodological combination to produce practical recommendations on themes deemed relevant by the participants to the project. Information Strategy was the first such theme agreed upon. However, despite frequent mentions of Information Strategy at the Universities observed by EVINCE, it was not clear that there was universal acceptance that an Information Strategy was a good or useful idea and there was no clear agreement on what should be included in an Information Strategy (or how an agreement could be reached). In order to illustrate that lack of agreement this paper will now present some of the ethnographic detail uncovered on Information Strategy. This next section will highlight the messiness of the situation at both Universities and will suggest what an analysis of strategy in practice can look like.

Strategy in Practice

Carrying out the ethnography of University 1 and University 2 involved attending Information Strategy Committee meetings as an observer and interviewing members of both Universities. This ethnography raised a myriad of issues surrounding the central notion of Information Strategy. As this analysis will demonstrate, however, there was little unity or agreement on what an Information Strategy could, should or might do.

Initially it seemed that at both Universities, akin to the JISC study, Information Strategy was associated with the future. However, even this concern with the future was played out differently at each University. University 1 had an Information Strategy Committee and a 5 year old Information Strategy which it was agreed had never been acted upon and was now out of date. They had also established a working party to consider how a new strategy could be developed and better implemented. In this sense, University 1 had a concern with setting what an appropriate informational future would consist of and were attempting to set out a means of achieving this future. University 2, meanwhile, had an Information Strategy Committee but no Information Strategy. Certain of University 2's Information Strategy Committee members also had an interest in the future as they feared that with an absence of thinking about what the future might be (in the form of a strategy), the future of the University might be unclear. With some funding bodies keen on the presence of a strategy, its notable absence, for some committee members, raised the question of how the University was to continue successfully. The preliminary issue to highlight here, then, is a concern with the future.

Information Strategy at both Universities, however, also depended a great deal on activity occurring in the present. At University 1, for example, a strategic assessment exercise had been launched that set out the principles on which a strategy should be based in terms of clear actions, dates, costs and responsibility for actions. However, this assessment exercise did not establish what the actions, which effectively form the content of the strategy, should include. In an attempt to formulate such a content, over an academic year the Working Party discussed:

1. Carrying out an *information audit* (raising questions such as how can we know how to strategise about information if we don't know what information we have).
2. The differences between *information* and *knowledge* and *data* (how can we know how to strategise when we don't know what the difference is between data, information and knowledge).

3. Carrying out *small scale projects* linked to various areas within the University to establish (possibly) what kinds of issues the University 'as a whole' might be interested in related to information.
4. How to decide the *level of abstraction* that a strategy should occupy (should it set figures to aim for, should it set out a reasonably specific aim not numerically linked or should it set out general principles on the way in which the University should move).
5. The Working Party also worried that the Information Strategy Committee was not a particularly effective committee at getting things done and wondered where else the strategy might be implemented.

This range of issues differed from the situation at University 2. In the absence of an Information Strategy, over the course of an academic year, members of the Information Strategy Committee of University 2 raised a number of different reasons for having a strategy and a number of different things a strategy could perform.

1. *Unity*: strategy could provide connectivity across the University.
2. *Purpose/direction*: strategy could set out future direction.
3. *People know what it is they're supposed to be doing*: strategy could identify responsibility for information.
4. *Clear targets*: these targets could again provide a direction, purpose and unity, but also act as indicators of failure/success outlining where the future is failing to match the strategy.
5. *Informational*: strategy could establish which people/ committees/ groups should be doing what.
6. *Joined up-ness*: strategy could link the groups together who are working on similar issues and avoid 're-inventing the wheel.'
7. *Get people off your back*: strategy should be an available document which can be waved at funding bodies and other inquirers.
8. *Avoid over-dependence on senior academics as University managers*: strategy could be used to circumvent (or, perhaps at a future date, replace) the inadequacies of the current system.
9. *Linking Strategies*: information strategy could be developed to work between strategies.

In sum, then, University 1 had a 5 year old strategy, a committee, a working party, a remit for a new/updated strategy, a concern for the future, a strategic formula it should adhere to, a problem with definition, content and aim and the possibility of friction between the committee and working party. University 2 by contrast had no strategy, a debate about whether there should be a strategy, a debate about what the strategy would do if there was to be one, an on-going range of views as to what a strategy should contain and worries about the future of the University if they could not get a strategy to actively match future practice (and vice versa).

Analysis of the Practice

The first issue raised by the ethnography at both Universities is that the implementation of documents produced by both strategy committees is complex. Using ideas from Science and Technology Studies (STS) implementation is likely to involve an array of technical and social relations. The concern with getting the future to match strategic aims, getting people to recognise responsibility, make connections and so on, all require that people at a distance from the committee, recognise the kinds of issues highlighted above as being the committee's strategic principles which they should act on. This raises problems with the notion of producing a strategy document: could a static document cover the on-going complexity of issues raised in the ethnography? This problem can be illustrated by drawing upon a well known STS story.

Bruno Latour (1991) provides us with an analysis of the hotel room key in which a hotel manager becomes concerned that guests are going out on the town with their keys and losing them. This loss is a constant financial and security consideration for the manager. In order to ease these problems, the manager puts together a scheme that encourages guests to hand in their keys; there is a desk placed by the door with a sign above it saying 'please hand in your keys.' This fails to operate in the manner the hotel manager

wishes though, as people ignore the sign, cannot read the language it is written in, forget after reading the sign to follow its actions and so on. The manager comes up with a new scheme. In this second scheme, the sign and the desk remain, but in addition, the keys are given weighty metallic key-fobs. The message then becomes you can drop off this weight at the hotel desk instead of having to carry it around town. This is more successful, but still people on occasions, put the weight in their bag, decide they want to keep control of the key and so on.

The central argument to be drawn from this story is that the sign or the desk in the first scheme do not guarantee that the manager can determine a set of social responses at a distance and the weight in the second story does not guarantee the correct response either. There are a set of social and technical relationships in play in which people need to be able to read and understand the sign, remember that sign when carrying the key and/or they need to realise the weighty key-fob can be left at the desk. The manager effectively attempts to set out a path of action he hopes guests will take. The second scheme is slightly more successful because the manager builds more robust barriers to keep guests on his desired path of action. Having to carry the weighty key-fob is designed to encourage guests to stick to the desired path of handing it in.

In the hotel key story, then, the manager is partially successful at getting guests to stick to a certain path of action and perhaps resonance could be drawn here with the Information Strategy Committees' attempts to get University staff to recognise certain principles of informational activity. The key story also suggests that the production of a single strategy at a distance from implementation and practice of the strategy is unlikely to succeed. However, this notion of distance needs to be interrogated further. Distance in relation to strategy at each University can be treated in at least 3 differing ways. Firstly, there is a distance of time with strategies produced now for an intended future effect. A great deal of action can occur in the distance between strategy production and enactment which can make any strategy document less relevant or any future it suggests, less useful. Secondly, there is a distance of space between the strategy committee and the departments and faculties the committee wishes to see enact the strategy. The committee is seen as very much at the centre of the University and the departments and faculties at the periphery. This division can result in faculties and departments identifying themselves as separate from the strategy process, often it is not seen as their strategy or is identified as an imposition. Thirdly, there is a distance of action. The faculties and departments, if they do pick up strategy documents or guiding principles, can often interpret their content in widely differing ways. This interpretative work can occur entirely detached from the central committee resulting in a range of sometimes ill fitting strategy processes occurring simultaneously, but separately, across a University.

This third notion of distance is what Lee (1999) has termed the difficulty of "the general and the particular" (1999:457). Briefly stated, this relates to the difficulty in applying general policies, designed for a wide range of circumstances, to a specific incident. The interpretative work required to make general principles suitable for particular applications can push the particular to some distance from the original general principle. On other occasions, the general principle can be identified as irrelevant to a particular case and be ignored entirely. For the strategy committees this is particularly problematic as any individual, department or faculty can either begin to produce widely disparate particular interpretations of general principles or begin to produce principles of their own, all at a distance from the committee.

This notion of distance, then, is useful in highlighting problems of future appropriateness, barriers between centre and periphery and multiple, simultaneous and disparate interpretations of the 'same' document. However, the hotel key story does not offer a solution in itself. The distances between the production of the strategy and its implementation still seem significant. A second well known story from STS can help rethink these kinds of distances. Law (1986) tells a story of Portuguese navigation. In this story, Law looks at what made the Portuguese sailing ships of the 15th and 16th Century so successful. He suggests that 'success' was the result of building durable routes from the centre to the periphery. The centre in this story was Portugal, the periphery was the edge of the known world and durability was the opportunity to retain and maintain the route from centre to periphery.

This is about the coverage of distance or rather, drawing distance into closeness. It is a story of the production and control of mobile resources, documents and devices. It is also a story about the distance of the unknown and how, through movement from the centre to the periphery and through the development of connections, the unknown can be drawn in closer and made potentially more knowable. One set of documents relied upon were ever renewed maps which translated the stars and coastlines

into useable, transportable, material artefacts. The devices ranged from ships to food storage facilities which made the movements possible. So the story is about mobility, durability and the manipulation and deployment of resources. It is about making multiple complex and mundane connections not just to get somewhere, but to bring that somewhere here. The abstract becomes the known, the distant becomes the proximal and something which hadn't seemed possible previously, now has an established, regularly repeatable route.

The Portuguese, Law argues, effectively managed to incorporate the external and the unknown into their sea-faring journeys, translating the external and unknown into internal and known aspects of their manoeuvres. Thus instead of wind and currents being unknown external factors, charts, training and increasing knowledge of these factors allowed for wind and currents to be drawn into navigation. Instead of being detached and unknown, these factors became things to consider in plotting routes which could be flexible. As long as they still retained the connection from centre to periphery and back again, the Portuguese could take alternative routes along the way, perhaps with more favourable conditions, passing through alternative ports of call while still making the connection to their final destination.

How does this then fit with the discussion of strategy at University 1 and 2? The story suggests that mobility, durability and deployment could be useful processes to consider. It also suggests that distances can be reduced through the plaiting of complex and mundane connections. This isn't to say that the future can suddenly be determined at a distance, as the hotel key story demonstrated. Instead it suggests that the variety of distances involved in strategy processes need to be considered and these need to be incorporated into an on-going strategy process which constructs multiple complex and mundane routes for information flow across the University. The resources, technologies and people involved in these routes need to be incorporated into the strategy process and need to be allowed a flexible role within those routes, setting questions which can propel the strategising process on. So the Good Management Practice Principles that this analysis might be able to suggest are:

1. The various distances of strategy could be identified.
2. Strategy could be considered as an on-going process rather than just a single document.
3. Routes to incorporate distances could be considered.
4. The assemblage of people, technology and resources which make up those routes could be identified.
5. There needs to be a flexibility about the process in which the routes, people, technology and so on can all be questioned or redirected as necessary within the on-going strategy process.

This can be drawn together to overcome the three types of distance highlighted previously. Firstly, the future is no longer distanced from the production of strategy documents; an on-going process can help diminish this problem. Secondly, the problematic barrier between centre and periphery can be overcome through the plaiting of complex and mundane connections between a range of social and technical resources relevant to a particular informational issue. Thirdly, instead of multiple interpretations of strategy documents existing in an unconnected way, the strategy process could seek to incorporate multiple interpretations as a means of moving the process along. In this way the general and the particular would be linked and particular interpretations of (or replacements for) the general could be utilised as points of discussion. This suggests that University information strategy could be thought of as an inclusive, on-going process, centred around a range of interconnected information flows, paying particular attention to local, contextual, cultural issues.

The Strategy Literature Reconsidered

These concepts of strategy as an on-going, inclusive process, problematically linked to future ideals, centred around information flows, dependent on cultural/contextual/ environmental issues are a feature of some of the current management literature on information strategy. Returning to this literature briefly can help emphasise some distinct features of the points being made in this paper. Strategy as an inclusive and on-going process features in much of the information management literature (particularly Morton (1988), Lee (1999), Smits, van der Poel and Ribbers (1997), Fjelstad and Haanaes (2001), Pettigrew (1987), Reponen (1993), Orna (1999), Ackoff (1981)). Ackoff argues that planning processes should involve "continuous monitoring, evaluation and modification," (1981:70) and Reponen suggests that

"strategy development is seen more and more as an interactive organisational process" (1993:102). According to Reponen, the "strategy generation process is thus a kind of research project where multiple participants are involved and multiple methods are used," (1993:103).

Problematising the future (Earl (1999), Smits, van der Poel and Ribbers (1997), Arfield (1995), Ackoff (1981)) and the development of information flows (Earl (1996), Birkinshaw (2001), Orna (1999)) are also recurring features of the literature. Earl (1999) suggests that "The future has to be brought back into strategy-making in order to analyse, anticipate and prepare for the information age" (1999:162). This notion of preparation is also apparent in the work of Birkinshaw who suggests it is important to "map the knowledge flows in the organisation" as part of this preparation (2001:17). Further to this notion of preparation, culture/context/environment is perhaps the most frequently mentioned problem in the information strategy literature which (it is argued) management theory and practitioners of strategy need to consider in preparing strategies (Smits, van der Poel and Ribbers (1997), Pettigrew (1987), Arfield (1995), Orna (1999), Ackoff (1981), Walsham (1993)). Smits, van der Poel and Ribbers define environment as "all those facts and conditions which are not part of the information strategy itself," (1997:134). Orna argues that to get hold of these complex facts and conditions, demands "intensive work on structure and culture and ingenious support from systems and technology" (1999:20).

However, although these notions of inclusive, on-going strategy, problematically linked to the future, based around information flows in a particular context/culture/ environment are frequent features of the management literature, it should be noted that these notions are often treated as unproblematic, stable entities. In the management literature information is regularly treated as an extant thing which can be passed from one person or group to another while still retaining the same identity. This objectification, drawing on Science and Technology Studies, could be more usefully looked at as an on-going, contingent achievement. That is, information does not just flow, but rather the flow is made up of a series of socio-technical connections, each connection being an opportunity to confirm the continuity of information usage or to reconstruct the usage and, thereby, the information itself. In this sense, information only achieves a form of stability through being treated in the same way by each connector to the flow; the stability is not an inevitable quality of the information. This also raises an important point about the idea of strategy as an on-going process. The on-going process is most usefully conceptualised as connecting multiple opportunities to dispute, re-direct and reconstitute information. The process is not a smooth, linear progress toward a fixed goal, but is the (multiply sited) location for on-going disputation, the purpose of which is to allow for multiple re-constructions of information to exist in a reasonably coherent, connected form.

The notion of multiple re-constructions also has implications for much of the current management literature on what is often termed culture/context/environment. Firstly in the management literature there is a frequent separation of information and culture/ context/environment (for example there are often calls to study not just information, but also contextual factors). Secondly, this separation is dependent on treating culture/context/environment as an extant thing. Our research suggests, again drawing on Science and Technology Studies, that just as information should be treated analytically as multiply re-constructable, non-stable and non-fixed, so should what are often termed cultural/contextual/environmental issues. Further to this, an argument could be made that a more useful starting point for analysis is to begin from the point that culture, context and the environment do not exist. That is, culture/ context/environment should not be seen as somehow separate from the complex combination of socio-technical relations which contribute toward its on-going construction, but also that the study of the complex combination of socio-technical relations should be the starting point. In this approach culture/context/environment only enter the research as aspects referred to by the socio-technical participants to the research. Culture/context/environment does not then constitute a fixed and stable entity, neither does it exist as a pre-cursor to a complex array of socio-technical relations involved in its production and neither is culture/context/environment necessary as a referent within the research beyond being called upon by the participants.

For the current management literature, then, this has several distinct repercussions. Firstly, if information, including the management literature itself, is open to multiple re-constructions and only finds form through occasions of use, analysis of those occasions of use should be a much greater focus of study. Secondly, how stability between occasions of use is achieved needs to be studied in greater detail. If information does appear to flow on occasions from one party to another and achieve the same usage in each occasion, then questions need to be asked about why that information has stabilised, for whom and deriving from what particular set of relations. Thirdly, this set of relations cannot be neatly

compartmentalised as culture/context/environment but needs to be studied in and of itself. Leaving aside the need to define the category (of culture/context/environment) and instead analysing the set of relations implicated in, around and through particular foci of information might open up new means of accessing answers to the questions asked by strategy theory. Fourthly, the kinds of questions asked by strategy theory can be taken in new directions and reconstituted in the light of the above arguments. Instead of asking 'how can managers of organisations strategise more effectively?' the question can become, 'how do organisations strategise currently, what are the current socio-technical relations implicated under the broad rubric of strategy and what can these relations tell us about the possibility of change?' Fifthly and finally, as this paper demonstrates, this notion of change must be considered carefully. It may be too simplistic to expect that change can be enforced or determined by the production of, for example, a strategy document. Consideration of the multiply constructed current socio-technical relations, then, must be matched by an awareness of the contingent aspects of attempting to predict and impose a future set of such relations.

Applying the Analysis

This may still appear to be strongly theoretical. How can this attention to local, specific practises and on-going, inclusive strategy processes be enacted? It should be emphasised that there is no universally appropriate answer to this question, however University 2 has come up with one particular resolution. One faculty within University 2 identified that web information was crucial to attracting in new students, new research, possible collaborators and promoting its own expertise. They had also noted that in order to organise informational maintenance, ownership and provision, a localised group should be established. Simultaneously, central strategic committees at University 2 (including the Information Strategy Committee) identified that the University web-site was currently extremely disorganised, contained numerous out of date pages, with few claiming responsibility for ownership or maintenance of the content. This it was noted, might have an adverse role in marketing the University to external audiences. University web activity could then be considered as an informational theme appropriate for consideration in line with the complexities of possible change.

Drawing on this idea of the localised group, University 2 have recently undertaken to create a series of Faculty Web Information Steering Groups (FWISG's). FWISG's will have responsibility for web based information for each faculty and one group will have responsibility for central administrative web information. This development involves a particular combination of people, technologies and resources in order to establish robust informational routes that cross the previously highlighted organisational distances of time, space and action. How can these be arranged to establish robust routes to bridge distance and establish an information strategy process?

One option is to create a series of hubs,⁽⁴⁾ as illustrated in Figure 1 (with each FWISG acting as a hub), reflecting the organisation's departmental structure, to connect localities and include the people and resources (as identified by the on-going process) throughout the organisation. As indicated in the figure, each hub needs, in turn, to develop linkages with local faculty members and informal or formal groupings in order to ensure local connectivity within and across each faculty. It is likely that each hub will need the flexibility to select players and establish localised patterns of operation in order to fit local ways of working and resources. The aim is to establish connectivity within and between hubs, and between hubs and the centre to develop robust informational pathways. Robustness here might relate to the opportunity to incorporate the interpretative flexibility of the general/particular divide into the routes.

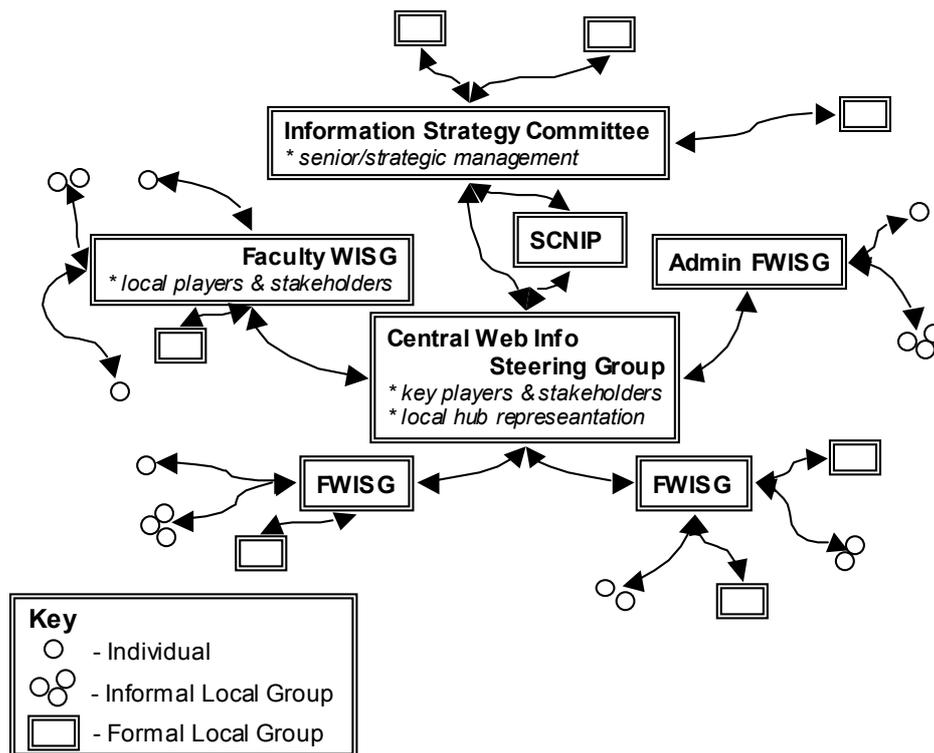


Figure 1 - Emerging Connectivity at University 2

This process that began simultaneously with the establishment of a lone group (or hub⁽⁵⁾) within one faculty and awareness in central strategic committees of the need for improved co-ordination across the organisation, is now being formalised. A proposal has been made by the policy panel for networked information (and agreed by the ISC) to send requests to faculty deans to set up formal FWISG's. A central group has also been established under the proposal's remit through which the whole structure could report to the ISC, perhaps via the policy panel.⁽⁶⁾ Initiating activity has generated further debate, including the role and interactivity of existing committees, and the overall management of web- and information-related activities and strategy. This structure has been granted an on-going, developing remit. This should provide the flexibility needed to establish robust routes across the organisation, as illustrated in figure 1. (The SCNIP is the policy panel for networked information).

How does this link back to the analysis of distance? There are four points here which should be highlighted:

1. representation - each faculty has space to select representation appropriate to their locality
2. interaction - the addition of formality provides a reporting structure, which should enable 2-way interactivity within the strategy process
3. flexibility - the FWISGs enable local interpretations of strategic principles (alongside the initiation of new strategic principles) to be incorporated within the on-going process rather than being distant, disconnected sources of problems
4. connectivity - these groups provide connection through robust, flexible informational routes across the University. The local groups and routes for information can be promoted to increase awareness of how decisions can be made within the University and where (approximately) the University is heading.

Like the Portuguese then, University 2 have attempted to collate the people, technology and resources required for the development of robust, durable, flexible, on-going routes, in this case for web-related information strategising. These various entities have been incorporated, not entirely via a central drive but also by particular faculty groups pushing for such strategising to be recognised. Establishing the on-going strategy process has been eased through early recognition of the need for two-way interaction between centre and periphery and the need to overcome the problematic distances identified in this

paper. Linkages between centre and periphery have been made robust through their inclusiveness and through flexibility (the routes can be questioned, re-directed or replaced). The linkage of centre and periphery through robust informational routes has overcome the initial problematic distance that the Information Strategy Committee operated in a separate location from the faculties. Further distances of implementation have also been overcome - the ISC does not have to hand out multiply interpretable documents, but can work collaboratively overcoming the general/particular divide. Finally, the distance of time and problem of shaping the future have now been replaced with an on-going process.

This may seem to be a complete solution. However, this on-going process has only just been initiated and is only intended to cover one informational theme at present. How the flexibility operates in practice, how changes are accommodated, how representative, robust and inclusive the process is in action, remains to be studied (by us). Certainly representation, interaction, flexibility, overcoming distances and connectivity have proved useful concepts.

Conclusion

The first point to draw from this paper is that although no universal answer is proposed, the current activity at University 2 suggests that considering problematic distances across the University can be a useful strategy starting point. Using this awareness of distance to then establish strategy as an on-going process, not dependent on a single document or committee, is both useful and achievable. Dynamic, fluid, inclusive discussions could help reduce distances, help to plot routes and make these routes robust and repeatable. This paper has suggested that one way to re-think Information Strategy is as an on-going plaiting of mundane and complex connections which people can be made aware of, which can be inclusive and can be flexible. University 2's new FWISG's act as a useful exemplar. They allow for the selection of locally appropriate and representative membership, the discussion and interpretation of issues within local practices and the development of locally appropriate enactments which can be communicated back to the Information Strategy Committee.

The second point to draw from this paper is that this on-going process need not rule out the establishment of mid to long term goals. Instead, the analysis of University 2 suggests that what changes with this process is who gets to set the goals, where they are set and how they might be achieved. The goals (as with the whole process) are flexible, inclusive and on-going.

Thirdly, it should be noted that while this paper does not propose a universal answer and indeed argues that attention needs to be paid to the specific details of specific local action, alternatives along similar lines to the FWISG's might be possible for other informational themes. Having representatives move back and forth within the strategy process, attempting to produce maps for strategic navigation (as highlighted in Figure 1) and looking at means of producing inclusive, flexible, on-going strategy processes could all prove useful.

The fourth point to draw from this paper is the contribution of ideas from the area of Science and Technology Studies (STS). The failure of the hotel keys and the use of navigational and distance metaphors has enabled this paper to move beyond some of the conventional thinking on strategy. It has also suggested that conventional ways of considering information and culture/context/environment issues need to be reconsidered. These are not stable entities, rather stability is achieved and this requires study. This paper has, through the deployment of STS ideas, begun to set out how strategy in action can be analysed as the Universities initially requested. Furthermore, this paper has demonstrated how tentative good management practice principles can be drawn from such an ethnographic analysis. Although no final, definitive or universal answer has been produced then, ideas of distance, routes for informational navigation, produced alongside in-depth, up close analysis of University context, have begun to set out where one future for studies of strategies could emerge.

Notes:

⁽¹⁾ The approach taken by JISC has also been criticised for focusing too strongly on technology (particularly by participants in the 2002 SCONUL conference, Cambridge), blurring distinctions between information technology strategy and information strategy.

⁽²⁾ Ethnography originated in anthropology and the study of native groups in far flung places. It has been co-opted by sociology for participation in and observation of groups

closer to home. The method involves a long period spent in the group, becoming a member of the group, followed by a period out of the field producing a representation of the group.

⁽³⁾ STS covers a loose grouping of mostly sociological theorists. It developed from the Sociology of Scientific Knowledge which investigated scientists activities in laboratories (for an introduction to these issues see Grint and Woolgar (1997)).

⁽⁴⁾ Hub here is used as an alternative to node which is used in the work of Law (1986). Partly this is because a node means something different to IT audiences and partly because the hubs here perform slightly differently to Law's nodes. While nodes are representative of the practices that constitute them (as are hubs), the hubs are also conduits of information.

⁽⁵⁾ Although not much of a hub at this point as it didn't connect to anything.

⁽⁶⁾ Currently the Information Strategy Committee, in the absence of a strategy, take on many of the policy issues about the web which the policy panel also pick up. How these two groups will continue to relate is unclear.

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