

The Use of Johnson's Cultural Web to Improve Understanding of Organisational Culture: A Critical Review

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Notions of culture, by which we mean the shared meanings, priorities and practices of a group, have long been applied to organisations. Understanding organisational culture is seen as important in several areas of the management literature including organisational behaviour, change management and strategy implementation. Johnson's Cultural Web (1992), is a theoretically diverse and inclusive framework for the study of culture in organisations. In this model, six cultural elements (power structures, organisational structures, control systems, stories, rituals & routines and symbols) are depicted as contributing to, and perpetuating, an organisational cultural paradigm. The power of this model lies in the fact that it is on the one hand, a simple, clear presentation of cultural elements and on the other, a complex integration of several approaches to the study of culture that have often been segregated in the management literature. Martin (1992) outlines three distinct social science approaches to research on organisational culture: An integration approach which centres on that which is shared by all members of an organization; a differentiation view which is founded on the notion that each organisation may have a series of 'tribes' within it, each holding different cultural tenets; and a fragmentation view which centres on ambiguity and inconsistencies in organisational practices and perspectives as a way of articulating organisational culture. Each of these perspectives is underpinned by different ontological assumptions about what constitutes culture and how it can be studied. Since each of these views privileges and silences different aspects of culture, Martin believes that for the most complete understanding of culture, researchers should incorporate all three into their study of organisations. This paper takes up this methodological challenge and examines Johnson's Cultural Web, to see which perspectives it has been aligned with in the past, and how it could be used in ways which meet the demands of other perspectives.

Introduction

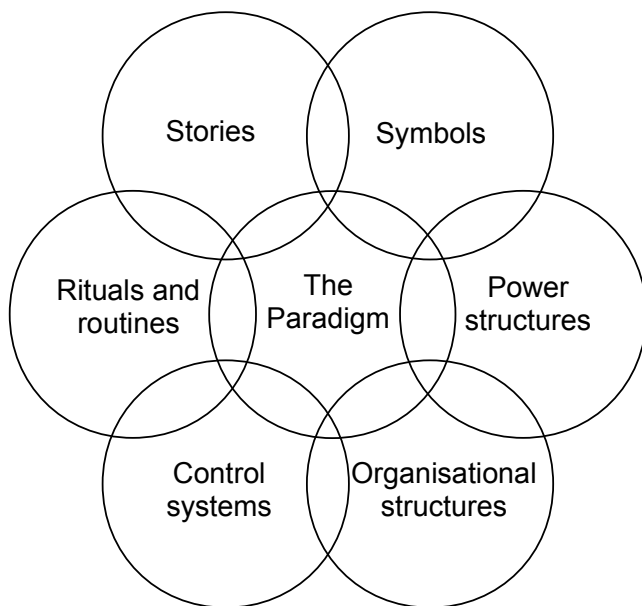
The literature on organisational culture has become vast and diverse. Organisational culture has been studied using a wide range of methodological and theoretical lenses (Smircich, 1983). A number of commentators have tried to make sense of this body of work by carving it up into a number of schools of thought. In her seminal work on culture in organizations, Martin (1992) characterises three perspectives which are underpinned by different basic assumptions about the nature of organisational culture: Integration, Differentiation and Fragmentation. An Integration view of culture research takes the view that culture is understood through the study of all that is common or agreed within the organisation. Research undertaken from a Differentiation standpoint would argue

that this kind of consensus only exists within definable sub-groups in any organisation, such as 'senior management', 'the production' department' or 'female employees'. This perspective therefore conceptualises organisations as a series of internally consistent but distinct sub-cultures. A Fragmentation approach however sees neither consensus nor clear disagreement in organisation cultures. This perspective argues that revealing the ambiguity and inconsistency in an organisation is the key to understanding culture (Meyerson and Martin, 1987; Martin and Meyerson, 1988).

It is important to note that these distinctions have not been drawn in order to advocate one perspective or even to suggest that each perspective is best suited to particular kinds of research question. Instead Martin (1992) argues that culture should be studied from all three perspectives simultaneously. This will allow researchers to overcome the biases inherent in each view, and thereby achieve the greatest possible understanding of organisational culture (Frost, Moore, Louis, Lundberg and Martin, 1991).

In this paper, we take up the empirical challenge of examining organisational culture from all three perspectives. We review the literature on a familiar and powerful model, the Cultural Web (Johnson, 1992) (see Figure 1). This review concentrates on the ways in which the Cultural Web model has been used to date and makes use of Martin's (1992) framework to discuss the views of culture in organisations that it supports. The paper then goes on to demonstrate an approach to the model which will make it suitable for researching culture in organisations from all three perspectives.

Figure 1: The Cultural Web (adapted from Johnson, 1992)



The Cultural Web

At the heart of both his diagram and his thesis of culture lies what Johnson (1987) terms the ‘paradigm’, which is a product of the taken-for-granted assumptions in an organisation. These assumptions are complex, often unquestioned and deeply buried within the practices and perspectives at play in an organisation, and although they are implicitly understood by many within the organisation they are hard to articulate (Johnson and Scholes, 1999). Johnson (1987) states that, “the internal consistency or ‘logic’ of the paradigm is self-preserving and self-legitimizing” making the paradigm enduring, deep and highly influential, but also a potential barrier for change.

The paradigm itself is “hedged about and protected by” a web of cultural artefacts, or ‘elements’, which represent the “wider cultural context in which [the paradigm] is embedded” (Johnson, 1992). Thus the purpose of the Cultural Web is to explain the way that culture protects and sustains the paradigm. The elements are Power Structures, Organisation Structures, Control Systems, Stories, Rituals and Routines, and Symbols. It is the range of ideas encompassed by these elements that makes the Cultural Web unique.

In his study of change management, Wilson (1992) uses Risto’s (1990) framework in order to highlight two major approaches that have been taken to the study of culture: structural and interpretive. He states that,

“Interpretive views hold organizational culture to be something created through symbols, language and ritual. The language used to describe organisational events, the symbols commonly employed to denote status and membership, and the way in which individuals act out their various roles, create and maintain the cultural fabric of the organisation” (Wilson, 1992).

By contrast, Wilson believes that the structural approaches to culture, “rely more upon how roles are structured together to form particular organizational designs”. Interestingly, the Cultural Web contains elements that include aspects of both of these views. Representing an interpretive view of culture are the Stories, Rituals and Routines, and Symbols. However, the structural approach is equally represented with the inclusion of Power Structures, Organisation Structures and Control Systems. The relative difficulty in constructing different parts of a Cultural Web for a company from case studies or other secondary sources, testifies to the fact that this model requires knowledge of both the formal *and* informal systems and practices at work in a company. Far from being a criticism of the Cultural Web, we agree with Wilson (1992) that,

“it is too simplistic to divide cultural approaches into either structural or interpretive analyses. The two are at work simultaneously and both have to be considered as key factors in explaining both the processes and the outcomes of change”.

In giving all of these elements a role in the strategic development process, the Cultural Web offers a broad and balanced perspective. In the following sections we will review the various ways in which the Cultural Web has been, or could be, used to make sense of organisational culture with a view to determining which perspectives it can support.

The Cultural Web and the Integration Perspective

From the description of the Cultural Web given in the preceding section, it is clear that it makes a useful tool to facilitate the development of a consensus view of organisational culture. The Cultural Web has been used in a range of ways in keeping with an Integration perspective. In the management literature the Cultural Web has often been used simply as a schema for describing an organisation's culture or for presenting it in the form of a cultural inventory. Often the result of a cultural audit exercise of some kind, this is perhaps the most straightforward use of the Web. Examples include Johnson and Scholes' descriptions of the Barshire Building Society (1988) and The UK National Health Service (1999). Kemp and Dwyer's (2001) account of cultural issues at the Regent Hotel in Sydney and Hill and McNulty's (1998) use of the Web to summarise the cultural impact of a merger also fall into this category. These studies describe clear attempts to identify 'the' organisational culture, consistent with the aims of an Integration view (see Table 1).

Another common use for the Cultural Web is that of a framework to aid the comparison of organisational cultures. It has been employed to compare the cultures of different firms (Johnson, 1987); to show how culture in one organisation has evolved as a result of a change programme (Hill, 1999) and to contrast the current culture of a firm with some future, desired culture (Heracleous, 1995a; Heracleous, 1995b; Heracleous and Langham, 1996; Johnson, 1998).

There is a further group of studies which make use of the Web to derive general points rather than to describe specific cases. Sanderson and Taylor (1999) and Hendry and Hope (1994) both use the Web as a vehicle to discuss why cultural change is so difficult to achieve. Smith (1992) has used the Cultural Web as the basis for developing a second, more focused model, which examines how a tendency to be 'Crisis-prone' might be embedded in Johnson's various cultural elements.

As well as being used in different ways, the Cultural Webs that are presented in the literature have been derived in different ways. There are many studies that report the development of Cultural Webs which have largely been surfaced by managers during strategy workshops held within the organisation or other cultural insiders (an "emic" view

Table 1. Defining Characteristics of the Three Perspectives
(Adapted from Martin, 1992)

Perspective	Integration	Differentiation	Fragmentation
Orientation to consensus	Organization-wide consensus	Subcultural consensus	Multiplicity of views (no consensus)
Relation among manifestations	Consistency	Inconsistency	Complexity (not clearly consistent or inconsistent)
Orientation to ambiguity	Exclude it	Channel it outside subcultures	Focus on it
Metaphors	Clearing in jungle, monolith, hologram	Islands of clarity in sea of ambiguity	Web, jungle

(Martin, 1992:106)). In the most explicit and complete treatment of how the Cultural Web might be used in this way, Johnson (1998) describes the practical application of the model in Metto, making clear the steps needed to map and re-map the culture of an organisation. He advocates that strategy groups of 12-15 managers with a facilitator carry out a two-stage process: Originating a Cultural Web; and Re-mapping the culture. In the originating phase, the group should work, through discussion of the cultural elements, towards a 'consensus' Web. Although the outcome of this stage can have real value in its own right, the re-mapping phase can help managers put their new understanding of the organisation's culture to strategic use by, for example, highlighting barriers to the implementation of particular strategies.

These emic Cultural Webs are likely to support Integration views of organisational culture and offer a number of benefits to the organisation. The data that can be generated by using the Web in this way will be grounded in the reality of being part of the organisation in a way that data produced by a person from outside the organisation never could. The managers who developed this Cultural Web will 'own' it, both in the sense that they made it themselves and that they will have 'bought in' to its content. They will also gain both insight into organisational culture and a vocabulary with which to articulate it.

Within the literature on the Cultural Web, there is another body of work which presents Cultural Webs which have been derived by researchers, or other cultural outsiders (an "etic" view (Martin, 1992:106)). These researchers typically generate qualitative data and then use the Cultural Web to examine and summarise that data. Kemp and Dwyer (2001) for example, state that they undertook, "semi-structured interviews, document analysis of in-house publications, staff bulletin board notices and flyers, advertising materials, and a series of observations of interactions between both hotel staff and hotel staff and guests". The 45 interviews that they conducted lasted between 25 minutes and an hour. This substantial amount of data is then reported as an account of each of the six elements of the Cultural Web (although the paradigm is not explicitly discussed). Although this method is quite different from the way in which Johnson (1998) advocates its use in practice it is similar to the approach that he adopted in his original research in Fosters Menswear (1987). Again these studies essentially operate within the norms of an Integration perspective.

The Cultural Web and the Differentiation Perspective

The etic Cultural Web that is created by qualitative researchers working within an organisation has the potential to seek out data that goes beyond the views of the senior levels in the organisation, paving the way for the development of a Differentiation view of the organisation's culture. Using this mode of creating a Cultural Web it would be possible for researchers to produce multiple Cultural Webs for an organisation, which reflect a variety of groups within the firm. This multifaceted view of an organisation would allow researchers to understand the context and purpose of cultural sub-groups within the organisation. Although etic Webs will not contain data that is grounded within the firm in the same way as the workshop method might, the researcher can take

advantage of their role as stranger (Schutz, 1964) and thus unpack some of the most deeply embedded cultural artefacts that no amount of self-examination by members of the organisation could surface. It is also certain that the participants in this sort of study will volunteer different kinds of information in a one-to-one interview with an outsider than they might in a workshop setting with their peers. In other words, in order to support a Differentiation view, the Cultural Web would not need to be changed, but culture could be represented through the presentation of a series of Cultural Webs.

The Cultural Web and the Fragmentation Perspective

Although there are many excellent pieces of research writing which take a Fragmentation view of organisational culture (see Frost et al, 1991 pp163-164 for a comprehensive list), none of these uses the Cultural Web. It could be argued that the apparently normative structure of the model does not lend itself to the portrayal of ambiguity. In particular, the notion of a paradigm does seem to have Integration overtones incompatible with the Fragmentation perspective's goal of seeking out ambiguity. However we maintain that there is no reason that an organisational paradigm should be viewed as necessarily consensual. A paradigm may be contested, vague, paradoxical or even unclear. We believe that the Cultural Web can be adapted to support a Fragmentation perspective of organisational culture and that it can therefore rise to Martin's (1992) challenge to view organisational culture from all three perspectives. What follows is an account of a research project which led us to develop the Cultural Web in response to evidence of inconsistency and ambiguity in the culture of a large public sector organisation in the UK.

A Study of Culture in a Public Transport Company

In this section we describe a study of culture which we undertook for TrainCo, a large public transport company (Foster, 2000). The study aimed to use the Cultural Web to derive a view of the existing company culture, which would be of use to TrainCo which was engaged in major structural and cultural change. In this study the Cultural Web has been used as a research framework rather than a strategy tool. This choice was made in negotiation with the Engineering Manager with whom we made our initial contact. One of the main drivers for the selection of the approach was a logistical one. Our contact felt that it would be impossible to gather all the relevant players together for a series of workshops, and that by working with managers individually we would be able ultimately to include a wider range of views in our final model. He also believed that an interview-based approach would surface more candid data about how the changes TrainCo were planning might be blocked by the current company culture. Our contact was happy to relinquish control of the process of building a Cultural Web to a third party in the hope that what was developed would be seen as independent and give him insights which he could make use of in his management of a difficult change process. We saw this approach as consistent with a general qualitative methodology and proceeded to collect data using standard techniques with the expectation of using the Cultural Web as an analysing and summarising framework for our findings. In essence then, this study of TrainCo was framed from the start as Differentiation study which centred on the engineering sub-culture as distinct from TrainCo as a whole.

Data was collected using 22 semi-structured interviews with senior managers of TrainCo, and observational diaries which were kept during time spent at TrainCo's offices. The interviews were recorded and then transcribed in summary into interview reports.

The data gathered through this approach were rich and contained many insights into the company's culture. However, generating Webs from this data was more difficult than expected. We began to work through the data, extracting statements relating to culture and trying to 'fit' them into the Cultural Web. The Web forces the researcher to be ruthless about which concepts are vital, as opposed to just important. The model only allows a few lines of text, and hence only a few concepts can be shown within each category. Actually choosing which concepts would make it onto the Web proved to be very difficult, time-consuming and slightly arbitrary. Although some data were easily mapped onto the model, we found that in a number of cases concepts could belong to any number of the petals. (See Figure 2 for an example). The exact words used to describe each concept were very important in helping or hindering this problem, and the difference between a concept fitting in one petal neatly or fitting in two or three was sometimes only a few words. There is no way of knowing, simply from looking at a finished Web, how well supported the concepts are, and which are more important than the others.

Another problem we faced was how to reconcile data relating to the past, present and future on a single Web. Further, we felt that without having a way to depict the interconnectedness of the data and relate statements or concepts back to their original context, the model produced bore little relation to the original interviews.

When we returned to the literature to better understand how others had tackled these issues, we discovered that, with a few exceptions (Kemp and Dwyer, 2001; Heracleous and Langham, 1996), most studies do not make explicit how their data were obtained. Nor do they discuss the difficult and important process of moving between qualitative interview data and a finished Cultural Web diagram. This has not been a big problem for users of the Cultural Web in that past as they have mostly utilised it as an emic tool to support an Integration perspective. Within a workshop setting, where shared meaning is developed through detailed discussion, and much of the value is to be had from the process itself, the resultant model is robust enough to serve its purpose. However in terms of good quality qualitative research, we were uncomfortable with the nature of the model our efforts had produced so far. In order to keep the power of insight that can be generated through the use of the Cultural Web but hold on to the richness of our data, depict its complexity, and surface a Fragmentation perspective, we decided to introduce an intermediary cognitive mapping step into the data analysis process. For a more detailed discussion of how this method evolved, see Foster and McDonald (2001).

Cognitive mapping suggested itself partly because of its concentration on the kinds of connections that we found within our raw data and partly because of its power to handle context (Eden, 1992). This is a tool that is commonly used in strategic development processes and to analyse and understand other complex organisational situations because, "as well as being able simultaneously to represent conflicting viewpoints, the other

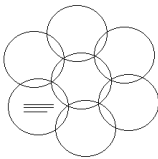
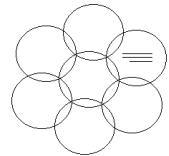
particular strength of this technique is that it represents issues and statements that are interlinked, interrelated, interdependent and even tangled...[cognitive mapping] can capture the conversation [between interviewer and interviewee] with all its contradictions, meandering threads, underlying priorities and contextual explanations” (McDonald, Daniels and Harris, 2004).

It is not intended to describe fully here the data analysis techniques that are possible with cognitive mapping, especially as many of these methods are not used in this study. However, a brief explanation of the notation used is provided with reference to an example.

Figure 2: Subjectivity and the Cultural Web

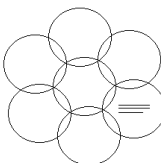
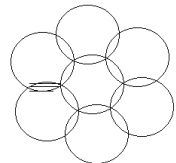
“And so really the way TrainCo used to work was very much like that – I come in, I tell people, I only tell them my restricted set of knowledge but they pick it up, and nothing is written down. When you come to the process we are now going through, where the bidders are asking questions, and you realise yes these are extremely sensible questions, but no I can’t pull out a bit of paper as this is all tacit knowledge, its not explicit knowledge. The hypocryphal bit is I have a meeting with someone who must go anonymous, and they are part of a bid team, and I know them, and you believe that they know what you know. And they sure as hell don’t and this can be extremely serious as time goes on.”

You could argue that what this interviewee is saying is that keeping information in your head and not writing it down has become a normal, unquestioned way of working in TrainCo. You might summarise it by selecting the phrase, “nothing is written down” and placing that in the rituals and routines petal of the Cultural Web.



Equally you might decide that the important thing about this statement is that the employee is articulating this way of working to you, an outsider in order for you to better understand what it is like working at TrainCo. In this case, you might select the phrase, “tacit knowledge...not explicit knowledge” and considering it to be a statement about how TrainCo represents itself, position it in the stories petal of the Cultural Web.

In order to try to reconcile these two views you might try to signal that both these elements are present by using the phrase, “tacit knowledge” and moving it into the overlap between these two petals.



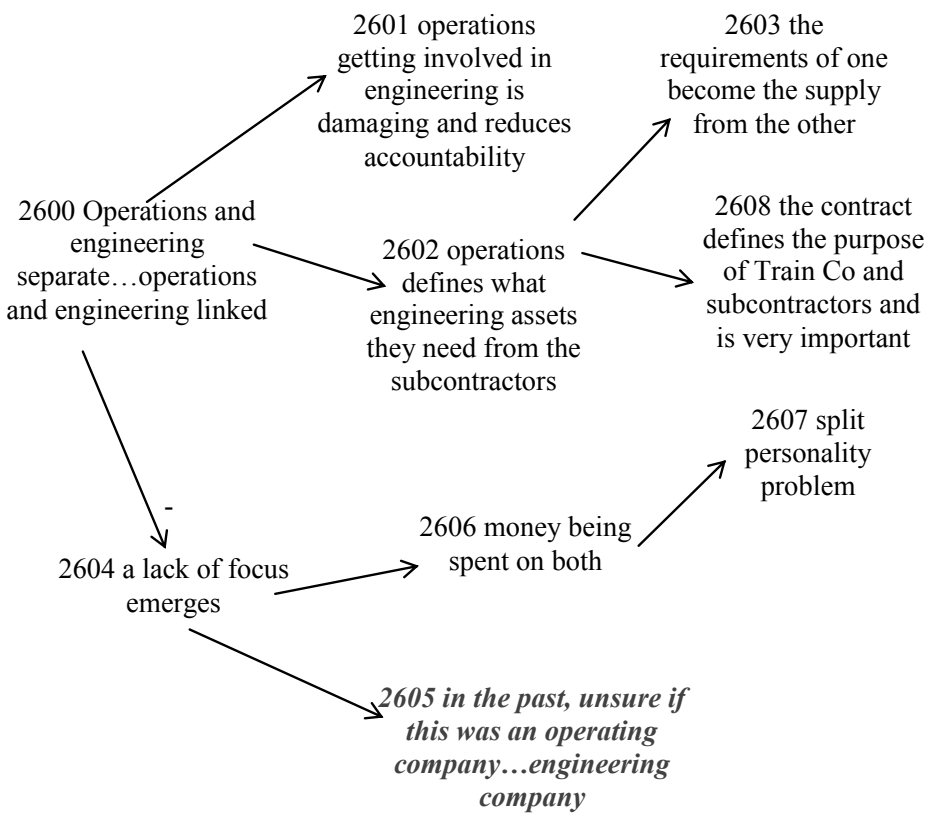
If however, your interest was in power in organisations, you may well pick up on this issue quite differently. You may see the TrainCo employee’s need to keep their knowledge tacit and not write it down as a statement about their need to retain intangible expertise in order to secure their positions in the organisation. You might therefore interpret this paragraph as indicating that TrainCo is run on a basis that those

with the most knowledge have power within the organisation and place the phrase, “tacit knowledge” in the power structures petal instead.

Cognitive mapping and Decision Explorer®

Figure 3 shows a section from a cognitive map that was drawn using Decision Explorer® software. The map consists of uniquely numbered ideas or ‘concepts’ (numbers simply denote order of data entry) linked together with unidirectional arrows. A concept can be a single statement (e.g. concept 2607) or a pair of opposing poles (for example concept 2600). The two poles are shown separated with three dots, and should be read as ‘rather than’ or ‘as opposed to’. For example, concept 2600 is read as “Operations and engineering separate” as opposed to “Operations and engineering linked”. The arrows indicate a link between each concept, and also show how one concept ‘may lead to’ another. For instance, concept 2602 “operations defines what engineering assets they need from the subcontractors” may lead to concept 2603 “the requirements of one become the supply from the other”.

Figure 3: Example section of a cognitive map



Also, it is possible to indicate a casual relationship with the negative pole of a concept. This is shown as the link between concept 2600 and 2604 above, where a small minus sign is placed near the linking arrow. Thus the logic is now “operations and engineering being linked” may lead to a “lack of focus emerging”. The software allows different styles to be selected (see for example 2605), and this feature was used extensively to categorise the data as discussed below.

Introducing a cognitive mapping stage into the research process

Cognitive mapping was used to create a map for each of the interviewees. In addition to this, the observational data (from the researcher’s site diaries) were also transferred onto maps, giving a total of 23 cognitive maps. In total the concepts numbered over 2500, and it was felt that the richness of the data had been preserved in this way.

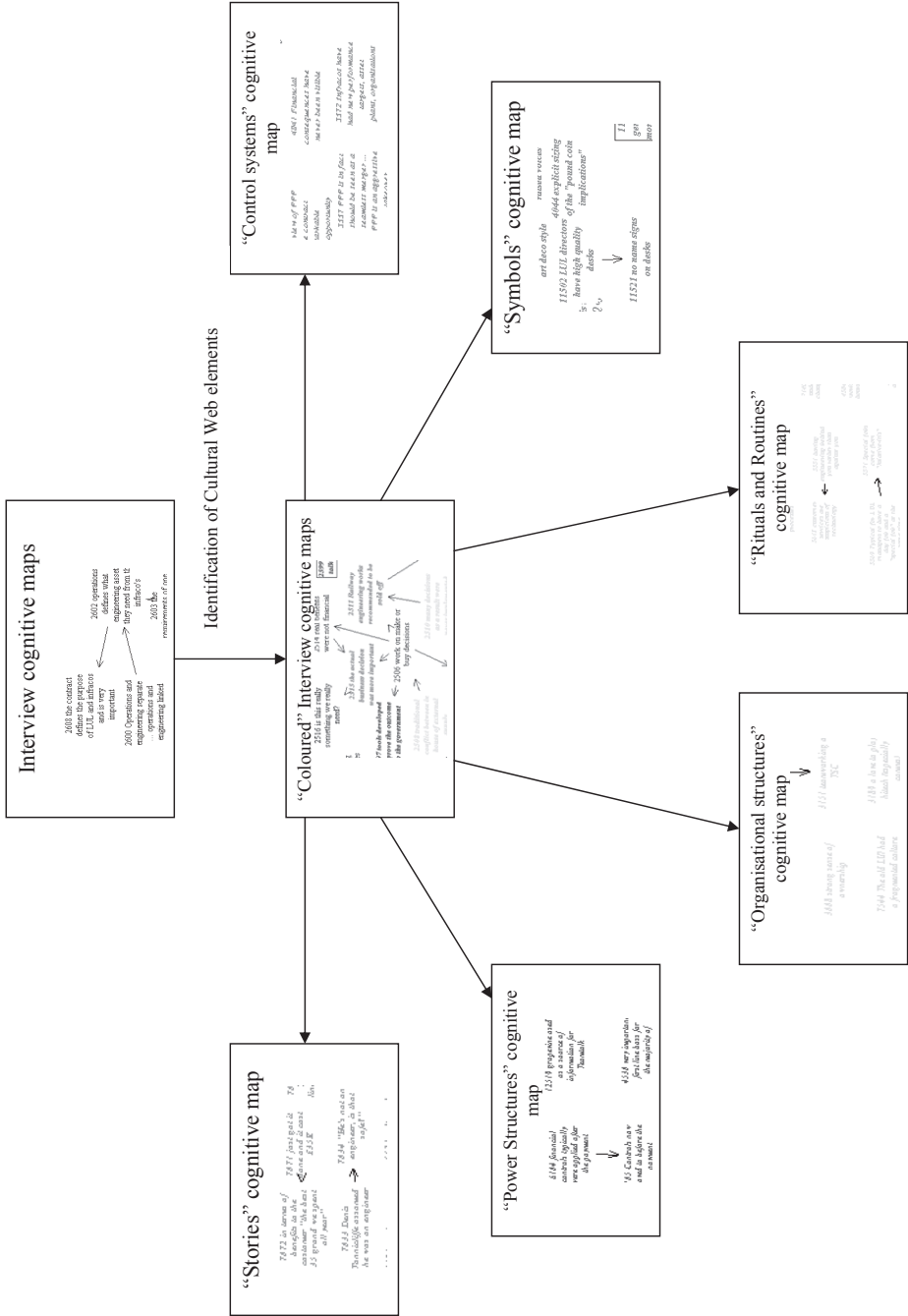
The 23 cognitive maps were then ‘coloured’, through a process of identifying the various cultural elements (stories, power structures etc.) that existed on each map. The next step was to transfer only the coloured elements onto separate maps, one for each colour or petal of the Web. Each ‘element map’ was then analysed to try and identify common themes within each category. These themes were then transferred on to a final Cultural Web. This process is illustrated in Figure 4.

This process had a number of strengths compared with the previous technique of trying to fit raw interview data straight on to a Cultural Web diagram. There is a far richer sense of connection between the data and the final model. The maps which underpin the Cultural Web allow us to give the model a three dimensional feel by drawing the data through on to the model without separating it out arbitrarily or over simplifying it (see Figure 5). Further, using the maps as an intermediary between the data and the Cultural Web allows the researcher to develop a trail of context for each concept on the final model. This context adds meaning and allows the researcher to position concepts with more subtlety and certainty, but without cluttering up the final Web. We believe that Webs created in this way could therefore be considered more ‘robust’, not in the Integration perspective sense that they represent ‘the’ definitive organisational culture, but in the sense of qualitative data validity where the route from raw data to analysis can be clearly traced.

Cognitive mapping can also make dealing with issues such as the representation of time frames less problematic. Through coding text styles, or making use of temporal arrows, it would be possible to incorporate notions of past, present and future on the final Web in a more sophisticated way than has already been attempted (Hill and McNulty, 1998).

The other important contribution that cognitive mapping can make to the process of building a Cultural Web is in terms of understanding and depicting the relative importance of concepts within an interview, or across a whole study. Decision Explorer[®] allows the visual and analytical identification of clustered data which may represent a theme, and highly linked data which may signify importance. These tools can help us significantly to develop our understanding of the data and thus build more sophisticated and less consensual Cultural Webs.

Figure 4: Process for creating Cultural Web element cognitive map



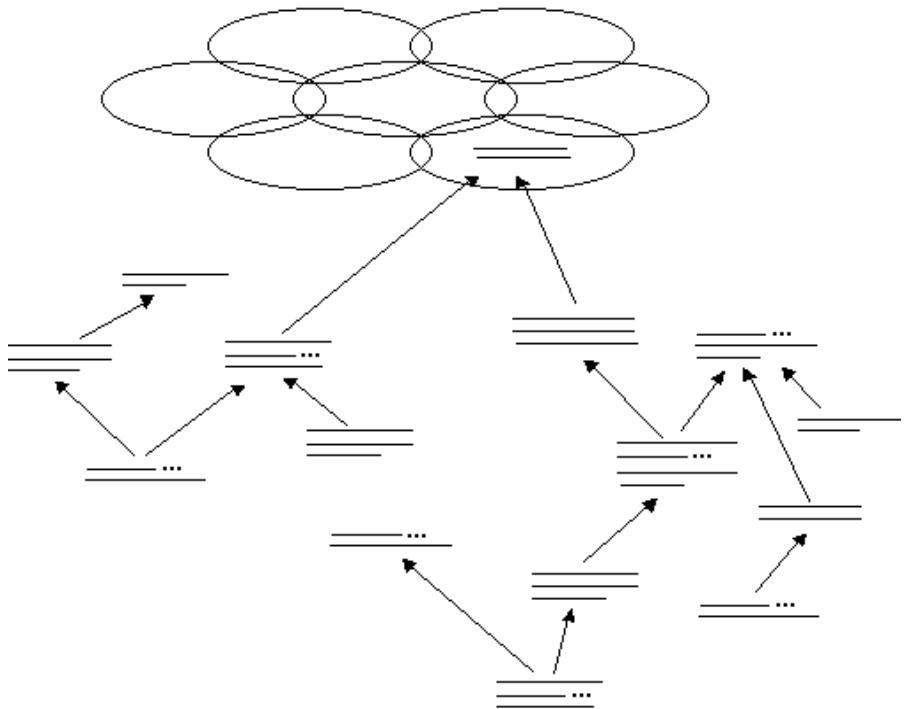
In summary, with the ability to handle conflicting opinions, unresolved issues, partial understandings and other kinds of ambiguity as well as different time frames, the Cultural Web would be able to support a Fragmentation perspective. This is an important contribution in itself, but also allows the Cultural Web to be used in studies which rise to Martin's (1992) challenge to research organisational culture through all three social science perspectives sequentially, without recourse to a different theoretical model for each view.

Conclusions

Our study has shown that the Cultural Web has got interesting potential as a research framework to support all three social science approaches to the study of culture within organisations. In its current form The Cultural Web gives an insightful framework for an Integration perspective. Multiple Cultural Webs can support a Differentiation perspective. With the addition of a cognitive mapping stage, as described in this paper, the Cultural Web can also provide a means of depicting a Fragmentation perspective.

The Cultural Web is often presented as a simplistic tool, which can give executives some purchase on the slippery notion of corporate culture. However we contend that it

Figure 5: Cognitive mapping adds a 3rd dimension to the Cultural Web



is actually a sophisticated model which brings together different views of culture which are traditionally dispersed across the literature. If this framework is used in these three distinct ways, it can support all three perspectives of organisational culture research and allow a direct comparison between perspectives. This will achieve the best practice advocated by Martin (1992) and help researchers draw out the aspects of culture that are privileged or silenced by each view. This will enable researchers to realise a complex, rich and multi-faceted view of organisational culture.

Whether researchers wish to single out strategy makers and engage them in an explicit search for the Cultural Web, or undertake qualitative enquiry using the Cultural Web in the background as a sense-making framework, it is imperative that studies written up in the literature are explicit about their methods and their purpose so that others might learn from, or question their practices. It is equally important for studies to locate their own assumptions about the nature of organisational culture explicitly. Even if they do not subscribe to the view that all three perspectives should be sought in every study, the consideration of their own ontological approaches can only help to clarify and strengthen the debates surrounding organisational culture and how to study it.

The Cultural Web can be a difficult model to use. This is because it demands categorisation of the complex and elusive concept of culture into seven discrete 'boxes'. This restrictive nature is in fact the source of its biggest advantage. A complete Cultural Web can make a sophisticated statement about the culture of a company on one page. For researchers engaged with the Cultural Web as a strategy tool, it does not matter whether the final model fades, and after a year managers cannot decipher the short, cryptic statements they placed in each petal. It is probably not crucial whether they can explain every single element on their Web to colleagues who were not involved. This is because the contribution of the Web in this case is the focus on cultural issues it provides at the time of its inception and the language and understanding it gives those who work with it with respect to culture within their own organisation. It is these things which will endure even after the artefact itself has been forgotten. Given the purpose of the Cultural Web in this scenario, the methods outlined by Johnson (1998) will be more than sufficient to achieve this purpose.

However, if the Cultural Web is to be adopted as a research framework, we suggest that studies of a single company might be strengthened by seeking out the Integration perspective inherent in a single Cultural Web, the Differentiation perspective represented by a series of sub-cultural Webs and finally adding a cognitive mapping step into the research process in order to realise a Fragmentation perspective.

The use of cognitive mapping in conjunction with the Cultural Web offers other potential research benefits to researchers with an exclusively Integration or Differentiation perspective. The Cultural Web which is underpinned by a series of cognitive maps allows the framework to summarise culture without losing a sense of context. This will make the process of developing the Cultural Web more transparent in a way that would enable it to be used by other researchers. This opens up a whole new range of possibilities

for research using the Cultural Web. The Webs of different companies, might now be systematically compared, not just a few companies by the same author (Johnson, 1987), but many companies, studied by different researchers. This would move the model forward and allow it to be used in theorising culture. Cultural patterns may be examined across industries, geographical locations or company lifecycles that might further our understanding of culture and how it develops and grows.

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