Open Research Online

The role of change agents and stakeholders in the organisational transformation of the electricity industry

Authors

Dr Helen Roby, The Open University

Professor Stephen Potter, The Open University

Dr Trevor Collins, The Open University

Dr Pelle Lagendahl, The Open University

Corresponding Address:

Dr Helen Roby
The Open University Business School
Walton Hall,
Milton Keynes, MK7 6AA
helen.roby@open.ac.uk

The role of change agents and stakeholders in the organisational transformation of the electricity industry

Track – Organisational transformation and development

Word Count – 2454 excluding references

Summary

This development paper looks at the organisational transformation that is ongoing within the supply part of the electricity network, to meet the changing demands through the growth in adoption of electric vehicles, domestic heat pumps and increased supply from renewable energy sources.

The paper will explore the observations and findings from the involvement of the Open University in an innovation project within a Distribution Network Operator. The focus is to compare the differences between the comparatively easy technical transformation and the harder cultural change, and how change agents and stakeholders influence this process.

(93words)

Introduction

This paper will examine the organisational transformation that a Distribution Network Operator (DNO) is undergoing in order to operate in a changing energy market, and the impact of internal and external stakeholders on this process.

DNOs are the regional part of the electricity delivery network. They take power transmitted from the National Grid and distribute it to customers. Their role is changing as the demands and use of the network change. With the installation of renewable energies such as solar panels, energy is now flowing two ways, and therefore the network and the DNOs have to be able to deal with a new type of electricity customer, 'prosumers'. This, combined with the expectation of increased uptake of electric vehicles and domestic heat pumps, puts new demands on the network and the organisations that operate it. This paper will cover the role of change agents, stakeholders in large-scale change programmes and the resistance to change in the context of DNOs preparing for Smart Grids.

The agents directing change include: central government through DECC, the regulatory body Ofgem; the Low Carbon Network Fund (LCNF), a body set up by Ofgem to administer the innovation projects; the Energy Networks Association (ENA), a body funded by the DNOs to support the change process and the new entrants to the market, electricity aggregators. The external stakeholders include the change agents plus other DNOs, their customers and organisations working with them to set up the innovation trials. The internal stakeholders are those working within the DNO that are not part of the innovation projects, but are required to help implement them.

The LCNF awards fund the DNOs to run innovative test projects to help prepare the grid and transform the industry to meet new demands. The aims of the LCNF award process are to:

   i.   test out new approaches,
  ii.   learn from the new approaches,
 iii.   share the learning with industry stakeholders, and
  iv.   where appropriate, embed new practices into business as usual.

The change agents, particularly Ofgem and LCNF work together to ensure these aims are achieved through conferences and review meetings. However, this process has not been easy for the DNOs, particularly sharing the learning and embedding new practices into business as usual. These difficulties are largely shaped by the existing industry cultures and the use of a project-based approach that sits outside the normal highly functional working practices. As will be explained in the next section, in effect institutional pressure from the change agents is forcing the DNOs to work in ways that are unfamiliar to them.

The specific contribution of this paper is to show the impact of isomorphic pressures on organisational inertia.

Method

As a project partner in an innovation project, The Open University has rare access to the ongoing process of organisational transformation in one of the six national DNOs. The

project started in 2012 and runs to 2015. Data on how the organisation and the industry are changing is being collected throughout this project. However, it is accepted that this is only a 'snapshot' of the total process that is occurring and that the transformation will continue for a considerable period after the end of the project.

Data is being collected through observations during project meetings, conferences, workshops run by the DNO, and semi-structured interviews with external stakeholders. Extensive notes were taken during the project meetings, conferences and workshops. The interviews were recorded and transcribed then analysed iteratively to identify the emergent themes.

Institutional pressure

DNOs are regional monopolies and as such are highly regulated by Ofgem and though the funding for innovation projects from the LCNF is competitively sought, this funding is part of an institutional pressure from change agents to bring about technical and cultural change. How the industry reacts to such pressure will vary. They could acquiesce, compromise, avoid, defy or manipulate (Goodstein 1994). As large organisations they are more likely to acquiesce (Goodstein 1994), which is what appears to be happening with the DNOs. The reason that large firms are more likely to acquiesce is that as firms grow, and become involved in industry activities and networks of exchange, the institutional expectations of other firms, consumers and regulatory authorities or the state exert greater influence on them (Goodstein 1994). How organisations respond to change and social norms is predicted in various organisational theories.

Institutional theory predicts that organisations will reflect and conform to normative pressures in society so that they maintain legitimacy (Felstead, Jewson et al. 2002). Such conformists are typically found in private sector firms that are readily visible due to their size and public sector organisations. Small companies are less likely to feel the pressure for legitimacy, but competing with organisations in the same industries will put pressure on them not to fall behind. Not conforming could damage their reputation with suppliers, customers or the workforce. Organisational adaptation theory (Felstead, Jewson et al. 2002) adds to institutional theory by examining how a firm recognises and interprets a changing world, possibly rejecting the pressure to conform. Alternatively, situational theory states that organisations simply react and respond to the pressures of immediate circumstances. In effect, a practical response theory that is driven by pressures towards profitability and productivity (Felstead, Jewson et al. 2002). From the observed behaviour, it appears that DNOs are taking an institutional theory approach of conforming. This in part could be a reflection of the type of organisations that DNOs are. As engineering firms with high levels of health and safety requirements, they work in structured and systematic ways, which are typical of firms that will acquiesce and conform. However, they are being asked to work in ways that are very different from their usual engineering roles, which has the potential to cause conflict with their existing working practices.

This conflict has been evidenced in the case of this DNO. Gaining support from other parts of the organisation, such as top-level management and control rooms, has been hard. Technical changes in principle are relatively simple. Systems are in place where changes to operational or technical protocols go through an understood and accepted written process. The difficulty

is changing the culture in order to embed new working practices and develop new skillsets, such as engaging with customers to enable the organisation to work with new stakeholders.

Institutional isomorphic change

Organisational theory goes some way to explain the way that the DNOs are reacting to the institutional pressures, but it is also useful to explore their behaviour from the perspective of institutional isomorphism. As a highly regulated industry that is closely linked to other sectors of the industry, it is particularly vulnerable to isomorphic institutional pressures, which can lead simultaneously to resistance and pressure to change.

All the DNOs exist in the same organisational field in that they share the same key suppliers, resource and product consumers, and regulatory agencies (DiMaggio and Powell 1983). They are also likely to act in similar ways due to the isomorphic pressures or constraining processes that force one unit in an industry to resemble other units that face the same environmental conditions. This is not surprising as organisations in the same organisational field will compete for customers, resources, political power, institutional legitimacy and social and economic fitness (DiMaggio and Powell 1983).. Institutional isomorphism can occur through three mechanisms: coercive isomorphism, mimetic isomorphism and normative pressures.

Coercive isomorphism

Coercive isomorphism results from both formal and informal pressures exerted by other organisations, such as Ofgem, and by cultural expectations within the society in which they function. This can also apply to the service infrastructures the organisations rely on, which can be monopolistic (DiMaggio and Powell 1983). As the generation of power becomes more distributed these coercive pressures could change, possibly with less pressure exerted by the big power generators and more by change agents, such as Ofgem and the LCNF.

Mimetic isomorphism

In times of change organisations face uncertainty and risk. These are powerful forces that encourage imitation, which can give considerable benefits to those organisations that model themselves on others. When organisations face a problem that is ambiguous or with unclear solutions, searching for solutions in similar organisations could lead to viable solutions with little expense. Organisations are particularly likely to model themselves on similar organisations in their field that they perceive to be more legitimate or successful, although such copying may occur without any clear evidence of improved performance (Ashworth, Boyne et al. 2007)Which organisations are mimicked may depend on what can be an informal industry hierarchy. Organisations higher up the hierarchy are perceived to be more innovative and likely to be introducing practices or products that differentiate them from their competitors, possibly lending competitive advantage. This can lead to change across the whole industry (McKee, Mauthner et al. 2000).

Normative pressures

Isomorphic organisational change can also be normative, stemming from professionalization through training and education, as well as the filtering of personnel. This can involve the

hiring from firms in the same industry, recruitment through a narrow range of training institutions, common promotion practices and skill level requirements for particular jobs (DiMaggio and Powell 1983).

DNOs are a good example of an industry that is subject to institutional isomorphism. The DNO industry is in reality is a small industry and as such is a perfect example of normative isomorphism. Employees of one DNO are likely to know their counterparts in other DNOs, possibly either working or training with them in the past. The majority of the staff are trained as engineers and therefore are subject to the isomorphic pressures related to this profession. However, this could change as new entrants such as aggregators appear in the market with a different group of skillsets.

Findings and Discussion

Through industry led dissemination at ENA conferences it is evident that the DNOs are mimicking themselves on each other in what they are prepared or perhaps more importantly, not prepared to share. Although one of the aims of the LCNF projects is learning and dissemination, this is only happening to a point. Technical details about which electricity pole is suitable in a certain location is freely shared, but critical details about the problems of cultural change or how to embed project-based innovation into a functional environment is not. This is not surprising as in theory the DNOs are in competition with each other. However, in reality they have predefined regional boundaries, so there is no competition for customers, as customers have no choice about which DNO they use. The competition is driven by industry-based professional competition and by the project targets set by the LCNF.

This unwillingness to share some of the cultural learning is partly due to the innovation side of the industry being in the process of major change, with no clear organisation to mimic and a fear of exposing their weaknesses. One point that does emerge from the discussions and observations with the DNO is that they know that they are all as bad as each other in delivering cultural change and are aware of a need to share their learning on how to do it. It is not surprising that they continue to mimic each other in this way , as this minimizes risk that one company will be seen to perform badly compared to another (Kondra and Hinings 1998)..

Possibly the barrier to cultural change stems from the way that the changes that occur are siloed into a project. Within the project teams change is happening rapidly, but little change is occurring within the high-impact systems that are more intertwined with the values of the organisation (Miller and Friesen 1984). The problem with such project based approaches that do not receive the cultural acceptance and deliver widespread value changes is that the changes may be temporary (Hinings and Greenwood 1988) and do not get embedded into the normal practices. This has been observed within the DNO, where the innovation project is seen as periphery to the main operations and there is a reluctance from the rest of the organisation to do much more than the minimum to assist the project.

Technical learning is more comfortable for the industry to share, as this is the way they are used to working and fits well with existing reporting structures and cultures. Here it would appear that the normative pressures are outweighing the coercive pressures from external stakeholders. The organisational transformation necessary to meet the new demands on the electricity network requires new skillsets and an acceptance of the need for cultural change.

The LCNF innovation projects are fundamentally engineering projects with some elements of cultural change by encouraging new techniques to be developed such as demand management. Perhaps one of the biggest barriers to organisational transformation is that DNOs have not previously needed to fundamentally change, as the grid and other aspects of the organisational field have remained unchanged since it was established. Other areas of the industry in direct competition for customers, such as the retail elements, have undergone greater change. As cultural change has not been necessary for DNOs in the past they are perhaps struggling to find examples of successful change in culture and values to mimic. Alternatively, where it is clear that isomorphic pressures are encouraging incremental change in technical skills, as (Oliver 1988) points out, isomorphic forces may operate with varying effect on different organisational attributes, such as those needed to embed new ways of working and skillsets.

Plans to develop paper

At the time of first writing, data collection has focused on interviews with stakeholders internal to the DNO. Since then interviews have been undertaken with electricity power aggregators who are external participants to the project involved in helping to recruit participants and delivering relevant services. Aggregators are new entrants to the electricity industry that unlike the existing industry including DNOs are not regulated, so are not constrained by the same coercive pressures. Those that work in aggregators tend to come from a more varied background than those within DNOs and therefore do not have the same normative pressures. They are however subject to mimetic pressures as the aggregators are mimicking themselves on each other to gain legitimacy within a well-established organisational field. It is yet to be seen the full extent of the impact these new entrants to the organisational field will have on changing it, especially in light of the discussions about whether they are a sector that should be regulated.

These interviews are ongoing along with a workshop with aggregators to explore these issues in greater depth. The analysis of the collected data from these interviews and workshops will allow the paper to be developed by applying these theories to other aspects of the industry and to identify how these stakeholders are affecting the ability of DNOs to change.

Bibliography

Ashworth, R., G. Boyne, et al. (2007). "Escape from the Iron Cage? Organizational Change and Isomorphic Pressures in the Public Sector." Journal of Public Administration Research and Theory **19**(1): 165-187.

DiMaggio, P. J. and W. W. Powell (1983). "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." American Sociological Review **48**(2): 147-160.

Felstead, A., N. Jewson, et al. (2002). "Opportunities to work at home in the context of work-life balance." Human Resource Management Journal **12**(1): 54-76.

Goodstein, J. D. (1994). "Institutional Pressures and Strategic Responsiveness: Employer Involvement in Work-Family Issues." The Academy of Management Journal **37**(2): 350-382.

Hinings, B. and R. Greenwood (1988). <u>The Dynamics of Strategic Change</u>. Oxford, Basil Blackwell.

Kondra, A. Z. and C. R. Hinings (1998). "Organizational Diversity and Change in Institutional Theory " <u>Organization Studies</u> **19**(5): 743-767.

McKee, L., N. Mauthner, et al. (2000). "Family Friendly Policies and Practices in the Oil and Gas Industry: Employers' Perspectives." <u>Work, Employment and Society</u> **14**(3): 557-571.

Miller, D. and P. H. Friesen (1984). <u>Organizations a Quantum View</u>. Englewood Cliffs, New Jersey, Prentice-Hall.

Oliver, C. (1988). "The Collective strategy framework: an application to competing predictions of isomorphism." <u>Administrative Science Quarterly</u> **33**: 543-561.