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The Exercise Of Power And Information Systems Strategy: The Need For A New Perspective

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Abstract - Computer based information systems (IS) in work-based organisation are generally acknowledged as incorporating a social as well as technical dimension. Information system strategy formation is something that people are said to engage in as they seek to determine what they wish to do with IS, presumably to assist the overall work effort, and yet while the role of power in relation to strategy has been raised by a range of authors, it remains relatively unexplored in relation to ISS. The argument advanced in this paper is that power is central to our understanding of strategy formation in relation to IS. Furthermore, the work of Hardy [36] indicates that we can think of mechanisms of power in at least four different ways, and this framework is discussed. The paper concludes by calling for research that addresses the multi-dimensionality of power, as a means of moving beyond the relatively limited view of ISS formation exhibited in the literature thus far.

I. INTRODUCTION

Whilst the field of information systems (IS) is described as being one that evokes complexity and ambiguity [1], the social dimension of IS has long been recognised (e.g. [2][3]). Such social complexity is no less evident in relation to information system strategy (ISS). Much of the literature on information system strategy (ISS) has been dominated by methods to assist practitioners in the development of ISS. Unfortunately, attempts to inform practice in relation to ISS have tended to focus their efforts upon outcome oriented prescriptions [4], which it is suggested has been to the detriment of in-depth understanding of ISS formation. Comparatively little research has addressed what actually happens in practice when people are supposedly engaged in ISS formation, although there have been some notable contributions that have enhanced our understanding of the social nature of ISS (e.g. [4][5]). It may be that underlying theoretic approaches that have been used to inform studies in this area have tended to steer researchers towards views of the domain where ISS formation was seen as a decision oriented activity that was rational, linear, and one could say, fairly straight forward.

An alternative would be to acknowledge the role of power in relation to the concept of ISS. In this paper, we argue that for studies of ISS formation to be more meaningful theoretically and useful practically, they must acknowledge power as a key element in strategy oriented investigations. One way of doing this is to consider a multi-dimensional view of power, one which addresses a network of relations within which the practice of ISS takes place.

II. CONCEPTS OF POWER IN IS LITERATURE

Power has been raised as an issue of importance in improving our understanding of ISS by several authors [7][3][8][6][9], although literature that has specifically addressed the concept of power in relation to ISS formation is less numerous. Some authors have addressed the role of power in relation to systems development and implementation efforts [10][11][12][13][14][15], and it is to such work that we can now turn in order to clarify our understanding of the concept of power and the ways in which such a concept may be investigated.

Within some of the literature we note some seeming contradictions that begin to hint at difficulties surrounding a concept of power. For example, Levine and Rossmore [13] claim that power is exercised by individuals, while Cavaye and Christansen [15] argue that power is not exercised by individuals but is a function of relationships between people. Another contradiction occurs with claims that power cannot be exercised by groups of people [13], while others argue [10] that organisational sub-units (groups of people) can exercise power. A final contradiction occurs with arguments that no individuals or groups own power [10], whilst Cavaye and Christansen [15] develop a 'relative power rating' of either high/medium/low to denote the power that various organisational sub-groupings *have*. It is a little ironic that these latter authors also caution against the rating and ranking of issues associated with IT implementation, before going on to provide their own rating of power in relation to IT implementation. However, there is more to

this than apparent contradictions between papers in the IS field, because these differences in perspective can be understood in terms of a more fundamental diversity in thinking about power.

The effects of introducing IT into organisations have been researched by Pettigrew [16], who argues that access to, and the ability to control, information represents a resource that people (in this case systems analysts and programmers) can use to gain power. Thus in such a view, power is something which rests with individuals, and which can be won or lost. A number of other studies of IT implementation have reinforced such a perspective [10][17][13][15]. Despite the apparent commonality in focus of interest upon IT implementation, views of power evidenced by the respective authors differ considerably. One means of exploring some of these differences within the literature is to consider three differing perspectives: where power is perceived as a capacity of the individual; where power is perceived as exercised through systems and structures; and where power is perceived as exercised through behaviour.

The first perspective is that which considers power to be something which is viewed as a capacity of people, a facet that resides with and is exercised by the individual [16][17]. Such a view suggests that people have power, which they then exercise over others, or conversely if they don't have power then it is exercised over them. Power is seen as a struggle for control over an object, often for control of resources, for example in terms of finance, role, control of physical assets, expertise. The role of IS has been noted in this area as contributing to the resources to which people may lay claim and seek to make use of [18],[19]. The focus therefore is upon a source-locus of power [20] which entails conflict, and such a view has been described as a zero-sum view of power [21]. This means that where one person gains power another loses it – hence, zero-sum.

In our view there are some difficulties with a view where power is assumed to be derived from sources who are intentional agents, and where power is assumed to be 'located'. Firstly, such a view assumes that if power is associated with intentional actions of individuals, then power is only evident where we have such intentional actions being undertaken, typically in decision making environments [22]. Similarly, without an evident locus of power, for example as demonstrated by the absence of evident conflict, then power is presumed not to be exercised [23]. Studies that conceptualise power solely within this perspective focus upon decisions that *are* made, and hence no account is taken of those issues that have been ignored, pushed to one side, or sidelined, for

whatever reason.

Despite the problems inherent with such a view, the idea that power is seen as something that an individual has, a capacity to exercise power, which can be located, and indeed mapped as changes in the balance of power alter over time, has dominated the literature on organisations [24].

The second perspective sees power as lying in organisational processes, not in people, where giving attention to systems and structures is central to understanding the bases of power [25]. It has been suggested that one way in which we can understand power in terms of information systems and the affects that they have upon associated organisational structures [23][15], and through which people attain desired outcomes, particularly in consolidating the position of those already in strong positions through providing another resource to which they can lay claim [25]. The symbolic aspects of IT in this view are also highlighted, in potentially indicating to other groups that decisions are in progress, or in suggesting that certain people are more influential in view of their use of, or close association with IT [23][10]. These views are also recognisable in contributions from the literature on organisational strategy formation where power is discussed in terms of organisational structures and how best to distribute power around the organisation amongst such structures [26].

The expression of power within this view is typically concerned with structures and systems surrounding processes of decision-making, within which a range of political routines and procedures are enmeshed which may be utilised to influence decision outcomes [24]. However, this view possess similarities to the earlier view, in that it regards non-decision making in much the same way as it does decision making, that is as something 'concrete', overt and observable [28].

A third perspective may be described as being behavioural, being associated with power that can be understood in terms of behaviour of people, for example where IS staff exercise power over non-IS users [29], or where changes in IS management's behaviour can overcome resistance to change in IS strategy initiatives [30]. Thus, in this view power can be understood in terms of the behaviours of and relationships between people, in particular the overcoming of opposition or resistance, often where the intervention of a powerful actor is crucial in bringing about the change in state [31]. Bloomfield and Coombs [25] observe that such a view is not without its problems, in particular in assessing just what someone *would* otherwise have done were it not for the exercise of

power. There is a presumption within such a view that the exercise of power has acted against the *real interests* of the people concerned, but the problem is in determining exactly what those real interests might be. A fundamental problem in such views is the belief that real interests exist separately from the power in action [32], and that it is when power is exercised that these interests are either made clear, obscured, or circumvented in some way. We do not subscribe to this view; rather we perceive interest to be interwoven with the operation of power and to flow from such interactions.

In each of the views above, power is discussed in terms of a rather mechanical, but nonetheless person based, or agency, perspective [25][9][33]. This means that power is viewed as being located with the individual, in clear cause and effect terms, that is as something people do to bring about a specific outcome. The exercise of power by someone that has caused people to do something they otherwise would not have done can be described as a deterministic account of power, a view which has been criticised as being too restricted to take account of the varied way in which power is exercised in practice [22][34]. Furthermore, in each of the perspectives there is a presumption that through the exercise of power someone is advantaged while someone is disadvantaged; that there are the powerful and the powerless. Such a view can be seen as lacking explanatory capabilities, as we have to ask how those who we may regard as 'the powerful' came to be seen in such a way, and how they maintain their position relative to what happens around them. This leads us to a relational perspective of power [25][33], which challenges some of the preconceptions underpinning an agency view of power, and is an area to which we now turn our attention.

A. A Relational Perspective On Power In IS Literature

Within IS literature we see views about the exercise of power that both challenge and go beyond the agency perspective discussed above. For example, the exercise of power can be understood as exercised in relations between people [25][9][33]. This view argues that, "the key to understanding resides in thinking of power as a phenomenon which can be grasped only relationally. It is not a thing, nor is it something people have in a proprietorial sense. They 'posses' power only as far as they are relationally constituted as doing so" ([22]pg.207). In this relational view, power is not seen as being in any one place or as something that people 'have', but is dispersed and enacted through the range of relational interactions between people.

This view addresses the problem in establishing real interests noted previously by arguing that interests are established through relations – and that interests do not therefore pre-exist relations [35]. It argues against "a belief that power determines choice and change as if the intentions of the 'powerful' were directly coincident and continuous with their effects" ([34]pg268). The problem then is in seeing power solely in a cause-effect sense whereby someone through their possession of power eventually brings about a change in someone else's behaviour, to act or fail to act in a particular way. This is not in keeping with what is found in work situations very often where a considerable amount of what occurs results from activity that had other intentions, and hence renders deterministic accounts inadequate [34]. In other words, it is difficult to single out a single cause-effect relationship. That is not to say that such a view of power is wrong per se, but rather that it is limited. In an effort to resolve these limitations, some authors have concentrated upon other means of understanding relational forms of power. One view has been to address discursive practices; the "discourses, ways of thinking and speaking, instituted within organisational practices – which define the way in which subjects see the world and themselves and thereby discipline those subjects" ([25] pg.467). This expresses a desire to understand the dominant views and associated meanings through what people say and the knowing that they are able to express.

Sillince and Mouakket [20] highlight the relational nature of power, arguing that it is valuable to explore power through several dimensions as a means of explaining the richness of the concept in action. By combining perspectives, where each enlarges upon and encapsulates the preceding view, the multi-dimensional nature of power is addressed. This is based upon the premise that any one of the perspectives chosen does not of itself allow for adequate exploration of the concept.

III. MULTIPLE DIMENSIONS OF POWER

Hardy [36][37] has proposed a framework for investigating strategy related issues in organisational settings which conceptualises power along four dimensions as a means of investigating the exercise of power. Therefore, dimensions can be thought of as differing views, or conceptualisations, about a central concept of 'power'. Hardy [36][37] has developed this thinking further, by exploring the way in which we may think about the exercise of power. We regard this as valuable, as given our understanding of power as a social construction in organisations, we now have a means

through which we can explore various dimensions of the exercise of power. We have used this framework as the

basis for our enquiry, and our amended framework shown below in Fig. 1:

	Power of Resources: 1st Dimension	Power of Processes: 2nd Dimension	Power of Manipulation of Perception: 3 rd Dimension	Power of the System: 4th Dimension
Focus upon view that power can be exercised through:	Management of resources: physical, financial, human; this includes ability to hire and fire, rewards, punishments, funding, authority, expertise.	Management of levels of access to and participation in decision-making processes and agendas.	Manipulation of perception through use of: images, symbols, rituals, language, norms, values, ceremonies, stories.	Web of power relations in which individual constructions of reality and organisational setting are embedded; differential effects evolve over time.
This dimension is a challenge to:	Elitism: views of power as concentrated in the hands of the few - i.e. this view considers that power does not automatically rest with 'an elite' but with those able to control 'resources'.	Pluralism: assumption of equal access to decision arenas & agendas - i.e. this view considers that some may be prevented from accessing, or participating.	Behaviourism: assumption that power is used only in response to conflict - i.e. this view considers that overt conflict is not a necessary precondition for exercise of power.	Sovereign power: view that power is in the control of people - i.e. this view considers that people operate within an already and always operable web of power relations.
Exercise of power:	Intended, deliberate, causal, visible.	Intended, deliberate, causal, less visible.	Intended, deliberate, causal, often invisible.	Not intended, not deliberate, arbitrary, invisible & persuasive; may subordinate some while privileging others. This view forms a backdrop to other three dimensions.
Contribution to understanding of exercise of power	Multiple groups influence decision making; focus is upon use of resources.	Prevention of access or participation to suppress opposition.	Use of manipulation of perception to prevent opposition, move towards desired outcome.	Inability to control power: power embedded in system; problem of resistance.

Fig. 1. A Framework For Understanding Power In Organisations (Adapted From: Hardy [36][37], Phillips[42])

We now discuss the dimensions in Fig.1. in relation to ISS.

A. The Power Of Resources - A First Dimension

In much of the IS and management literature which looks at issues surrounding power, the views expressed about power reflect the ways in which people manipulate resources and has been termed a behavioural perspective [22][25][38][33]. We term this as the first dimension. Those researchers who conceptualise power in terms of actual behaviour in making decisions, presume that the locus of 'power' resides with the victor in a decision situation that entails a conflict of interests, often considering power in relation to the control of resources (e.g. [39][40]). Thus, actors are deemed to exercise power through the manipulation or utilisation of resources which others depend upon to some degree or other, and hence

influence decision making. Such resources included: information, expertise, political access, credibility, stature and prestige, access to higher echelon members, control of money, rewards and sanctions [16][27][20].

A problem considering power only in terms of resource manipulation is that what may be considered to be a basis of power in one context may not be in another; hence, contextualisation of such discussion becomes critical in giving such a discussion any meaning. For example, introduction of IT may well be seen to affect the balance of power between groups in a department, but we cannot assume that the same IT introduced into a different department will necessarily have any affect on power relations [41]. Furthermore, we must be wary of any assumption that all those people in the situation have equal potential to participate in the decision making [36]. It is the inadequacies of viewing power solely in terms of this view that lead us to consider an additional perspective.

B. The Exercise Of Power Through Processes - A Second Dimension

Views in this area have moved beyond a concern with the manipulation of resources in relation to decision making situations, to address the exercise of power where issues may have been ignored or sidelined. However, we do note that such a conceptualisation is still concerned with decisions - whether taken or not. This represents a study of the exercise of power in relation to activity of people; such a view does not take account of the exercise of power through the inactivity of people, or where 'the sheer weight of institutions' [28], such as political, commercial, or educational, represents an exercise of power in preventing issues from arising or being developed.

Non-decision making is often perceived as a means by which dominant people maintain the status quo, as it can be seen as a way of maintaining existing biases [36], for example in the case of ISS implementation [13]. There are other reasons that may lie behind the manipulation of processes though. Firstly, less dominant groups may be able to use the procedures to their advantage, and secondly those with power may seek to alter the status quo by allowing others to participate and to impact upon ISS agendas [20]. This represents a broadening of the concept of process power, illustrating how the powerful and the powerless may be advantaged.

C. The Exercise Of Power Through The Manipulation Of Perception - A Third Dimension

The main contribution of the third dimension is to move concepts about the exercise of power beyond a link with conflict, given that the first two dimensions are concerned with issues where there are at least two parties seeking conflicting. The way in which we can conceptualise the exercise of power in this dimension acknowledges the ways in which issues can be prevented from arising at all. Hence, we are concerned in this dimension to appreciate why issues in ISS formation are not presented, why opposition or conflict does not arise in ISS practice, because the basis for these things not happening may be due to the exercise of power [36][28].

However, we must be aware that establishing such exercises of power related to ISS may not be simple and that there may be practical difficulties in validating such a view of power, that is, one which explores why something did not happen [9].

In conceptualising the exercise of power in terms of three dimensions, we are acknowledging the idea that the exercise of power is concerned with some person or persons determining what others should do. This is an agency view of power, one which has caused concern due to the perceived assumption that power is possessed, or that power is exercised in a simple cause-effect relationship [22][34][25][38][42]. Viewing the exercise of power solely in terms of the three dimensions discussed can be considered problematic in given that each of the dimensions exhibits, "a belief that power determines choice and change as if the intentions of the 'powerful' were directly coincident and continuous with their effects" ([34]pg268). This would not account for ISS practice where a considerable amount of what occurs results from activity that has other intentions, and hence renders such a deterministic account inadequate [34]. This is not to say that such a view of power is wrong per se, but rather that it is limited. In an effort to resolve this problem, and to move beyond such a limitation, we introduce a fourth dimension - the power of the system.

D. The Power Of The System - A Fourth Dimension

In seeking to respond to the above concerns, Hardy [36][37] argues for a further dimension which incorporates a view of power that acknowledges the power of the system. Power in this sense, "is often beyond the reach of tampering by organisational members. It lies in the unconscious acceptance of the values, traditions, cultures and structures of a given institution and it captures all organisational members in its web. Since it advantages or disadvantages individuals without being consciously mobilised, even those who profit from it find it difficult to change. This power is the backdrop against which all organisational actions and decisions take place" ([37]pg.8).

This view of power develops the work of Foucault [35] in understanding the power of the system which moves beyond conceptions of power along sovereign lines [22], where power is seen purely in terms of a capacity or capability of any individual to attain an outcome. Instead, power can additionally be perceived in terms of relations, as, "historically constituted configurations of practices" ([38]pg.172). Power can thus be viewed as a pervasive phenomenon that is concerned with relationships between parties [36][38], whereby, "power is neither given, nor exchanged, nor recovered, but rather exercised, and that it only exists in action" ([35]pg89). In this dimension, power can be conceptualised as, "the name one attributes to a complex strategical relationship in a particular society" ([35]pg9), as opposed to something that an individual possesses and exercises. These relationships

have been referred to as net-like, or a web of power relations ([22][36][9]). Here certain people are advantaged while others are disadvantaged without any clear notion of power being actively engaged. This view of power of the system lies, "in the unconscious acceptance of the values, traditions, cultures and structures of a given institution or society" ([36] pg232). To put it in context, "this power [of the system] is the backdrop against which all organisational actions and decisions take place" ([37]pg.8). We also note that power need not be seen as something wholly negative [35]. The exercise of power can be considered as something positive, where power relations are something within which people operate, and are a part of the means through which individuals construct their understanding.

Having discussed the four dimensions, we must ask how the framework is to be used - do we look at one, some or all of the dimension?

E. Utilising Multiple Dimensions

In setting out the framework in Fig.1. we are not arguing that we should choose any one of the dimensions as *the* most appropriate view; instead we argue that it is by taking all four dimensions collectively that we can address the multi-dimensional nature of the exercise of power, and through which we can investigate the nature of ISS formation.

We contend that the first three dimensions, that is, the exercise of power through the management of resources, through the management of processes, and through the manipulation of perception, should be seen as operating against the backdrop of the power of the system. It may well be that we are able to explain a situation in terms of all four dimensions of power, or equally it may be that one particular dimension is adequate in accounting for a particular outcome or outcomes. The point is that this multi-dimensional approach is necessary if enquiries into the exercise of power are to adequately explore ISS formation. For example, to explore the exercise of power solely in terms of the management of resources of resources view, the first dimension, has been the downfall of much ISS literature to date [25][8][6][20].

IV. IMPLICATIONS FOR INFORMATION SYSTEM STRATEGY FORMATION

In acknowledging that ISS formation is an inherently social activity that occurs within work-based settings, the argument advanced here has been that the notion of

strategy embodies mechanisms of power. Therefore, if we are to better understand ISS in work related settings, then this surely implies that an appreciation of the dynamics of power are central to such activity. Developing yet more techniques to aid strategy formation is of little value if we do not address issues, in this case centred around power, that may be at the heart of what actually happens during such processes. This requires empirical evaluation, and is an area of research that the author is currently engaged in.

Acknowledgement of the multiple dimensions through which power relations may be explored, leads to a recognition that in endeavouring to understand what is happening in a given situation there is little to be achieved by seeking to identify where power 'is', or who holds it. For as Knights and Vurdubakis [38] note, "we believe that it is more productive to attend to the practices, techniques and methods through which 'power' is rendered operable. By this we mean those procedures, forms of knowledge and modes of rationality that are routinely deployed in attempts to shape the conduct of others" (pg. 274). This then suggests that power operates through the collective practices of individuals, very often in ways which are unseen, or undetected by those involved. The inclusion of a fourth dimension addresses a key problem associated with an agency view of power, in that that power operates even though not actively mobilised by any individual or group against anyone in particular [36]. Incorporating this additional perspective extends the first three conceptualisations of power, discussed previously, where mechanisms of power were a consequence of individuals acting, or deciding not to act. Thus, whereas the action of one party is a condition of any exercise of power as conceived across the first three dimensions, there is no such requirement within the fourth dimension.

So what does this mean for information systems strategy formation? This multi-dimensional view of power builds upon previous developments in thinking regarding conceptions of power, and provides a basis for investigating mechanisms of power in relation to ISS formation. It is suggested that such a multi-dimensional conceptualisation of power as outlined above is of value in providing a means of exploring ISS formation through seeking to open up, or 'peel back', some of the layers of what is a social process. Suggesting tools and techniques to aid this area of practice is perhaps a legacy of what has been described as a 'discrete-entity' approach to both the use and investigation of information technology in organisations [43].

If mechanisms of power constitute the essence of strategy related practice, then a multi-dimensional

conceptualisation of power as outlined above, has some important implications for ISS research. Firstly, it highlights that a significant proportion of ISS formation literature has tended to take a somewhat one-dimensional view of power, for example tending to concentrate upon participation in decision making, and upon the roles of individuals. The development of tools and techniques to assist strategy formation reinforces the agency view of this process. Secondly, and perhaps more importantly, we do not it would seem have a particularly good understanding of what does actually happen when we think people are engaged in ISS formation. The use of four conceptualisations of power is indicative of the breadth of influence upon what occurs in this process. In other words, there has been a general assumption of decision related participation and action by individuals or groups in ISS formation, with little having been done to explore alternative conceptions of power. We can move on from a view of power as just another factor to be acknowledged, and seek to address power as a potentially central facet in practice associated with ISS. If such practice is to be informed to the degree we would wish, then it would seem necessary to investigate mechanisms of power to as full an extent as is possible with a view to enhancing our understanding of ISS formation. The multi-dimensional view of power presented here provides us with one means of more fully engaging in a process of peeling back and exploring the layers of practice associated with ISS formation.

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