The Adoption and Diffusion of eLearning in UK Universities: A Comparative Case Study Using Giddens's Theory of Structuration

Dr Gurmak Singh
University of Wolverhampton

Prof Glenn Hardaker
University of Huddersfield

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Introduction

In the past decade the introduction of eLearning technologies has been associated with innovation in higher education (HE) (Alexander, 2006; Conole et al, 2008), as it brings significant change and has potential to transform practice in many facets of university life (O'Neil, 2006). These learning technologies have been described as a 'disruptive' type of innovation as they can be a catalyst for transforming the strategic direction of HE (McLoughlin and Lee, 2008) that reach well beyond the traditional activities associated with the classroom pedagogies. However, the levels of adoption of eLearning vary significantly between universities in the United Kingdom (UK), ranging from simple online availability of course content to the extensive use of content management systems (Ruiz et al, 2006). This research is situated in the field of HE and innovation management and examines the adoption and diffusion of learning technologies through a series of case studies. Drawing on Giddens 'theory of structuration' and the work of Orilowski in the adaptation of this theoretical approach to technology, these exploratory case studies examine the interaction between human agency and structure.

For this research eLearning is conceptualised as innovation situated in the interplay between structure and individual and how this leads to adoption and diffusion. An innovation is an idea, practice, or object that is perceived as new by an individual (Rogers, 2003, p. 12). In this

study eLearning innovation means a new way of designing and developing educational courses dealing with both content and process design issues. Innovation is distinguished from invention the latter referring to the first occurrence of an idea for a new product or process, whereas innovation, for the purpose of this study, is the first attempt to put the idea into practice. (Fagerberg, 2004: 4). Elearning innovation, in the context of this study, occurs when academic staff use learning technologies to change their teaching and learning practices. We define eLearning innovation, for the purpose of this study, as occuring independent of whether it is successful or not. Adoption is a decision by an individual (academic staff) to make use of the innovation (eLearning). Diffusion refers to the type of communication of the innovation through social processes (Rogers, 2003). The communication of the innovation may be through mass media such as email, social media, RSS or through interpersonal communication including face-to-face communication between two or more individuals.

Traditional Quantitative Based Studies

Higher educational institutions have witnessed many cycles of technological innovation over the last two decades. Surry and Farquhar (1997) and West et al (2007) argue that introduction of eLearning technologies (hardware or software components) represents radical innovations in the form, organisation, sequence, and delivery of instruction. Whilst there is acceptance that eLearning needs to be diffused into the educational system and a greater understanding of the best way to introduce innovations is necessary (Morgan and Yurner, 2002; Marshall, 2004) .

Previous studies examining the adoption and diffusion of eLearning can be categorised as having a macro- or micro-level approach. Macro-level studies have been concerned with systemic change that transforms the entire institution through organisational and structural change (Yates, 2001). Typically such studies at a macro-level are to develop organisational theories in which technology is a major driver for change. The underlying premise is mainly represented by technological superiority as a precursor for the adoption of innovative products and practices. Macro-level based approaches, through the study of organisational factors; enhance diffusion by maximizing the efficiency and effectiveness of an innovation. Thus, macro-level studies have endeavored to identify the unique characteristics of organisations in the process of diffusion of learning technologies (Surry and Farquhar, 1997). Macro-level approaches tend to be limited in failing to appreciate that users do not necessarily adopt technologically superior products (Surry and Farquhar, 1997) and as a consequence research is limited in understandind the complex, ambiguous and networked nature of technologies in social systems (Yang, Yoo, Lyytinen and Ahn, 2003). At a micro-level Salmon (2005) notes that individuals, departments in universities, have their own desires, abilities, histories and preferred artefacts; in other words, they are closely situated. Thus, diffusion of innovation theories research is seen to be limited in exploring the complex, ambiguous and networked nature of technologies as well as their 'embeddedness' into social systems (Lyytinen and Damsgaard, 2001; Tuomi, 2002; Yang, Yoo, Lyytinen and Ahn, 2003).

Surry and Farquhar (1997) highlighted the challenges of the adoption of one approach against another. Adoption and diffusion research would benefit from a combining approach that takes

into account both institutional and individual factors that lead to the adoption, or otherwise, of eLearning (Freitas and Oliver, 2005). This leads to the need for research intomacro- and micro-level perspectives and related theories to explain change (or stability) in terms of the interaction between individual actions and structural influences (Rogers, 2003). From a theoretical perspective, authors such as Birch and Burnett (2009) and Eynon (2005) have noted the shift in innovation research from solely macro and micro-level perspectives towards a more interactive view which emphasizes the interactions and interconnections between individual actions and structural influences.

However eLearning research shows that whilst there is substantive theoretical studies that deals with structural influences and individual action on adoption and diffusion their is a need for an explanatory framework that takes into account both micro and macro perspectives. Giddens's theory of structuration, and drawingon the work of Orilowski, provides an integrate approach to the two perspectives and provides a framework to analyse interactions between structure and agency. These perspectives enable the integration of both macro and micro levels of analysis by recognising the equal contributions of both structural processes and human agential powers (Parker, 2000).

Structuration Theory as a Framework for Understanding Adoption & Diffusion

In order to examine and understand the role of the individual (agency) and institution mechanisms (structure) that influence adoption and diffusion of eLearning Giddens theory of structuration adapted for technology by Orilowski (2000) was considered to offer

considerable analytic advantages. The main aim of structuration theory, according to Giddens, is to reconcile two the long-standing divisions between two differing perspective held by social theorists. On the one hand, he argues, structuralists and functionalists (macro-level studies) have provided explanations of social behaviour in terms of structural forces that limits individual's capability to do things in their own way and on the other hand studies focusing on the individual as the salient factor (hermeneutics, phenomenology) explain the social life by have generally ignored the influence of external entities. Giddens's structuration theory asserts that both perspectives are interlinked, in that, social life is not simply a 'micro'-level activity and conversely it cannot be studied by purely 'macro'-level approaches. Giddens refers to this balancing of agency and structure as the duality of structure. Technology does not feature explicitly in Giddens structuration paradigm, however, structuration theory has been employed to study technology-induced organisational change. In order to fulfil the research objectives, Oriliowski's structurational model of technology utilise that as three components; (i) human agents, (ii) technology-material artifacts that mediate work tasks of the individuals; and (iii) institutional   properties of organizations (such as structural arrangements, business strategies, culture, control mechanisms, division of labor, expertise, communication patterns). In Giddens's 'duality of structure' social structure and human interaction are broken down into three columns (Figure 1). Each structure and interaction are then associated with each other recursively via the linking modalities (interpretive scheme, facility, and norm). Giddens identifies three dimensions of structure; signification, domination and legitimation that are interlinked with corresponding dimension of agency; communication, power and sanctions.

Signification refers to how individuals produce meanings of the structure through communication and language. Agents draw on interpretative schemes to make sense of actors own actions and actions of others. The structure of domination relates to the use of power through the modality of facility. Facility refers to allocative resources (control over objects or materials) and authoritative resources (command over individuals). In the context of eLearning, institutional management are able to exercise power through allocation of resources (for example, providing administrative and technical support, allocating time to develop eLearning courses, (allocative resources) or through issuing policy requirements, procedures, and guidelines that actors are expected to adhere to (authoritative resources). The justification of action focuses on the individuals ability to maintain 'understanding' of their activities so they could provide reasons for their conduct" if necessary (Giddens, 1984, p. 7). Individual actions are guided by application of normative sanctions, expressed through the cultural norms prevailing in an organisation. These norms impose social obligations to act in certain ways under particular conditions through cultural norms and values.

Structure	Signification	Domination	Legitimation
Modality	Interpretative Scheme	Facility	Norm
Interaction	Communication	Power	Sanction
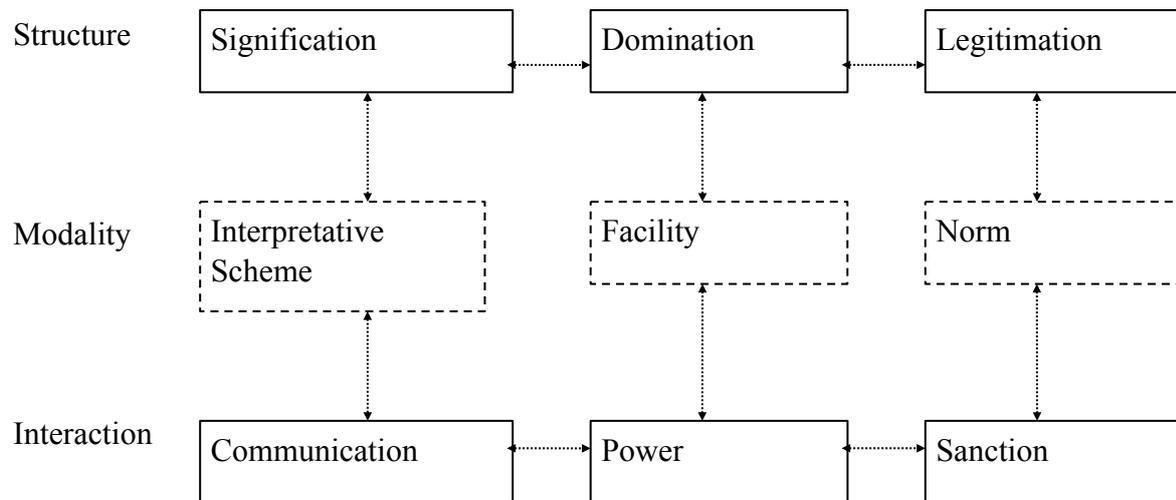
Figure 1: Duality of Structure (Giddens, 1984, p.29)

For example acceptance of eLearning by lecturers at a subject discipline (Eynon, 2005) can determine how eLearning is likely to be adopted. Individuals and small groups, such as departments in universities, have their own desires, abilities, histories and preferred artefacts; in other words, they are closely situated (Salmon, 2005). Thus cultural differences between institutions, departments and subject groups have implications for diffusion and adoption of eLearning (Gibbs and Gosper 2006). Adoption and diffusion research illustrates how we need to be cognizant of the different cultural perspectives and loyalties that exist at different levels of the university organization.

In summary this study utilises these principles of structuration theory to reconstruct the concept of eLearning and to present a model for investigating the relationship between

technology and organisations that integrates institutional and individual factors. Furthermore, this study aims to broaden the structurational perspective to adoption and diffusion of eLearning by understanding of the recursive interaction between individuals and structure.

Methodological Procedures

Research Design

A qualitative exploratory case approach has been adopted to address the research question. Thirty-six semi-structured interviews were conducted in 2009-2010 at five universities in the United Kingdom. The case studies projects were examined that allowed for different contexts of eLearning adoption and diffusion to be examined. Within each case study a number of respondents were interviewed. Case 1 approached eLearning by adopting a 'top-down' approach. The top management of the institution developed the eLearning strategy and issued directives that all lecturers and course teams had to adhere to. Case 2 had adopted a 'devolved' eLearning strategy. This approached was designed to provide an overview of the corporate strategy in terms of eLearning and also allow flexibility for individuals and subject groups to develop their own technology-based courses. Individuals and course teams had the full autonomy in the design of their course and were supported by local management. Cases 3 and 4 were team-based projects with a 'bottom-up' approach. These projects were driven by the course teams who took the full autonomy of the course design. The project investigated in Case 3 was funded by external income. Case 5 was project driven by the eLearning research unit and funded by external revenue. The research unit had designed a specific training and

support method which was used to help teams to develop eLearning courses. In Case 5 the strategy was to encourage bottom-up approaches to the adoption of eLearning.

Drawing on the structuration theory to conceptualize the diffusion of eLearning composed of three modalities. The micro-analysis focused on examining how participants drew on, and mobilized their context in adopting (or otherwise) eLearning. Using Giddens structuration theory three components framed the data collection. This phase of the interview focused on how structural, cultural, and agential elements influenced each other in the development of this process. Thus the interview questions sought shifts in meanings, social structure, and their associations with specific participant actions. The macro-analysis was conducted using two guiding questions: (i) What were the causal mechanisms for diffusion of eLearning within the organization; and (ii) How did contextual influences and conditions shape the diffusion of eLearning? The diffusion mechanism were drawn from the literature and contextualised to structuration theory.

Data Analysis

Given the type of data chosen and the realism paradigm qualitative data analysis method (Miles and Huberman, 1994) was perceived to be the most appropriate method. Thematic analysis formed the basis for analysing the qualitative data from the interview transcripts. Thematic analysis can be viewed as a 'contextualist' method underpinned by critical realism theory (Willig, 1999; Widdicombe and Wooffitt, 1995). Realism perceives individuals being

able to interpret and understand their experience within a broader social context both in reflects and unpicking the surface of reality' (Braun and Clarke, 2006). This supports Giddens Theory of Structuration (adopted for this study) in acknowledging actors as knowledgeable and reflexive who continuously monitor the environment in which they operate (p. 5) and this awareness of the social context influences individuals to intervene in the world, or refrain from any intervention (p. 282).

Thematic analysis allows searching for certain themes or patterns across an (entire) data set, rather than within a data item, such as an individual interview or interviews from one person (e.g., Murray, 2003; Riessman, 1993). This is an important requirement for this study as it aims to identify and explain phenomena (adoption and diffusion of eLearning) from a number of perspectives. As the aim of the study is to explore and explain the causal links between phenomena through understanding of the underlying structures and mechanisms

The analytic methods adopted were used to construct propositions (Hartley, 1994) by two levels of analysis of the data of individual cases and comparison of cases (Yin (1989). Analysis at individual level allowed unique themes of each case to emerge (Eisenhardt, 1989) and analysis across multiple cases of comparison of themes, abstracting from the peculiarities of individual cases and generalising them to a broader theory (Voss et al., 2002).

Case Study: The Adoption and Diffusion of eLearning in UK Universities

Communication & Significance

In the interpretative schemes, communication is the general element of interaction and agents routinely incorporate features of this interaction to construct meanings (Giddens, 1984, p.29). The findings from this case study suggest there are two levels of communication that are significant. First, the influence of top-down communication through eLearning strategy has been proposed as an important factor in the diffusion of eLearning (Lisewski 2004; Stiles and York, 2006). Second, the influence of local communities and 'near peers' can have an important bearing on the decisions of adoption of eLearning (Eynon, 2005; Katz and Shapiro 1986).

Whilst, there appeared to be little influence on the adoption of eLearning from eLearning strategy, the interpretative schemes of academic staff appeared to be influenced by collaboration with other members of staff who had successfully developed eLearning courses (Cases 2 and 3). The following comments from the academic staff epitomized the relevance of the eLearning strategies in the Case institutions:

"I am far too busy to look through it in detail. I would have flicked through it see if there was anything that would cause me a problem." (Case 1). "I have to confess that I don't know actually what the University's eLearning strategy is. Precisely I know it is part of the teaching and learning strategy I can't say I've read the e learning strategy." (Case 3)

The sharing of ideas and practice with fellow colleagues who had successfully adopted the learning technologies was one of the key enablers in motivating other staff to develop

eLearning courses. In Case 1, potential adopters of eLearning drew on the experiences of other academic colleagues' experiences.

"...there is a sort of viral nature to it that having a staff member in your course team or in your department who is making effective use of e-learning you are more likely to consider it yourself and then perhaps build upon the experience they have already." (Case 3)

This 'sense-making' through collaboration has been highlighted in the eLearning literature (Mason, 2003; Freitas and Oliver, 2005). Rogers (2003) states that the rate of innovation adoption is dependent on the social systems where engagement of interrelated units, such as individuals, informal groups, organizations, or complex subsystems solving a mutual problem for a communal goal can have significant influence on decisions to adopt or reject an innovation. For Giddens, actions are guided by application of normative sanctions, expressed through the cultural norms prevailing in an organisation (Orlikowski 1991). The adoption of eLearning by other academics impose social obligations and individual to act in certain way (i.e. adopt eLearning).

The analysis shows that academic staff draw on their accumulations of knowledge, most typically in the form of pre-existing cognitive frames, shaped by their interactions with students and their subject knowledge. Psychological and pragmatic motivations of the lecturers included; desire to learn about new innovations, enhancing student learning experience, efficiency in delivery of teaching and learning material, and meeting changing

student expectations. In Case 1 and 2, academic staff decided to adopt eLearning for personal and pragmatic reasons.

"... using technology mainly for extending programmes that have failed to recruit on the traditional face to face programmes, using technology they offered programmes to diverse international market"

Majority of the lecturing staff suggested that decreasing number of students on traditional-campus based courses was, to some extent, influencing their decision to develop eLearning courses. Giddens proposes that the force underlying individual motivation is psychological anxiety. Anxiety in this sense refers to the knowledge that declining student numbers on traditional campus-based courses may result in the institution considering redeployment or even redundancies. This anxiety then acts as a motivator to mitigate the need that causes anxiety. This anxiety enforces respondents to consider alternatives such as developing eLearning courses. Others believed developing eLearning courses supports professional development. However, the most common reason cited by the academics for adopting eLearning was enhancing learning experience,

"I am firm believer that the students attending will get more from their course if you manage all hours of their contact through the use technology" (Case 2).

As most of the academic staff were early adopters of eLearning, they were motivated by their interest in technology. Their approach was to develop the teaching and learning material using the technology themselves with very little input from central IT support units.

In Case 3, the project team comprised academic staff who developed the teaching and learning material and once completed forwarded this the learning technologies who produced the technology aspects of the course. The lecturers were more concerned with the teaching aspects of the eLearning project. Thus they were content with leaving all the technology aspects of the project to the learning technologists. For the lecturers in Case 3, the technology only came into existence through their creative action in the development of teaching and learning material. On its own, technology had no existence. In Case 4, the course team, comprising academic and learning technologists, all worked together to develop the course. In Case 5, the learning technologists worked closely with the course teams in attempts to build 'technical capabilities' within the lecturers.

However, all the respondents in Case 2 developed eLearning courses in isolation. Lecturers claimed to have very little interaction with near peers, local management or senior management. Many of the academics in Case 1 and 2 who had decided to develop eLearning courses worked with little or no interaction with their colleagues or central or management systems, "…the majority of stuff is driven by me for instance if I find a problem…So I tend to do it myself and that tends to match up with the way I learn as well." The academic staff were reluctant to discuss their eLearning courses with other colleagues. All academics confirmed that they had no discussions with the senior management regarding the institutional eLearning project. The findings from this case study contradicted much of the earlier research on social systems as being one of the determinants of the levels of adoption. The respondents were impervious to their social environments, claiming there was no

motivational influence from their colleagues. However, this did not appear to influence their decision to develop the eLearning course.

Power and Domination

All institutions operate rules and structures that enable and constrain individual's actions. The structure is not 'external' to individuals but instantiated in social practice. The concept of power in Giddens's (1984) duality of structure is closely linked with two types of resources. Allocative resources refer to the "transformative capacity generating command over objects, goods or material phenomena" and authoritative, which involve "transformative capacity generating commands over persons or actors" (p. 258). These resources focus on components of power that individuals use to affect others (Rose, 1998).

In all the five case institutions the eLearning strategy was developed and controlled by senior management. The consultation during the development of the strategy was mainly with the senior management of the institution. Almost all of the lecturing staff in all the five case institutions claimed that they were not consulted during the development of the eLearning strategy. Furthermore, there were no mechanisms in place to disseminate the eLearning strategy to the academic teaching staff, thus, most of the academic staff were unaware of the eLearning strategy. In terms of Giddens concept of signification (how individuals produce meanings of the structure through communication and language), academic teaching staff were impervious about the relevance of the strategy to the work in adopting eLearning and suggested that the eLearning strategy had little or no relevance to their work. Number of

reasons were cited as to why eLearning strategy was not appropriate for them, including length of the document, not relevant to academic work, unaware of the strategy and perception that eLearning was strategy only important at senior management level. At the structure level, domination is also significant as 'Top down' approaches to introduction of eLearning can signify shift in locus of control from academic teaching staff to designers and developers 'with little or no experience of, or interest in, underlying educational goals' (Gibbs and Gosper 2006). Study by Eynon (2005) concluded academics felt they should have a greater role in shaping institutional strategies in this area; and a prescriptive "top down" strategy was thought to have a potentially damaging effect on the future adoption of ICTs for teaching and learning. Such sentiments of have been echoed by others, for example, Clegg et al. (2003, p. 47) concluded that a crucial issue for academics in HE is 'who has control over curricula and teaching methodology'.

In all the five institutions the support and training for eLearning was centralised. However, there were e differences in how this mobilised. In Cases 1 and 2 the training and support was situated in centralised learning technology support units and the lecturers were expected to request this support. In both of these institutions there was an overwhelming view from the lecturers that the support was either inadequate or inappropriate rarely used. There was a consistency in the comments made by the academic staff.

"...staff development is training session that the management have decided that everyone has to attend and staff development is old style because it does not always have the effects you want." (Case 1)

In Cases 4 and 5 the Learning and technology support units were part of the course teams. Whilst this caused initial conflicts during the early course team meetings, overall, the lecturers agreed that there was much better working relationship with the support units and this led more positive approach to adoption of eLearning.

Lecturers in all the five case institutions claimed, whilst they had very little interaction with the top management, the support and motivations from middle management was critical. The relationship between the lecturers and their local management was an important enabler of eLearning project. The respondents acknowledged the management support through allocation of resources and in terms of motivation support by regular interaction. Management commitment and support is perceived to be an important factor that can hinder or enable the adoption eLearning (Marshall, 2004; Benson and Palaskas, 2006). Hanson's (2003, p. 119) work examined the diffusion of e-learning in Australian universities, concluded that pivotal to any successful diffusion of eLearning technologies is the importance of management support. Hanson further adds the significant factor as being the 'winning of hearts and minds of lecturers', by encouraging lecturers to adapt their teaching methods to incorporate eLearning. Case studies have also shown that the 'middle level' management have not always been supportive of eLearning approaches (Eynon, 2005; Frietas and Oliver, 2005; Gibbs and Gosper, 2006). However, in this case study, the analysis of the interviews showed the middle management support was an important component leading to the adoption of eLearning.

Legitimation and Sanctions

In two of the institutions (Cases 1 and 2) top-down directives were issued requiring lecturers to conform to specific guidelines in developing eLearning courses. In case 1 there was a strong feeling against this approach and the lecturers petitioned the Vice Chancellor and had the 'checklist' approach with drawn. In Case 2, the lecturers managed to have some of the directives changed from mandatory to optional. The actual materiality of resources is not significant, but rather, to the capabilities or capacities of agents to command either allocative or authoritative resources (Giddens, 1984). The lecturers were dismissive and in some cases challenged the domination through the use of these authoritative and allocative resources (Case 1, 2, 3 and 4).

There was significant difference in how respondents justified their actions. Many of the academic teaching staff rationalised the specific approaches they had adopted by claiming they had understanding of the needs of their subject and students. At the higher management level rationale for their actions was based upon institutional and external drivers, such as falling student numbers on traditional courses, diverse international markets and need for quality enhancement. In Case 3 and 6 the diffusion approaches where legitimised by proclaiming they were underpinned by 'credible research'.

There were no direct sanctions for non-compliance to eLearning in any of the five case institutions. In two of the institutions (Case 1 and 2) academics were required to adhere to

top-down directives, however, in both cases, these approaches were unsuccessful. Academic staff ignored these requirements or managed to have these directives overturned.

"I am responsible for what I am delivering and I don't feel that I need to be checks because I felt that the people who were monitoring what I was delivering had limited knowledge about my subject" (Case 1)

"My speculation is that academic staff largely are dismissive of central strategies they do not see them to be of much value to them they see them as more pieces of paper and so they do not see them as something that can support their activities" (Case 2)

The upper management, through formal strategies and mechanisms of control, were unable to impose a full control on the use of eLearning. Individuals were able to resist the directives or requirements set out by the management. Sanctions, no matter how oppressive and comprehensive they may be, demand some kind of acquiescence from those subject to them (Giddens, 1984, p. 175). To acquiesce in a particular course of action might be thought to suggest conscious acceptance of that actual and even voluntary acceptance of broader relations in which it is enmeshed (p. 176).

Concluding Comments

Giddens's structuration theory provided a sensitising framework for understanding the dialectical nature of adoption of eLearning within five universities in the UK. The tensions between institutional structures, such as strategies, training, access to technology, technical support and time resources, and levels of adoption can captured by dialectic of control in Giddens's Theory of Structuration.

The locus of control played a significant part in the adoption of eLearning. Lecturers need to perceive they are able influence the eLearning initiatives within the institutions. They need to be involved in strategic change that is likely to have an influence on their academic roles (Lisewski 2004; Jaffee, 2003; Pedersen & Liu, 2003). Failure to acknowledge this call by lecturers is likely to result in rejection or 'false' compliance to top down directives. Findings from eLearning studies have shown the individuals are more likely to adopt eLearning if they have control over their academic roles in teaching and learning (Nasser and Abouchedid, 2001; Eynon, 2005; Gibbs and Gosper 2006). Simply communicating strategies, policies or directives from the top through formal channels or via emails of intranet are unlikely to be influence lecturers. Senior management need to engage the staff who they rely on to implement their initiatives by appreciating that the drivers for eLearning are significantly different from the institutional pressures (Clegg et al, 2003; Silver, 2003; Salmon, 2005). Pragmatic and psychological drivers influence if and how lecturers adopt eLearning.

Allocative resources, such as training, IT support, time allowance, access to technology, help desks; all these material resources themselves have no structural relevance unless they are instantiated in situations through structural principles (Giddens, 1984;33) . Simply making these available using central institutional systems and hoping lecturers will access with them is highly unlikely. This conceptualization of structure is that it is a 'virtual order' of transformative relations that exists only in its instantiations in practices as memory traces. Thus, been in the case of the apparently material allocative resources which might have a 'real existence, but which 'become resources only when incorporated within the processes of

structuration (Giddens, 1984, p.33). Indeed, in proposing structure in the minds of social actors and only given substance through their actions, Giddens adopts a specifically subjectivists position. To talk of corporate training plans, centralised IT support or user manuals inscribed in artifacts is therefore inconsistent with Giddens's views.

Structuration theory is concerned with the interplay of agents' actions and social structures in the production, reproduction, transformation and regulation of any social order (Giddens, 1984:17). The structuration of relations in time and space takes place along the dimensions of signification, domination and legitimation, which are inextricably intertwined, and agents draw on these dimensions as an integrated set. Lecturers use meanings of signification that are drawn from their pragmatic and psychological motivations. Whereas, top management interpretative schemes are driven by external factors such as widening participation, competitive factors and need to reduce financial costs. Contrary to extant literature (Wallace, 2002; Morgan and Turner 2002) decisions to adopt or reject eLearning were not influenced by communication from top management but from success of near peers and 'local management'. Thus the use of authoritative resources (non-material resources used in exercising power and domination) by senior management had insignificant influence on the decisions to adopt or reject eLearning by the lecturers. The centralised control of allocative resources, such as access to specialised technical support, training, administrative support and development and delivery time for eLearning courses (common in all five case institutions), had little influence on the lecturers. Only in its instantiations do these allocative resources have 'transformative capacity'.

The application of Giddens's Theory of Structuration, has demonstrated that the lecturers are essentially knowledgeable about their actions. For Giddens (1984), implicit in the duality of action in which power is a central element, is not only humans doing, but also the possibility of their not doing or doing otherwise. Giddens (1984) argues, in its narrow sense, power is relational and very rarely a unidirectional social process. In duality of action, he further argues, that subordinate agents always have some allocative and authoritative resources that they can drew on to influence the actions and activities of the super ordinates. The analysis of the interview showed that despite the control of allocative and authoritative resources they are unable to control fully the actions of lecturers to adopt eLearning. The lecturers are able to do otherwise, for example, utlising other resources or even refuse to conform to the institutional requirements. At the discursive level, they are able to provide explanations of their actions. They are engaged in reflexive monitoring of their own and other conduct, rather than as 'structural dopes' and not passive recipients of the impact of structures. The lecturers maintained the capacity to 'do otherwise' and make a difference in an ongoing course of practices. The lecturers had the ability to intervene or refrain from action thus having influence on adoption processes. Acting at the discursive level of consciousness, lecturers are not powerless; rather, they have several options open to them to bring about a difference to the ongoing course of events.

References

Benson, R. and Palaskas, T. (2006). Introducing a New Learning Management System: An Institutional Case Study. Australasian Journal of Education Technology, Vol. 22(4), 548-567

Bell, M. Martin, G. and Clarke, T. (2004). Engaging in the future of e-learning: a scenarios-based approach. Education + Training, Vol. 46(6), 296–307.

Birch, D. and Burnett, B.(2009). Bringing academics on board: Encouraging institution-wide diffusion of e-learning environments Australasian Journal of Educational Technology, Vol. 25 (1), 117-134

Brooks, L., Atkinson, C., and Wainwright, D. (2008). Adapting structuration theory to understand the role of reflexivity: problematization, clinical audit and information systems, International Journal of Information Management. 28(6), Vol. 453-460.

Clegg, S., Hudson, A. and Steel, J. (2003). The Emperor's New Clothes: globalization and e-learning in higher education. British Journal of Sociology of Education, Vol. 24(1), 39-53.

Collis, B., Boer, W. de, and Van der Veen, J. (2002). Building on learner contributions: A Web-supported pedagogic strategy. Educational Media International, Vol. 38(4), 229-240.

Eynon, R. (2005). The use of the Internet in Higher Education: academics experiences of using ICTs for teaching and learning. Aslib Proceedings, Vol. 57(2), 168-180.

de Freitas, S. and Oliver, M. (2005). Does E-learning Policy Drive Change in Higher Education? A case study relating models of organisational change to e-learning implementation. Journal of Higher Education Policy and Management, Vol. 27(1), 81-96.

Garrison, D. and Anderson, T. (2003) E-Learning in the 21st Century: a framework for research and practice. London: RoutledgeFalmer.

Gibbs, D. and Gosper, M. (2006). The upside-down-world of e-learning. Journal of Learning Design, Vol. 1(2), 46-54.

Giddens, A. (1984). The constitution of society: Outline of the Theory of Structuration Berkeley: University of California Press.

Hanson, J. (2003). Perspectives on the strategic implementation of e-learning in Australian Universities, in: P. Boezerooy (ed.), Keeping up with your neighbours: ICT developments in Australian Higher Education, 119–126.

Bernard, L. (2004). Implementing a learning technology strategy: top–down strategy meets bottom–up culture. ALT-J, Research in Learning Technology, Vol. 12(2), 1741–1629.

Marshall, S. (2004). Leading and managing the development of e-learning environments: An issue of comfort or discomfort? Institute of Higher Education Research and Development 2004 proceedings ASCILITE.

McLean, J. (2005). Addressing faculty concerns about distance learning. Online Journal of Distance Learning Administration, 8(4).

Moore, G. and Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation' Information Systems Research, Vol. 2(3), 173-191.

Oliver, M. and Dempster, J. (2003). Embedding e-learning practices, in: R. Blackwell & P. Backmore (Eds). Towards strategic staff development in higher education. Buckingham: Open University Press.

Parker, J. (2000). Structuration, Buckingham: Open University Press.

Rogers, E. (2003). Diffusion of Innovations (5th Ed.). New York: Free Press.

Rose, J. 1998. Evaluating the Contribution of Structuration Theory to the Information Systems Discipline. Proceedings of the 6th European Conference on Information Systems, Granda, Spain. .

Salmon, G. (2005). Flying not flapping: a strategic framework for e-learning and pedagogical innovation in higher education institutions ALT-J, Research in Learning Technology, Vol. 13 (3), 201–218.

Saunders, M. (1998). Organizational culture: electronic support for occupational learning, Journal of Computer Assisted Learning, 14(3), 170–182.

Sharpe, R. Benfield, G. and Francis, R. (2006). Implementing a university e-learning strategy: levers for change within academic schools. ALT-J, Research in Learning Technology, Vol. 14(2), 135–151

Slappendel, C. (1996). Perspectives on Innovation in Organizations. Organization Studies, 17 (1), 107-129.

Stiles, M. and Yorke, J. (2006). Technology supported learning – Tensions between innovation, and control and organizational and professional cultures', Journal of Organizational Transformation and Social Change. Vol. 3(3), 251–267.

Surry, D., and Farquhar, J. (1997). Diffusion Theory and Instruction Technology. Journal of Instructional Science and Technology, Vol. 2(1), 269-278.

Yang, H., Yoo, Y., Lyytinen, K. and Ahn, J. (2003). Diffusion of Broadband Mobile Services in Korea: The Role of Standards and its Impact on Diffusion of Complex Technology System," Workshop on Ubiquitous Computing Environment, October 24-26, Cleveland.

Yates, B. (2001). Applying diffusion theory: Adoption of media literacy programs in schools. International Communication Association Conference. Washington, DC, USA. May 24-28.