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Exploring the factors that influence knowledge sharing between academics.

Abstract

The purpose of this paper is to investigate the impact of organisational and individual factors on the knowledge sharing behaviour of UK academics. Although there a few articles that explore knowledge sharing between academics in an Asian context, there is currently only one article that explores this topic in a UK context. Semi-structured interviews were conducted to gather insights into academics' views on the factors that affect knowledge sharing. Purposive sampling was employed and a total of twelve academics were interviewed. Findings demonstrated that academics are prepared to share different types of knowledge; a range of organisational and individual factors affecting this process were highlighted by interviewees. Trust was discussed more than other individual factors, and was often associated with social exchange and reciprocal benefits.

Culture was described by most interviewees as collaborative and the importance of physical location was stressed. Leaders were generally considered to have integrity, but often did not themselves share knowledge in a way that was visible to staff. Regular face-to-face contact was emphasised as a critical enabler for knowledge sharing. This study demonstrates there is a culture of trust in most departments and academics are willing to share knowledge with their colleagues. They do, however, believe that the matrix structure, that is typical of academic departments, has resulted in unclear roles and responsibilities, which could be a serious hindrance to designing structures to promote collaboration and sharing. Consideration should also be given to ensuring the availability of shared spaces to facilitate face-to-face contact between academics.

Introduction

During the 1990's organisations increasingly realised that knowledge was an important resource that can provide sustainable competitive advantage (Nieves and Haller 2014). Furthermore, managing knowledge effectively has led to benefits such as innovation (Donate and Guadamillas 2015) and improved organisational performance (Tseng and Lee 2014).

Utilisation of knowledge management initiatives in the private and public sector is widespread (Massaro, Dumay, and Garlatti 2015). However the success of knowledge management in other organisations is, according to Cronin (2000), no guarantee of its success

in academia. This is due to the fact that universities are not solely business, voluntary or public sector organisations, but a combination of all three. Cronin (2000) also points to an absence of a universal culture in individual universities in marked contrast to some strong corporate cultures. Universities have been depicted as possessing their own standards, norms, policies and criteria for advancement by Lee (2007) who also suggests that this is a result of the tension between institutional demands and the academic discipline itself. Furthermore, academic freedom and autonomy have been particularly strong traditions, and although curtailed by the new managerialist movement (Deem 2004), they still remain distinguishing features of the sector (Altbach 2015). The profound effect of organisational culture on knowledge sharing within organisations is well documented (Hislop 2013). Tippins (2003) and Howell and Annansingh (2013) point to some barriers to knowledge sharing in higher education but in general, there is a lack of empirical research into knowledge sharing in the higher education sector particularly in the UK (Ali, Gohneim, and Roubaie 2014). Although Mahdi and Almsafir (2014) suggest that significant benefits in terms of competitive advantage for universities can come from harnessing knowledge within that sector. Consequently, this study seeks to address the lack of research in this area. The aim of this study is therefore to generate deep insights into the knowledge sharing processes of academics and how they perceive the factors that influence their behaviours. Specifically, the research objectives are to:

- Explore the factors that act as the most important enablers or barriers to knowledge sharing

- Develop an in-depth understanding of the impact of culture, leadership, structure, technology and rewards on knowledge sharing.

- Collect suggestions for ways in which knowledge sharing can be enhanced and the reasons why knowledge sharing might be resisted.

Research into knowledge sharing is reviewed in the next section. This is followed by the research context and methodology utilised in obtaining interview data. Significant themes that emerged from the interviews are examined in the findings and discussion section. Conclusions and recommendations for future research are in the final section of this paper.

Literature review

Introduction

It has been clearly established that knowledge is a highly significant resource that leads to enhanced organisational performance and competitive advantage (Nieves and Haller 2014; Tseng and Lee 2014). Knowledge itself is generally divided into two distinctive categories. Tacit knowledge is embedded in personal experience whilst explicit knowledge is easily codified into databases (Polyani 1969; Newell et al. 2009). Omotayo (2015) emphasises the growing importance of sharing tacit knowledge but this can be a difficult process because it is difficult to codify and best shared on a face-to-face basis (Abbariki, Snell, and Easterby-Smith 2017).

Knowledge sharing in a wider commercial and public sector context is examined along with factors affecting such sharing in the next section. Research into knowledge sharing in a higher education context is then discussed and findings that relates to the particular characteristics of the UK context are highlighted.

Knowledge sharing

In any context, for knowledge management to be successful it is essential to persuade individuals that it is in their interests to share knowledge but many factors militate for and against this process; these can be both organisational and individual in character and also relate

to the availability and effectiveness of collaborative technology (Wang and Noe 2010; Hislop 2013).

Organisational culture can be both an enabler and barrier to knowledge sharing, and according to Lee, Shiue, and Chen (2016), it is one of the most significant barriers to effective knowledge management. Chang and Lin (2015) also assert that corporate culture is an essential component of a successful programme of knowledge management. Furthermore, the value of a culture that encourages knowledge sharing behaviour has been widely asserted (Al-Alawi, Al-Marzooqi, and Mohammed 2007; Wang and Noe 2010). The existence of sub-cultures can however lead to knowledge being valued differently across an organisation, and this can lead to communication difficulties and disputes (Delong and Fahey 2000).

Politis (2001) focusses particularly on the relationship of leadership styles to knowledge sharing by measuring the knowledge acquisition attributes of each style. He concludes that a participative rather than an autocratic style supports knowledge sharing. Xue, Bradley and Liang (2011) also point out the direct impact on knowledge sharing produced by empowering leadership. In contrast, Crawford (2005) discovered that knowledge management is impeded by a laissez faire style of management.

Tagliaventi and Mattarelli (2006) suggest that a functional structure inhibits knowledge sharing. Furthermore, a less centralised structure is thought to enable knowledge sharing (Kim and Lee 2006). Mueller (2012) also suggests that a matrix structure is favourable structure for knowledge sharing. However, conflict can be one outcome of this structure due to competing demands (Hatch and Cunliffe 2006). There is an increase in accessibility to different social networks for employees and this can serve to improve horizontal knowledge sharing (Cummings 2004).

Physical structure and location for employees was also identified by Cross and Cummings (2004). They believe that close proximity of offices enables a greater flow of relevant information and that enclosure of space by partitions or walls could restrict information flows. Shared spaces such as coffee bars can also lead to greater workplace cohesion and facilitate greater sharing of knowledge (Haynes 2011).

Technology can also be a crucial conduit for knowledge sharing. However there is considerable debate about whether ICT mediated communications channels fail to facilitate the richness of interaction necessary for meaningful knowledge sharing because of the absence of social cues (Hislop 2013).

Individual factors relate to beliefs, values and attitudes and Bock and Kim (2002) emphasise the role of both economic and social exchange in knowledge sharing. Economic exchange involves participants calculating in a rational way what benefits and costs may occur as a result of sharing, such that knowledge sharing will take place only if rewards exceed costs. Accordingly, rewards in the shape of extrinsic benefits are emphasised in economic exchange theory as motivators towards sharing (Bock and Kim 2002). In the case of social exchange, Bock, Lee, and Zmud (2005, 92) point out that the advantages cannot be priced in a quantitative way, but entail "…personal obligation, gratitude and trust". Furthermore, "…perceived trustworthiness" has been cited by Andrews and Delahaye (2000, 797) as a critical aspect of knowledge sharing because a judgment has to be made about the integrity of the colleague, such as involving the chances of their work being copied. Conflicts over ownership of knowledge may also lead to knowledge hoarding (Rechberg and Syed 2013).

Knowledge sharing in higher education

Previous research on knowledge sharing in a higher education context has primarily focussed on Malaysia and Saudi Arabia (e.g. Goh and Sandhu 2013; Alsuraihi, Yaghi, and Nassuora 2016; Tan 2016). However, cultural differences limit the generalisability of this research.

Qualitative research by Dyson (2004) in an Australian higher education institution points to individual ownership of knowledge, academic independence, the lack of a common culture and physical barriers between staff as barriers that are typical of higher education. Indeed, Lee (2007, 42) describes academic departments as "…idiosyncratic and complex" and comprising of different cultures that can be aligned with departments and different disciplines. Taylor (2006) distinguishes between the cultural characteristics of pre-1992 universities and post-1992 universities in the UK. Pre-1992 universities are depicted as having high levels of autonomy and traditionally run by and for the academic community, whereas post-1992 universities are portrayed as more bureaucratic in character with a centralised and hierarchical management structure.

In a UK context, qualitative research by Howell and Annansingh (2013) focussed on contrasting approaches to knowledge sharing and generation at a post 1992 and pre 1992 university. Findings suggested that although the research culture at the pre 1992 university led to much individual research there was a high quantity of collaboration, thus the institutional culture played a major part in shaping knowledge sharing. In the post 92 institution, knowledge sharing was not deemed to be needed and there was a lack of pressure, motivation and clear leadership to encourage such behaviour.

Leadership itself is a further feature that distinguishes academia from the commercial context (Lumby 2012). Two contrasting styles are suggested by Yielder and Codling (2004). Academic leadership accentuates knowledge, professional recognition and expertise, personal merit and team acceptance, thus the power base is a personal one. In contrast, managerial leadership stresses hierarchical position, job responsibilities, control and authority, with power being lodged in the position rather than the person. Academic leadership is broadly apportioned to the traditional more collegial university whereas managerial leadership is linked with the post-1992 model (Yielder and Codling 2004).

Research by Lumby (2012) suggests that it is the academic environment itself that shapes the nature of its leadership. She asserted that the environment is distinctive because of the diversity of cultures and in particular the fact that '...academics demand autonomy and protection' (Lumby 2012:5). Consequently, the limitations on leaders make it a more distinct role than it is in other sectors. Findings also suggested a feeling among academics that leadership itself lacked importance and that there was little agreement as to what constitutes effective leadership (Lumby 2012).

Further barriers highlighted by Tippins (2003) were lack of time and the academic practice of working from home. In addition, the phenomenon of star professors (Cronin 2000; Rowley 2000) has resulted in their loyalty residing very much with their own career ambitions rather than the employing institution.

Methodology

Research context

The UK higher education sector has achieved rapid growth in recent years. In 2015-2016, there were 2.3 million students studying at UK Higher Education providers. This was a rise of 26.5% and 38.8% on 2004-2005 levels for first degree and postgraduate taught courses respectively (Universities UK 2017). Furthermore, 40% of young people in the UK now attend university (Department for Business Innovation and Skills 2016). A total of 395,780 staff were employed at 159 institutions of which 49% were contracted as academics (Universities UK 2017).

Such growth has been achieved despite a challenging financial environment in recent years (Department for Business Innovation and Skills 2016), which witnessed a radical change to the funding model of UK universities in 2010. This meant that the majority of the income that universities received for undergraduate teaching came from tuition fees rather than grants (Brown and Carasso 2013). Fees rose substantially and the marketisation of the higher education has been a major feature of the sector since then, although this should be seen in the context of global pressures to market higher education internationally as a commodity (Naidoo and Jamieson 2005). However, despite financial volatility and uncertainty in the higher education sector, the UK system was recently ranked as the second strongest higher education system in the world (HESS Rankings 2016).

The UK government are continuing to shape the higher education landscape through the implementation of the Teaching Excellence Framework (Department for Business Innovation and Skills 2016). This is intended to raise the quality of teaching by measuring a number of sector indicators and it is envisaged that compliance will be linked with university funding (Department for Business Innovation and Skills 2016).

Research Design

A semi-structured interview approach was chosen because it affords considerable freedom to the interviewer to digress, change the order of the questions, and pursue themes that arise during the interview (Bryman and Bell 2011).

Twelve interviews were conducted with a range of interviewees from both post and pre 1992 universities; the demographic details of respondents are shown in Table 1.

Table 1. Demographics of Interviewees.

Code	Discipline	Post or Pre 92	Position	Gender
Int1	Social Sciences	Post 92	Professor	Female
Int2	Science, Technology and Engineering	Pre 92	Associate Professor	Male
Int3	Social Science	Post 92	Principal Lecturer	Female
Int4	Humanities	Pre 92	Professor	Female
Int5	Social Sciences	Post 92	Senior Lecturer	Female
Int6	Science, Technology and Engineering	Post 92	Senior Lecturer	Male
Int7	Social Sciences	Post 92	Associate Lecturer	Male
Int8	Social Sciences	Post 92	Senior Lecturer	Female
Int9	Social Sciences	Pre 92	Senior Lecturer	Male
Int10	Social Sciences	Post 92	Senior Lecturer	Female
Int11	Humanities	Pre 92	Professor	Male
Int12	Science, Technology and Engineering	Pre 92	Senior Lecturer	Male

In order to obtain views from different disciplines, the sample included interviewees from Social Sciences, Humanities, and Science, Technology and Engineering. Interviewees were also chosen from both pre 1992 and post 1992 universities in order to reflect the different characteristics suggested in the literature. These were chosen on a purposive basis where those that will provide the most useful information and some generalisability were selected (Teddie and Yu 2007). Baker and Edwards (2012) suggest the saturation approach in determining the number of interviews required in qualitative projects. Commonalities are sought and saturation point is reached when themes begin to become repetitive. In this case interviewees were starting to replicate the same themes once nine or ten interviews had been completed.

Interview questions are shown in table 2 below. The purpose of questions 1 and 2 was to orientate the interviewee towards considering knowledge sharing factors that could be enlarged upon later. Question 3 attempted to discover the extent to which face-to-face and virtual means of communication were utilised. Questions 4, 5, 6, 9 and10 were intended to investigate key knowledge sharing factors in depth, whilst it was anticipated that Questions 7 and 8 would utilise the interviewees own experience to identify barriers to sharing and encouraging knowledge sharing behaviour

Table 2. Semi structured interview guide.

1.	Describe a recent incident where another academic requested knowledge from you. Which factors did you consider important when considering this request?
2.	What in general affects the level of knowledge sharing within your department?
3.	Describe the ways in which you share your knowledge.
4.	Describe the leadership style within your department. What effect does this have on knowledge sharing activities?
5.	Do feel that your Head of Department expects you to share your knowledge? If so, how is this expectation communicated?
6.	Which rewards for sharing your knowledge do you value the most?

7.	Suggest ways in which your University can encourage knowledge sharing?
8.	Why do you think moves to encourage knowledge sharing may be resisted?
9.	Describe the culture and structure within your department. What effect do these have on knowledge sharing?
10.	Describe the collaborative technology that links you to others in the department. How could this be improved?

Thematic analysis was used to analyse the interview data. This involved searching for notable themes and, in particular, issues that are mentioned by multiple interviewees. Ryan and Russell Bernard (2003) point out that such themes can originate from the data in an inductive way, although they can often flow from topics the researcher has chosen to cover (Dey 1993).

Findings and discussion

This section presents and discusses the findings from the interviews. Key influencers from the research are discussed in more detail; these include culture, leadership, organisational structure, technology and individual factors. Finally, suggestions on encouraging knowledge sharing and barriers to knowledge sharing are discussed.

Culture

Culture was the organisational factor mentioned most often by interviewees in connection with knowledge sharing, with Int8 particularly stressing its critical importance.

> Culture is by a street the most important (Int8).

This supports the view that culture is the most significant organisational factor in terms of knowledge sharing in general (Lee, Shiue, and Chen 2016). Most of the interviewees characterised their culture as collaborative, open and conducive to sharing.

> Yes, that's my feeling (open and sharing). As far as I can see there's no point in not sharing your knowledge unless you think someone's actually going to take it off you, and where I'm working there's so much to do that I don't see any problems about people potentially sharing it or anything (Int6).

One interviewee thought that departmental subcultures are quite different in the same building and attributed this to the characteristics of people teaching in a particular discipline.

> This goes back again to different disciplines behaving differently; we've got a whole bunch of cheerful sociable .... types and more retiring .... types (Int1)

Two interviewees thought that there was a different culture in each academic group within their particular school, and considered their own culture to be oriented towards flexibility.

> Very much a culture of things are done and will get done but they are not necessarily done in a very structured way (Int8).

This view very much supports Lee's (2007) depiction of academic departments as "idiosyncratic and complex" as well as possessing their own standards, norms and policies and criteria for advancement. However, Int4 described a culture that had a much more individualist character.

It's really difficult because the knowledge is kept in the hands of a number of people and it's not properly shared and people are not thinking outside the box in terms of knowledge and culture (Int4).

Gold, Malhotra, and Segars (2001) suggests that when individual power and competition is emphasised in culture, knowledge tends to be hoarded. Int4 also experienced some criticism from senior members of staff after circulating knowledge that other staff had wished to keep to themselves. The potentially positive effect of locating staff in two person offices was highlighted by two interviewees.

I think some considerable thought went into matching people together who might well be sharing information (Int5).

This reinforces the assertion that "sometimes knowledge transfer can only work if the various parties are brought together physically" (Davenport and Prusak 1998, 99). In contrast, Int3 contrasted the culture on two sites within the same university and cited the importance of a staff common room, or similar, to a sharing culture.

When I was working there nobody missed break times in the morning or lunchtimes in the common room. It was heaving and we all sat around in multi-subject groups (Int3).

This suggests that cohesion and sharing can be encouraged by the existence of the staff common room as advocated by Haynes (2011).

Overall, culture was depicted as influenced by the characteristics of the department, the degree of individualism of the profession and the physical structure of the accommodation. Despite this, the general feeling was that culture in interviewees' departments was open and conducive to sharing. However, an overarching university culture was not mentioned, thus supporting Cronin's (2000) assertion that there is no universal culture in universities.

Leadership

The importance of leadership in general as a critical factor affecting knowledge sharing has been widely affirmed (e.g. Connelly and Kelloway 2003; Srivastava, Bartol, and Locke 2006). However, most interviewees did not classify leadership as one of the most important knowledge sharing factors and this links strongly with the suggestion by Lumby (2012) that academics possess a high level of autonomy and therefore consider that leadership is not that important. However, they still had strong opinions about the leadership style within their own department. Most interviewees perceived their leader to possess integrity and to command integrity and trust.

My head of department has huge credibility with individuals and it's all based on character and integrity and being available to talk to people (Int1).

The majority of interviewees thought their leader was empowering and supportive and this style of leadership favours the exchange of knowledge (Politis 2001; Xue, Bradley, and Liang 2011). In addition, it is an example of the academic model of leadership depicted by Yielder and Codling (2004).

If you get on with your job he'll just leave you (Int5).

Similarly, there was great deal of understanding of the demands of the position as Head of Department. Some interviewees saw this role as a buffer between staff and higher management.

He's well aware of the silliness that happens at the top managerial level. He has to deal with them (Int10).

However, some staff saw their leaders as possessing the laissez-faire approach that Yukl (2013) depicts as an absence of leadership or a form of passive leadership. The laissez-faire style was found by Crawford (2005) to be negatively associated with knowledge sharing, but could be more acceptable to academics who favour self-leadership (Bolden et al. 2012).

Some saw their leader as unable to enforce a decision or challenge unacceptable behaviour. This could certainly be an extreme example of leaders protecting academic autonomy as suggested by Lumby (2012).

There is reluctance bordering on the unprofessional to be honestly critical of others and there is no disciplinary process worth the name (Int2).

Two interviewees also highlighted the absence of leadership in their departments

I have to accept that what he's doing is well-intentioned and hopefully useful, but he is an absentee landlord (Int9).

One interviewee from a post-1992 university described their leader as transactional in style and related how a more top down, less empowering approach was pervading the department. This suggests that the managerial style (Yielder and Codling 2004) characterised by control and authority is in operation.

We were all given a workload allocation.... but it was done without negotiation (Int8).

Interviewees in general thought that they were expected to share knowledge. However, there were few explicit signals by the leader to promote knowledge sharing apart from emails to highlight departmental issues and to give advice on what to discuss at meetings. Consequently, a clear example of knowledge sharing by the leader as recommended by Carmeli, Gelbard, and Reiter- Palmon 2013 was lacking.

Organisational structure

The influence of organisational structure in knowledge sharing is well documented (Tagliaventi, and Mattarelli 2006). However, in general, interviewees did not rate it as an important factor. The most common description of structures given in the interviews was a matrix, which is credited with improving knowledge sharing (Cummings 2004). However, a significant number of interviewees were critical of the operation of this structural form.

When the ... School went to matrix management it was awful because you don't know what's happening and no-one has responsibility (Int1).

Rowley (1996) describes the departmental structure in universities as one where Heads of Departments have a very broad span of control, and consequently keeping staff motivated

on a personal basis is difficult. Some interviewees felt frustrated with how this system operated in practice and the consequences for decision-making authority.

> The Director of the School has 70 direct reports because all the structure below him has no authority. It is insane (Int9).

Respondents in general also thought that the physical structure of office accommodation and location were highly significant in terms of knowledge sharing as suggested by Cross and Cummings (2004). Interviewees who had recently moved from a devolved location to one that typically consisting of one floor were particularly enthusiastic about the benefits.

> The impact of the change the physical change to sharing one building is enormous (Int5).

Technology

There was no criticism of the functionality of Virtual Learning Environments (VLE's) used by the interviewees which were either Moodle or Blackboard. Similarly, improvements to the software were not suggested. On the other hand, there was a sense that they were not seen as supporting knowledge sharing amongst academic staff.

> Moodle, VLE and what have you, I think it has a lot of potential for sharing knowledge but it probably comes back to the culture of the place and it doesn't seem to be used particularly for that end (Int7).

It seems such a shame that Moodle is used as a repository, bung a set of lecture notes on it, well that's not what an online learning environment is supposed to be like (Int3).

Individual factors

Trust was the individual factor mentioned most often and was linked to the likelihood of reciprocation, and the possibility of extrinsic rewards as well as similarity of research interests.

I think that's something I try and gauge quite early on. It's an awful phrase but what's in it for me? Is there going to be some benefit? (Int5).

This clearly illustrates the operation of the economic exchange theory highlighted by Bock and Kim (2002) that involves participants calculating in a rational way what benefits and costs may occur because of sharing, and that this process will take place only if rewards exceed costs. Furthermore, a culture that stresses trust has been linked to lessening the perceived expenses of knowledge sharing (Kankanhalli, Tan, and Wei 2005).

However, two interviewees highlighted intellectual property concerns with regard to knowledge sharing, thus reflecting Bock and Kim's (2002) portrayal of the cost versus benefits decision-making process that occurs when a judgment about sharing knowledge is made.

There is still a concern that people have invested time and effort into doing that and are therefore often reluctant to pass material onto other people for that reason (Int8).

Interviewees did not, in general, identify any monetary rewards that could flow from their knowledge sharing activities. Int1 felt that frequent sharers gained rewards in terms of

reputation. Bock, Lee and Smud (2005) suggest there are many other intrinsic rewards for knowledge sharing such as conference attendance.

> It's not entirely altruistic because I do share my knowledge freely. I probably get cited more as well, because I can be bothered enough to send somebody my paper means it will be cited (Int1).

Int1 and Int8 both enjoyed the pleasure of helping other staff and watching them develop. Int9 was similarly motivated to help colleagues.

> I am a very strong believer in helping people when I can and I believe I'm generous with my time when it comes to that sort of thing. I do not believe there are any extrinsic rewards directly related (Int9).

Research by Lin (2007) asserts the primacy of intrinsic rewards as motivators and suggests that employees who derive pleasure from sharing knowledge are more likely to share knowledge with colleagues in future. Thus, a culture that promotes positive social exchange may encourage this process.

Time was also mentioned by some interviewees as a constraint to knowledge sharing, particularly with reference to research activities; this confirms the assertion by Tight (2010) that the administrative burden on academics has increased in recent years. Int1 highlighted the time intensive nature of tacit knowledge sharing.

> It actually consists of one hour appointments with colleagues who are just starting their publishing strategy during which I pass on quite a lot of tacit knowledge and that kind of tailored individual transfer is time consuming and you've got to want to do it (Int1).

Suggestions for encouraging knowledge sharing

Many of the suggestions centred on face-to face contact.

> It's not just about sharing, it's about co-construction of knowledge which as professionals we ought to be engaging in, and a great deal more than we probably have the time to do, and it feels that that always happens best face-to-face (Int3).

Despite the increase in utilisation of collaborative technology, the importance of maintaining face-to-face encounters is still strongly emphasised (Hislop 2013). On a similar theme, others suggested that providing opportunities in the shape of communal areas was critical. Face-to-face contact was a feature of suggestions to share research knowledge. Int1 noted that a research writing group helped to facilitate the sharing of research knowledge. Similarly, Int5 thought the writing group was benefiting less experience staff.

> So maybe again giving to newer researchers an opportunity to get involved and get their foot on the ladder (Int5).

The positive effect of management support for knowledge sharing (Lee 2006) was described by Int5.

> He's (Head of Department) asked a Principal Lecturer here who has a track record in publishing to actually organise that (Research Writing Group) so again there is very much support from above who would like to see this happening (Int5).

In general suggestions focussed more on sharing of research rather than teaching knowledge. However, team teaching was suggested as a mechanism that makes lecturers share their material.

I know bits about international but I've never taught it and I sit in on her lectures, but when she started two or three years ago I was her mentor (Int8).

Face-to-face sharing was repeatedly emphasised and having sufficient time and management support were factors also considered critical. This could be a consequence of the inherent lack of face-to-face contact of the job (Al Saifi, Dillon, and McQueen 2016) and the consequences for building social relationships as stressed by Tippins (2003).

Barriers to sharing

There was more focus on the individual character of academics when interviewees were asked why knowledge sharing may be resisted.

It goes against the grain of what academia is about, at the end of the day academics are making their credibility and their reputation on keeping knowledge for themselves and publishing knowledge so knowledge is the key to your own trajectory (Int4).

Clearly this reflected the individualism demonstrated by the 'star system' cited by Rowley (2000, 331). Int9 felt that a lack of sharing demonstrated feelings of selfishness and insecurity. Int1 thought that academics who find it difficult to acquire knowledge are less likely to relinquish it.

Because of the old adage that knowledge is power some people find it difficult to acquire knowledge, I could almost say the less academically competent, you are the more you're going to hang on to the knowledge that you've strived to get (Int1).

Consequently, such academics could be described as lacking in self-efficacy (Bandura 1997). Indeed, Bock and Kim (2002) suggested that the amount of confidence of an employee in his or her ability to affect organisational performance will be a significant factor affecting knowledge sharing behaviour.

However, the negative influence of the prevailing culture was also mentioned.

I've certainly seen that before and even though you can have a group of people working together who would in another context be more than happy to share knowledge but the culture works against it (Int7).

Conclusions

In summary academics are prepared to share different types of knowledge. However, sharing research knowledge was discussed much more than sharing other types of knowledge. Individual factors such as reciprocity and trust were mentioned often and discussed in connection with the operation of social and economic exchange. Rewards for sharing were identified as enhancement to reputation and pleasure of helping others, although individual reputation was mentioned also as a barrier.

Interviewees felt that organisational culture is the most important organisational factor. This was depicted as open in terms of willingness to share knowledge, although the existence of strong subcultures associated with disciplines was confirmed. Leadership and organisational

structure were not perceived as active facilitators of knowledge sharing. Leaders were largely felt to be empowering and to possess integrity although some were portrayed as laissez-faire, and did not, in general, encourage knowledge sharing by example. Organisational structure was not mentioned frequently, but was identified as a matrix by some who were often highly critical of its operation in practice. The findings with regard to the importance of organisational culture and trust correspond with general literature on knowledge sharing (Al-Alawi, Al-Marzooqi, and Mohammed 2007). However, the significance of organisational structure and leadership is emphasised much more in other contexts (Walczak 2005; Carmeli, Gelbard, and Reiter-Palmon 2013).

Physical structure of buildings and face-to-face contact were not the subject of specific interview questions, yet both were strongly identified as factors that affect sharing. Informal face-to-face group meetings to promote research were often suggested as knowledge enablers along with more defined communal areas. Technology, such as Moodle, was thought to have the potential to enable more sharing but was considered by some to be underused. A growing emphasis on providing opportunities for face-to-face knowledge sharing and a more imaginative use of Moodle may assist the implementation of the planned Teaching Excellence Framework. Also, with regard to Further Education a recently published government report (Greatbatch, and Bate, 2018) suggested that teaching in this sector is inconsistent, although with there are some outstanding examples of good practice. Research into knowledge sharing in order to facilitate the spread of successful teaching practices could certainly help to address this situation.

Research into knowledge cultures and sharing in universities and indeed Further Education Colleges is limited. As such there is considerable scope for further research which might, for example, usefully explore:

- The knowledge sharing characteristics of different disciplines

- Factors that influence knowledge sharing in Further Education Colleges.

- Departmental and faculty structures that enable knowledge sharing

- Possible differences between knowledge sharing characteristics of post 1992 and pre 1992 universities

- Perspectives of leaders and support staff on sharing knowledge in academic departments.

- The extent to which knowledge sharing behaviour promotes research and teaching collaborations

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