The World I Know: Knowledge Sharing and Subcultures in Large Complex Organisations

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Abstract

Practitioners and researchers have agreed upon the fact that the culture of organizations is one of the most difficult challenges and holds the key to the success of knowledge management. The basis for formation of subcultures has been found in empirical studies to range from age and gender though to department and function within the organization and have a range of both positive and negative impact upon the performance of a range of areas in an organization. We examine how knowledge in its various forms may have an impact on the formation of subcultures on knowledge sharing, and through a quantitative approach, our explorative study uncovers five subcultures in a Hungarian higher education institution. Our findings confirm subcultural boundaries and tribes and territories in this context and we apply these findings to existing theory on the evolutionary nature of strategy implementation as a means of considering the potential impact of subcultures on knowledge management initiatives. We conclude that subcultural lenses affect the assimilation of knowledge from management in general and find that multiculturalism in this large complex organisation is likely the best approach as each subculture has its own specific range of competencies as part of an overall market orientation. As a concluding section, we offer a 'subcultural audit' model for practitioners that may reduce the subcultural obstacles to knowledge sharing as part of knowledge management programs.

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1 Introduction

Subcultures continuously emerge on both a societal and organisational level, and research has likewise examined these phenomena since the times of early works such as that of Henry Mayhew's London Labour and London Poor (Mayhew 1862). The basis for the formation of subcultures seems nigh on impossible to pinpoint as due to a lone source such as gender or age. However, subcultures have two sides: they can be hugely beneficial to organisations or play a part in their downfall. Understanding where subcultures come from and the effects they have is crucial to our understanding of the behaviour of organisations as well as society in general.

Our chapter first considers how knowledge in its various forms may have an impact on the formation of subcultures in the organization. The basis for formation of these subcultures has been found in empirical studies to range from age and gender though to department and function within the organization. A lesser known basis for formation of subcultures is offered by Sackmann (1992), who referred to cultural knowledge as a basis for formation with four types: dictionary knowledge, directory knowledge; recipe knowledge; and axiomatic knowledge. We cover these types and the role knowledge plays in subcultural development.

We then consider a specific case of subcultures in higher education and how, once these subcultures are formed, they may have a positive or negative impact upon knowledge sharing. We develop the concept of cultural boundaries and tribes and territories in this context. We consider how subcultural lenses affect the assimilation of knowledge from management in general and develop the existing model on the evolution of strategy in organizations. We then narrow down our study to consider how knowledge management programs are impeded by subcultures, in particular.

Finally, we offer some empirical research to consider both the limitations and strengths of subcultures in light of knowledge sharing or a lack thereof, with a resulting argument in favour of multiculturalism in large complex organisations. As a concluding section, we offer a 'subcultural audit' model for practitioners that may reduce the subcultural obstacles to knowledge sharing as part of knowledge management programs.

2 Knowledge and Culture

Knowledge can be explicit, implicit or tacit and yet, overarching these types is the nature of knowledge itself. It is formed by the social practices of employees, regardless of whether in a department, project team or group.

Davenport and Prusak (1998, p. 5), when offering their "working definition" of knowledge, emphasise that knowledge "originates and is applied in the minds of knowers" and extend this statement by stating that "in organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms." On the other hand, Spek and Spijkervet (1997, p. 36) determined knowledge as "the whole set of insights, experiences, and

procedures which are considered correct and true and which therefore guide the thoughts, behavior, and communication of people" and it is "always applicable in several situations and over a relatively long period of time". Knowledge can be classified into several groups and Table 1 presents few of these classifications.

These classifications of knowledge (Table 1) are based on the iceberg metaphor with its two distinct components explicit and tacit knowledge. Besides the iceberg metaphor, the stocks-and-flows metaphor also exists, and these metaphors are based on analogies with the tangible world and its Newtonian logic having several limitations (Bratianu 2016). On the other hand, in the past few years another metaphor, the energy metaphor, appeared with three basic knowledge fields: rational, emotional, and spiritual. Rational knowledge reflects "the objectivity of the physical environment we are living in", while emotional knowledge demonstrates "the subjectivity of our body interaction with the external world" and finally, spiritual knowledge represents "the understanding of the meaning of our existence" (Bratianu 2016, p. 330).

There is a discrepancy in knowledge management literature since some authors suggest culture to change in order to support knowledge management initiatives while others claim that these initiatives have to adjust to culture being too enduring (McDermott and O'Dell 2001; Hislop 2005; Ribiere and Sitar 2010). In spite of this culture can be considered as one of the most significant input to effect knowledge management by determining the knowledge being appropriate to share, when and with whom (King 2007).

According to Debowski (2006) the following values can be found in effective knowledge culture:

- Work together is preferred, and sharing and learning are invited by colleagues,
- Employees are kept informed of events, issues and innovations,
- Knowledge sharing is actively encouraged by supervisors and leaders,
- Regular communication across levels and organizational units is demonstrated,
- Working together is seen as a core activity,
- Innovative ideas and solutions are developed through combined efforts,
- New ideas are welcomed and explored,
- Openness, honesty and concern for others are encouraged, and
- Learning is incorporated into the work community and practice.

Chmielewska-Muciek and Sitko-Lutek (2013) consider the cultural characteristics that are conducive to knowledge management as: team work, cooperation, informal communication, openness, tolerance of uncertainty, the right to make mistakes and risk, tolerance of different opinions and diversity, autonomy, creativity and flexibility. If we are to assume that organisations adopt such characteristics as they become 'knowledge management cultures' then we need to consider how this occurs.

Members of organisations interpret the world around them based on a combination of their values, beliefs, as well as their socialization and national culture. Culture is taught to new members and passed throughout the organisation. It affects

Table 1 The classification of knowledge and its associated meaning

Author(s)	Classification of knowledge	Meaning
Nonaka and Takeuchi (1995)	Explicit knowledge	Formal and systematic, easy to communicate and share
	Tacit knowledge	Highly personal, hard to formalize, difficult to communicate to others, deeply rooted in individual's action, experience, ideals, values, or emotions
Blackler (1995)	Embrained knowledge	Depends on conceptual skills and cognitive abilities
	Embodied knowledge	Emphasises practical thinking, action oriented
	Encultured knowledge	Emphasises meanings, shared understandings arising from socialisation and acculturation
	Embedded knowledge	Emphasises the work of systemic routines
	Encoded knowledge	Embedded in signs and symbols
Ruggles (1997)	Process knowledge	How-to (similarly generated, codified, transferred as the other two)
	Catalog knowledge	What is (similarly generated, codified, transferred as the other two)
	Experiential knowledge	What was (similarly generated, codified, transferred as the other two)
Probst (1998)	Individual knowledge	Relies on creativity and on systematic problem solving
	Collective knowledge	Involves the learning dynamics of teams
De Long and Fahey (2000)	Human knowledge	What individuals know or know how to do something
	Structural knowledge	Embedded in the systems, processes, tools and routines of an organization
	Social knowledge	Largely tacit, shared by the member of the group, developed as the result of working together
Becerra-Fernandez et al. (2004)	General knowledge	Held by a large number of individuals, can easily be transferred across individuals
	Specific knowledge	Possessed by a very limited numbers of individuals, not easily transferred
Christensen (2007)	Professional knowledge	Is created and shared within communities-of-practices either inside or across organizational barriers
	Coordination knowledge	Makes each employee knowledgeable of how and when he is supposed to apply knowledge
	Object-based knowledge	Knowledge about an object that passes along the organization's production-line
	Know-who	Knowledge about who knows what, or who is supposed to perform activities that influence other's organizational activities

(continued)

Table 1 (continued)

Author(s)	Classification of knowledge	Meaning
Zhang et al. (2008)	Individual knowledge	Related to the process, that is the elementary cell for knowledge creation, storage and usage
	Team knowledge	The accumulated knowledge capital of the team is more than the sum of knowledge of each member, creates a valuable result
	Organization knowledge	To form a complete organization it possesses own unique structure, function partition and procedure

our behaviour as a culture develops norms or correct ways of doing things. Even back in the 1930s, the Bank Wiring Room was one of the GE experiments that highlighted how subcultures can affect productivity as staff accepted norms to neither work too much or too little, regardless of the financial incentives offered. Thus, it seems that one of the main goals of knowledge management initiatives should be to encourage subcultures to adopt values and attitudes that are conducive to knowledge sharing such as those mentioned earlier. This involves subculture change. However, before considering subcultural change, we should consider how subcultures emerge and what circumstances are conducive to the emergence of subcultures.

3 The Emergence of Subcultures

If large, complex organisations resemble the society around them (Gregory 1983) then the existence of subcultures in society indicates the potential for subcultures in organisations as well (Hofstede 1998; Trice 1993). Early works such as that of Henry Mayhew in the late nineteenth century discovered subcultures in Britain in the form of deviant subcultures and viewed subcultures as 'those who will not work', Marx and Engels (1960) used the term 'Lumpenproletariat[1]' to describe a segment of the working class. From these beginnings, subcultures have been found in high culture, pop culture, youth culture through to criminal subcultures and, more recently digital pirates and virtual communities. Subcultures may be seen as 'groupings of values' (Boisnier and Chatman 2002, p. 13). Meek (1988, p. 198) claimed that organisational subcultures are not only created by leaders, but also managed and eventually destroyed by them. This begs the question as to what scenarios are more likely to encourage or discourage the formation of subcultures within organizations.

Parker (2000) claimed that staff identifies with different groups in the organisation and that such groups may be formed on the basis of age, gender or

[1]Lit. "rag proletariat".

Table 2 Subculture characteristics in the development process (Bokor 2000, p. 7)

	Return culture	Market culture	Profession culture	Small labourers
Members	Product Managers [Top Managers (to some extent); potentially: Finance]	Sales (potentially: Customer Care)	Technicians (to some extent: the Lawyer)	Invoicing, MIRA, Lawyer, Customer Care, Finance
Self portrait	The conducting midfielders	The magic forwards delivering goals	Defender serving the others	Secret talents on the bench
Perception of others	Skilful gamblers	Over occupied little star alike	Overloaded geniuses somewhere in the building	Ambitious ballasts
Internal–external focus	Intermediate internal	Strong external (customers)	Intermediate external (suppliers)	Miscellaneous (potentially internal)
Attitude towards risk	Intermediate	Risk taker	Risk avoider	Risk avoider
Time orientation	Intermediate	Shorter	Longer	Intermediate-longer
Professional—task orientation	Task orientation	Task orientation	Professional orientation	Task orientation (some professional)
Professional—business orientation	Business	More business than professional	Professional	Professional

education as well as location, job description and length of tenure. Van Maanen and Barley (1985) proposed that subcultures see themselves as a group within the institution, share a commonly defined set of problems and act on the basis of collective understandings unique to their group.

Subcultures are also more likely to develop in bureaucratic, larger, or more complex organizations with a wide range of functions and technologies (Trice and Beyer 1993). Bokor (2000) found that subcultures were identified as: technicians (profession culture); customer oriented parties (market culture); business oriented parties (return culture); and the subculture of small labourers. Through these typologies, it can be seen how the different interactions, attitudes, perceptions and values differentiate the subcultures identified in the organisation (Table 2).

Taking a cognitive perspective, Sackmann (1992) claimed that it is a collective cultural cognition held by groups in an organization that leads to the formation of subcultures. This type of cognition is referred to as cultural knowledge and Sackmann (1992) separates this into four types.

Firstly, there is dictionary knowledge. This involves commonly held descriptions, including expressions and definitions used in the organization to describe the "what". This refers to what is considered a problem and what is considered a success. The second type is Directory knowledge and this is concerned with commonly held practices and describes the "how" of processes, such as how a problem may be solved or the way in which success is achieved. The third type is recipe knowledge and this involves strategies recommending what action "should" be taken, for example, to solve a problem or to become successful. The fourth and final type is axiomatic knowledge and this considers answers to the question "why" events happen by providing reasons and explanations.

The decentralization of power makes organisation more susceptible to subculture formation as found by Martin and Siehl (1983) with DeLorean's counterculture at General Motors. Prior to this, Hage and Aiken (1967) linked decentralized power with professional activity and hierarchical differentiation, which may be likened to HEIs where power is very much centralized, there is professional activity such as research and publication and very much hierarchical differences in status, prestige and reputation. Cohen (1955) claims subcultures form through interaction and building relationships. When individuals work together on a task, subcultures may also form (Trice and Beyer 1993). The willingness to become part of a subculture is referred to by Boisnier and Chatman (2002) when they suggest three criteria which are conducive to subculture formation: (1) structural properties; (2) group processes; and (3) individual's propensity to form and join subcultures.

Hatch (1997) claims organizational subcultures may be based on a variety of factors such as: task interdependence; reporting relationships; proximity; design of offices and work stations; and sharing equipment and facilities. Beyond this list, demographic differences, professional interests and affiliations, informal groups and performance-related distinctions may be causal factors (Jermier et al. 1991; Trice and Beyer 1993). Berscheid (1985) indicated that the 'similarity-attraction paradigm' may be a causal factor in subculture formation. Boisnier and Chatman (2002) saw teamwork as the means by which a set of values may develop in line with the requirements and needs of the team regardless of the values of the larger organisation.

In summary, there are a wide range of factors that may cause the emergence of subcultures and the literature presents somewhat conflicting findings, which leads us to believe that one particular root cause or even a handful of causes cannot be pinpointed. We now consider whether this remains the case in the context of higher education in general and in the context of Hungarian higher education in particular, as this will be a focus for a case study referred to later in this study.

4 Subcultures Formed in Higher Education

When considering the likelihood of formation of subcultures in higher education, there seems to be a combination of characteristics with some encouraging and some discouraging subculture formation. Van Maanen and Barley (1985) approach the

factors affecting formation of subcultures as a number of situations conducive to subculture formation. Firstly, there is *importation*. In this case, an acquisition or a merger can introduce new subcultures, as well as importing new occupation, which may bring different mixtures of subgroups, levels of interaction and problem-solving. Just over a decade ago, the organisation in this case study underwent a merger, indicating a potential for subcultures. The second situation involves *technological innovation*. Barley (1986) points out that technical advancement does not always lead to alienation but can also positively change role structures. The organisation has in the past 5 years undergone some changes such as changing from a system using reports books, which has to be signed for each student for each subject every semester to a computer based system. Such innovations might create subcultures with the desire for employees for 'the good old days' or other subcultures that see the organisation as being up-to-date and moving with the times, or rising to the challenge of the global market or local competition, for example.

Roberts (2008, p. 2) reinforces this in her paper developing a strategic change process specifically to deal with resistance to change when introducing new technology in higher education: "...the move toward implementing technology in higher education is driven by an increasing number of competitors as well as student demand, there is still considerable resistance to embracing it". In the case of *ideological differentiation,* subcultures may arise with competing ideologies. In a higher education context, Winter (2009, p. 123) highlights the differentiating ideologies and their impact upon (sub)cultural values in the context of a market orientation: "As higher education institutions contrived themselves in market-oriented, utilitarian terms in response to an altered economic environment of public funding constraints, user-pays principles, full-fee paying courses and research directly tied to business needs, academics internalised business-related values and profit-making ideals" (Henkel 1997; Slaughter and Leslie 1997; Winter and Sarros 2002). Thus, it seems that in a higher education context, the very introduction of a market orientation may cause a split between different ideologies, resulting in the formation of subcultures. In fact, Winter (2009, p. 123) continues by citing Deem et al. (2008) that the transformation of identity in higher education is based on the ideology of economic and managerial concepts, which have reshaped institutions in higher education.

Another situation in which subcultures have been found to form is within *counter-cultural movements*. Van Maanen and Barley (1985) assert subcultures could form as staff rejects existing subgroups or feel rejected through blocked ambition, poor training, inadequate rewards, impersonal management or inadequate resources, which may in turn lead to rituals of resistance. Inadequate rewards and resources may indeed be an impetus for the formation of subcultures in higher education institutions in Hungary as funding is decreased and student numbers drop due to changes in funding to students as well, which very much affected the organisation of this case study over the past few years. Nahavandi and Malekzadeh (1988) claim that, for organisational cultures to complete the process of acculturation after a merger, it may take around 7 years. It would be false to assume that

acculturation process is complete for the organisation as the acculturation process depends on other factors such as the level of interaction and conflict as well as barriers to integration such as the organisation being based on a variety of locations. Therefore, the subcultures identified in this case study may not necessarily be the state of the organisational culture following completion of the acculturation process.

Batterbury's (2008) study of the academic tenure system of the USA claimed that tenure maintained a split between tenured, untenured and non-tenured track staff, which would seem to indicate the potential for subculture formation through career filters. In the organisation of this case study, teaching staff with or in the middle of PhDs have a different career track in some departments compared to those who are not. Furthermore, the pressure to have articles published could be seen as slightly ambiguous performance criteria as it is not clear how much it affects career prospects nor how quantity or quality are related to performance and therefore may be conducive to subculture formation. The concept of a split referred to by Batterbury (2008) leans towards the idea that divisions are causes by certain perceived boundaries between groups in the organisation. Becher (1987) in his extensive study of subcultures in higher education claims that boundaries between functions may be strongly upheld between departments; especially when considering issues such as workload and budgets, but also that the only function which is able to cross such boundaries is administration. Furthermore, Becher (1987) found that boundaries of subcultures, which formed on the basis of specialisation, appear to overlap. This simultaneous occurrence of overlapping and firm boundaries highlights the complexities of culture and subcultures in higher education, although the detection of boundaries and the degree of overlapping of them in subcultures is beyond the scope of this study.

In higher education, there is a combination of top-down hierarchy in terms of work flow and yet, the work flow may also be affected by the customer, the student. When considering courses and the management of courses, there is a certain degree of consistency of workflow as similar courses are taught each year. As the work flow of administration and management is also related to student numbers and courses, there is a certain degree of consistency and yet the work flow is not entirely centralized. For example, one lecturer may decide to keep up-to-date and produce new materials each year, requiring administrative staff to work more in materials preparation and library staff to supply the articles and other materials for the lecturer to keep up to date. On the other hand, a lecturer who repeats the same course as taught the previous year would have little change in work flow for himself or others.

According to Tierney (1988) there may be numerous subcultures in a university or college and the basis could be: managerial; discipline-based faculty groups; professional staff; social groups of faculty and students; peer groups (by special interest or physical proximity); and location (offices arranged by discipline). However, that is not to say that all factors are found in all institutions with a plethora of emergent subcultures. Taking one example, location may be a limiting factor of who talks with each other, but that does not necessarily mean that such behaviours

are related to assumptions and values about the culture or subculture (Kuh and Whitt 1988, p. 27). The relative importance of each in shaping subcultures is somewhat contested. Becher (1989) asserts that disciplinary cultures are the key to HEI cultures. Valimaa (1998) reinforces this with findings that disciplinary differences affect many areas of academic life such as modes of interaction, lifestyle, career paths, publishing patterns, and so on. Thomas et al. (1990) even asserts that disciplinary differences outweigh gender differences.

Disciplinary cultures were first examined by Becher (1989) and have been used as a basis for research in many cases since that time (e.g. Snow 1993; Collini 1993). Becher (1989) indicates that disciplinary cultures are differentiated according to knowledge and classifies the cultures into four categories: hard, pure, soft and applied knowledge. These disciplinary cultures are also found by Becher (1989) to be either socially convergent or divergent. It is this study that led Quinlan and Akerlind (2000) to the introduction of department culture as a concept. Disciplinary cultures not only indicate the potential for the formation of subcultures but also indicate the ranking of staff, or 'pecking order' with the basis being hard-pure, soft-pure, hard-applied and soft-applied (Becher 1987). According to Becher (1989, p. 57), the theoreticians are ranked highest with staff involved in practical, soft and applied disciplines ranked lower. However, Becher (1989) also points out there may be subgroups according to specialisation and that within disciplines and specialisations there may in fact be some overlap. Subgroups within disciplines include women faculty, minority faculty and part-time faculty (Bowen and Schuster 1986). Becher (1984, 1990) focussed on these sub-specialisations as a unit of analysis. Sandford (1971, p. 359) refers to rules being held in Faculty culture so that only specialists in a given field are permitted to discuss in conversation and present their ideas concerning the specialisation and thus other faculty should defer to the specialists. This sense of boundaries seems to be only transversal by administrative and library staff, who, lacking academic credibility are actually interdisciplinary (Bergquist 1992, p. 41). Freedman et al. (1979, p. 8) described HEI culture according to the faculty as 'a set of shared ways and views designed to make their (faculty) ills bearable and to contain their anxieties and uncertainties'. Finkelstein (1984, p. 29) saw the main components of faculty culture as: teaching, research, student, advisement, administration and public service.

5 Subcultural Lenses: Barriers to Knowledge Management Initiatives

In a large organisation made up of people from different backgrounds and nationalities, employees learn to see things through the eyes of others as they learn and appreciate cultural differences. However, an organisational culture can still be diverse without national differences and the way employees perceive the organisation, its management and the world around them can impact upon their individual motivation and effectiveness. These are the employees' 'cultural lenses'. This aspect of perception is one which also is highlighted in the literature on

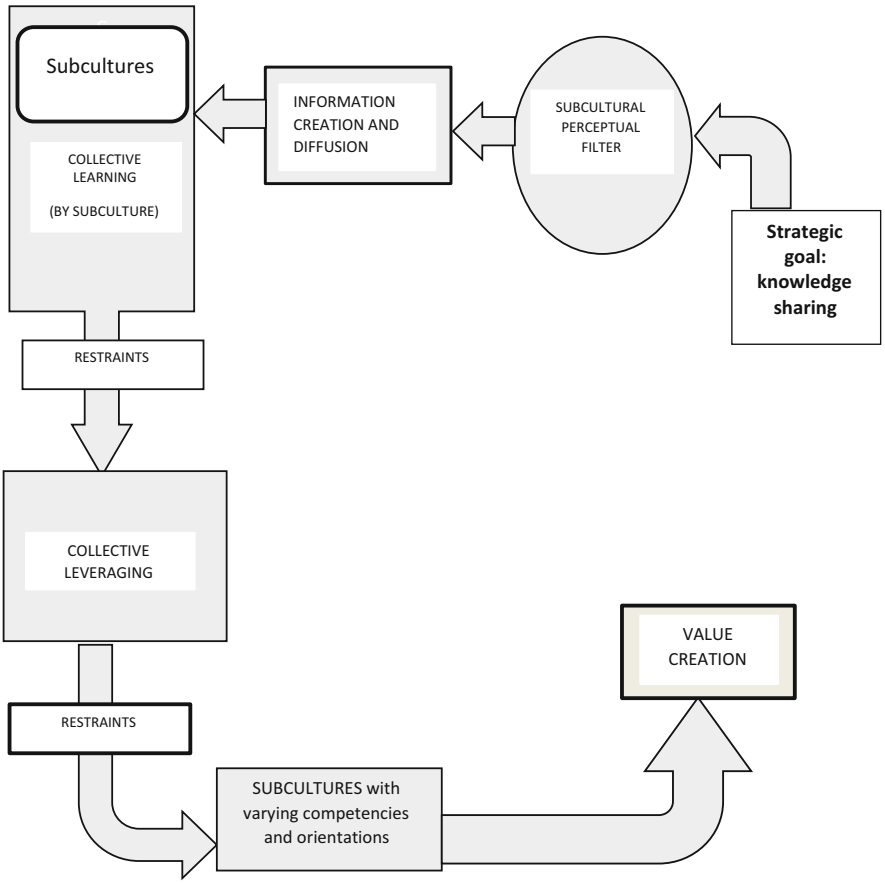

Fig. 1 The impact of subcultures on a knowledge sharing initiative

knowledge management. Chmielewska-Muciek and Sitko-Lutek (2013) refer to knowledge management culture as relating to the "problem and unconventional perception of processes within the organisation, deep analysis of problems going being simple answers, continuous denial and questioning chosen strategy". Within our pluralistic perspective, this view is no longer a general attitude to problem resolution, but we are faced with an organisation full of heterogeneous subcultures, each subculture perceiving processes within the organisation differently and questioning chosen strategy in a different way.

As referred to and shown in Figs. 1 and 2, these heterogeneous subcultures have varying perceptions but also may have commonalities or be seen on a scale of different ranges of perceptions. These subcultures can have an influence on "how and what knowledge is valued, what kinds of relationships and rewards it encourages in relation to knowledge sharing, and the formal and informal opportunities that individuals have to share knowledge" (Ipe 2003, p. 353) and can control the

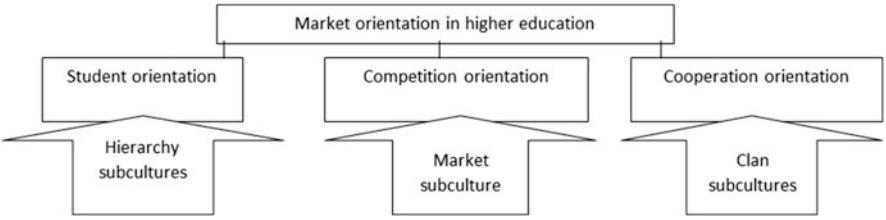

Fig. 2 The different market orientations of subcultures

relationships between different levels of knowledge (e.g. individual and group). The uppers tiers of management develop strategic goals such as knowledge management initiatives based upon key considerations such as marketplace position and capabilities. These knowledge management initiatives can differ in their success depending on combinations of business strategy of a unit (efficiency, innovation) and knowledge management strategy (codification, personalization) (Greiner et al. 2007). Combining efficiency with codification (collecting knowledge, storing it in databases, and providing knowledge in a codified form) and innovation with personalization (helping people to communicate their knowledge) can lead to higher success than other combinations (Hansen et al. 1999; Greiner et al. 2007). On the other hand, organisational subcultures evolve organisational competences relating to the information passed on to them concerning the organisation's orientation. However, the information received by top management on strategy is interpreted according to the subculture's view of themselves, others and the greater organisation, called the *cultural perceptual filter* (Deneault and Gatignon 2000). By embarking upon a knowledge management initiative, top management is attempting to orient staff towards knowledge sharing as well as other aspects. Deneault and Gatignon (2000) developed a model to explain how orientation evolves in organisations, as can be seen in Fig. 1.

It is through this model that management can appreciate the importance of implementation of strategy in a large organisation with great cultural diversity. Because of the differences in subcultures their members can define important knowledge differently and this can lead to miscommunication and conflict since subcultures can apply different criteria in knowledge valuation (De Long and Fahey 2000). Firstly, allowance needs to be made for how information and knowledge is perceived and interpreted by subcultures, since subcultures can determine on the one hand what is perceived as knowledge, and on the other hand the perceptions about what knowledge should be managed and transferred within the organization (Simard and Rice 2007). Secondly, management need to consider how information is diffused i.e. although strategic plans and related information may be diffused through the hierarchy via top-down communication, information is diffused and interpreted within each subculture. Granovetter (1973) pointed to the significance of interpersonal communication channels in the diffusion of information indicating that strong ties (close relations and frequent interactions with family, and friends) are less important sources of information than weak ties (e.g. infrequent relations

and contacts with several peoples) are, weak ties provide access to a wider range of information. Factors as the frequency and intensity of interaction, the available means of communication, the sharing cultural and social codes and contexts and finally legal protection and restrictions can influence scale of the diffusion (Choo et al. 2013).

Finally, value creation is specific to each subculture as collective learning will produce a range of different competences. Having a learning culture results in creating knowledge that drives additional intentional knowledge leverage and accumulation leading to an advanced learning phase (Kim 1998) Thus, value creation is seen in a range of orientations and associated competencies being covered by each subculture. Creating positive values reflected by spiritual knowledge being built up on dynamic culture is essential in conceiving strategies being a success and in competitive advantage achievement as well (Bratianu 2015, 2016).

6 The Case Study

To illustrate the impact of subcultures on knowledge management, we will use the empirical findings of our study of the subcultures of the Budapest Business School in Hungary. Our study was purely explorative and had the aim of discovering what subcultures existed in the organisation (if any). We wanted to discover as much as possible about the characteristics of these subcultures and chose a quantitative approach as a means of finding out the values and perceptions of as many staff as possible. Two instruments were selected for this approach and these will be explained in the following section.

6.1 Instruments

According to Cameron and Quinn (2011) organizations are seldom characterized by a single cultural type and thus tend to develop a dominant culture over time as they adapt and respond to the challenges and changes in the environment surrounding them. They used the Organizational Culture Assessment Instrument (OCAI) to develop a measurement of organizational culture. The Competing Values Framework (CVF) aiming to find the most important criteria and factors for effective organizational operation was the basis for OCAI (Quinn and Rohrbaugh 1981). This CVF developed by them allows an assessment of a dominant culture across six key cultural characteristics (dominant characteristics, organizational leadership, management of employees, organizational glue, strategic emphasis and criteria of success). It also recognizes the complex nature of culture based on two primary dimensions. The first dimension is related to formal–informal organizational processes and the extremes of this continuum represent the competing demands of flexibility and discretion versus stability and control. On the other hand, the second dimension reflects the conflicting demands of the internal organization and the external environment. Thus on the one end of this continuum the focus on internal integration, organizational processes, and

Table 3 Comparison of organizational cultures (based on Szabó and Csepregi 2015)

Scholar	Culture type	Advantages	Disadvantages
Kono (1990)	• Vitalized • Follow the leader and vitalized • Bureaucratic • Stagnant • Stagnant and follow the leader	• Based on empirical study	• Concentrates only on Japanese companies
Handy (1993)	• Power (spider's web) • Role (building supported by columns and beams) • Task (net) • Person (loose cluster/ constellation of stars)	• Simple, clear typology	• Has theoretical approach • Not supported by empirical survey and database
Trompenaars and Hampden-Turner (2002)	• Incubator (fulfilment-oriented) • Guided missile (project-oriented) • Family (power-oriented) • Eiffel tower (role-oriented)	• Based on empirical study • Depends on a large international database, thus it is possible to compare organizational culture on international standards	• Limited access to the international database
Cameron and Quinn (2011)	• Clan • Adhocracy • Market • Hierarchy	• Measures the current and preferred culture types and the direction of change can be determined • Easy use of the questionnaire	• The results come from average values

structural stability and control appear, while on the other end the emphasis on competition, interaction with the environment, and a focus on outcomes. These dimensions create four quadrants representing four culture types: Clan, Adhocracy, Hierarchy and Market. Table 3 presents this model in relation to other organization culture typologies in light of their various advantages and disadvantages.

In comparison of the advantages and disadvantages, we chose the Framework of Cameron and Quinn (2011) for this study for a number of reasons. Firstly, the model allows for the simultaneous existence of a number of different culture types within an organization, which is more suited to the complexity found in the large organisation at the centre of our study. Secondly, previous studies have confirmed

that the CVF has already been used to measure organizational culture's relationship with various variables in general (Wiewiora et al. 2013) and in Hungary in particular (Bogdány et al. 2012; Bognár and Gaál 2011; Chandler and Heidrich 2015). Thirdly, the instrument developed shows current perceptions in comparison with staff preferences in the organization, thereby giving an additional dimension to a study of the organisation.

The second instrument we used was the Market Orientation questionnaire to consider the nature of subculture orientations in light of the current organizational mission and strategies. This instrument was designed by Hemsley-Brown and Oplatka (2010) for use in higher education. Based upon the theoretical work of Narver and Slater (1990) on market orientation, Hemsley-Brown and Oplatka (2010) developed this instrument to split market orientation into customer (student) orientation; competition orientation; and inter-functional orientation. Under a customer orientation staff is focussed on creating and providing value to students. This means that academic staff centre their classes upon students' needs (customization) and administrative staff and management likewise seek to ensure the satisfaction of the student, involving a mapping of the students' lifestyles, preferences and environment in general. There is also a forward-looking aspect as improvements are made for future students. Competitor orientation refers to an awareness and understanding of the strengths, weaknesses, opportunities and threats for the HEI. More than this, staff are also geared towards knowing and keeping ahead of competitor developments. Finally, the inter-functional orientation is also referred to as the cooperation orientation. Creating value for students that is greater than that offered by competitors is achieved through integration of staff and the optimal coordination of resources. Within this orientation all staff see their role as to attract students, rather than solely management.

6.2 Method

Our questionnaires were sent in printed format to all members of staff throughout the organisation, following approval of the top management to do so. We received a net repose rate of 38% with 334 questionnaires after extracting those which incomplete or incorrect data. Incorrect data was determined as respondents were required to allocate points out of a hundred to various categories of the OCAI and wherever the total did not equal 100, the questionnaires were considered invalid. We identified subcultures through a hierarchical cluster analysis using Ward's method (Hofstede 1998) with the Organisational Culture Assessment Instrument (Cameron and Quinn 1999). The market orientation section and demographic data were used as aids to characterise the subcultures and develop subcultural profiles for each one. This will be elaborated in the following section.

6.3 Empirical Findings

Five subcultures were found through a hierarchical cluster analysis and typified by dominant culture type into three dominant culture types: market; clan; and hierarchy. There were two clan, two hierarchy and one market culture type. A summary of our findings can be seen in Table 4 that shows how the subcultures were identified according to the values and perceptions that distinguished them from other subcultures. Values besides symbols, images and emotions are embraced by knowledge (Nonaka and Takeuchi 1995), thus shows that the management of knowledge is possible in all cases but in different forms. An identifying name has been put forward for each subculture as a means of encapsulating the essence of the differences between each subculture and a cliché as the key frame of thought that is conjectured to be within each subculture (Hofstede 1998; Morgan 1986). Although the instrument allows for four culture types, one is usually dominant and the dominant culture type defines the dominant values of the subculture, as highlighted in bold in the table.

These subcultures, as indicated in Table 4, can be conductive to knowledge management in different forms. Market subculture with its competing orientation may appear as one that mainly restrains knowledge management, but the usage of adequate instruments such as motivation, reward, and recognition can facilitate the diffusion of knowledge. Basically, the determination of measurable goals is the key incentive of knowledge management depending on their achievement and valuation. If the goals are defined properly and can be achieved only by the cooperation of employees and the performance valuation is also based on group work the sharing of knowledge can be accomplished easily. On the other hand, if individual goals and not to group goals are defined, their achievement will lead to competition

Table 4 Overview of the five subcultures

Dominant characteristic	Subculture				
	1	2	3	4	5
Size (number of persons)	140	84	34	30	44
Dominant culture type	**Market**	**Clan**	**Hierarchy**	**Strong Hierarchy**	**Strong Clan**
Perceived dominant culture type	Hierarchy	Hierarchy	Hierarchy	Hierarchy	Clan
Position	Lecturer	Lecturer	Office staff	Office staff	Lecturer
Function	Teaching	Teaching	Admin	Admin	Admin
Identifying name	*Market mentors*	*Nostalgic professors*	*Devoted Smooth operators*	*Ardent Bureaucrats*	*Cohesive Community*
Clichés (sports)	*Stepping up to the plate*	*The goal posts have been moved*	*Buying into the coach's system*	*Follow the rule book*	*In a league of their own*

and to individual performance evaluation and not to cooperation and to group performance evaluation thus knowledge sharing cannot be achieved (Gaál et al. 2010a, b).

At a clan and strong clan subcultures the personalization knowledge management strategy can have a significant role in the evolvement of knowledge management in an organization. Personalization strategy focuses mainly on the dialogue between individuals, thus at this approach knowledge is shared through networks of people, not only face-to-face communication, but also via electronic communication (Hansen et al. 1999). This culture type can have collaborative orientation and can be essentially based on trust that can encourage knowledge sharing. The features of extended family, tradition, loyalty show that the members of the organization are very close and thus knowledge sharing can be realized easier. Outsiders can hardly gain trust or it takes a longer time for them (Gaál et al. 2010a, b).

At hierarchy and strong hierarchy subcultures the codification knowledge management strategy can define the management of knowledge. This strategy focuses on codified knowledge being independent of the person created or developed it and thus the knowledge can be retrieved, shared without having to interact others, since knowledge is stored in documents, databases, manuals etc. (Hansen et al. 1999). The knowledge management is mainly forced since this subculture type has controlling orientation and is based on formal rules and policies. If these rules, policies are determined adequately, the forced knowledge diffusion can be completed with characteristics that can allow voluntary knowledge diffusion (Gaál et al. 2010a, b).

In light of the hypothesized varying competencies and perspectives of subcultures indicated in Fig. 1, our study finds empirical evidence (although not generalizable as it is a case study) that each subculture type has a corresponding dominant market orientation, as shown in Fig. 2.

This seems to highlight the competency development of subcultures indicated in our evolutionary model in Fig. 1, and the potential impact of subcultures on KMIs. For example, the clan subcultures have a tendency towards cooperation, rather than competition and student cooperation.

If we consider the model in Fig. 1 in relation to our specific findings in this empirical research then there are some areas that need further consideration:

- *Strategic goals*. The government's increasing role in governance of Hungarian HEIs has led to an emphasis on cost reduction and rationalisation.
- *Marketplace position*. The use of the word 'marketplace' is kept due to the emphasis on rankings and advent of 'academic capitalism', as well as the finding that some subcultures have a dominant competitive orientation.
- *Perception and misconceptions*. Allowance needs to be made in the model for how information is perceived and interpreted by subcultures.
- *Information diffusion*. Although strategic plans and related information may be diffused through the hierarchy via top-down communication, the model should allow for the diffusion of information within each subculture.
- *Restraints*. The more rigid constraints seem to be the ones imposed by the State, without any predilection towards entrepreneurial Universities and thus subcultures.

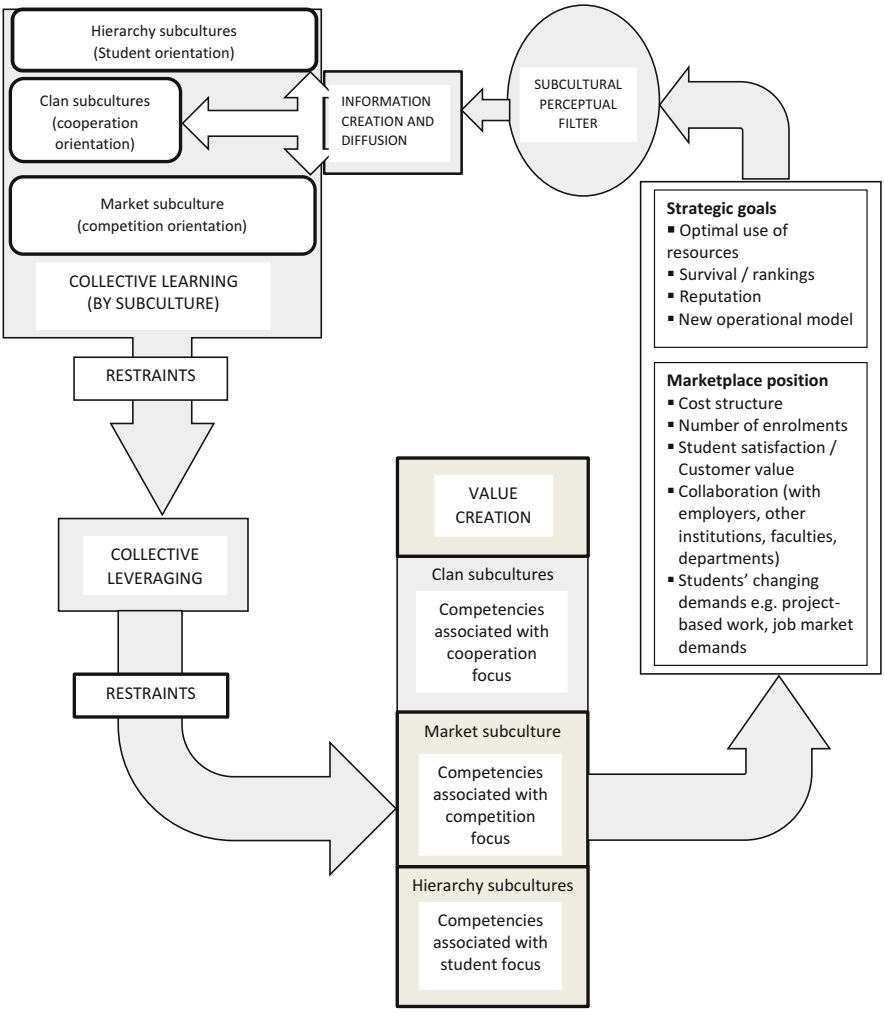

Fig. 3 The behavioural and strategic manifestations in the organisation

- *Value creation*. The three subculture types produce varying dominant market orientations, which in turn through collective learning will produce a range of different competences. Thus, value creation is seen in a range of orientations and associated competencies being covered by each subculture.

Taking into account these findings, we propose the following model (Fig. 3) for the evolutionary theory of organisational orientation (see Fig. 1) within the context of the Business School that was the focus of this study.

7 The Subcultural Audit

To close this chapter, we propose a model by which organisations may examine their subcultures. Subcultures have been found to have a profound effect upon the organisation but, by their very nature, there is potential for ambiguity and uncertainty. Members of one subculture may follow their values but be judged (or perceive themselves to be judged) on a completed different set of values by the other subcultures or the top management. Thus, members of each subculture may be faced with these conflicting values, which may be termed subcultural incongruence. Thus, when members of different subcultures meet to discuss or make decisions, there are the following impacts upon a subculture (Fig. 4).

This model serves to indicate the uncertainty and potential impact upon decision making through conflicting values found in the higher education institution. The evident ensuing conflict and discomfort of members in such a situation may well stimulate change and be the impetus for an alignment of subcultures. The evident high level of complexity and obstacles which may hinder decision-making and overall performance can be reduced by undertaking a subcultural audit.

For practitioners, the organisation needs to consider whether the path to success is through a homogenous culture demanding conformity from its members or a 'subcultural approach', which would affect organisational functions such as human resource management (Palthe and Kossek 2002) and marketing, as can be seen in this case, with the varied range of market-orientations found within one organisation. When organisations wish to develop a strong culture in large complex organisations with a high likelihood of subcultures, subcultures may be aligned as a

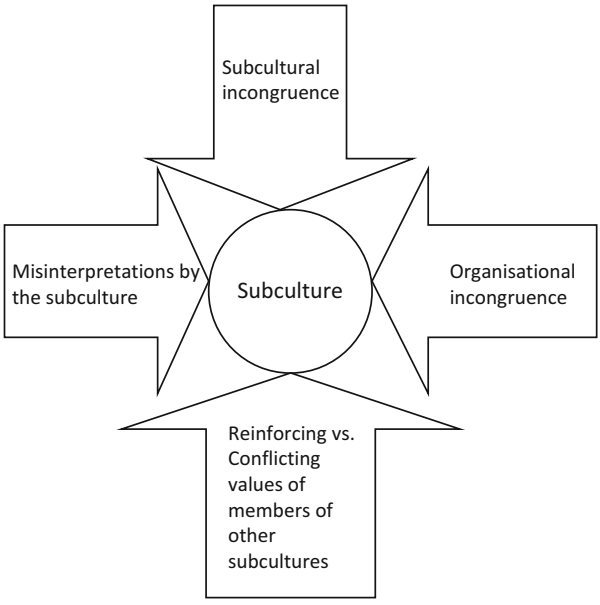

Fig. 4 The impacts upon decision-making of members of subcultures in the organisation

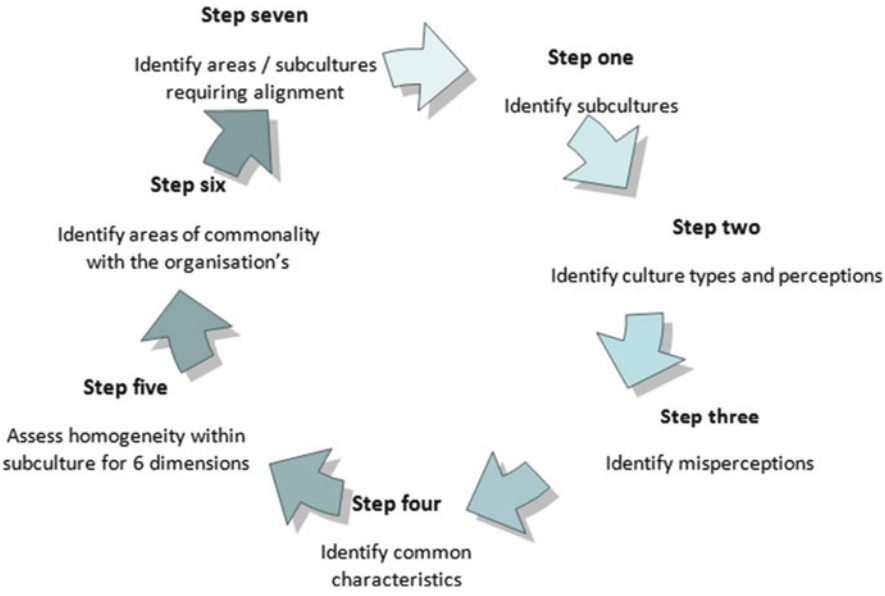

Fig. 5 The change management prcess for aligning organisational subcultures

means of strengthening the culture. The following model is a process by which organisations may seek to strengthen organisational culture through the alignment of subcultures (Fig. 5).

In Fig. 5, it can be seen that this is a continuous process as it is assumed that cultures and subcultures are dynamic in the organisation and that through interaction, as was suggested in the discussion part of this study, when one subculture changes another may respond in kind either following the new set of values, taking them on partially (as in this case when subculture three expected the leadership to take on a market-culture style of leadership despite being a hierarchy subculture type), or rejecting them likewise partially or fully. Alternatively, this model could be applied in practice as a means of conducting a 'subculture' audit prior to the commencement of any change processes or when looking to implement a change in the direction of the organisation.

8 Conclusion

'In an economy where the only certainty in uncertainty, the one sure source of losing competitive advantage is knowledge' (Nonaka 1991, p. 96). Either located in the minds of individuals, or embedded in organizational routines and norms, or codified in technological devices, it is becoming a strategically important source and a significant driver of organizational performance (Polányi 1966; Nonaka and Takeuchi 1995; Yesil and Dereli 2013). According to Belk (2014, p. 1597) in a

sharing economy people coordinate the "acquisition and distribution of a resource for a fee or other compensation". Although no definitive definition of the content of sharing economy exits, it is believed that aspects of the current social economic system has started to transform because individuals, communities, organizations and policy makers are being allowed to re-think the way we live, grow, connect and sustain (Department for Business Innovation & Skills 2015; PwC 2015; Schor and Fitzmaurice 2015). After reviewing the literature, Cheng (2016) determined three broad areas of sharing economy literature in general having various themes and concepts within them reflecting sharing economy's diverse perspectives and complex nature: the sharing economy's business models and its impacts, the nature of sharing economy, and sharing economy's sustainability development.

The first organizational efforts in the management of knowledge focused on information technology solutions, which although were important to knowledge management however often failed to achieve their objectives since organizations did not consider cultural factors critical to the management of knowledge (Gaál et al. 2008). According to Janz and Prasarnphanich (2003, p. 353) 'organizational culture is believed to be the most significant input to effective knowledge management and organizational learning in that corporate culture determines values, beliefs and work systems that could encourage or impede knowledge creation and sharing'. Our paper digs deeper and investigates subcultures through a quantitative approach and uncovers five subcultures in a Hungarian higher education institution. Subcultural boundaries and tribes and territories are confirmed by our finding that are applied to existing theory on the evolutionary nature of strategy implementation as a means of considering the potential impact of subcultures on knowledge management initiatives. In addition our paper concludes that subcultural lenses affect the assimilation of knowledge from management in general and reveals that multiculturalism is likely the best approach as each subculture has its own specific range of competencies as part of an overall market orientation. Finally, a 'subcultural audit' model for practitioners is offered that may reduce the subcultural obstacles to knowledge sharing.

9 Limitations and Future Directions

When planning the research, it was considered that culture and subcultures were such a complex issue that it should be handled on a single case basis, although there is potential for more extensive research in which a number of subcultures are identified in a number of institutions of higher education and correlations are found for all the subcultures identified. However, if as found in this study, one subculture appears to impact upon another, any attempt to correlate a range of subcultures across a range of HEIs, may overlook this interrelationship. On the other hand, a higher number of subcultures gives a larger sample size, which in turn may produce significant correlations.

The subject of the study is a matrix organisation with employees spending their working hours either at one or a combination of locations for between around 3 and

6 days a week. This is just one example of the peculiarities of the higher education institution as an organisation. However, it does give another example of the lack of *generalizability* of this case study and the need for research along the similar lines as well as further afield.

A *longitudinal study* may produce some interesting findings with regard to the dynamic nature of subcultures, not only considering the lowering of the average age of staff but also in the example of the market subculture which was found to have a mentor subculture with a combination of long and short tenure groups. The shorter tenure members of the subculture may now be left to cope with the absence of the mentors. In this sink or swim situation, it would be interesting to discover not only the coping mechanisms but whether the subculture continues with this market culture domination, if the values weaken or strengthen or perhaps the subculture merges with one of the other subcultures with common pivotal values such as the hierarchy with common values of stability and control. The 'younger organisation' may affect not only the aspect of mentoring in subcultures but also the apparent nostalgia and attitudes towards cooperation, the student and competition i.e. all elements of the market orientation.

A potential weakness of this methodology is that if one wants to get a true picture of all the subcultures that constitute the organisational culture then *a very high response rate* would be required. In this study with a 34% response rate, five subcultures were found, but it cannot be declared that the remaining respondents were members of these five subcultures or that there would have been more subcultures to be found with a larger sample. However, in defence of this criticism, it is unrealistic to expect response rates of 90–100% with high response rates for such studies being: Tan and Vathanophas (2003) with a 63% response rate; and Hofstede (1998) with a 76% response rate. Even regarding Hofstede's case study, a 76% response rate constituted 1295 individuals (Hofstede 1998, p. 3) meaning that 408 individuals were unaccounted for and could constitute at least one or more subcultures. Thus, it can be said that in this area of research, it is hard to pinpoint the exact number of subcultures and, bearing in mind the findings of this study concerning the importance of size of subcultures, we can get a rough idea of the size and number of subcultures, much in the same way that a more general study of, say, universities in Hungary can with a response rate of 30–40% suggest certain correlations even though a much higher response rate would be ideal.

One challenge with regard to this and other studies of subcultures is that of proving that *sufficient interaction* takes place within a group with common values to constitute a subculture. This study has strived to ensure that sufficient interaction can be seen to exist between members in a subculture to accept this assumption through the inclusion of a question about this in the survey and forming networks of the respondents for each subculture by location to show interaction. However, there is potential for further research into methods to reduce this limitation.

As a final point, the authors are aware that for any study into organisational culture *a qualitative approach* would allow for greater depth of analysis into the organisation's culture. A further study is planned with semi-structured interviews to further examine knowledge sharing and subcultures in organisations.

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