2009

Slack-enabled innovation versus problemistic search: Findings from case studies among SME

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UNPACKING MULTICULTURALISM: DIFFERENCES IN RESPONSES TO ICT WORKPLACE SITUATIONS FOR ENGLISH AND NON-ENGLISH SPEAKING BACKGROUNDS.

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Abstract

Multiculturalism is one of the many factors contributing to the growing diversity found within the workforce comprising today's organizations. This is particularly true in the ICT workplace. Diversity is often investigated in the context of teams and global organizations seeking to improve knowledge management and/or innovation strategies and practices. Understanding the role that culture plays in a multicultural society is complex, understudied and not well understood. Past studies into identifying and comparing different national cultures are difficult to apply to the multicultural context. Even the operationalisation of the culture construct can be problematic or impractical when many ethnic minorities exists. One approach commonly used in Australia is the categorization of individuals and groups into English (or Anglo) background and Non-English Speaking Background (NESB). In this paper we use these categories to investigate if differences can be found in the way in which individuals in these two cohorts respond to workplace situations.

Keywords: Multiculturalism, knowledge usage, non-English speaking background (NESB), workplace based scenarios.

1 INTRODUCTION

Much culture-based research focuses on organizational culture, seeking to answer questions such as what is the culture in a particular or type of organization (Cooke and Rousseau 1988); whether and how the current culture has a positive or negative impact on the organization (Alavi, Kayworth and Leidner 2005); or how a culture can be changed to improve such things as knowledge sharing and reuse (DeLong and Fahey 2000) or to encourage innovation (Amar 2004). However, when it comes to national or ethnicity-based culture, cultural diversity is treated as one, albeit major, independent variable in understanding the attitudes and approaches to knowledge use and sharing (Holden 2002). We seek to break down the ethnicity-based culture variable based on an analysis of empirical data collected in two multicultural Australian organizations and synthesize our findings with the existing culture literature.

Much of the information systems (IS) research to date has relied on Hofstede's work which oversimplifies culture viewing it primarily at the national level (Myers and Tan 2002). New research is needed to consider the modern multicultural organization due to the effect culture can have on information systems in general and knowledge sharing strategies, knowledge management system design and development decisions, in particular (Ardichvili et al. 2006). The focus of the scant IS literature touching on multiculturalism is more from the viewpoint of diversity, with culture being one of the possible points of differentiation, and how diversity can impact on knowledge management strategies such as how to manage global organizations and teams to more productively create and share knowledge (e.g. Ely and Thomas, 2001; Haas 2006) or how innovation can be driven by putting people from the right cultures together (e.g. Dombrowski et al. 2007). Our focus is instead on knowledge usage and whether people of different cultural backgrounds employ different knowledge

and decision making strategies in the way they respond to problem situations. We see an individual's response as demonstrating knowledge-in-action or practical intelligence (Sternberg, Wagner and Okagaki 1993) requiring the application of a combination of tacit, explicit and practical knowledge gained overtime through various experiences. In this way we seek to identify the role of culture in knowledge usage, particularly seeking to ensure the approach includes tacit knowledge usage where tacit knowledge is defined as knowledge that one uses to manage 'oneself, others, and one's career' (Sternberg, Wagner and Okagaki 1993). We achieve this by capturing and comparing the responses of employees to a number of workplace-based scenarios along the lines of psychology Professor Sternberg (Sternberg et al. 1995). To narrow the knowledge context, the employees and workplace scenarios are within the domain of Information and Communication Technology (ICT).

2 OPERATIONALISING THE CULTURE CONSTRUCT

Culture has been defined as "the learned ideas, values, knowledge, rules and customs shared by members of a collectivity (such as those based on ethnicity, gender, sexuality, indigeneity, age, disability (Holmes, Hughes and Julian 2003, p.157)). When we speak of multiculturalism the notions of ethnicity and indigeneity are most relevant. Ethnicity has been defined as "the cultural background of a group of people who share a belief in common ancestry. A resource that can be mobilised for identification purposes" (Holmes, Hughes and Julian 2003, p. 154). Within Australia, some 244 ethnic minorities are represented (ABS 2006). The dominant group representing roughly 70% of the population when questionning ancestry (ABS 2006) are the Anglo-Celtic Australians or those of British or Irish background (Holmes, Hughes and Julian, 2003). Indigenous Australians form another separate grouping. Given the stigma of belonging to a minority, the term Non-English Speaking Background (NESB) is a more popular and less offensive term in the Australian context. Another alternative sometimes used, is Language Other Than English (LOTE), but because the term is also used as the name of a program to teach foreign languages at school, we will use the term NESB which is commonly used by the Australian Government as it allows needs to be addressed, such as the need for an interpreter, for a very diverse population. Membership of the NESB cohort is typically identified through questions concerning language/s spoken at home. Thus in our study we ask "if a language other than English is spoken in your home environment, please select these from the lists below". Up to 4 languages in order of frequency of usage could be selected. We acknowledge this will not necessarily identify each person's ethnicity but that in a multicultural country with cross-cultural marriages, many second generation Australians (including both authors) and a melting-pot of cultures around you, asking people to identify their ethnicity(ies) may also have been difficult for respondents to articulate. Also, while people tend to identify with the heritage of their parents and the "mother" country, it is questionable whether an individual who does not speak the mother tongue at all has truly been moulded by that culture and to what extent, since language is often quite tightly bound up with culture. This can be seen when a literal translation from one language to another results in nonsense because the ideas, values, customs, etc., embodied in words/phrases from the two languages differ greatly. Our phrasing of the question is different to asking "what languages do you know?" which would include languages learnt at school which does not reveal ancestry or significant cultural influences.

Adopting the above concepts of culture, ethnicity, Anglo, English speaking majority, ethnic minorities and NESB as our starting point, we found that our dataset could be divided into two roughly equal groups where English was the predominant language spoken at home (Anglo group) or a language other than English was the predominant language spoken at home (NESB group).

To guide our discussion and comparison of the cohorts that emerged from our data we used various cultural classifications, dimensions and characteristics from the existing culture literature from sociology, management and organization theory and practice. These include: Hofstede's (1980) dimensions of power-distance, uncertainty avoidance, individualism-collectivism and masculinity-femininity; Hoftstede and Bond's (1988) concept of Confucian dynamism; Kluckholn and

Strodtbeck's (1961) time-based types of cultures; Trompenaars and Hampden-Turner (1997) five value orientations: Universalism versus particularism, Communitarianism [collectivism] versus individualism (same as Hofstede's dimension), Neutral versus emotional [affective], Diffuse versus specific, Achievement versus ascription; Concern for face (Ho 1976); Hall's (1990) notion of High-context and Low-context and a number of other factors relevant to a study of culture. The complexity and dynamism of culture necessitates that while these characterizations and past studies may provide some explanation new research is needed (Myers and Tan 2002). We have conducted empirical research to identify what behaviours continue to exist in today's multicultural society. Just as culture is a social construct, multiculturalism is a social construct which has ramifications for organizations in areas such as human resource management, knowledge management, organisational structure, deployment and adoption of technology and so on. In seeking to unpack multiculturalism we pose the following research question.

Research Question: Can patterns be found in the responses of ICT workers on the basis of their cultural background identified via languages spoken at home?

3 METHODOLOGY AND DATA COLLECTION

In seeking to find differences and patterns in the way that ICT workers apply their knowledge, we have employed a technique developed by psychologists at Yale (Sternberg et al. 1995) involving the use of workplace scenarios to discover how someone believes they would act in a given situation. An example of a scenario is shown in Figure 1. The technique is specifically designed as an instrument to measure tacit knowledge (Wagner and Sternberg 1991). Responding to a scenario involves problem solving and decision making. In this way by capturing the response we capture knowledge-in-action which involves the application of practical know-how, tacit and explicit knowledge acquired through education, training and experience. Cultural background may affect our education and training opportunities and achievements; culture will also affect how we (choose to) perceive, remember, (re)apply, receive and transfer the lessons we learnt both formally and informally (Young 2006). Thus we find scenarios to be an appropriate means to tap into the underlying influences of culture on the usage of knowledge.

To provide more structure than free text, assist participant decision making and allow quantitative analysis, the scenarios have a number of possible predefined responses which are measured on two seven-point Likert scales, to capture how the individual believes they would (realistically) and should (ethically) respond, as shown in Figure 1. This design follows from our pilot study in which we found that participants often wished to respond differently depending on whether they thought the response was something they "should do" (ethical response) or "would do" (realistic response). This corresponds to the findings of Wagner and Sternberg (1991a, 1991b). Figure 1 shows the list of six answer options for scenario 5.

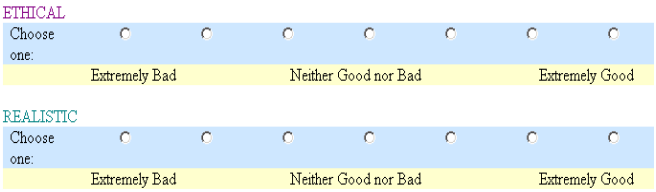
Similarly, Chow, Deng and Ho (2000) designed two (2) scenarios concerning the day-to-day operations of a fictitious firm to test a number of hypotheses regarding knowledge usage. For our study we wanted greater ecological validity and domain coverage and used a process starting with interviews with 12 practitioners leading to a pilot survey in order to develop 16 ICT scenarios each with 6 to 13 answer options. The technique required practitioners to elaborate their 'war stories' or critical incidents they needed to resolve. Participants were made available to us by the organizations. There was no attempt to capture scenarios related to culture or any of the biographical variables collected in our dataset which included age, gender, languages other than English spoken at home, employment history, professional membership and educational background, with the intention of seeing if any of these variables independently or in combination, resulted in patterns of knowledge usage behaviour. We thus claim not to have intentionally built cultural biases into our scenarios. Each participant was randomly assigned 4 of the 16 scenarios.

A systems analyst in your section has done a superb job in designing a new system for a client organisation. The system has yet to pass the coding and post implementation review stage, nevertheless you feel the job that was conducted is worthy of praise.

Because of the 'demand' that exists in the IT industry, and the fact that you know this systems analyst is thinking of 'moving on', you are hesitant to immediately congratulate the person for fear of precipitating the person's departure, believing they may take this as a possibility of gaining promotion in a different firm, or perhaps even branching out into their own company, more than likely with an IS management consultancy bias (something the person had once aluded to).

You are not actually this person's boss, however you have worked successfully together on a number of projects and realise that it is unlikely you will be working with someone as easy to get along with again.

Rate each of the following responses in relation to the given scenario. It is advisable to read all of the responses before replying.



1	Talk as soon as possible with the analyst and 'come straight out with it', telling the person they did a good job, making no mention of employment possibilities in the industry, simply 'assuming' they will stay on.
2	Admit to yourself that the workplace is a professional environment and that the IT industry is competitive, the analyst deserves every chance they can get. With that in mind you don't hesitate approaching the person to congratulate them even if it looks as if you are trying to 'sidle up' to them.
3	Consider talking to the team leader and mentioning the hard work put into the exercise by the systems analyst. What the leader decides to do from there is out of your control.
4	Do nothing positive or negative, simply 'act normal', if and when the analyst comes seeking advice of any kind you can simply let it slip that you thought they did an okay job.
5	Leave an anonymous congratulatory card on the person's desk, something which has been word-processed after hours so that the handwriting is not a giveaway.
6	Next time a social occasion arises, just happen to mention 'off the cuff" to the analyst's colleagues that you thought the person did a great job.

Figure 1. Sample Scenario with 7-point ethical and realistic Likert scales plus answer options (Busch, 2008)

4 SAMPLE POPULATION AND DATA ANALYSIS TECHNIQUES

The complete data set included data from within the ICT departments of three Australian organizations of size small, medium and large. For the purposes of this paper focusing on culture within a multicultural environment, we have not included the data from our small organization because it was predominately of one ethnic background (Anglo-Celtic). The other two organizations were highly multicultural. The medium-size organization had approximately 1700 employees, 16 of which were ICT workers which can be briefly described as either a machine organisation or professional bureaucracy (Mintzberg 1991) whose main business was furniture retailing, but for whom the section of the organisation under study was the IT branch of the company. The large company had over 10,000 employees with around 1,400 ICT workers. This company was essentially a larger version of the previously mentioned organisation. From the medium size company, 13 of the 16 ICT workers chose to participate. In the large organization, despite having prepared over 1200 personally named

letters, only 165 were given the letters by the organization for political reasons unclear to us; resulting in 108 choosing to participate. Despite our disappointment, these are the limitations of using 'real' subjects from industry who can not be 'voluntold'. To increase the sample size we have combined the data from both organizations. While no two organizations are identical and thus there could be differences due to variations in organizational type or culture, an internal analysis of the organization's culture would have been a separate study. Further, to consider the effect of the organizational culture on individual behaviour would need to take into account how long each employee had been with the company and what other (types) of companies the individual had already been exposed to. Finally, the data was collected as individual responses and thus concerned individual knowledge usage, not organizational knowledge usage. Our main concern was that each individual included in the study was working in a multicultural ICT workplace.

Using language/s other than English spoken at home as an indicator of cultural background, we found that 69 individuals (49 males and 20 females) from 20-62 years of age reported no language other than English and thus formed our Anglo cohort. The remaining 52 individuals (30 males, 21 females and 1 unknown) whose ages ranged from 20-59 formed our NESB cohort. The distinction into Anglo and NESB groups fits the Australian political view of multiculturalism where Anglo is the ethnic majority and NESB comprise the ethnic minorities. Indigenous Australian languages were not reported, however a considerable number of European and Asian languages were. We note the predominance of males in our sample population, but point out that this roughly 65/35 gender split is higher than the distribution found within the Australian ICT industry and thus the possible bias towards male behaviours is consistent with the ICT workplace domain. Our lack of control over whom and how many participants in each organization, due to political and managerial reasons, resulted in fewer participants and uneven distributions across cohorts and scenarios. This also meant that only statistical analysis of the data was unlikely to provide statistically significant results and that qualitative techniques would be needed to combine the small numbers in order to discover differences and find cultural patterns.

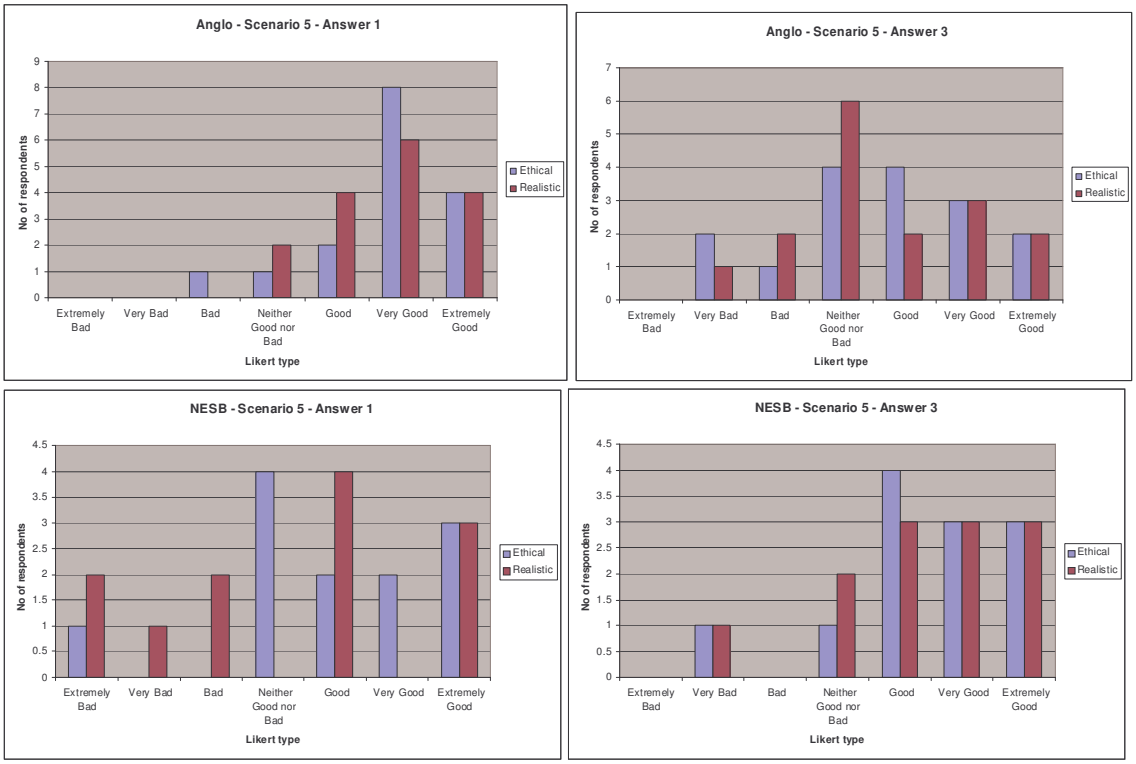


Figure 2: Graphs for Scenario 5 Answer Options 1&3 for English speaking (Anglo) & NESB cohorts

As a first step we conducted quantitative analysis of the Likert-scale responses to each answer-option to determine if differences and patterns between the responses for each cohort could be found. For example, for scenario 5 answer option 1 the mean was 5.625 and 4.25 for the Anglo and NESB cohorts respectively. Based on the numbers we can not claim statistical significance, but we can see looking at Figure 2 that 87.5% (14/16) of the Anglo cohort were positive about this option, 2 were undecided realistically and only one thought ethically that it was a bad choice. In contrast, 41.6% (5/12) of the NESB cohort were realistically negative and only 58.3% were positive. Answer option 3 also shown in Fig. 1, had a means of 4.5 and 5.3 for Anglo and NESB cohorts, respectively, showing a stronger tendency towards favouring the option for the NESB group.

Once a quantitative difference was indicated, we began the qualitative phase of interpretation to determine if the responses were meaningful from a gender or cultural point of view. To achieve this we used a modified version of the technique known as member checking (Lincoln & Guba, 1985). This technique involved testing the data, analytic categories, interpretations and conclusions with members of those groups from whom the data were originally obtained. Acquiring a Likert scale responses to precoded choices does not reveal why someone chose that response. Member checking allows the opportunity to ask why and to gather further clarification and data. However, since the survey participants were anonymous to us and we had no direct access to them, we needed to find others of similar backgrounds to validate our interpretations. However, limitations of member checking have been found (e.g. Morse (1994), Angen (2000) and Sandelowski (1993)) due to conflicts between the researchers and members interpretations, goals and views. Furthermore, it has been found that members may regret having made a certain statement or choice and wish to have their data changed or removed. For these many reasons, we chose then to identify other NESB individuals from the main language groups represented and to ask them if they could interpret why that choice might have been made. We selected four scenarios which showed quantitative differences. Figure 4 includes some extracts from what was provided to our "member group".

PART A: Bio and Introduction
In the following pages you will be provided with a scenario and a set of possible responses. You will be shown a total of four scenarios and their responses.
In a previous study we have asked others working in ICT to read each scenario, all the responses for that scenario and then rate each of the responses in relation to the given scenario.
PART B:
For the scenario you just read, others in your cohort (gender and cultural background), have given certain responses; **please indicate why *you think* they may have responded in this way?**
For the *cultural* explanation consider things such as the importance of individual achievement, age, seniority, hierarchy, consensus, working as/belonging to a group, decision making processes, methods of communication, role of family/relationships, etc.

1. Talk as soon as possible with the analyst and 'come straight out with it', telling the person that they did a good job, making no mention of employment possibilities in the industry; simply 'assuming' they will stay on.

Females were mixed in their responses, tending slightly more to choosing bad *realistically*. *Ethically* most were undecided. Can you suggest why from a *gender* viewpoint?

Your language group *ethically* thought it was good or were undecided. *Realistically* no one was undecided but spread across good and bad with slightly more tending to good. Can you suggest why from a *cultural* viewpoint?

Figure 3: Extract from Member Group survey used for interpretation of Likert scale responses.

ID	Gender	Language	Position	ACS Level	Yrs exp.	Highest Qualification	Age
F1	F	Indonesian	User Interface Designer	1	9	Masters(Research)	31
F2	F	Tamil	Senior S/W Engineer	3	10	Bachelor	32
F3	F	Mandarin/Chinese	Software Engineer	2	12	Graduate Bachelor	38
F4	F	Bulgarian	Software Engineer	3	15	PhD	42
M5	M	Marathi, Hindi	Technical Project Mgr	4	11	Graduate Bachelor	46
M6	M	Vietnamese	Research Engineer	2	6	PhD	30
M7	M	Mandarin	Software Engineer	3	3	Bachelor(Hons)	24

Table 1: Biographical details of NESB member checkers of the scenario response results

We approached a large multinational software development company to provide us with participants working in ICT who would all share the same organisational culture to act as *member checkers*. We sought to obtain 5 males and 5 females from each of the main NESB language groups we identified: *Eastern European* (Russian(2), Serbian (3), Croatian (1), Bulgarian (1), Hungarian (1)); *Mediterranean* (French (3), Greek (3), Spanish (1); *Subcontinental* (Hindi (3), Tamil (2); Kannada (2); *South-East Asia* (Indonesion (4), Tagalog (1); Vietnamese (4)) *East Asia* (Cantonese/Chinese (15), Hakka (1), Hokkien (1), Korean (3), Japanese (1). The company were unable to identify any Mediterraneans or male Eastern Europeans in technical roles. However, the 7 member checkers were from language and gender groups covering 79% of the NESB cohort. Each of our 7 member checkers, summarised in Table 1, received the same four scenarios (ones that we identified to have numerical differences and potentially cultural or gender related interpretations) however, each received the scenarios in a different order to avoid order effects. The IDs in Table 1 are used later in Table 2 to identify the source of a quote.

Using *thematic analysis* (Boyatzis 1998) which uses *recurrence* (same thread of meaning), *repetition* (of keywords, phrases or sentences) and *forcefulness* (volume, inflection, emphatic language) to identify, analyse, describe and report patterns (themes) across qualitative data, we identified some consistent patterns within the interpretations. Initial themes were reviewed against the cultural traits (e.g. individualistic, achievement oriented) identified from the body of literature that we had studied. Our goal was to see if the behaviour patterns corresponded to a cultural dimension so that we could apply the appropriate label. This would position our findings within the culture literature and answer whether the cultural traits identified primarily through study of one or a small number of national cultures, were still evident within a multicultural society. For example, in the box asking for interpretations of why males had responded a certain way males used the following words: active, proactive, **power (2)**, **take on chin, not nag**, logical, well thought out, take control (2), problem-solving, don't leave problems to others, take problem head on, **assertive** (3), authority, **decisive**, take charge, take responsibility (2), responsible (3), leader has responsibility, take ownership, avoiding problems is bad (5), runaway is bad, cover up is bad (3), **frank (4),** truthful, straightforward (2), **forthright**, factual (2), simple, **courage, confident, bad to ask for help (2), clarification/seeking advice okay if junior**, well-organised, ambitious (2), **like challenge, need achievements acknowledged (3), should give praise and feedback (4),** team oriented (3), professional, **egoistic (2),** work hard to get job done (2).

When females were asked why the females had responded a certain way they use the following words: don't want to waste time/efficiency (4), avoid overtime/overwork/too much work (3), **negotiating (2),** involving team, teamwork, professional (13), make own choice, methodical, analytical, consider friends, work and responsibilities, **avoid hurting feelings/upsetting others (2),** communication and discussion good (6), open communication (3), manipulation/lying/sneak is bad (4), bad to runaway from problem, bad to "pass buck", good to solve issues, good to take action, **avoid confrontation,** good to express respect and acknowledge achievement, career, success (3), actively involved, proactive, want to work, do good job, [need to] take responsibility/ownership, **gentle, attached**, **avoid upset, should observe hierarchy (3), hierarchical boundaries, seniority**.

The words in bold indicate concepts not expressed by the opposite gender. Interestingly the same individual may have used that term when referring to culture but not to their gender. For example, M2 used the term **ambitious** 5 times in her interpretations from a cultural viewpoint but not once in her gender interpretation. Terms which arose consistently in the NESB cultural interpretations for members of both genders included: relationships, open communication, avoid conflict/trouble/hurt, deserve recognition/give praise where due, should know place/not interfere, backseat role, teamwork and building is important, individual achievement deserves recognition, praise may be given and received differently, praise should come from superior, shouldn't say no to a request from a superior or coworkers, consensual decision making, need to go with flow, follow order and social standing, observe seniority, customer is god, group decision, democratic processes rather than authoritative, respect other person, consider well-being of others, okay to have personal/individual career goals, take responsibility for own work and problems, avoid conflict.

Our own interpretations of the responses were based on cultural characteristics identified in the literature including: Collectivism/Individualism (Hofstede 1980; Triandis et al 1988; Trompenaars and Hampden-Turner 1997), Ascription/Achievement-Oriented (Trompenaars and Hampden-Turner 1997) (overlapping with Newman, Summer and Warren's (1977) improvement/maintaining status quo and merit-based/relationship-based)); and High/Low Context (Hall 1990); concern for face (Ho 1976), diffuse/specific (Trompenaars and Hampden-Turner 1997), affective/neutral (Trompenaars and Hampden-Turner 1997) (similar to Newman, Summer and Warren's (1977) objective/emotional). In table 2 we provide a summary and snapshot of comments and responses. The interpretations of responses by the same language group revealed a great deal of similarity with the gender responses. This is not surprising since gender and culture are social constructs. Sometimes the response was identical and expressed as "as/see above". Sometimes a cultural explanation was expressed as "fe/males in this culture …".

In some cases the strong connection between gender and culture was apparent because a gender specific interpretation was given in the cultural interpretation. For example "females rarely speak up their opinions and more likely to take a 'backseat' role even if they don't agree" (F1). Via this process of qualitative analysis of the member interpretations we identified the following themes: concern for group, group decision making, importance of observing hierarchy and seniority, open communication, importance of relationships, taking responsibility and making decisions, with some individuals expressing individual achievement, ambition, professional and career orientations. Given that the majority of our NESB cohort and member checkers were from cultures identified as collectivist, the more individualistic views offered may indicate that these individuals were attracted to Australia because it is individualistic (in Hofstede's (1980) studies of 50 cultures Australia was identified as the second most individualistic country after the US). Alternatively, Australia's culture is likely to have influenced their own views.

When we compare these interpretations with characterisations of genders and the national cultural literature we see that some changes have occurred. These changes may be the result of changes over time, original incorrect characterisations or the change in these individuals due to a process of multi-culturalisation. We note that the males when asked to interpret from the point of view of the males, males used terms stereotypically (see Broverman 1972) associated with males (power, challenge, ambitious, assertive, decisive, control). Similarly, our females did the same (gentle, avoiding hurting (ie. Nurturing and caring), following hierarchy (knowing their place)). When it came to a cultural interpretation some of these gender boundaries were relaxed and any of these characteristics could have been used to describe why a response was taken from a cultural viewpoint.

Characterisation of Option	*Anglo*	*Interpretation*	*NESB*	*Interpretation*	*Member View of NESB response (not of interpretation)*
Protest about a bad decision made by a superior Question a superior's decision you see as outdated	+ve	Assertive Not afraid to put forward your own skills/knowledge	-ve	Accept authority, cautious in speaking mind. Greater respect for structure than own opinion.	"don't protest, present pros and cons let's separate motion from action"M6 "Protest is strong word to use, so it's a bad idea in all cases"M6 "Don't like to create trouble and conflict"M7 "being formally against your boss is not good. There are better ways to solve the problem" F3
Do what you are told without question even if you know a better way hoping to be rewarded later	-ve	Experience (achievement) may outstrip and overtake seniority/rank	+ve to very +ve	Cognizant of power distance, seeking improvement of your position through approval of superiors	"doing things a positive way without causing any trouble" F3 "Saying 'no' can sometimes give the impression that you're not capable or rude especially when dealing with more senior person" F1 "it is considered unethical to disown a task assigned by a senior"M5 "Ethics is regarded higher than anything else"M5
Let the boss pass on the praise and be responsible for the consequences	-ve	Your achievements entitle you to acknowledge the achievements of others	+ve	Concern to follow the hierarchy, observe power distance	"encouragement and acknowledgement of the individual's success whilst also respecting the hierarchy of the organization"F2 "praises are only given to a "superior" job by their managers"M1 "pass responsibility to a senior management can solve the problem quicker"F1
Acknowledge the good work of another even though it might prompt them to look for a better paid job	+ve	Achievements should be acknowledge and rewarded, it's a competitive world Speak your mind.	-ve	Not taking on what you see as someone else's role. Focus on the long term and on the organization/group rather than gratification of the individual.	"culturally people respond to praise differently. Sometimes praises are only given to a superior job by managers" F1 "do not like to praise some one in front of their peers" M5 "maybe I have been in Western society for too long so I adopt the frank and open viewpoint. If the person wants to leave to develop his own career, that's his choice"M6 "some males might have seen it as good as they would see an outright praise as too much"F4
Let team member with insufficient skills carry on and someone else do the work	-ve	Not fair, everyone should pull their weight, Project and short term focused	Margi nally +ve	Nurturing, avoid hurting feelings	"it is not acceptable to criticize your coworkers" M5 "less likely someone will become upset" F3 "you don't respect the other person's need" F1
Work unpaid overtime to fix problem	-ve	Materialistic, egoistic (can do a better job) Concern for self, materialistic	+ve	Wanting to please others, longer term focus. Think of greater good, concern for group	"Realistically builds team cohesion and likes to be hard working"M7 "individual achievement are less important than doing work right"F3
Put in extra work to do the job yourself rather than ignore or use incompetent people	+ve	Prefer to work alone, trust their own abilities	Neutral -ve	Prefer to work as group, trust the group	"no one will volunteer to help you anymore"M6 "too much work for no recognition"M7 "not work as a team" F3
Getting a mentor or advice	Mildly +ve	Willing to take advice on board but would rather do/solve themselves	+ve	More inclined to work with others in their ingroup, make use of networking and personal relationships, loss of face	"taking advice of more senior people is good but taking it blindly is not the way to go"M6 "Opinions of partners, friends, family can be very powerful regardless of the appropriateness which can be very dangerous influences if you don't have strong view yourself"F1 "some value people from the inside company than outsource"F1
Use polite communication to resolve the issue	Neutral	Communication has a role to achieve outcomes and results, offending people to get the work done may be unavoidable	Very +ve	Projects and tasks will come and go, but relationships are to be nurtured and thus communication must consider the impact on people.	"Negotiations are far better than conflict"F1 "assertive and take into account responsibility and following orders and social standings"M7 "discussion with boss and other people, leave the option open, and boss is aware of the situation. Good communication" F3

Table 2: Summary of selected answer options and results.

5 DISCUSSION

The small and variable sample size for individual scenarios and the subtleties which can exist in culturally-influenced responses meant that quantitative statistical analysis did not reveal statistically significant results. In the study by Chow, Shields and Wu (1999) involving a comparison of the openness of knowledge sharing within US and Chinese organizations, qualitative analysis of the interviews and responses to closed and open-ended questions using two IT workplace scenarios were able to reveal patterns of differences, which quantitative analysis had been unable to detect and, "in one instance, potentially misrepresented the underlying motivations and behaviors" (Chow, Shields and Wu, 1999, p.580). The value of employing and comparing the results of quantitative and qualitative analysis are captured in the sentiment "Statistics tell one story; [qualitative] research tell the story behind that story" Trauth (2002, p.5).

In our methodology we first identified interesting differences by looking at the numbers and graphs for each answer-option and then qualitatively interpreting the type of behaviour embodied in the scenario and answer-option. However, we were interested to determine if answer-options without (interesting) differences also contained culture-related concepts. After qualitatively evaluating and classifying all 125 answer options, according to the characteristics and dimensions identified from the culture literature, we found that 75 combinations out of the 125 potentially contained cultural issues. That fact that we only found differences worth investigating in 31 of these 75 culturally-relevant scenarios reveals the subtleties which exist in examining culture in a multicultural context.

One approach to multiculturalism is to manage culturally-based expectations (Evaristo 2007). This is firstly only possible if the differences in expectations are understood. Expectations could be managed by enhancing cultural sensitivity training to go beyond fact and generalization to include (virtual) workshops at which individuals of different cultures describe their expectations to specific situations (Evaristo 2007). Indeed this is similar to the workplace scenario-based approach we used to develop our model. We conjecture that the 31 scenarios which showed some cultural differences could be good starting points for discussion.

Understanding the influences of culture is understudied. People are a major component of information systems and people's attitudes to technology, knowledge codification and sharing are shown in other studies to be influenced by culture (e.g. Ardichvili et al. 2006; Chow, Deng and Ho 2000; Michailova and Hutchings 2006). From an IS practitioner's point of view, culture is particularly relevant to knowledge management. For example, understanding cultural influences across the organization, which may vary not only between offices in different countries and states but also within the same geographic location will have implications for the design and implementation of strategies such as the viability of using: email for knowledge sharing, the role of Communities of Practices and group decision support systems and other team-based activities such as system development and project management. Similarly, while diversity is seen as essential for innovation, a past-oriented (Kluckholn and Strodtbeck's 1961), collectivist and ascription oriented culture may be less inclined to diverge from what has been done in the past or question what the group wants, particularly senior members of the group or accept new group members. Management will need to understand the basis of this reluctance and ensure that the new team members are appropriately integrated into the ingroup perhaps through formally organized social events or team building activities, known as managed socialization (Moitra and Kumar 2007). One strategy is to work with existing ingroups and knowledge intermediaries while new intra-organizational groups are formed to facilitate knowledge sharing (Michailova and Hutchings 2006). Ely and Thomas (2001) found that diversity of itself does not necessarily bring benefit. An integration and learning perspective was seen to be the key to success by providing rationale, guidance and motivation to deliver sustained and maximized benefits from diversity. Lau and Murnighan (1998) found that the key to handling diversity was to understand the faultlines within a group so that they could be understood and managed. Cultural differences potentially pose a fault-line and thus understanding the differences can assist in managing and

composing groups. Harrison et al (2002) discusses the notion of deep (psychological) versus shallow (demographic) diversity. By bringing deeply embedded differences and similarities to the foreground, including our culture-based belief systems; can promote deep level diversity leading to better social integration and resulting in better performance (Harrison et al 2002). Our study which reveals differences in the ways employees may put their knowledge into action and how ways of thinking and behaving can be aligned to cultural influences can promote appreciation of deep diversity.

In our study we take the common view of 'multiculturalism' to mean people from different nationalities/countries/ethnic backgrounds and a multicultural organization to mean its employees come from a wide range of cultural backgrounds. To find interesting patterns of knowledge usage behaviour, similar types of cultural groups may need combining. For example, while we believe the United States, United Kingdom, Australia, Canada and New Zealand have different cultural traits it will be much harder to find differences in behaviour as the differences within these countries is probably at least as great as the differences between the nations. On the other hand if we compare these Anglo countries with Latin countries such Italy, France, Spain, Portugal, Argentina, Brazil, Chile, etc. differences are expected to be noticeable. Indeed when it comes to acting upon the range of behaviours, for example with respect to knowledge management practices and policies, it would not be feasible to try to accommodate each individual ethnic group. The fact that we were able to identify patterns of behaviour by combining ethnic groups supports this approach. While not explored in this study, smaller groupings, say four rather than two cohorts based on ethnic background, could reveal even stronger patterns, but with fewer numbers the validity would be reduced.

In answer to our research questions we were able to find patterns in the responses of ICT workers on the basis of their cultural background identified via languages spoken at home. Understanding culture in the not so distant past, promoted tolerance and assisted trade. Understanding culture in the increasingly multicultural organizations and societies of today is no longer an outward looking concept. Nowadays awareness of our own culturally-influenced attitudes and behaviors and those of the people we work and live with is essential if we are going to survive. Education and training can ensure that we "know" the same things, but our culture will influence how we value, interpret, utilize and share that knowledge. Similar to techniques used to help employees to evaluate their own personality, leadership and/or decision making styles and those of their colleagues in order to work together more effectively, we recommend that organizations train their employees, managers in particular, to understand and recognize cultural differences to improve human resource, technology and knowledge management practices within an organization. Identification of responses to workplace scenarios can contribute to this understanding.

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