

# Cultural Aspects of Information Sharing and Collaboration

**In military settings information sharing, collaboration and decision making are influenced by culture. This was demonstrated by a multinational experiment several countries and NATO held to study the conduct of teams that were instructed to identify a terrorist ship. Even though culture was not the focus of the experiment it turned out to be a key variable in information handling behaviour. The results in the experiment suggest that cultural differences such as power distance, individualism, and uncertainty avoidance can have a significant effect on decisions to share information or to include information in the sense making process. Even in budget-constrained times, training is important to prevent officers from having to learn their lessons the hard way while working within a multinational military headquarters.**

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Culture can impact information sharing and collaboration in a variety of ways. An example of cultural impacts on decision making in a maritime operational setting was illustrated in the Multinational Experiment 5 (MNE5) Maritime Situational Awareness (MSA) collaborative experiment held by Finland, Sweden, NATO and Singapore to examine information sharing.<sup>1</sup> Teams of maritime specialists were given a scenario involving four suspect ships. Their task was to identify the terrorist ship. In order to successfully identify the terrorist, they had to share information. The objective of the experiment was to examine how the information management processes, the organizational frameworks, and automated tools supported shared awareness of the white shipping picture. Two teams participated in each of three different areas of responsibility – the Mediterranean Sea, Baltic Sea, and the Southeast Asia maritime region. Each team had an

assigned area of responsibility and in order to actually find the terrorist they *had* to use information received from the teams in the other areas of responsibility. This paper focuses on the results of the teams in the Mediterranean.

## Team Behavior

All team members were very experienced and comfortable with the technical tools. All teams had the same information available and actually assessed and highlighted the same points. However, one team successfully identified the terrorist ship and the other did not. So what was the difference? The successful team was *directly instructed to share* all information; the unsuccessful team was told to *share as necessary*. For the unsuccessful team the central Maritime Operations Centre was a black hole – information went in; nothing came out – hierarchy was important; everything had to go through proper channels – the subordinates were sensitive to the power distance cultural dimension so deferred to the superior for decisions; the other teams in the exercise were not regular partners and the leader of the Maritime

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<sup>1</sup> MNE5 MSA Final Report, 22 December 2008 (available at <http://tide.act.nato.int>).

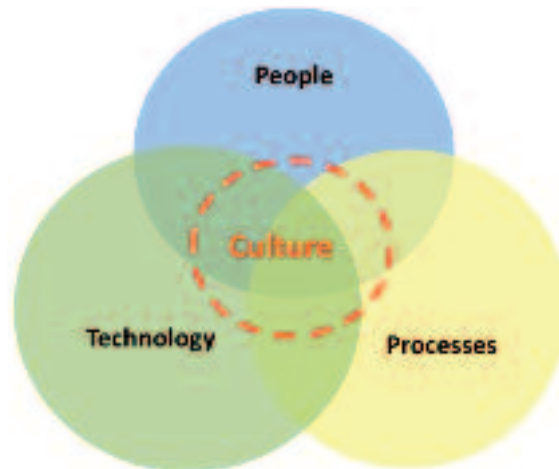


vely. Taking the most basic view, successful information sharing and collaboration requires the right mix of the three essential elements of people, processes and technology. Culture exists in all three areas and is a key factor that impacts – either positively or negatively – achievement of the proper mix of people, processes and technology for mission success. In fact, the cultural dimensions may make technology and processes either optimizers or obstacles.

Operations Centre did not feel comfortable contacting them directly; instead he passed requests through his chain of command rather than answering directly.

The unsuccessful team tended to focus on their assigned area of responsibility and did not consider the links to ships in other areas of responsibility even when the data points might have suggested connections. The operators relied heavily on experience and assumptions to fill information gaps and were unable to recognize information that countered their assumptions. They ignored information from the other team because they thought they already had the right answers. They refused to pass information on unless they believed it to be relevant.

The successful team actually made many of the same wrong assumptions as the unsuccessful team. However, there were two key differences: the successful team passed information on to the other teams without filtering it and they included assessments from the other teams in their final account.



**How Humans Receive Information**

No matter who we are, we receive information through one of our five senses – capacities that we are born with. However, that information



**Impact of Culture on Collaboration**

So what does this have to do with culture? People may accept and even support collaboration as a concept, but in practice it is often a totally different story. Even when we think we are collaborating, seemingly invisible cultural barriers may prevent us from doing so effecti-

passes through a series of filters as our brain processes it. We all have our own patterns of thinking, feeling and acting that we learned throughout our lifetime. Many of these filters were acquired in early childhood when we are most susceptible to learning and assimilating. Once patterns of thinking, feeling and acting have established themselves; we must unlearn these patterns before we can learn something different. Unlearning is much more difficult than learning for the first time.

### What is Culture?

We often think of culture as the easily observable traits such as language, dress, and food. However, the unobservable cultural traits may have the greatest impact on how we process information and collaborate with others. Culture is shared and based on interaction, learned not inherited, evolves over time and consists of both observable and unobservable characteristics. There are many different types of culture that overlap and impact human behavior.



National culture consists of readily observable traits such as customs and values associated with where we were born and raised as well as unobservable traits such as power relation-

ships, attitudes, and expectations. In addition to culture that emerges from shared national experiences, culture exists in both organizations and professions.

Organizational and professional cultures are learned, can have many subcultures and are about “how we do things around here.” For example NATO has an organizational culture with civilian and military subcultures. Examples of military subcultures include Air, Land, Maritime, Special Operations, and Intelligence. Examples of professional cultures are computer specialist and accountants – in fact, think stereotypes and you can easily name many cultural subgroups.

So before our brains even get to the information processing stage, the information received has been filtered through both observable and non-observable cultural filters. These cultural dimensions impact our reasoning and judgment thus affecting our situational awareness and our ability to detect and solve problems. Culture is shared and learned. There is no right or wrong culture – just cultures that are different from ours. Thus, one of the first problems that we have in sharing information and establishing shared situational awareness is that none of us sees the same piece of information in the same way because our cultural lenses filter what we see and how we interpret it. We don’t see things as they are; we see them as we are.

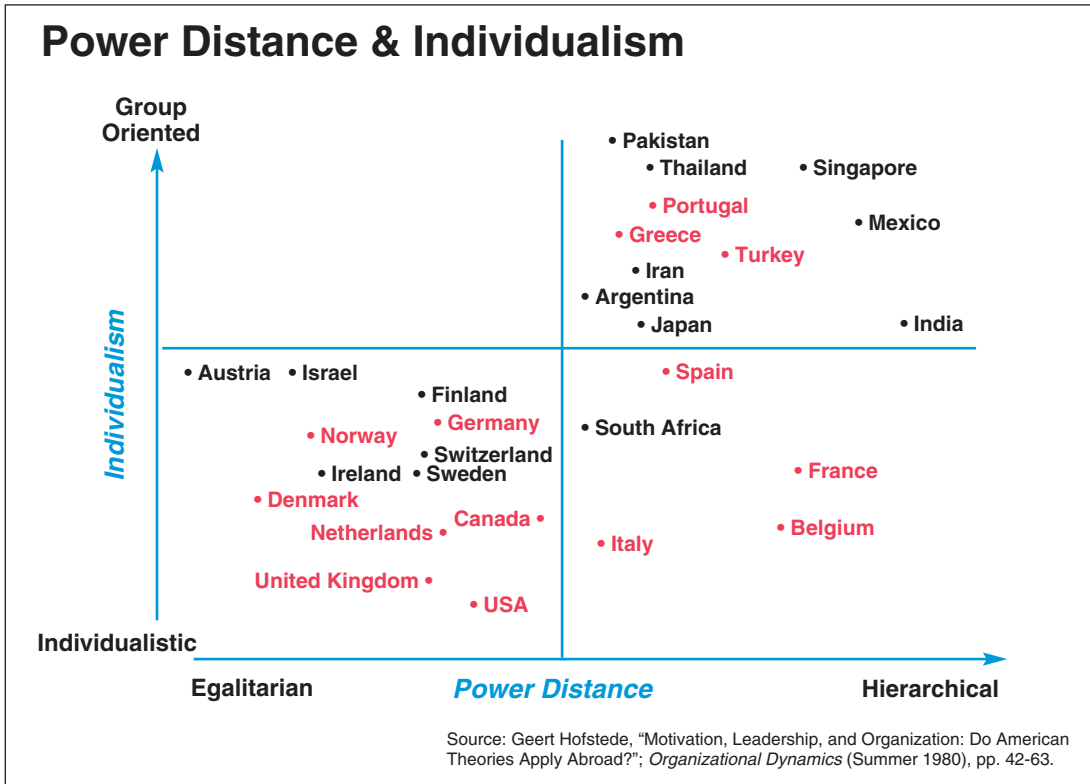
### Why Does Culture Matter?

And you may say “So what?” Research has identified that the problems with human error and communication often have disastrous results. Cultural mismatches can frequently lead to problems in communication. Research has found that:

- National cultures that are collectivist had about three times more airline accidents than individualist cultures. Nations high on the power-distance cultural dimension have about two and one-half times more airline accidents than low power-distance nations<sup>2</sup>
- 83 percent of command and control tasks require high levels of information sharing<sup>3</sup>

<sup>2</sup> Gannon, Martin J. (January 4, 2004). *Cultural Metaphors: Applications and Exercises*. University of Maryland, College Park, MD.

<sup>3</sup> Sonnenwald, D.H., and Pierce, L. (1996). *Optimizing collaboration in battalion staff elements*. US Government Defense Technical Information Centre, DAAL03-91-C-0034, Army Research Laboratory ARL-CR-435.



- Almost 70 percent of aircraft ground mishaps in naval aviation resulted from failure to coordinate<sup>4</sup>
- 80 percent of all marine-related accidents are rooted in the human element.<sup>5</sup>

**How do Cultural Dimensions Impact our Behavior?**

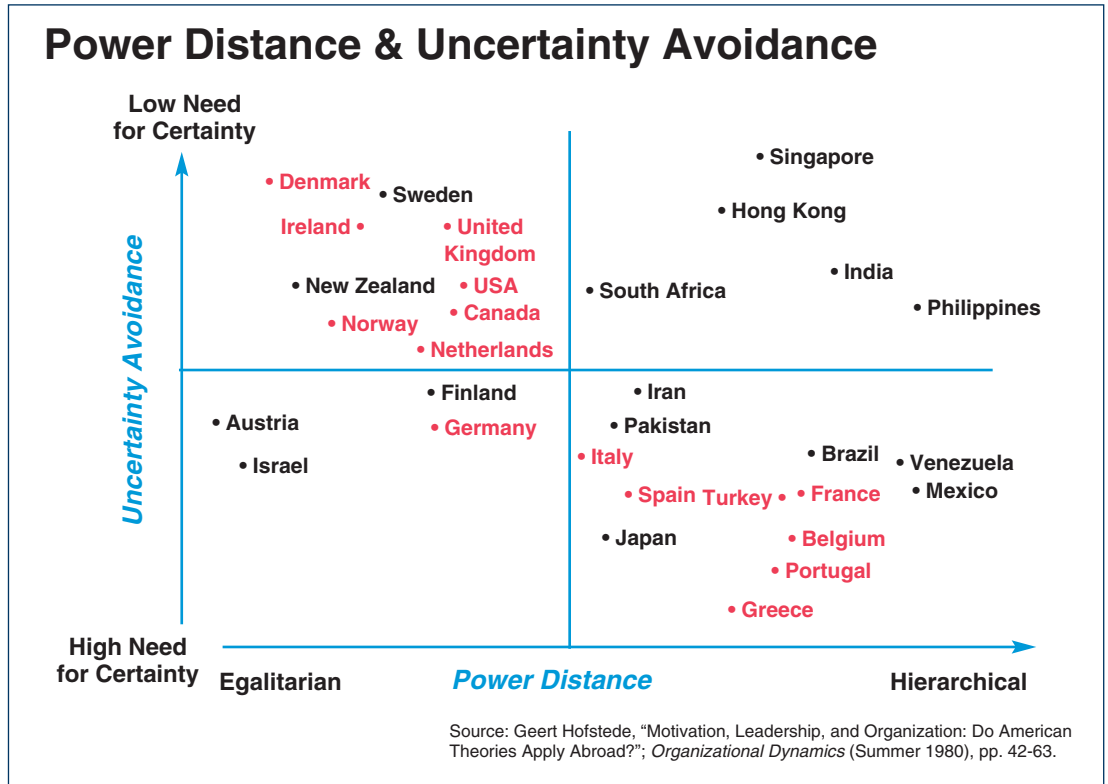
Three cultural dimensions had a significant impact on the information sharing and collaboration of the teams in the MNE5 experiment. Those cultural dimensions were Power Distance, Individualism vs Collectivism and Uncertainty Avoidance that originally were identified and described in research by Geert Hofstede.<sup>6</sup>

The Power Distance dimension impacts leadership style and how teams perform. Rank is from high to low. Individuals with high power-distance references typically believe that those in power should make decisions and that orders should be followed without question. These individuals often don't share information or technology equally with others. Individuals

with low power-distance references are generally more egalitarian and evaluate ideas on merit and experience rather than on the rank of the individual expressing the ideas. These individuals typically encourage communication and questioning.

The Individualism dimension can be categorized as "I or We." This cultural dimension is considered by some to be the overarching value orientation for all cultures and impacts how we share and collaborate. People with highly individualistic cultural dimensions are assertive and emphasize tasks or getting the job done. They speak out, share thoughts and ideas openly and find intellectual debate stimulating. These people often question statements made

4 School of Aviation Safety Naval Postgraduate School Monterey, California. May 24, 2008. HeavyProp Aircraft GCT (Groundcrew Coordination Training).  
 5 U.S. Coast Guard. (1994). Marine casualty investigation and reporting: Analysis and recommendations for improvement. U.S. Coast Guard Research and Development Center, Groton, CT.  
 6 Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values*. Sage Publications. <http://www.geert-hofstede.com>.



by others and tend to be very direct speakers. At the other end of the spectrum are collectivists who are people that tend to value “proper behavior” and are far more constrained in their reactions. They often believe there is one best way to solve a problem and that their leader is the subject matter expert and therefore they defer to that person.

Interestingly different nationalities as a general rule – of course there are also the exceptions – tend to fall at different points on the Power Distance and Individualism indexes. The diagram, based on the work of Geert Hofstede,<sup>7</sup> shows a sampling of nations (NATO members in red). The third key cultural dimension is Uncertainty Avoidance that ranges from high to low. Uncertainty Avoidance particularly impacts our ability to define problems and propose solutions. An individual with a low need for certainty can change more easily, is more likely to make a

decision sooner with less complete information and then alter actions as additional information arrives. Those with a high need for certainty are more reluctant to change, tend to wait for more information and are more likely to stick with an interpretation or course of action once it has been accepted. The diagram illustrates the distribution of some nationalities on the Uncertainty Avoidance index compared with Power Distance.

In the MNE5 experiment adding a civilian to the team changed the team dynamics by creating a more open environment inside the team. The civilian team leader still assigned specific roles for junior team members and expected them to carry out the associated responsibilities. However, the junior members were more likely to voice alternative assessments and the senior member was more willing to consider alternatives. In this case, the dominant cultural difference was organizational (i.e. civilian – military) rather than national, and the team behavior was consistent with other research findings.

<sup>7</sup> Hofstede, G. "Motivation, Leadership, and Organization: Do American Theories Apply Abroad?," *Organizational Dynamics* (Summer 1980) pp. 42-63.

Power Distance Impacts Leadership Style & Team Building	
High Power Distance	Low Power Distance
<ul style="list-style-type: none"> <li>• Believe that those in power make decisions</li> <li>• Follow orders without question</li> <li>• Do not question authority</li> <li>• Do not volunteer/share information</li> </ul>	<ul style="list-style-type: none"> <li>• Egalitarian</li> <li>• Encourage communication</li> <li>• Question authority</li> <li>• Evaluate ideas on merit, not the rank of the presenter</li> </ul>

Individualism Impacts Sharing & Collaboration	
Individualist	Collectivist
<ul style="list-style-type: none"> <li>• Assertive</li> <li>• Task oriented; important to “get the job done”</li> <li>• Question other’s logic</li> <li>• Communicate directly</li> <li>• Work well in a decentralized decision making environment</li> </ul>	<ul style="list-style-type: none"> <li>• Value the group over the individual</li> <li>• Avoid conflict; maintain group harmony; exhibit “proper” behaviour</li> <li>• Defer to leader</li> <li>• Communicate indirectly</li> <li>• Believe rules promote stability and order</li> </ul>

Need for Certainty	
High	Low
<ul style="list-style-type: none"> <li>• Change more easily</li> <li>• Willing to initiate plan with less complete information</li> <li>• Quicker to select new explanation</li> </ul>	<ul style="list-style-type: none"> <li>• More reluctant to change</li> <li>• Likely to wait for more information</li> <li>• Tend to stick with interpretation once accepted</li> </ul>

### What Can We Do?

The real question is what we can do to make this information and research relevant? While we cannot change our cultural backgrounds we can at least understand how cultural dimensions affect how we process information and our ability to collaborate. We’ve all heard that “knowledge is power.” Without at least some fundamental knowledge about human inter-operability we cannot take the necessary steps to address those issues. For all levels of command, we must understand the impact that the

different cultural baggage that humans bring with them to the mission has on information sharing and collaboration.

So where can we apply this knowledge? Three seemingly obvious areas would be

- Policy and Standard Operating Procedures
- Team Composition
- Training

#### Policy and Standard Operating Procedures

In the MNE5 experiment we found that information sharing instructions must be forma-

lized, trained and understood by operators to fully enable sharing. The successful team was directly instructed to share all information; the unsuccessful team was told to share as necessary. When guidance was such that team members had sole responsibility for the decision to share, they typically did not share. When guidance was specifically to share – they did. Information sharing must be proactive rather than reactive – effective communications may be the most important factor in achieving and maintaining situational awareness. Particularly those with a high degree of Power Distance needed the cover of formal direction to share before they had confidence to make sharing decisions. Additionally, understanding why information is being requested is critical to eliciting an appropriate response. This applies not just to the raw information but also to information that has been processed and interpreted.

#### Team Composition

When team members carry different culturally shaped expectations for roles and team processes it can make it more difficult to interpret and match commander's intent.<sup>8</sup> While more work needs to be done to understand optimum team composition initial results indicate that the degree of homogeneity or heterogeneity of teams impacts their ability to cooperate and ultimately to perform. Research findings from studies in Kosovo and Afghanistan show that the proportion of team members from demographic minorities and majorities impacts social and behavioral patterns. In *Smooth and Strained Cooperation*<sup>9</sup> the authors describe that highly heterogeneous teams with many nationalities of equal size (ten times 10 percent) or highly homogenous teams where one nation's members outnumber (90/5/5 percent) actually outperformed the moderately heterogeneous teams.

#### Training

Unfortunately in these budget-constrained times training is often considered “nice to have” rather than essential – especially on a soft subject like cultural awareness. Research shows that training on how to work within a multinational military headquarters on a multicultural team is primarily on-the-job training. People's learning rate influences their performance. Many of us learned – or maybe did not learn – lessons the hard way; some initial training would have significantly reduced our learning curve. People need to be able to identify common patterns of misunderstanding. In the MNE5 experiment, the successful team was trained on a problem solving process that emphasized looking at the bigger picture and considering the information needs of partners when determining the need to share information. The unsuccessful team only received encouragement to think about the bigger picture with no specific training.

Some teams trusted information more when it came from those of a similar cultural background or if it came from the automated systems. Culture also played a role in the team's willingness to accept potential solutions from other teams. Teams need to be trained to eliminate these biases and to treat information from all sources with the same level of objectivity. Cross training of jobs often helps people better understand information that needs to be exchange.

#### Conclusion

International military cooperation is a much under-researched field of study. It is an example of managing exceptional organizations working in exceptional circumstances.

A cultural viewpoint is often the core of a military and much of their cultural identity comes from their national sovereignty.

A better understanding of the cultural dimension of military personnel and the impact of those dimensions on information sharing and collaboration could contribute to improving operational success. ■

8 Granrose, C. and Oskamp, S., *Cross-Cultural Work Groups*. Sage Publications, Thousand Oaks, CA, 1997.

9 Soeters, Joseph, Delphine Resteigne, René Moelker and Philippe Manigart. 2008. “Smooth and Strained Cross Cultural Military Cooperation”, J. Soeters and P. Manigart, eds., *Military Cooperation in Multinational Peace Operations*. Abingdon: Routledge, pp. 198-219.