
Chapter 6 – 'Adaptability in Coalition Teamwork' International Research Symposium

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See Annex A for HFM RSY 142 Program

**HFM-142 Symposium
ADAPTABILITY IN COALITION TEAMWORK
Team Track Out-Brief**

Peter Essens, TNO, Soesterberg, The Netherlands

peter.essens@tno.nl

1.0 INTRODUCTION

Coalition operations require multinational teamwork at increasingly lower levels of command. Collaboration and interaction between people from different backgrounds and cultures has proven to be an extra complexity in the handling the complexities of stabilisation and reconstruction operations. The HFM-142 Symposium on ADAPTABILITY IN COALITION TEAMWORK reviewed results of current, militarily relevant research in the domains of national culture and teamwork. In this out-brief an overview is given of the presentations on teamwork. In addition, we will review the discussion of pertinent issues in the research on coalition teams with some conclusion on the direction of research in this area.

2.0 OVERVIEW OF TEAM TRACK PRESENTATIONS

In the team track there were twelve papers and three poster presentations. They covered assessments and interviews of operational experiences and laboratory studies with micro-world experimentations. Their central theme was how cultural diversity affects team factors and team performance.

- Anne Lise Bjørnstad presented studies on the interrelationship between organizational structure, process and flexibility, culture and trust (field studies - questionnaires, lab experiment) in particular related to power distance and uncertainty avoidance. There was some support to the hypothesis that high uncertainty avoidance predisposed people perceive organizational changes less positively. Support was found that culturally homogenous ad-hoc teams developed higher trust than culturally heterogeneous ad-hoc teams.

- Shawn Burke presented the results on the relationship between cultural orientation profiles and teamwork behaviours from twenty-two interviews with officers in a NATO Joint Exercise. (The profiles were Egalitarian – Status; Risk – Restraint; Interdependent – Independent; Short Term – Long Term; Direct – Indirect; Relationship – Task). Although these were unstructured interviews trends were identified supporting some of the proposed cultural orientation profiles. An egalitarian, interdependent, and direct orientation was found in descriptions of effective supporting behaviours. In addition, a direct orientation was found in descriptions of effective leadership/initiative behaviours.

- Rik Warren presented data analyses of effects of age, computer game experience & English proficiency in the NATO RTO HFM-138/RTG computer game (SABRE) experiment. He concluded that these are real effects which may present confounding effects in culture studies. If you take these effects out (with regression and ANCOVA) you find that the hypothesis that homogeneous-culture teams perform better than mixed-culture teams is not confirmed, the mixed performed better. Important is to realise that when comparing between nations there may be considerable variability within national teams.

- Peter Berggren compared methods for assessing team's shared situational awareness in dynamic situations (C3Fire). He found confirmation that shared situational awareness contributes to team performance, that individual situational awareness and shared situational awareness are correlated, and that shared situational awareness as degree of agreement is tapping into different aspects of shared situational awareness than when subjectively assessed.
- Fred Lichacz presented results from a study in a simulated multinational C2 headquarters 156 participants from eight countries on the impact of cultural differences on situation awareness and confidence. It was confidence rather than situation awareness that was correlated with the various dimensions of national culture and cognitive bias. All groups were overconfident, but the non-native English speaking participants were observed to be more confident in their responses than the native English speaking participants.
- Brian Prue presented a study on how to keep distributed teams synchronised. Distributed teams may have clear projection of command in terms of high level goals and the higher commander's plans. The question is how to avoid that these become disjointed for the teams. Common grounding is essential to keep these distributed parties aligned in interacting with the changing situations of the world.
- Shawn Burke presented a PC-based simulation study with two hundred thirty-four students in a realistic intelligence gathering and decision making task. They compared the effects of culturally homogeneous vs. heterogeneous teams (team composition) on team process and team adaptability related to tolerance for ambiguity (related to uncertainty avoidance); teamwork; meta-cognition; openness to experience. Main findings were that culturally homogeneous teams high in TOA made quicker decisions than heterogeneous teams. The commonly held assumption that diversity adds to quality was not confirmed in this task context - heterogeneous teams did not deliver higher quality decisions. Also, team composition did not significantly impact backing-up behaviour.
- Katia Sycara presented a development towards modeling human teamwork for automated decision support in distributed collaborative decision making in time-pressured, high-stakes situations, such as agent-assisted search operations. Based on behaviour of actual search and rescue teams and simulation experiments it was found that best opportunities for support were coverage of accidental holes in the search pattern due to poor execution of the search plan, and poor priority assignments.
- Fred van Ettinger presented initial results from the operational assessment of the NATO Response Force focussed on the level of networked collaboration. One conclusion was that despite a far from optimal technical environment this does not cause mission failure and a Command or Headquarter can still operate successfully due to the social and the knowledge network of the military. The social network, including leadership and positive culture, has to be explored for quick wins, momentum and future success.
- Matthieu Branlat talked about collaboration support in coordinating intelligence analysis perspectives. Lack of common ground between agents hampers coordination, especially in unpredictable and ambiguous situations. A concept was proposed for an analytic support tool designed to foster exploration, and preventing individual analysts from overly narrow and reductive analysis.
- Peter Essens presented a study on measuring command team effectiveness (CTEF), performed in the context of the NATO RTO Task Groups (HFM-087 and HFM-127). The theory-based model and instrument were developed to help commanders and teams to assess and maintain the team's potential for success during operations. In an operational application the assessment tool was filled out by the Netherlands amphibious planning staff on three successive occasions during an international joint exercise. The model and the instrument as means for feedback on their own performance were considered valuable and covering a relevant set of items. Negative was the perceived complexity of reflecting on own behaviour. A relevant observation was that in this lean-manned staff most participants were member of multiple teams which made the definition of team complex.

3.0 MAIN ISSUES ARISING FROM TEAM TRACK DISCUSSIONS

Several issues that require specific attention in the study of cultural factors and teamwork were brought forward by the participants in the team track. The main issues were: Maturity of the concepts and theory; Ecological validity; Analysis of real life operations methodologies.

Whereas team theory has developed to maturity with a rich knowledge base the culture factor and team performance seems to be an undeveloped area. In one paper (#18, Burke cs.) this was clearly recognised: “The results reported herein just begin to scratch the surface of the interplay of cultural orientation, team composition, and the processes that lead to effective team performance.” This weakness of theory played clearly a role in the discussions on team and culture. Terminology was used in diverse meanings, e.g. people from different national cultures, from different organisations, culture as different values and beliefs, or habits, or ways of working. Despite the maturity of team research the precision in defining the level of the team was not always clear either, team as established closed group, student teams formed in two hours, initially ad hoc teams in multinational coalition exercises working together for some weeks, semi-permanent for 6 months, multi-team staffs, alliances. Also the level of command showed to be factor of confusion: tactical execution teams action oriented, command problem solving teams exchanging knowledge, and so on. A reference framework that addresses these dimensions is clearly needed in order to progress in this area.

In his key note address MG Van Loon referred to diversity of the coalition forces as one of the major complexities of coalition operations. He regarded diversity as a difficult reality, but also as an essential one to capture the diverse perspectives for making better, and well-supported operational decisions. In this he did not want to focus on the differences and caveats, but on the binding factors and opportunities. If we look from that perspective to the studies presented we see two main related issues: operational relevance and ecological validity. Operational relevance was the trigger that started the NATO Task Group HFM138. For continued relevance it seems to be important to maintain and renew an operational view and continue to observe and analyse the operational realities, these are continuously developing. In particular the idea of binding or positive factors might be a way to overcome the potentially dozens of variations of cultural obstacles that can be thought of. Ecological validity was discussed in relation to the use of microworlds or PC games that are being used in the reported studies. Concerns were there about the generalization and relevance of these experiments for addressing the “new complexities” of stabilisation and reconstruction operations. Although these research platforms are powerful tools and highly valuable for developing theoretical concepts and insights, equally important remains continued, systematic operational observation (case studies) as drivers, and application of theory in practice as test and evaluation of the concepts and behavioural insights.

In the line of understanding the complexities and operational practice there was discussion on: How can we measure in the field? Do we have sufficient (naturalistic) insight in the realities of the new complexities? What are the best methods for systematic and safe, and military supported, approaches of operational practice? Experiments in reality are rare, but not impossible. Case studies are a more common approach to social science of operational situations, however, too scarcely done for this problem area.

4.0 CONCLUSION

The papers, presentations and discussions show that there is still substantial work to be done in theory building and understanding of operational realities. HFM-138 and the Symposium on Cultural Adaptability of Coalition Teamwork provide a strong milestone in this development. The sense is that the operational realities need to be analysed in further detail. This requires strong military support. That support can only be gained if the research is addressing actual operational issues including the commitment for participatory research – not bringing the military to the lab but the researcher to the field. Where HFM-138 started off with an operational issue identified in the field, in particular for the operational effectiveness of teamwork and collaboration in broader sense, the research community (and NATO RTO) should follow-up on that line and deepen their operational involvement and understanding and provide the field with practical directions, based on sound theory.

NATO HFM-142 Research Symposium on Adaptability in Coalition Teamwork CULTURE Track Summary

David Matsumoto, Ph.D.
San Francisco State University, USA

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The NATO Human Factors and Medicine HFM-142 Research Symposium on Adaptability in Coalition Teamwork was held in central Copenhagen, Denmark, on 21-23 April 2008, at the meeting facilities of the Ministry of Foreign Affairs at the Eigtveds Pakhus. The symposium included opening remarks on the afternoon of 21 April 2008, and then broke into two tracks of presentations, one labeled the CULTURE track, the other labeled the TEAMS track.

The CULTURE track presentations occurred all day Tuesday, 22 April 2008, and in the morning of Wednesday, 23 April 2008. A total of twelve papers were presented orally, as well as one poster. The presenters came from France, Malaysia, the Netherlands, Sweden, the United Kingdom, the United States, and all dealt with NATO-relevant issues. Broadly speaking, the papers and poster presented spanned three major types of topics:

- Presentations that highlighted the need for cultural awareness in the field.
 - A French Clinical Director for the German Hospital to Kabul: A Multinational Experience
 - Linguistic Sources of Coalition Miscommunication
 - Designing User Culturally Fit Interface for Globally Distributed Collaboration in Virtual Communities [poster]
- Presentations highlighting issues concerning cultural training.
 - Simulations Based Approach to Cross-Cultural Training for Higher Order Cultural Awareness
 - Bridging the Cultural Gap: A Cultural Framework as a Basis for Cultural Awareness Training
 - Predictive Modelling of Personality Traits – Implications for Selection of Operational Personnel
 - Multicultural Perspective-taking Competencies: A Conceptual Model and Training Tool
 - US/UK Cultural Differences in Mental Models of Planning
 - Culture, Politeness and Directive Compliance: Does Saying "Please" Make a Difference?
 - Can You Work With Me? The Effects of In-Group vs. Out-Group in Developing Swift Trust for Global Virtual Teams
 - Empirical Studies and an Explanatory Model of Cultural Differences in Goal Setting, Task Allocation, and Communication.
- Presentations concerning the psychometrics of various aspects of measuring culturally-relevant constructs.
 - Applying Unfolding Item Response Theory to Enhance Measurement of Cultural Norms
 - Measuring Cultural Cognitive Biases in Multi-national Research

The issues raised during the discussions and question/answer sessions in the CULTURE track revolved around the following:

1. How can we deal with the nested nature of behavior, in which behaviors are nested in contexts, which are nested in people with individual differences, who are nested in teams (oftentimes ad hoc in nature), who are nested in organizational cultures, which are nested in national cultures?

2. What is the different between adaptation and adjustment, and which is primary for our work?
3. What is cultural about cultural adaptability? Are we talking about general adaptational skills that we all have that are applied in cross-cultural contexts? If so, what are those culture-general skills, and what are the culture-specific knowledge, skills, and attributes that accompany and complement the culture-general adaptational skills?
4. What is the goal of cultural adaptation? Is it integration or assimilation? What are the minimal ingredients for ad hoc coalition teams coming together to work together effectively? And what is cultural about these ingredients?
5. What level of analysis is appropriate for the study of culture and its influence on adaptation? Are we studying cultural topographies or individual competencies? Is studying cultural level constructs appropriate? Or is it better to study individual level competencies, regardless of culture? And is any difference between any two or more people from different cultures a “cultural” difference?
6. What are the best ways to train cultural adaptability: (1) Do we raise awareness about cultures? If so, what aspects of them? Dimensions? Which ones? Norms? Values? Beliefs? Religions? or (2) Do we train competencies and, if so, which ones?
7. What are the goals of cultural adaptability? Does accomplishing missions equate to winning the hearts and minds of the local population? Do we want coalition teams to like each other? Accept each other? Are we talking about assimilation or integration?
8. How can cultural (and individual) differences in ad hoc coalition teams be leveraged in order to increase team effectiveness?

The questions that arose from the presentations and subsequent discussions are interesting because they highlight important questions that exist today that basic research on culture and its relationship with behavior has just begun to explore. It was impressive that these questions were generated from almost entirely field-based, applied studies that can be used to inform a tangible goal, either in the form of a training tool to aid in improving cross-cultural adaptability, or the changing of doctrine or standard operating procedures to achieve the same result. Some questions, such as those that concern the best way to model and analyze nested behavior, can be informed by recent developments in the modeling and statistical procedures literatures, such as the use of Multi-Level Random Coefficient Modeling (AKA Hierarchical Linear Modeling). Other questions can certainly be addressed by more basic research, such as those concerning the identification of individual knowledge, skills, attributes, and competencies that enable people to be, or become, more adaptive across cultures. Yet, there are some topics that can only be addressed in applied work in the field, especially those addressing the efficacy of models of cultural adaptation in high-stakes, ambiguous, and ad hoc situations. The presentations and discussion, therefore, make it clear that a multi-pronged approach to research involving combinations of basic and applied science is necessary to generate knowledge that will be utilizable in applied settings, either in the form of training or changes in operating procedures.

In summary, the CULTURE track of the HFM-142 Research Symposium on Adaptability in Coalition Teamwork raised many issues concerning contemporary operations and the operational environment that highlighted the need for continued, focused research on the areas described above. Moreover, it was clear that many of the answers needed to address the above issues did not exist in basic science research either; thus future research endeavors must include both a basic as well as applied perspective in addressing how to best improve the adaptability of coalition team members from different cultural backgrounds.

