Chapter 4 – METHOD

by

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4.1 MATERIALS

This study employed a combination of quantitative (i.e., questionnaire) and qualitative (i.e., semi-structured interviews) methodologies as described below.

4.1.1 Questionnaire

This section of the report outlines the questionnaire (see Annex D) built on the basis of the above introduced model of organisational effectiveness of NATO operational HQ implementing Non-Article 5 Crisis Response Operations. Note that, except for the background variables and when otherwise noted, the participants rated their level of agreement with the items on 5-point Likert-type rating scales ranging from *Strongly Disagree* to *Strongly Agree*. A sixth option, labelled *I don't know*, was also available for their consideration.

4.1.1.1 Background Variables

Background variables (Items 1 – 12) included sex, age, nationality, first language, status (military including Army, Air Force, Navy, and Marine, or civilian including government employee or contractor), rank (if military), number of deployments in a multi-national HQ, length of stay in the HQ, and supervisory role (and if so, number of subordinates).

4.1.1.2 Operative Goals

Four items (Items 62 – 65), derived from the U.S. Surface Warfare Officers' School's (SWOS) Team Assessment Instrument [74], assessed effective and timely *decision making* within the HQ. Five items (Items 57 – 61), also adapted from the SWOS, measured effective and timely *sharing of information* within the organization, and six items assessed *shared awareness of tasks and responsibilities* within the HQ. Of these six items, four (Items 30 – 32 and 55) were adapted from Lewis (2003) [52] and two (Items 54 and 56) from Matthews, Strater and Endsley (2004) [53].

4.1.1.3 Structure and Processes

Four items (Items 13 and 15 – 17) measured the *flatness* of the organization's structural hierarchy, while three items (Items 14 and 18 – 19) assessed its degree of *decentralization* in processes. Four items (Items 20 – 23) measured its *flexibility*, and five items (Items 24 – 28), its level of *differentiation*.

An additional variable, *alignment*, was created to estimate the level of congruence between the flatness of the organizational structure and the decentralization in its processes by subtracting the decentralization variable from the flatness variable. Thus, high scores (in absolute values) indicate low congruence (i.e., opposite ratings on the two variables, e.g., 1 and 5) and low scores (in absolute values), high congruence (i.e., identical scores on the two variables, e.g., 1 and 1).

Items 13 and 14 and the alignment variable are based on the work of Bjørnstad (2005, 2011) [14],[13]. The rest of the items were developed specifically for this study.

4.1.1.4 People

Ten items including items 69 – 78, [61] evaluated the level of transformational *leadership* within the HQ. Those participants who answered *Yes* to Items 37 "I took part in NATO [e.g., multi-national] pre-deployment training prior to joining this HQ" and/or item 38 "I took part in national pre-deployment training prior to joining this HQ" were asked to rate five additional items (Items 39 – 43). These five ad-hoc items pertained to the perceived effectiveness of their *pre-deployment training* in preparing them for their work in the HQ. Three ad-hoc items (Items 44 – 46) assessed the perceived efficiency of the *rotation cycles* in the HQ.

4.1.1.5 Culture

Four items (Items 33 – 36), three of which originate from the work of Blais and Thompson (2009) [15], assessed the notion of team *trust* within the HQ; the fourth item was simply an overall indicator of trust. Four items including items 47 – 50 [75] tapped into the *improvement orientation* in the HQ, while three ad-hoc items, including items 51 – 53, measured the *openness to diversity* in the HQ. Based upon the information available regarding the participants' nationalities, Hofstede's country index scores on power distance (Pd) were employed in the analyses [37],[38]. Note that Pd was not a direct measure; scores were adapted from previous research.

4.1.2 Interviews

The interview protocol was designed based on the model of organizational effectiveness of NATO operational HQ implementing Non-Article 5 Crisis Response Operations. It included background questions similar to those asked in the questionnaire, questions pertaining to the input factors, and questions tapping into each of the operative goals.

For each input factor, the SMEs were asked to describe the HQ with respect to that factor. For instance "Do you perceive the HQ to be flexible or rigid?" Furthermore they were asked how this circumstance (e.g., degree of flexibility) affected their daily work and, when applicable, asked about what aspects were affecting this circumstance, including the question, "What are the most critical aspects affecting flexibility in the HQ?" As far as the operative goals were concerned, the views of the SMEs on how decision making, information sharing, shared awareness worked in the HQ, and critical aspects affecting these goals, were assessed.

Because the interviews were designed to be semi-structured in nature, the follow-up-questions were not mandatory. They were dependent upon the answers of the interviewees. For the complete interview protocol, please see Annex E.

4.2 PARTICIPANTS AND PROCEDURE

The October 10–15, 2010 data collection team from NATO HFM RTG-163 carried out the field study in KFOR HQ, Pristine, Kosovo. The following researchers participated in the field work: CAPT Yantsislav Yanakiev (BGR-N) D.Sc., Ms. Esther Bisig, Ms. Jenny Marklund, Mr. Sigmund Valaker and Dr. Maria-Magdalena Granåsen.

Data collection was organised in six sessions in which groups of approximately 25 respondents where scheduled to meet the research team in the conference facility (Hollywood Centre) in Film City. The chair of NATO HFM RTG-163 introduced the multi-national research team and the goals of the study. He also informed the participants that the survey was completely anonymous and that their participation was entirely voluntary. Each session lasted between 30 and 45 minutes.

4.2.1 Questionnaire

Data were collected from 103 military members and 33 civilian KFOR HQ personnel, including 5 government civilians and 28 civilian contractors. The following analysis focuses on the sub-sample of 103 military personnel from NATO and Partnership for Peace (PfP) nationalities represented in KFOR HQ. The socio-demographic composition of the military sub-sample was as follows (see Table 4-1).

Table 4-1: Socio-Demographics of Respondents.

Sex:	Male = 95 Female = 7 NA = 1
Age:	Average = 40.3 years
Nationality:	USA = 19, DEU = 15, TUR = 14, ITA = 11, HUN = 6, UK = 5, IRE = 5, AUS = 5, ROU = 5, SLV = 5, FRA = 4, SWE = 4, GRC = 3, POL = 3, BGR, BEL = 2, POR, SPA, UKR, CZE, EST, FIN, NOR = 1
Military service:	Army = 76 Air Force = 14 Navy = 10 Marines = 1 NA = 2
Military rank	Commissioned Officers (COs): OF-1 = 3 OF-2 = 13 OF-3 = 21 OF-4 = 19 OF-5 = 4 Non-Commissioned Officers (NCOs): OR-5 = 4 OR-6 = 8 OR-7 = 7 OR-8 = 7 OR-9 = 6 NA = 11
Number of multi-national deployments:	First deployment = 53; of the remaining 50 who had been deployed before, the majority (= 36) were deployed once or twice.
Length of current deployment so far:	Average = 5.91 months
Supervisory role:	Supervisory role = 55, supervising on average 8.92 subordinates

The respondents were selected based on the following criteria:

1) Representation of diverse nationalities;
2) Representation of different organisational structures within KFOR HQ; and
3) Representation of different hierarchical levels and military ranks.

As a result, the implemented sample covers respondents from 24 NATO and PfP nationalities. In addition, the following HQ branches are represented in the sample: J1, J2, J3/Joint Operations Cell (JOC), J4/JEng, J5/Joint Coordination and CIMIC (JEC), J6, J8, Public Affairs Office (PAO), Headquarters Support Group

(HSG), Military Civil Advisory Division (MCA), Joint Intelligence Cell (JIC), DOS, Media Advisor (MEDAD) and Legal Advisor LEGAD. Finally, 60 Commissioned Officers (COs) ranging from OF-1 to OF-5 and 32 Non-Commissioned Officers (NCOs) OR-5 – OR-9 were surveyed, while 11 respondents did not show their military rank.

4.2.2 Interviews

Fifteen interviews were conducted mainly at the Assistant Chief of Staff (ACOS) level, covering J1 – J5, J8, Headquarters Support Group (HSG), different structures of the MCA, and JIC. All interviewees were military officers (i.e., Colonel or Lt Colonel) except two. Representatives of 10 NATO and PfP nationalities participated in the interviews (DEU = 4, TUR = 1, ITA = 2, UK = 1, IRE = 1, SLV = 2, FRA = 1, GRC = 1, FIN = 2).

Each interview lasted approximately 45 to 60 minutes. The interviewees were interviewed individually by two members of NATO RTO HFM-163. One of these members asked the interview questions, while the other member recorded the interview and asked additional questions if needed. All interviews except one were audio-recorded. Before the interview started, the participants were informed that their participation in the interview was completely voluntary, that their anonymity would be protected, and they were asked for their permission to be audio-recorded.

4.3 DATA ANALYSIS PLAN

4.3.1 Questionnaire

After preparing and screening the data, we examined each scale to establish acceptable levels of internal consistency reliability by conducting internal consistency reliability analyses. A Cronbach's alpha of .70 or higher was considered acceptable for psychological research [21],[56]. In order to reach this objective, we removed those items that failed to show a sizable correlation (.30 in the expected direction; [56]) with the corrected total-scale score (i.e., the total score except for the item of interest), as they did not distinguish between low and high scorers on the scale. We aimed to retain at least three items per scale, however, in order to make it possible for future research to investigate the psychometric properties of the items via exploratory factor analyses [79]. Next, we computed the means and standard deviations associated with each scale as well as the correlations among the scales.

Then, to inform our hypothesis that the operative goals were related to the input factors, we conducted separate hierarchical regression analyses with each of the three operative goals as the outcome variable. To see whether or not each set of input factors (i.e., structure and processes, people, and culture variables) uniquely contributed to the outcome variable, we regressed the three sets of predictor variables onto the outcome variable sequentially, starting with the structure and processes variables, followed by the people variables, and the culture variables.

Finally, we ran moderated regression analyses [7] to determine whether or not team trust moderates the relationship between the structure and processes variables and the operative goals. Specifically, we examined team trust as a potential moderator of the relationship between the flatness of the organizational structure, the decentralization in its processes, its flexibility, its differentiation, and effective and timely decision making, information sharing, shared awareness, and the perceived effectiveness of the organization. First, we mean-centred the predictor variables to reduce multi-collinearity and created interaction terms by multiplying the mean-centred flatness (in structure), decentralization (in processes), flexibility, and differentiation variables with the mean-centred team trust variable [1]. Then we conducted separate regression analyses for each of the structure and processes variables predicting each of the operative goals in turn. For example, when predicting shared awareness, we entered flatness in hierarchy, team trust,

and their interaction in the model. A significant interaction coefficient should indicate that team trust is indeed a moderator of the relationship between the predictor and outcome variables. We plotted significant interactions to ascertain their nature and run tests of simple slopes. We used this procedure to test the remaining moderation hypotheses.