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2004 Command and Control Research and  
Technology Symposium

The Power of Information Age Concepts and  
Technologies

Abstract for Topic of Network Centric Operations  
Transformation

Paper Title:

Application of NCO Conceptual Framework to  
Combat Operations of Allies and Coalition  
Partners: A Case Study

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**Abstract:**

*Operation Iraqi Freedom* offers recent and rich examples of allied and coalition combat operations that leveraged many of the advanced technologies designed to support improved interoperability within the tenets of Network Centric Operations (NCO). Our paper presents findings of a case study that applied the NCO Conceptual Framework (CF) to US and UK combat operations in southern Iraq during Operation IRAQI FREEDOM<sup>1</sup> aimed at securing key objectives in south-east Iraq<sup>2</sup>. Special emphasis has been placed on insights gained from the joint application of the Force XXI Battle Command, Brigade-and-Below (FBCB2) Blue Force Tracker (BFT). Our case study team was comprised of PA Consulting Group team members from the US and the UK and included four workshops during which there was further participation and contributions from various stakeholders from the US DoD, UK MOD and the wider defense community.

The application of the NCO CF model to these combat operations focused on the Quality of Individual Sensemaking, the Quality of Interactions, and the Degree of Shared Sensemaking and the attributes and metrics related to these areas that fall predominantly into the Cognitive and Social Domains of the NCO CF. We also collected and evaluated data and information related to attributes/metrics in the Information Domain including the Quality of Networking, Degree of Information “Share-ability” and the Degree of Shared Information.

In order to contain the scope of this effort, our initial focus was on the 1st (United Kingdom) Armoured Division (informed by additional research with the US FBCB2 Program Manager and 1MEF/15MEU) within which 47 FBCB2/BFT units were deployed. These FBCB2/BFTs were fitted just prior to crossing the Kuwaiti/Iraqi border and the overriding question was whether or not there was an incremental development in military capability within units as they adjusted and refined their tactics, techniques and procedures leveraging the capabilities of FBCB2/BFT. Given this, part of our research design, our case study hypothesis is that, during Operation Iraqi Freedom, the direct accessibility to FBCB2/BFT by UK units provided improved individual sense-making, enhanced the quality of interactions, improved shared sense-making contributing to increased mission effectiveness relative to those units without direct access to FBCB2/BFT.

Central to this, we established a baseline documenting force effectiveness of individual units prior to fitting FBCB2/BFT and deploying into Iraq against the subsequent performance during the Operation. Our primary research to support this was driven by a data collection and analysis plan, underpinned by a questionnaire developed using the NCO CF framework. This was based upon approximately 45 face to face interviews with commanders and staff from the 1st (United Kingdom) Armoured Division, including the 7 Armoured Brigade, 3 Commando Brigade, 16 Air Assault Brigade and 51 Squadron Royal Air Force Regiment.

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<sup>1</sup> Operation IRAQI FREEDOM was known as Operation TELIC to UK forces.

<sup>2</sup> Objectives included the Al Faw Peninsula, the port of Umm Qasr, critical oil infrastructure within the Rumalyah oilfields and the city of Al Basrah.