

8th ICCRTS – Coalition Interoperability

Organisational Interoperability: Evaluation and Further Development of the OIM Model

*Suzanne Fewell & Thea Clark
Defence Systems Analysis Division,
DSTO Australia*

*Presented by John O'Neill
at 8th ICCRTS, Washington, June 2003*

Contents

- **Interoperability**
- **Overview of the OIM model**
- **Evaluations – INTERFET, AUSMIN, MNLOE2**
- **Further development of the model**

Introduction

- ***“Interoperability is the ability of systems, units or forces to provide the services to, and accept the services from other systems, units or forces”***
and
“the need of one group to interact in some way with another group”
- **Our focus is on the sharing of information and the exchange of knowledge.**

Types of Interoperability

1. **Technical Compliance**
 2. **Systems Interoperability**
 3. **Operational Interoperability**
 4. **Organisational Interoperability**
 - **Legal and doctrinal framework**
 - **Command issues**
 - **Trust**
 - **Culture...**
- LISI*
- OIM*

Framework of OIM Model

Attributes

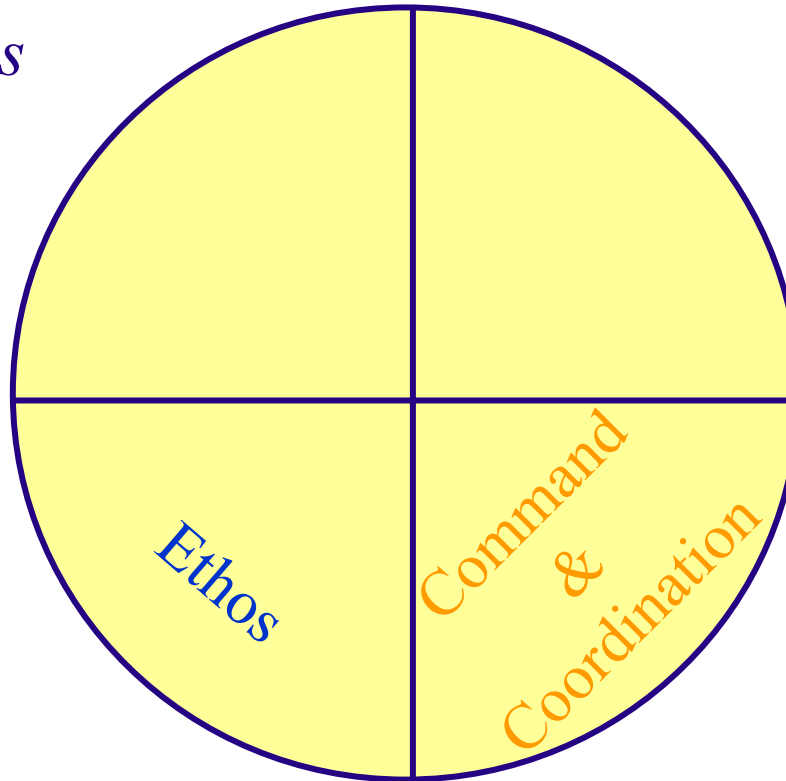
Levels

	Preparation	Understanding	Command and Co-ordination	Ethos
4. Unified				
3. Combined				
2. Collaborative				
1. Cooperative				
0. Independent				

OIM Attributes

How well prepared are collaborators to perform the goals?

What impact do socio-cultural factors have?



How well developed is the level of mutual understanding and knowledge sharing?

How well do collaborators fit into the command structure and adapt to the command style?

OIM Reference Model

	Preparation	Understanding	Command and co-ordination	Ethos
4. Unified	<p>Completely integrated preparation resulting in normal day to day working.</p> <p>Common doctrine covers all aspects of operations. All other agreements are in place. High levels of integrated training and experience using common doctrine, communication and information system, tools and agreed operational processes.</p>	<p>Completely integrated knowledge building. Shared interpretation.</p> <p>Communication and information system capabilities correspond to LISI enterprise level.</p>	<p>Homogeneous command structure with a single chain of command. No difference in command and leadership style.</p>	<p>A high level of commitment to shared goals.</p> <p>Minimal impact of external constraints.</p> <p>Complete trust and respect across the organisation.</p> <p>Minimal impact from differences in personnel arrangements and organisational culture.</p>

OIM Reference Model

	Preparation	Understanding	Command and co-ordination	Ethos
0. Independent	Almost no preparation.	Almost no exchange of information. Communication and information system capabilities correspond to LISI isolated level.	Separate command structures with little interaction. Major differences in command and leadership styles.	Limited shared purpose. Minimal trust and respect. Major impacts from differences in personnel and organisational culture.

INTERFET – On Patrol in East Timor



INTERFET Organisational Interoperability Evaluation



- **Preparation:** AS DJFHQ had recently exercised with other ABCA members and AS had trained with Thai, Fijian and Filipino forces.
- **Understanding:** Shared understanding less with ASEAN partners owing to language differences.
- **Command & Coordination:** INTERFET as a whole was not an integrated command.
- **Ethos:** Shared purpose but significant differences in operating philosophies and caveats on the use of forces.

INTERFET Organisational Interoperability Evaluation

	AS	US	NZ	Thai	Phil
US	2				
NZ	2	2			
Thai	1	0	0		
Phil	1	0	0	0	
ROK	0	0	0	0	0

AS-US Interoperability Review



- **Preparation:** higher for AS-USPACOM due to familiarity with ASUS Planning Manual, regular combined exercises and some operational experience.
- **Understanding:** higher for AS-USPACOM as some communication facilities and informal communication were channels shared and well used whereas AS-USCENTCOM had no direct communication channels at the time.

AS-US Interoperability Review (cont)



- **Command & Coordination:** lower for USCENTCOM due to lack of familiarity.
- **Ethos:** lower for USCENTCOM due to lower levels of trust.

AS-US Interoperability Review

AS-US Review	Preparedness	Understanding	Command Style	Ethos	Overall
AS-USPACOM	2	2	2	2	2
AS-USCENTCOM	1	0	1	1	0

MNLOE2 Organisational Interoperability Evaluation



MNLOE2 Organisational Interoperability Evaluation



- **Preparation:** unilateral development of the doctrine by the US, inadequate AS training.
- **Understanding:** audio problems, minor differences in language, information management.

MNLOE2 Organisational Interoperability Evaluation



- **Command & Co-ordination:** flat command structure and leadership style, experimental setup did not permit communication with national superiors or other agencies.
- **Ethos:** players felt that cultures were similar but some cultural differences emerged, AS staffing levels much lower than for the US.

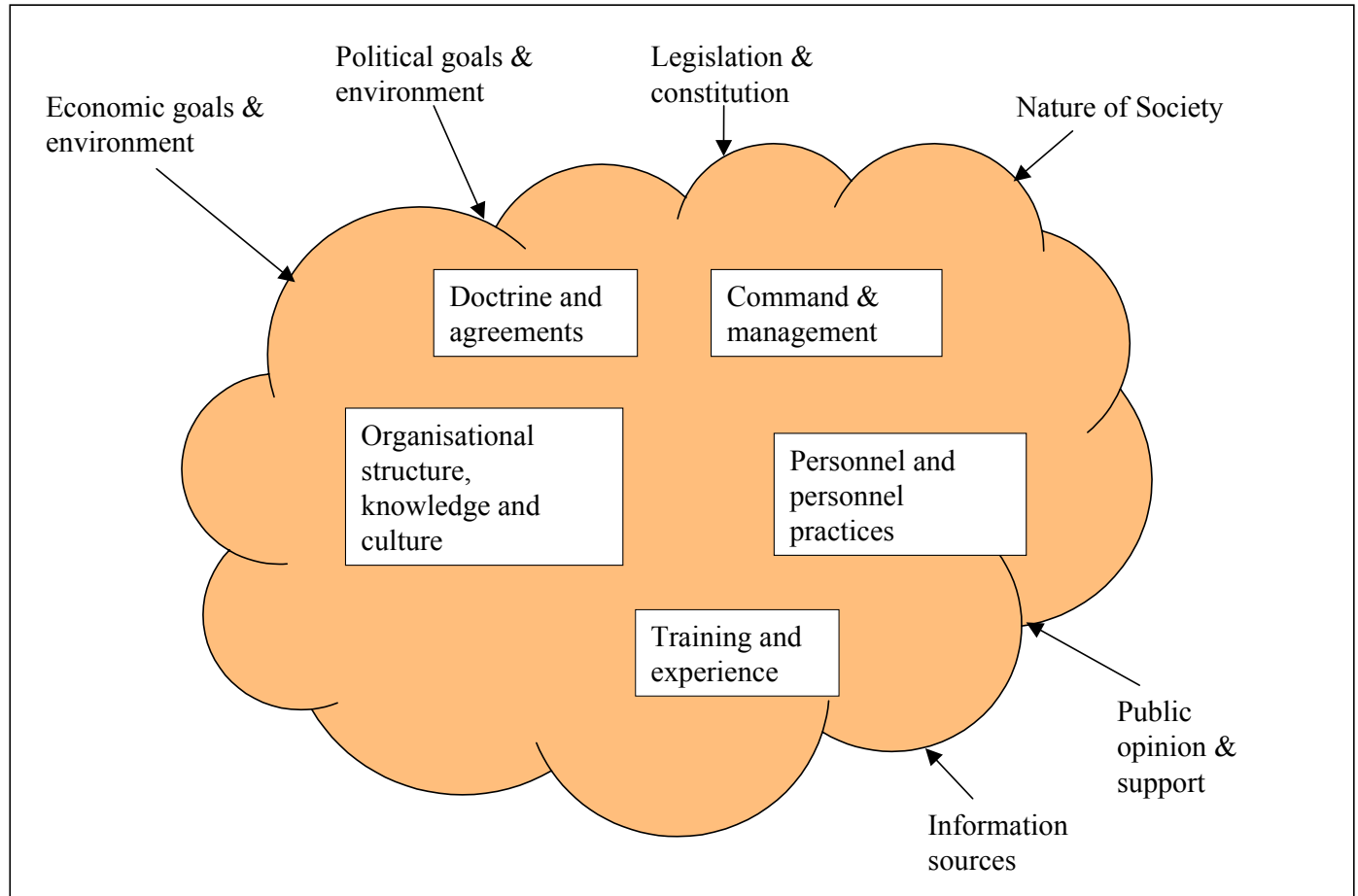
MNLOE2 Organisational Interoperability Evaluation

MNLOE 2	Preparation	Understanding	Command and Co-ordination	Ethos	Overall
AS-US	2	2	2	3	2

Further Development of the Model

- Initial development of the OIM model was based on discussions with SMEs and the original authors' analytical experience.
- Need for the model to be more explicit in the criteria used to perform evaluations and additional sub-attributes needed.

Further Development of the Model



Conclusion

- **The OIM model has been used and found to provide a useful framework for evaluating organisational interoperability and identifying major organisational interoperability problems.**
- **The revisions made to the model make it easier to use and understand. The model is also based on more comprehensive set of sub- attributes.**



DEFENCE
SCIENCE & TECHNOLOGY

Questions?
