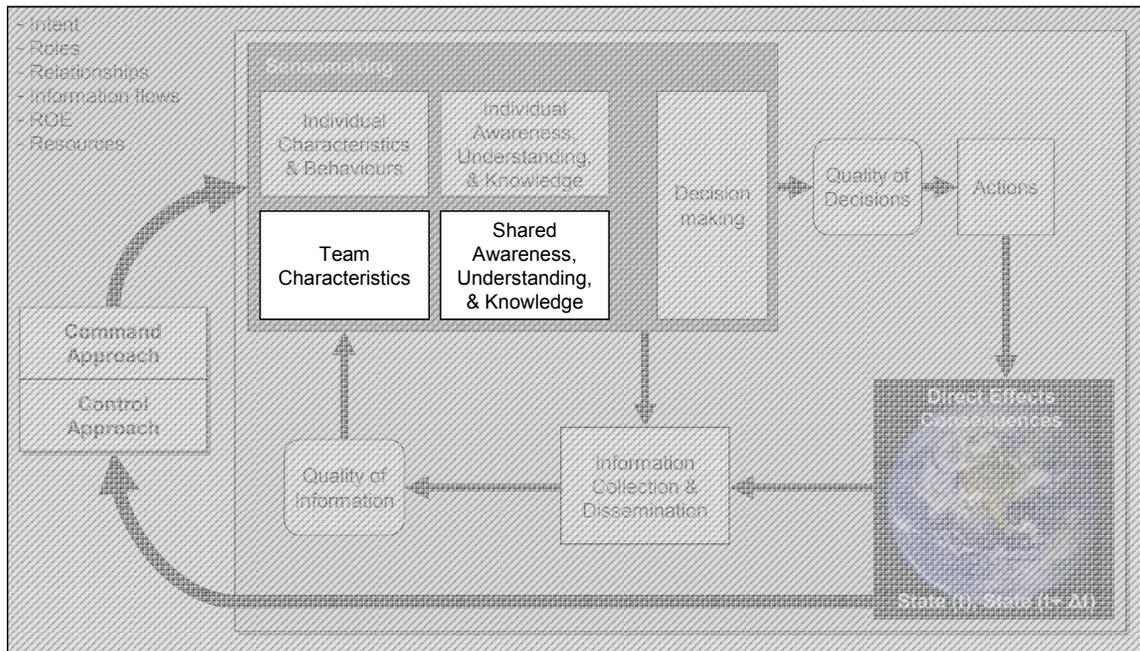


## Chapter 6 – TEAM CHARACTERISTICS AND BEHAVIOURS

This chapter addresses Team Characteristics and Behaviours in the context of the sensemaking processes associated with C2, as depicted in Figure 6-1.



**Figure 6-1: Overview of C2 Model Highlighting Team Characteristics and Behaviours.**

The discussion begins with “The Team Space,” the nature of groups of individuals as a function of scale, persistence, and cohesion. It then addresses team-specific characteristics including Team Structure, Dynamics, and Culture. This chapter next addresses the team counterparts of individual information, awareness, and understanding: shared information, shared awareness, and shared understanding. The chapter concludes with a discussion of the fields of study that are useful in developing and understanding team characteristics and behaviours.

### THE TEAM SPACE

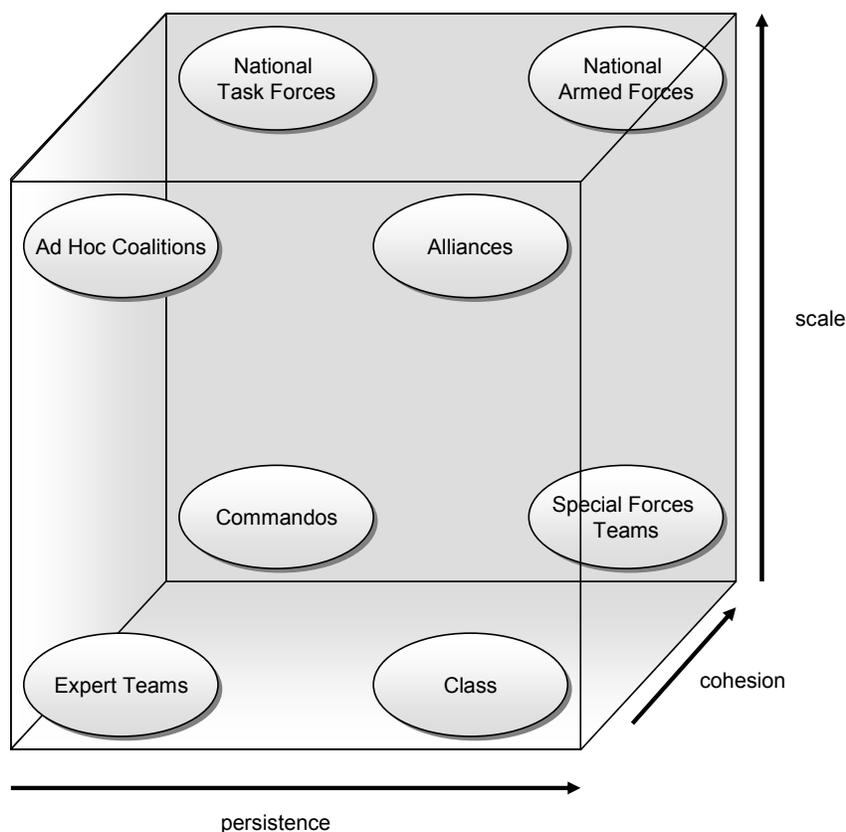
As it is meant to support the instantiation of conceptual models of Command and Control for any one of the known C2 concepts, and on all levels of scale (see Grisogono: Criteria for a good model), the team definitions found in organisational psychology literature must be expanded to fit the scope of the Reference Model.

Kreitner et al. (1999) define a team as a “small group with complementary skills who hold themselves accountable for common purpose, goals, and approach.” Other definitions stress the synergy aspect of teamwork, considering a team as a group of people whose individual efforts result in a (synergistic) work performance that is greater than the sum of the individual contributions. In contrast, in a work group, members interact to share information and make decisions to help each group member perform within his/her area of

## TEAM CHARACTERISTICS AND BEHAVIOURS

responsibility whereby the performance cannot be expected to reflect more than the sum of the efforts of the individual group members.

Contrary to these definitions that imply, either explicitly or implicitly, that teams and groups are small in terms of the number of members and differ mainly by the degree and type of cooperation of their members, it is proposed to apply the term *team* in a more comprehensive sense and distinguish among team types by means of appropriate attributes. Also, in military organisations the term *team members* may also apply to aggregations of individuals. Figure 6-2 shows where military teams are located in the three dimensional team space spanned by the variables persistence, cohesion, and scale.



**Figure 6-2: Team Space.**

Some Team examples:

*National armed forces* represent permanent institutions (high persistence) of relatively large size (scale), characterised by common goals and purpose as well as unity of command (high degree of cohesion).

*National task forces* may be large in scale and need to have a high degree of cohesion, but are normally of low persistence due to the temporary nature of the task assigned to them.

*Alliance forces* are similar to national armed forces with regard to persistence and scale. However, cohesion is more or less limited depending mainly on cultural and doctrinal differences, and sometimes on political differences among allies as well.

*Ad hoc coalitions* may be large in scale, formed for a mission of limited duration (small persistence) from militaries of several nations with different military cultures, and not experienced in combined operations (little operational cohesion).

*Expert teams* are small, composed of experts from different domains (little cohesion) and interacting temporarily to find solutions to a complex problem.

*Commandos* are a kind of military expert team, however, with a high degree of cohesion by virtue of common purpose and mutual interdependence in accomplishing high risk assignments.

*Special forces teams* are dedicated to specialized missions requiring intensive training and experience, must be formed permanently, and must have a high degree of cohesion for the same reasons as for commandos.

*Class XX*, such as the graduating class *XX* from a General Staff College, persists as a virtual team or network with low physical cohesion throughout the careers of its members.

**TEAM CHARACTERISTICS**

The concept of Team Characteristics pertains to variables that are specific attributes of teams of interacting individuals and includes:

- Team structure;
- Team dynamics; and
- Culture.

Team structure and dynamics taken together comprise team characteristics. Table 6-1 lists the variables included in the team characteristics and culture.

**Table 6-1: Team Characteristics and Culture**

<b>Team Characteristics</b>	<b>Culture</b>
Homogeneity	Individualism
Interdependence	Power distance
Team shape	Temporal orientation
Team scale	Uncertainty avoidance
Role clarity	Achievement orientation
Hardness	Nurturing orientation
Goal consistency	Norm strength
Persistence	Source of status
Intra-group conflict	
Cohesion	
Group pressure	

The composite variable “Team Characteristics” refers to the organisational and functional design of teams and their composition. It includes the following eight variables:

## TEAM CHARACTERISTICS AND BEHAVIOURS

---

*Goal Consistency* is described as the consistency among the purposes for which resources are expended in order to achieve a desired objective or end-state (Merriam-Webster, 1986).

*Homogeneity* refers to the consistency of attitudes, values, and beliefs among members of a team.

*Interdependence* is the degree to which team members have to rely on each other.

*Team Shape* (Robbins, 2003) is a basic category of organisational structure that is generally described in terms of work specialisation (the degree to which tasks in the team are subdivided into separate jobs), span of control (the number of subordinates a manager can efficiently and effectively direct), centralisation (the degree to which decisionmaking is concentrated at a single point in the team), formalisation (the degree to which jobs within the organisation are standardized), and communication network complexity (the proportion of accessible interpersonal communication links of the overall number of possible links between two individuals of a team).

*Team Scale* describes the number of individuals in a team who interact dynamically, interdependently, and adaptively toward a common and valued goal.

*Role Clarity* refers to the unambiguous knowledge of what tasks an individual and the other team members have been assigned and are expected to accomplish.

*Hardness* refers to the fact that as participants develop stronger relationships with each other through repeated or continued team interaction, the links between the participants become stronger (Perry, Boob & Signori, 2004).

*Persistence* refers to a team's existing for a long time or continuously (Merriam-Webster, 1986).

*Intra-Group Conflict* is characterised by disagreement among team members about task content, different viewpoints, ideas, opinions, values ("task conflict"), and/or interpersonal incompatibilities, including tension, animosity, and annoyance ("relationship conflict," Jehn, 1995).

*Cohesion* is the degree to which group members are attracted to each other and motivated to stay in the group (Robbins, 2003).

*Group Pressure* refers to the degree to which team members exercise force on each other to act in unique way.

## CULTURE

The composite variable "Culture" includes a number of cultural values that have been well validated in the international context (Hofstede, 1980, 1991). As attributes of a society, they provide a cultural frame for socialisation of individuals, as well as for the organisational cultures of institutions, forces, and enterprises and impact on their approaches to design organisational structures, processes, and Command and Control approaches, and to put leadership and guidelines for collaboration into effect. The culture variables capturing the cultural values of a society are described as follows:

*Individualism* is the degree to which a society encourages individuals to perceive themselves as independent from others and their attitudes and opinions, and to prefer acting as individuals rather than as group members. The opposite end of the continuum, *Collectivism*, prioritises group goals over individual interests.

*Power Distance* refers to the degree to which a society considers it acceptable that power in institutions and organisations is distributed unequally.

*Temporal Orientation* is characteristic of a society that focuses on future rewards, as opposed to *Short-Term Orientation*, which stands for fostering of virtues related to the past and present.

*Uncertainty Avoidance* is the extent to which it is common in a society to feel threatened by uncertain and ambiguous situations and to try to avoid them. Uncertainty avoidance encourages a preference of structured over unstructured situations.

*Achievement Orientation* is the degree to which goal accomplishment is appreciated in a society and qualities such as assertiveness, the acquisition of money and material goods, and competition are valued.

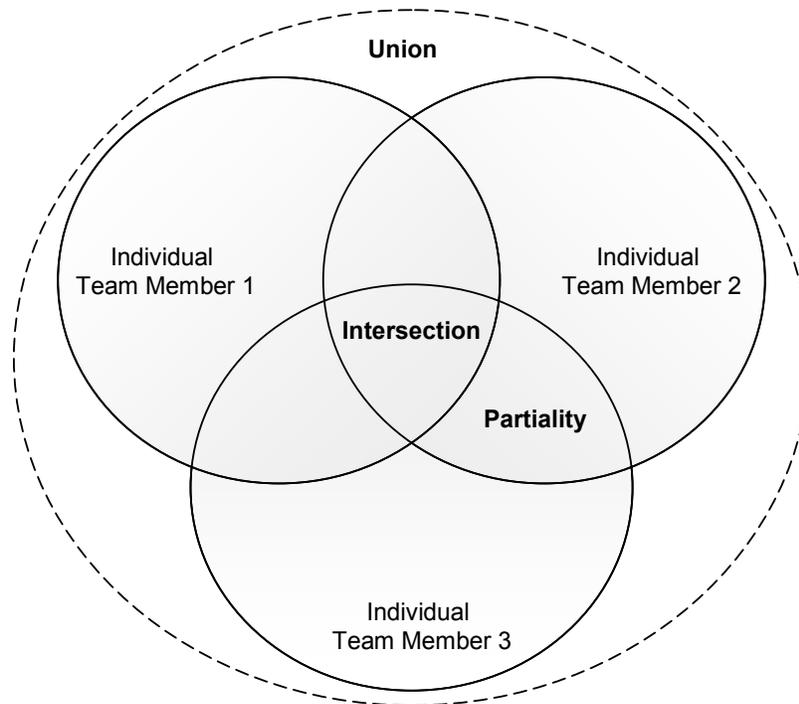
*Nurturing Orientation* characterises a society that values the development of satisfactory interpersonal relationships and showing concern for the welfare of others.

*Source of Status* refers to whether individuals are assigned a high status through achievement or through their formal position or rank.

*Norm Strength* is the degree to which it is expected that team or society members comply with a generally accepted standard of behaviour.

**SHARED INFORMATION, AWARENESS, AND UNDERSTANDING**

The concepts of shared information, shared awareness, and shared understanding are key to the C2 Conceptual Model. These concepts are performance properties of a team or group of individuals at a given point in time. Operationally defining these requires that one construct some function of all of the individual states of information, awareness, and understanding. The function selected needs to take into consideration the “qualifiers” depicted in Figure 6-3.



**Figure 6-3: Qualifiers.**

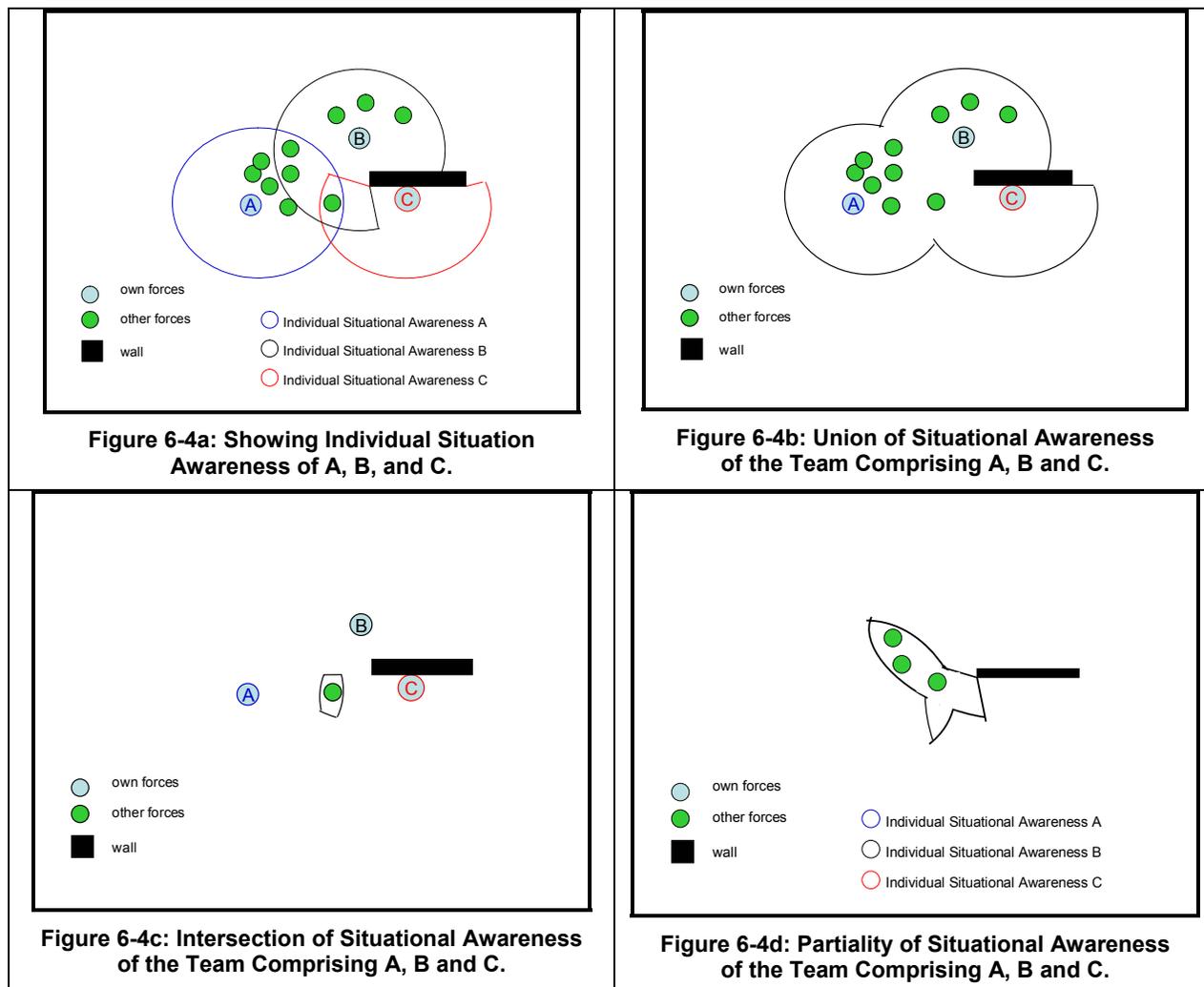
## TEAM CHARACTERISTICS AND BEHAVIOURS

*Union* refers to the sum of all elements held by any actor within a team.

*Partiality* refers to the elements commonly held by two or more actors within a team.

*Intersection* refers to the elements commonly held by all individual actors within a team.

In order to illustrate the application of these qualifiers, Figure 6-4a depicts a snapshot of a local situation as it may have evolved during the simulation using the agent-based model PAX (see Chapter 10-7: Example Applications) of a typical peace support mission in which three Blue actors (A, B, C) are tasked to monitor Green actors suspected to be terrorists. The circles around A and B, and the partly blocked circle around C indicate the *individual* awareness of each of the participants. Figures 6-4b through 6-4d show the situational awareness of (the number of) Green actors when applying the three qualifiers. *Union* implies that all of the ten Green actors are in the field of vision of any Blue actor, *Partiality* implies that three actors are in the intersection of the fields of vision of actors A and B, and *Intersection* implies that one Green actor is in the field of vision of all three Blue actors.

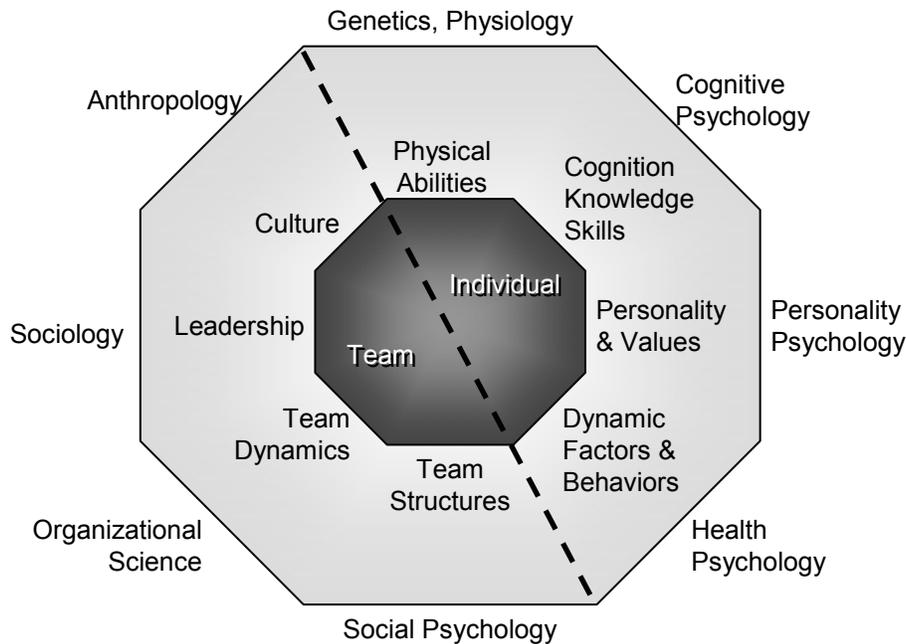


**Figure 6-4: Snapshot of PSO Scenario Indicating Variations in Situational Awareness.**

This example illustrates the principal benefit of sharing information among team members, and how SAS-050 has not developed a one-size-fits-all function that translates individual awareness, understanding, or information into shared awareness, understanding, or information respectively. However, due to the limitations in the fields of vision of team members, situational awareness of the team may differ significantly depending on the degree to which awareness can or needs to be shared by team members.

**SCIENCE DOMAINS OF INTEREST**

The study of variables for describing human characteristics and behaviour, and the relationships between them, is a prime object of human and organisational science research. Figure 6-5 presents an overview of the principal scientific disciplines that are of interest to those trying to characterise and understand individual and team behaviours.



**Figure 6-5: ITCB-Related Science Domains.**

## TEAM CHARACTERISTICS AND BEHAVIOURS

---

