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Evaluating the effects of culture on military operations

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Western military forces are increasingly involved in peacemaking and peacekeeping roles, typically as elements of multinational coalitions, working alongside non-governmental organisations that have very different remits. Cultural differences amongst allies have caused problems in previous conflicts, for example in Bosnia. In addition, lack of awareness of the cultural values of indigenous populations, for example in Iraq, has led to resentment and open hostility. Knowledge of important cultural differences, and of their implications, is therefore vital for the avoidance of misunderstandings and friction amongst allies, and for the reduction of hostility amongst the host populations.

What do we mean by 'culture'? Geert Hofstede's 1984 definition of culture is a useful working basis:

Culture is *"the collective programming of the mind which distinguishes the members of one human group from another… includes systems of values; and values are among the building blocks of culture."*

… where (cultural) values are experienced as a tendency to prefer certain states of affairs over others. Culture is acquired unconsciously, therefore most people are not fully aware of their own culture. As a result, they tend to view the differing preferences and behaviours of people of other cultures as signs of unreliability, dishonesty, untrustworthiness or impoliteness, i.e. they risk viewing members of other cultures as they would view the less respectable members of their own culture.

Culture clearly influences the performances of individuals, teams and organisations, but it also affects the design of technical systems, which typically incorporate the unconscious cultural assumptions of their designers; for example, organisations and systems designed by and for 'low power distance' Anglo users tend to perform far less well for 'high power distance' Eastern users (see later description

of power distance). Hofstede stated that there are three broad perspectives on culture: individual, collective and universal. Individuals' culture are largely shaped by the collective cultures they are exposed to. Individuals are exposed to their national (or ethnic) culture from birth, and later in life are exposed to particular organisational and professional cultures, dependent on their chosen career paths. National culture tends to be the most strongly implanted, and even highly trained professionals may revert towards it if placed under severe stress.

In order to take account of culture in the performance of systems that incorporate humans, it is necessary to develop cultural yard-sticks against which individuals, organisations and systems can be measured and compared. Researchers have identified a range of cultural factors (also called cultural dimensions or cultural attributes) that capture some of the differences between people. For example, Hofstede carried out a major investigation across IBM sites in many countries and initially identified four cultural factors: individualism vs collectivism (IDV); power distance (PDI); masculinity vs femininity (MAS); and uncertainty avoidance (UAI). By measuring the positions of individuals and groups on a 0-100 scale for each of the above four factors, Hofstede placed them, and each nation, at a unique location on a 'cultural map'.

One of the above cultural factors, PDI, is about the relationships between subordinates and superiors. In low power distance organisations, there is a low concentration of authority. Decisions are likely to be made by those with appropriate knowledge and experience, irrespective of roles. Superior officers rely on experience and on lower ranking personnel, and lower ranks expect to be consulted. Decisions can be questioned and overridden in particular circumstances. In high power distance organisations, there is

a high concentration of authority. Decisions are made by those in authority based on their roles in the organisation, and are dispatched downwards through the organisation. Lower ranks expect to be told; decisions are rarely questioned and never overridden in any circumstances. High power distance has been found to be a major contributing factor in transport and military aircraft accidents.

The research work described in this article captures the cultural traits of individuals and systems, and relates these to military mission requirements. Therefore, a set of cultural factors has been chosen that reflects the concerns of Western military organisations (see below).

Attributable to human (non-technical) agents

Individualism	Collectivism
Universalism	Particularism
Masculinity	Femininity
Power-by-achievement	Power-by-status
Mastery	Fatalism

Attributable to both human (non-technical) and technical agents

Proactive	Orthodox
Time synchronization	Time sequencing
Low power distance	High power distance
Low risk taking	High risk taking

To demonstrate the feasibility of the research, a software tool, the Soft Factors Modelling Tool (SFMT) has been built and evaluated. The purpose of the SFMT is to enable mission planners to evaluate a set of resources (comprising human and, potentially, technical components) that they have brought together to carry out a mission in a particular environment. The SFMT tool could be utilised in order to answer a question such as the following:

"Is the selected configuration of military assets capable of demonstrating appropriate decision-making, communication and adaptive skills and behaviour in an operational environment where the command style is control-free, authority is delegated, operational tempo is unpredictable and the battlespace is ill-defined?"

In order to evaluate a set of 'agents' (decision-makers) against mission (or operational environment) requirements, the SFMT enables you to (i) describe up to three agents (e.g. a section of twelve privates that is assessed as a group, their section leader and the company HQ) in terms of their cultural factor scores, (ii) define a mission or situation in terms of its environment characteristics and (iii) define the (agent) behaviours or capabilities that are required for the mission. The environment characteristics are described by weighting 35 predefined characteristics; the behaviours are defined by weighting 41 behaviour characteristics. After these details have been entered, the SFMT compares the agents' scores against a set of 'ideal' scores for the mission, and highlights mismatches using a traffic light system. Users can then examine the summary and detailed results, and identify any cultural traits that are problematical.

To date, the SFMT has been evaluated in a range of military situations for which a large amount of information on personnel, events and outcomes has been available; the SFMT scores have largely been aligned to known outcomes, both positive and negative. It is important to note that the SFMT only considers cultural factors; other major factors such as wide disparities in numbers of personnel, training, weaponry or military intelligence are not taken into account.

The SFMT has also been applied in sporting and industrial scenarios, where it has highlighted issues that were recognised by personnel who were familiar with those scenarios.

The work on the SFMT has demonstrated that it is feasible to build a simple to use tool that can assess the mismatch between human agents and missions, and also between human agents and technical systems. However, no claim is made that this tool is a panacea in its present form, as significant further development and evaluation work is still required. ❖