

Human Views for MODAF

The Human Views (HVs) for the MoD Architectural Framework (MODAF) are a key enabler to Human Factors Integration (HFI). HVs provide models of current or future socio-technical systems in aid of generating and assessing project plans and people-related design requirements, which are critical to effective capabilities. HVs encourage and enable better consideration of the HFI design needs, which often face barriers due to their 'soft' nature.

WHAT IS MODAF?

Specifying and managing requirements is key to project success. MODAF aids Through-Life Capability Management by providing a common reference through a shared model, using standardised representations. MODAF¹ describes enterprises through a series of 'Views', to analyse future needs, to envisage and compare conceptual design options, and to agree on specifications to be implemented. Where these foundations are not laid, there is a risk of additional cost and reduced operational effectiveness. HFI has a significant role in avoiding such problems.

WHAT ARE HUMAN VIEWS?

HVs (see Figure 1) have been developed to propose extensions to MODAF. They capture the human-related components of enterprise models, to be able to express HFI concerns in a Systems Engineering language. While the HVs are not a formal part of MODAF, they are recognised as a useful extension of the existing concepts, and have been referenced on the MODAF website. A detailed description can be found in the 'Human View Handbook for MODAF'². A 'Human View Quick Start Guide' is available providing an overview and a high-level introduction³.

¹ MoD (2008) The MoD Architecture Framework Version 1.2. www.modaf.org.uk.

² HFI DTC (2008) The Human View Handbook for MODAF. First Issue. Produced by the HFI DTC for the UK MoD. <http://www.hfidtc.com/MoDAF/HV%20Handbook%20First%20Issue.pdf>.

³ To be available on the HFI DTC website shortly. <http://www.hfidtc.com>

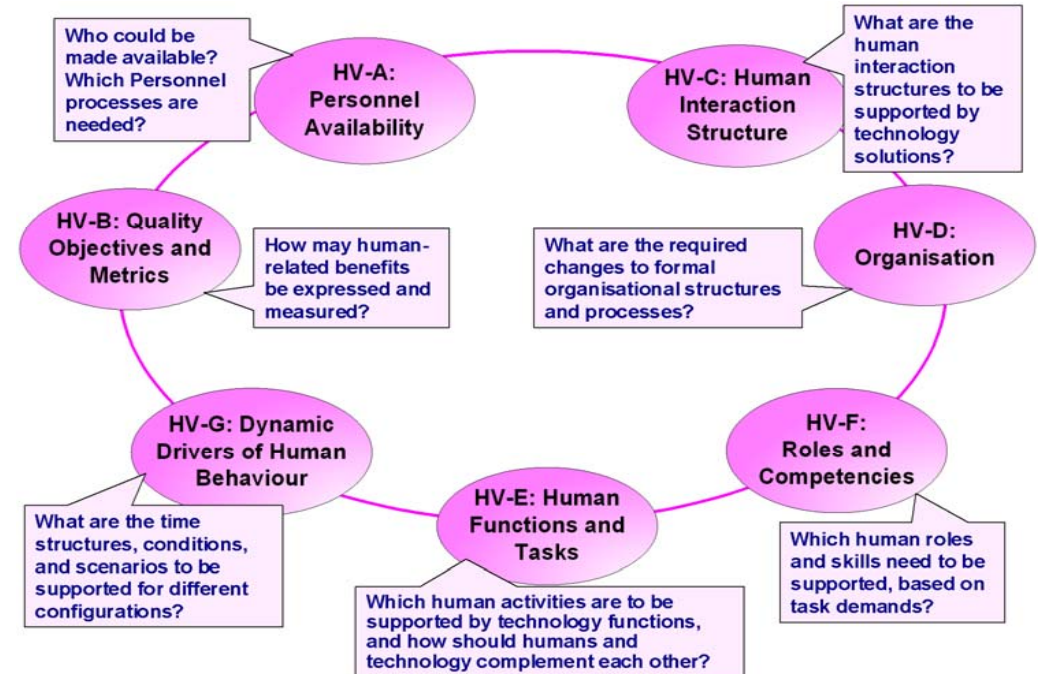


Figure 1: Overview of the Human Views for MODAF.

HVs help conceptualise people-related constraints, opportunities, needs and metrics associated with existing or new capabilities. HVs facilitate early trade-off and cost assessments, based on a broad understanding of the people-related needs across all the UK Defence Lines of Development, to prevent stove-piped development. By capturing dependencies between acquisition decisions, the effects of change can be mapped.

APPLYING HUMAN VIEWS

HVs fill some socio-technical gaps in architectural models. Military systems often operate in distributed environments and collaborative settings. They require the specification not only of the information systems (i.e. software and hardware), but also the social, organisational, procedural, task, skill and personnel structures that support complex information flows and information sharing, to achieve interoperability as well as safe and efficient operations.

HVs help 'qualify and quantify' requirements by systematically identifying design objectives and metrics, ensuring they are comprehensive, testable and in line with user needs. For example, HV-A (Figure 2) maps out personnel and training processes to be planned. HV-E (Figure 3) explicitly describes human tasks alongside system functions, to define interface needs and to avoid technology-focused automation decisions.

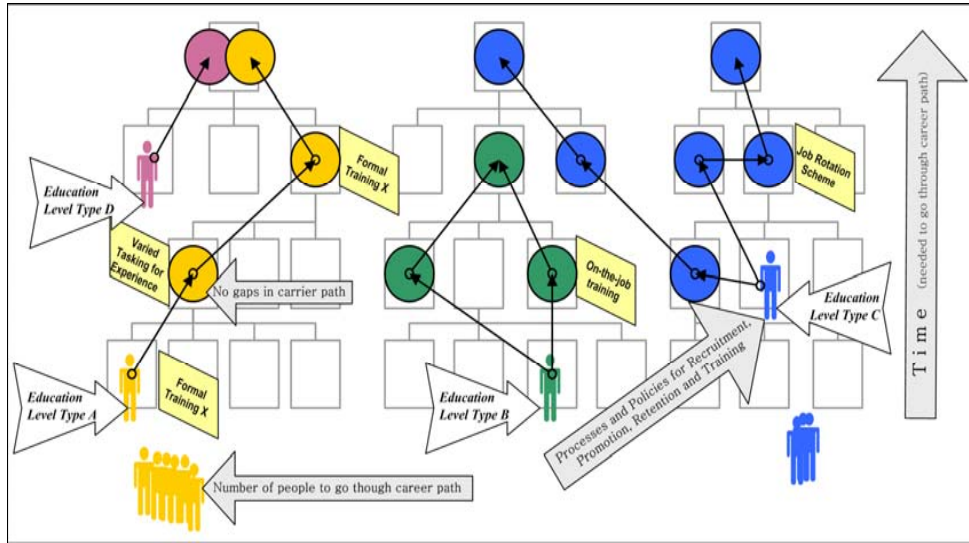


Figure 2: Example for HV-A (Personnel Availability), showing how career progression paths, training needs, demographic trends and recruiting options can be visualised in relation to current or future organisational structures. HV-A helps define the requirements for ensuring that actual people with the right characteristics, and in the right numbers, are available to fulfil human roles. Such variables can be important constraints on other design decisions (e.g. equipment choices, task and team distribution) and need to be considered over long timescales.

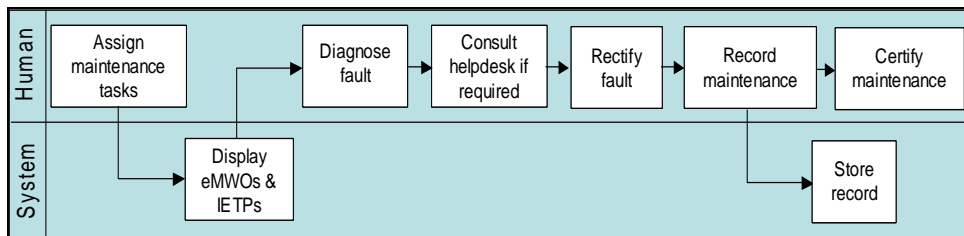


Figure 3: Extract of an HV-E (Human Functions and Tasks) for an electronic maintenance management system design, showing human tasks (as the basis for defining human role and skill needs) in relation to system functions (requiring equipment provision and interface design).

HVs provide a way of capturing HFI design options in relation to technology needs and solution options. It is essential to note that they need to be informed and validated through HFI methods (e.g. trials, observations, simulation), including user consultations.

The 'Human View Handbook for MODAF' (Issue 2) provides further detail including:

- ❑ Background and context to HVs by introducing both MODAF and HFI;
- ❑ Definitions and in-depth descriptions of all HVs (see Figure 4 for sample extracts);
- ❑ Guidance on the processes and methods needed to support planning and generating HVs;
- ❑ An example application (Maintenance Management System) to illustrate HV use;
- ❑ Additional detail in several Annexes.

Figure 4: Sample pages from the Human View Handbook for MODAF, showing an extract of the HV meta-model, an example instantiation for HV-C (Human Interaction Structure), and methods guidance.

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