Symptom-based context evaluation of human performance and convergence of HEAP into its HPLV

Abstract:
The paper discusses issues and insights of human reliability analysis (HRA) modelling and evaluation of human performance variability as a ‘probability’. The Performance Evaluation of Teamwork (PET) method is based on a statistical description of context of the ‘human, organization and technology’ (HOT) system. A context probability (CP) of mental processes is quantified by the macroscopic context factors and conditions (CFC or symptoms). The PET method gives quantitative support and evidence of human performance limiting value (HPLV) ‘axioms’ based on the cognition potential, evaluated as CP (or contexture) of the HOT system. The HRA with PET method doesn't assign the judged dependences and influences within and between tasks. These dependences are explicitly modelled in dynamic continuous HOT system contexture, where the past actions, as one of symptoms/CFCs, have an impact on context to perform subsequent human actions. Some mathematical understandings of convergence of human erroneous action probability (HEAP) into HPLV are also considered.

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