

Ergonomic report essay

Literature, Russian Literature



The model is “ analogous in certain respects to the real system. ” This means that the model is limited in its validity (or fidelity), with its boundaries often so tight that they barely overlap the actual conditions. For instance, a two dimensional, static, average design template does not represent the bodies of all office employees. Types of models Every model represents a (proven) theory or a (tentative) hypothesis that incorporates the current state of knowledge and that can be verified (or over false) by consulting available data or by conducting new experiments.

Models and Supermodels- The first stage in the formulation of a model is the identification of relevant subsystems or of independent and dependent variables. The next step, the modeling stage, is the formulation of the relations among the subsystems or variables. The final stage is that of validation or discrimination. Supermodels- Commonly, one constructs a subsumed of the human operator and another subsumed of the equipment or process with which he or she is working. Then the two component models are linked together to show the interface between them and how they interact. Open and Closed- An open model is affected by circumstances outside it, such as climatic conditions, vibrations, impacts, or changes in workload. A closed model excludes these external effects, functioning within its own “ cocoon.

” Loops- An open loop model does not consider the effects of the activities of the model on itself. A closed loop system, in contrast, utilizes feedback about previous actions to modify subsequent activities. Normative ND Descriptive- A normative model assumes that there is some appearance or behavior that

is normal, perfect and ideal, in a standardized and unvarying way. Often, this is a singular appearance or behavior that the model represents.

The opposite is a descriptive model, which reflects actual changes in behavior due to variations (often assumed to be stochastic) in internal or external variables. Simulation- Descriptive models are often used for simulation, in which the model's variables are run throughout their given ranges in order to exercise the model. Mathematical- A mathematical model has the advantage of being precise, formal, and often general. The equation can be manipulated easily and parameters in the equations assumed. Good and Bad Models Validity- is the agreement of outputs of the model with the performance of the actual system that the model represents. (This criterion is also called fidelity or realism.) Utility- is the model's ability to accomplish the task for which it was developed.

Reliability- is the repeatability of the model in the sense that the same or similar results are obtained when the model is exercised repeatedly. Comprehensiveness- is the applicability of the model to various kinds of systems. Ease of use- is obviously a very important criterion. If highly trained and skillful capabilities are required from the user, it is not likely to be used often or by many people.

Misuse of Modeling Simplistic assumptions Overextended application

Incorrect inputs False use of output Methods- The model that we have of the human being and her or his performance as part of a technical or social system determines the way by which we describe human performance and also determines how design equipment for ease of use and performance. Various methods determine possible links between treatments Cross section- The

ease is to measure a given condition. This effort is called a cross sectional because all specimens are measured at the same time, without regard

Observational research- observational studies, also called descriptive are common in medical research, where they are often called peptide studies. These types of investigation can identify powerful coruscation are retrospective and often require a long duration and large number observations.