Why ERP Systems Will Keep Failing

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Abstract: ERP systems, like other kinds of enterprise information systems, are rarely a real success. The main cause of the many failures in practice is the prevailing wrong understanding of these systems. The prominent current idea is that an enterprise information system (EIS) is a product, like for example a car, which can deliberately be replaced by another one, without much ado. Unfortunately, this view is fundamentally wrong. The proper metaphor for an EIS is the nervous system of a human body. Like the nervous system is intrinsically and intensely connected to the body it supports, an EIS is (or should be) intrinsically and intensely connected to the organisation that it serves. Consequently, like a neurologic surgeon needs appropriate and thorough knowledge of both the nervous system and the human body, an EIS designer must not only have thorough knowledge of information systems. He or she must also, and particularly, have thorough and appropriate knowledge of organisations.

The needed thorough and appropriate knowledge is provided by the PSI-theory (Performance in Social Interaction), one of the theoretical pillars of the discipline of Enterprise Engineering. The PSI-theory re-establishes people as the ‘pearls’ of every organisation. Equipped with the right authority and bearing the corresponding responsibility, they deliver services to each other and to environmental actors, in universal patterns of social interaction, called transactions. The essential model of an organisation is a network of transactions and actors, fully abstracted from realisation and implementation. Over 20 years of practical application of the PSI-theory, notably through the DEMO methodology (Design and Engineering Methodology for Organisations), has clarified that organisations, like biological systems, can be said to have a genotype and a phenotype. The phenotype is the ever changing ‘outside’, as typically captured in organisational charts, in business process models, and in data models. The genotype is the hidden, very stable, ‘inside’. It can be revealed by the PSI-theory. If the genotype of an organisation is fully respected during the design of a supporting EIS, the EIS will perfectly fit its needs.

Although ERP systems are built on a common understanding of enterprises in the same domain, this understanding is rather different from an organisation’s genotype. The so-called architecture of an ERP system typically comprises descriptions of the functional areas that are supported, like Operation, Finance, and HRM. The additionally needed constructional knowledge, as contained in the essential model of an enterprise’s organisation, is mostly lacking. Consequently, ERP systems, once implemented, become ‘armours’, which frustrate organisations in their fundamental need to be authentic, i.e. to be compliant with their genotype. The situation can be compared with a human body in which a ‘wrong’ nervous system is implemented. As a consequence, one is for example not able anymore to fully lift one of the arms, and is condemned to ‘live with it’.

BRIEF BIOGRAPHY

Jan L. G. Dietz is emeritus full professor in Information Systems Design at Delft University of Technology, full professor in Enterprise Engineering at Delft University of Technology, and director of Sapio (www.sapio.nl). He holds a Master degree in Electrical Engineering and a Doctoral degree in Computer Science. He has published over 200 scientific and professional articles and books. His current research interests are in the emerging discipline of Enterprise Engineering, of which Enterprise Architecture, Enterprise Ontology, and Enterprise Governance are the major pillars. Before his academic career, he has practiced application software engineering for ten years in industry. Jan Dietz is the spiritual father of DEMO (Design & Engineering Methodology for Organizations), and honorary chairman of the Enterprise Engineering Institute (www.ee-institute.com). For the development of Enterprise Engineering, he chairs the international research network CIAO! (www.ciaonetwork.org). He also acts as editor-in-chief of a book series on Enterprise Engineering.