INNOVATIVE APPROACH TO BUILDING SYSTEMS INTEGRATION PROBLEMS: USING SYSTEMS THEORY, TECHNOLOGICAL FORECASTING AND SCENARIO PLANNING

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ABSTRACT

Building services are worth about 2% GDP and are essential for the effective and efficient operations of the building. It is increasingly recognised that the value of a building is related to the way it supports the client organisation’s ongoing business operations. Building services are central to the functional performance of buildings and provide the necessary conditions for health, well-being, safety and security of the occupants. They frequently comprise several technologically distinct sub-systems and their design and construction requires the involvement of numerous disciplines and trades. Designers and contractors working on the same project are frequently employed by different companies. Materials and equipment is supplied by a diverse range of manufacturers. Facilities managers are responsible for operation of the building service in use. The coordination between these participants is crucially important to achieve optimum performance, but too often is neglected. This leaves room for serious faults. The need for effective integration is important. Modern technology offers increasing opportunities for integrated personal-control systems for lighting, ventilation and security as well as interoperability between systems. Opportunities for a new mode of systems integration are provided by the emergence of PFI/PPP procurements frameworks. This paper attempts to establish how systems integration can be achieved in the process of designing, constructing and operating building services. The essence of the paper therefore is to envisage the emergent organisational responses to the realisation of building services as an interactive systems network.

Keywords: Building Services, Scenario Planning, Systems Integration