A System’s Model for Maintenance Support and Decision Making in Building Services Systems

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Abstract
Modern buildings are designed to enhance the match between environment, spaces and the people carrying out work, so that the well-being and the performance of the occupants are all in harmony. Building services are systems that facilitate a healthy working environment within which workers productivity can be optimised in the buildings. However, the maintenance of these services is fraught with problems that may contribute to up to 50% of the total life cycle cost of the building. Maintenance support is one area which is not usually designed into the system as this is not common practice in the services industry. The other areas of shortfall for future designs are; client requirements, commissioning, facilities management data and post occupancy evaluation feedback which needs to be adequately planned to capture and document this information for use in future designs.

At the University of Reading an integrated approach has been developed to assemble the multitude of aspects inherent in this field. The means records required and measured achievements for the benefit of both building owners and practitioners. This integrated approach can be represented in a Through Life Business Model (TLBM) format using the concept of Integrated Logistic Support (ILS). The prototype TLBM developed utilises the tailored tools and techniques of ILS for building services. This TLBM approach will facilitate the successful development of a databank that would be invaluable in capturing essential data (e.g. reliability of components) for enhancing future building services designs, life cycle costing and decision making by practitioners, in particular facilities managers.

Keywords: Building Services, Integrated Logistic Support, Maintenance Support & Decision Making.