

Title: Intelligent Building.

Sub Title: An investigation into the application of the Intelligent Building concept for achieving optimum energy efficiency in commercial office buildings within County Meath.

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Purpose:

This dissertation explores the concept of Intelligent Building and its associated elements. As we progress in an increasingly competitive industry there evolves a need to build in a much more intelligent, lasting and environmentally friendly manner, applying consideration to the materials used and also the level of operational energy required. The main aim of this study is to ascertain if the intelligent building concept should be drawn upon as a catalyst for achieving optimum energy efficiency in new commercial office developments in Co. Meath.

Methodology:

The methodology of this dissertation commenced with a comprehensive review of quality literature on Intelligent Buildings and its related components. This led onto an investigation into two case studies. The first case study explores a commercial office building described by many within the construction industry as Ireland's leading example of a pioneering Intelligent Building. The second case study examines a building at the opposite end of the spectrum. It is viewed by many as a typical example of a developer trying to make a quick buck, devoid of a long term mindset. Each case study was examined through conducting several semi – structured interviews. The interview candidates comprised the key stakeholders, all of whom were involved with the realisation of these two contrasting office buildings. Furthermore a series of questionnaires were completed by a select number of worldwide experts in the associated field of study in order to supplement the findings.

Findings:

This research found a number of recurring themes related to energy efficiency in Intelligent Buildings. Intelligent Building is a multifaceted, ever-growing concept which has the potential to ensure optimum energy efficiency is achieved if applied fully. At present the concept is misunderstood and misapplied. The research concluded by recommending several changes to the planning process within county Meath. Recommendations were also made to prospective commercial office building owners, architects and contractors. The key points involved encouraging these core groups to embrace the concept of Intelligent Building, overcome the superficial barriers and to work together in a collaborative fashion. This research and its findings are limited due to the time constraints that were in place. This leaves considerable scope for further investigation by future research students.