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AE790 – Intelligent Buildings

**Intelligent Building Opportunities**

 The CMap assisted me to organize my thoughts on the opportunities that an intelligent building could put support. I started with two opportunities that intelligent buildings could provide and linked to two additional CMaps that discussed those two opportunities; protecting the environment and the technological advances that can develop into an intelligent building.

 Protection of the environment we are constructed is the basis of design of every intelligent building and of every building. The purpose of an intelligent building is to create a comfortable environment for its inhabitants. Providing the up most comfort to everyone by making everyone feel safe is the most important characteristic of a structure and life in general. The building becomes intelligent through the amount of sensors and its ability to manage the data coming from those sensors. These sensors can provide the building with a more effective way to evacuate through different types of sensors and better responding sensors that can be programs to detect failure within the sensor. These types of sensors can include carbon monoxide, smoke, fire, extremely combustible gases, etc. Other types of sensors can also provide the capability to manage the onsite equipment and the associated sensors from a remote location, which reduces the possibility of onsite injury from the equipment. With this type of control and safety advantages, the owner of the building can consider hiring less employees to maintain the equipment within his building and may also require less insurance due to the fact that there are more safety features and his building has a better way to protect its inhabitants. With these advantages, the owner receives a quicker payback for the “intelligent” equipment that he has provided in his building.

 Other opportunities that arise from the construction of an intelligent building are the technological advances for the general community. The building, again, provided with multiple sensors create easier and less maintenance along with easier monitoring. Along with all these sensors comes more monitoring of all the data that is received from each sensor. These sensors can monitor temperature, humidity, air flow, acoustics, light, etc, where these sensors can incorporate building physics in to the equation. “Building physics is the cornerstone of designing, constructing, and operating high performance building, that is, buildings that are durable, comfortable, energy efficient, affordable, and healthy.” (<http://www.buildingscience.com/buildingphysics>). Due to all this observation and data of the sensors, there needs to be great organization of the data to develop a better way to control and apply the information we receive from the sensors. From this, the owner or operator of the building can gain a better perspective of what is happening within the walls of the building and learn to better control the equipment. Once he learns the needs of the structure, he can develop a more efficient environment by anticipating the needs of that particular day. All advantages from the technological advances, such as more efficiency, less operators, organization, all also lead to higher payback for the owner.

 In conclusion an intelligent building would be beneficial to a building owner. The intelligent building opportunities led to a faster owner payback in both cases, which is the driving factor for any owner wanting to leap into the unknown world of intelligent building. Payback happens after the building is constructed and is completely operational, so the owner will not see the full effect of the initial costs until further down the road. This is where the first problem lies…