Ethics, Business, and Building Construction

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Throughout various fields and professions, ethical behavior is a critical component of organizational success and a driving factor of business actions and development of principles. Ethics form the foundation of a business or organization. This is especially evident even before a business even occupies a building. Ethical choices in building design and construction can either promote or harm work environments and the health of its occupants. When decisions are made to cut costs in ways that are unethical during the building process, it can have the potential to unleash unintended but dangerous consequences on employees working in the building. Many ethical safety issues could be the result of poor building design in these early construction phases. Not only do these decisions impact the occupants, but they also have the potential to affect the environment as well. Ethical design is a business decision that is not only necessary, but biblically relevant as well. This kind of building ethics is evident in designing for environmental sustainability, healthcare settings, and in the early construction phases.

Sustainability Ethics

One way to improve the world environment is through considerations for sustainability in the building design process. In designing buildings for sustainable work environments, it is important to recognize that ‘sustainable architectural development not only depends on the design process or on the architects but requires collaboration between different professional fields due to its interdisciplinary nature” according to an article written by Georgia Technical University (Kupatadze, 2014, p. 554). Sustainable design involves “working with and not against nature, being aware of the human impact on nature, and trying to reduce it as much as possible, considering prehistoric harmony seen between humans and nature and implementing these environmental elements in contemporary architecture” (Kupatadze, 2014, p. 554).

Also presented in this article from the Georgia Technical Institute is a case study on the Bank of America Building located in New York City. Not only did the design of this building benefit environmental concerns, but it also was able to save the company a sizeable amount of money through efficient energy saving design strategies. The Bank of America building "contains 2.1 million square feet and is entirely clad with a glass curtain wall, which also minimizes the energy that needs to be used to light the building" (Kupatadze, 2014, p. 556). Additionally, "the double envelope wall and low-E glass with heat reflecting ceramic frit minimize solar heat gain and also provide pleasant views from the building" (Kupatadze, 2014, p. 554). This design is both sustainable, ethical, and aesthetically beautiful to its employee occupants.

The built environment is a valuable consideration as it "touches the lives of almost every citizen; buildings are where people live, work, learn, and play. However, they are also major contributors to energy and resource consumption as well as pollution" (Sharpe, 2018, p. 251). One way that businesses can evaluate the environmental impact of their buildings is through a building performance evaluation (BPE), which "includes information about the way the building was designed and constructed, physical testing of the construction and installed systems, monitoring of energy consumption and environmental conditions in the building over time, and data gathering about occupancy and behavior" (Sharpe, 2018, p. 251). This kind of evaluation can optimize building operations and directly impact business efficiency in terms of saving resources and monetary waste.

In the early years of sustainable design, it was common to see that "products created by architects lacked elegance and attractiveness and yielded to the pragmatics of sustainability and environmental protection" (Kupatadze, 2014, p. 554). This brought about a perception that green

design was not able to be as beautiful as structures made without special consideration to environmental concerns.

From a Christian perspective, it is necessary to be faithful stewards to the environment and the buildings that are constructed from it to do business in. Genesis 1:28 says, “and God blessed them. And God said to them, “Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth” (*English Standard Version*, Genesis 1:28). It is important to consider sustainability concerns in the business of ethical building construction and operations.

Ethics of Healthcare Design

Another design consideration in terms of business ethics is the construction and development of health care facilities. Well-designed healthcare settings have the potential to minimize the spread of diseases, encourage patient health, and increase efficiency in operations. The lack of proper design poses ethical challenges in the healthcare industry, and by making these sufficient accommodations, EPA standards are satisfied along with HEPA filtration standards. According to a study done for the Hastings Center, “evidence shows that changes in the architecture, design, and décor of health care facilities can improve patient care and in the long run reduce expenses” (Sadler et al., 2011, p. 21). In the health care industry, cutting costs can often come at the expense of patient safety.

Conducted as an “imaginary amalgam of the best design innovations that had been implemented and measured by leading organizations” the “Fable hospital” was an analysis study published in 2004 that described innovations that “though they may cost more initially, could return the incremental investment in one year by reducing operating costs and increasing revenues” (Sadler et al., 2011, p. 13). This approach was met with both skepticism and

developing curiosity in ways to think differently about building design, costs, and patient health. As strategies from this study began to become more widely adopted by numerous hospitals, studies have shown that these ethical design choices have greatly benefitted health care organizations, patients, and employees (Sadler et al., 2011, p. 13). Several ethical design components of the Fable hospital include "larger single-patient rooms, which reduce the incidence of health care-associated infections; wider bathroom doors, which reduce patient falls; HEPA filtration and other indoor air quality improvements" which can have the potential to also reduce infection, and "appropriate task lighting in medication dispensing areas, which reduces medication-related errors" (Sadler et al., 2011, p. 13). These are potentially life-altering consequences related to efficient design. The lack or unwillingness to meet these needs with suitable health care design is a serious ethical concern.

Many of these issues that could be mitigated by proper design are largely "preventable and should never occur in hospitals" which further proves the idea that "building designs that help reduce preventable harm are becoming key elements in a hospital's survival strategy" (Sadler et al., 2011, p. 14). In relation to environmental concerns in the health care settings in regard to air quality, there is a growing amount of evidence linking indoor air quality to the health of individuals (Sadler et al., 2011, p. 14). In fact, measures that have been enacted to reduce these indoor pollutants include the removal of materials such as "paints, adhesives, and other materials" that contain "volatile organic chemicals like formaldehyde" (Sadler et al., 2011, p. 14). Despite being held in skepticism in the past, measures like these are now becoming more common as the research has detailed the harm in using materials with a negative health impact.

While those who are skeptical of investing in these methods of changing the built environment of health care buildings to meet the considerations described in the Fable hospital

may be held back by the initial cost of making these changes, it is ethically important to consider making these necessary changes in order to meet current relevant health care needs. And although the initial expense may seem high, these measures can actually end up saving a business more money in the long run by reducing errors and expenses.

Several areas of improved outcomes and reduced expenses include “patient falls, patient transfers, adverse drug events, health care-associated infections, length of stay, nursing turnover, nursing injuries, e-ICU savings, energy demand, and water demand” (Sadler et al., 2011, p. 20-21). Through all of these considerations, the total estimated savings resulted in “$10,032,162 dollars in increased revenue or savings with a calculation of $29,246,275 dollars in total premium costs which results in a return on investment within three years” (Sadler et al., 2011, p. 21). These changes to healthcare design are both ethical and cost-saving.

Another article written by Diana C. Anderson on the discussion of the business of healthcare design from an ethical standpoint addresses the ethics of hospital architecture and the impact of design on a patient’s healing. This article poses the question: “what are the responsibilities of architects and clinicians towards ensuring the hospital building itself does no harm?” (Anderson, 2019). Several solutions to these issues include natural light, window access, and garden spaces to promote patient healing and employee wellbeing (Anderson, 2019). The health impact of light and windows is so influential that in 2010 building codes, patient rooms without windows for overnight stays have now been prohibited for new construction and renovation projects in hospitals with the exception of older existing facilities such as intensive care units, being exempt (Anderson, 2019). This is an area where building design can further exemplify the principle of “do no harm.”

As a biblical perspective, a Christ follower should consider these modifications and design strategies from a business perspective that shows compassion to those in need of healing architecture. John 13:34-35 says, “A new commandment I give to you, that you love one another; as I have loved you, that you also love one another. By this all will know that you are My disciples, if you have love for one another” (*English Standard Version*, John 13:34-35). From a secular perspective, it can seem easier to take the perspective of a cost-benefit analysis without a compassionate, biblical viewpoint. Furthermore, Philippians 2:3-5 says in relation to this principle of do no harm, “Let nothing be done through selfish ambition or conceit, but in lowliness of mind let each esteem others better than himself. Let each of you look out not only for his own interests, but also for the interests of others. Let this mind be in you which was also in Christ Jesus” (*English Standard Version*, Philippians 2:3-5). Through health care design considerations and making business decisions to support these beneficial design strategies, compassion can be shown to all who enter these spaces.

Ethics in Building Construction

Finally, the third area of business ethics in design is the considerations made during the early construction phases in building planning. During the building process, structural errors made out of cutting costs, lack of oversight, or laziness can have the potential to greatly harm the occupants of that built environment. The effect of unprofessional building supervisors on a building’s durability can be monumental. Unethical performance can have direct related impact on the structure and safety of a building. Due to this direct impact, it is essential that building supervisors practice ethics by principle in the construction process. Not only does a building’s engineering failure have high repair cost, but it also can harm the health of the building’s residents. According to an article written by the Department of Civil Engineering at the

University of Tenaga Nasional, “currently, 5 to 10% of the amount of the total investment in new buildings and structures is lost by civil engineering failures” and “these failures result in significant cost considerations, and also have an associated environmental damage” (Yahaghi, 2018). Additionally, another article on this same issue argues that “considering only a few ‘big’ ethical decisions in any engineering design process –both in education and practice—only reinforces the mistaken idea of engineering design as a series of independent sub-problems” (Lloyd & Busby, 2003, p. 503). Observed over 7 years monitoring the engineering design process, the authors of this study argue the fact that injuries or death did not occur on the job site gives the idea that it was due to a lucky escape instead of sound construction prevention techniques that were verified to prevent user harm (Lloyd & Busby, 2003). In the findings from this study, it was found that the data showed that “given a range of alternative choices, decisions seemed to be made more on intuitive aesthetic grounds than on a careful consideration of consequences” (Lloyd & Busby, 2003, p. 509).

In regard to ethical issues in domestic building performance evaluation studies, it is all too common that the residents of newly constructed buildings become the subjects of experiments when new technology or construction techniques are used. This factor raises ethical questions that need to be addressed from a moral perspective (Sharpe, 2019). An article written for the International Journal of Research, Development, and Demonstration describes and focuses primarily on domestic settings instead of commercial settings and in doing so offers a unique perspective. The article describes innovation is often a trial-and-error process that can end up being harmful for residents (Sharpe, 2019).

Another interesting perspective of ethical building design is constructing structures that are properly earthquake resistant. An article written for Science and Engineering Ethics describes

the ethical conundrum of the importance of not cutting costs in safety during the architectural design to save the company money but risk lives. The article states that "if there are restrictions in the budget of the project, no columns and beams should be subtracted as this will disturb the structure and the support of the building as a whole" (Hurol, 2014). Through reinforcing concrete structures, a building must satisfy performance measures as well as aesthetic and functional purposes. One of the main issues with older buildings is that these older structures were not engineered to meet what are now considered to be updated and modern safety standards (Hurol, 2014). This is why it is so important to design buildings with change in mind. Just as older structures were designed and later safety standards were discovered and implemented, so new buildings must be designed with potential to add on new safety measures to be discovered in the future as an ethical standpoint.

Biblically, Luke 6:47-49 says, "Everyone who comes to me and hears my words and does them, I will show you what he is like: he is like a man building a house, who dug deep and laid the foundation on the rock. And when a flood arose, the stream broke against that house and could not shake it, because it had been well built. But the one who hears and does not do them is like a man who built a house on the ground without a foundation. When the stream broke against it, immediately it fell, and the ruin of that house was great" (*English Standard Version*, Luke 6:47-49). For the non-Christian, the business of building safe buildings is an ethical concern in name only, where for the Christian it becomes a greater parallel of building every aspect of life upon Christ the greatest foundation.

Conclusion

Many of these ethical concerns in business are part of the ethical decision-making process at the root of these issues. According to Ferrell and Fraedrich, "the first step in ethical

decision making is to recognize than an ethical issue exists, requiring an individual or work group to choose among several actions that various stakeholders will ultimately evaluate as right or wrong" (Ferrell & Fraedrich, 2017). In the work environment, "it is important for organizations to train employees how to recognize the potential ethical ramifications of their decisions" (Ferrell & Fraedrich, 2017). Business values and principles that are rooted in moral practice and not just in name can bring to attention a greater awareness of ethical decision making for both employees and managers of a company. This is strongly evident in the business decisions that are an integral part of building construction. Evidenced in sustainability concerns, health care capacities, and early planning stages, ethics in the business of design is a key component to not only consider, but to implement well. This is both a moral and biblical responsibility for Christians in the workplace.

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