

Design Economics For The Built Environment: A Comprehensive Guide



Design Economics for the Built Environment: Impact of Sustainability on Project Evaluation by Barry Gilbertson

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Design economics is a field of study that applies economic principles to the design and construction of the built environment. It is a relatively new field, but it has quickly gained importance as the built environment has become increasingly complex and expensive.

Design economics can be used to optimize the value of a project, reduce costs, and enhance sustainability. It can also be used to evaluate the feasibility of a project and to make decisions about how to allocate resources.

This comprehensive guide to design economics will provide you with the knowledge and skills you need to apply economic principles to your work in the built environment. You will learn about the following topics:

- The principles of design economics
- The application of design economics to the built environment
- How to optimize project value
- How to reduce costs
- How to enhance sustainability
- How to evaluate the feasibility of a project
- How to make decisions about how to allocate resources

This guide is essential reading for anyone who works in the built environment, including architects, engineers, planners, developers, and contractors. It is also a valuable resource for students who are interested in learning more about design economics.

The Principles of Design Economics

The principles of design economics are based on the following three concepts:

- **Value:** Value is the worth of a thing. It can be measured in terms of money, time, or other factors.
- **Cost:** Cost is the amount of money or other resources that must be spent to produce a thing.
- **Sustainability:** Sustainability is the ability of a thing to meet the needs of the present without compromising the ability of future generations to meet their own needs.

The goal of design economics is to optimize the value of a project while minimizing the cost and maximizing sustainability.

The Application of Design Economics to the Built Environment

Design economics can be applied to all aspects of the built environment, from the design of individual buildings to the planning of entire cities. Some of the specific applications of design economics include:

- **Optimizing the design of a building:** Design economics can be used to optimize the design of a building to meet the specific needs of the user while minimizing the cost of construction.
- **Planning the layout of a city:** Design economics can be used to plan the layout of a city to maximize the efficiency of transportation and other infrastructure while minimizing the cost of development.
- **Evaluating the feasibility of a project:** Design economics can be used to evaluate the feasibility of a project by assessing the costs, benefits, and risks involved.
- **Making decisions about how to allocate resources:** Design economics can be used to make decisions about how to allocate resources to different projects in Free Download to maximize the overall value of the built environment.

How to Optimize Project Value

There are a number of ways to optimize the value of a project, including:

- **Identifying the needs of the user:** The first step in optimizing the value of a project is to identify the needs of the user. This can be done through surveys, interviews, and other research methods.

- **Developing a design that meets the needs of the user:** Once the needs of the user have been identified, the next step is to develop a design that meets those needs. This design should be functional, efficient, and aesthetically pleasing.
- **Estimating the cost of the project:** Once a design has been developed, the next step is to estimate the cost of the project. This estimate should include all of the costs associated with the project, from the cost of materials to the cost of labor.
- **Evaluating the benefits of the project:** Once the cost of the project has been estimated, the next step is to evaluate the benefits of the project. These benefits can include the improved function of the building, the reduced cost of operation, and the increased value of the property.
- **Making a decision:** Once the costs and benefits of the project have been evaluated, the next step is to make a decision about whether or not to proceed with the project. This decision should be based on a comparison of the costs and benefits of the project.

How to Reduce Costs

There are a number of ways to reduce the costs of a project, including:

- **Selecting the right materials:** The choice of materials can have a significant impact on the cost of a project. By selecting materials that are durable and easy to maintain, you can reduce the long-term cost of the project.
- **Using efficient construction methods:** The use of efficient construction methods can also reduce the cost of a project. By using

methods that minimize waste and maximize productivity, you can save time and money.

- **Negotiating with contractors:** The cost of a project can also be reduced by negotiating with contractors. By getting multiple bids and comparing prices, you can save money on the cost of labor and materials.
- **Overseeing the project closely:** By overseeing the project closely, you can identify and correct problems early on. This can prevent costly delays and rework.

How to Enhance Sustainability

There are a number of ways to enhance the sustainability of a project, including:

- **Using sustainable materials:** The use of sustainable materials can reduce the environmental impact of a project. Sustainable materials are materials that are produced in a way that minimizes the use of energy and resources and that does not harm the environment.
- **Designing for energy efficiency:** The design of a building can have a significant impact on its energy efficiency. By designing a building that is energy efficient, you can reduce the operating costs of the building and its environmental impact.
- **Using renewable energy:** Renewable energy sources can be used to power a building and reduce its reliance on fossil fuels. Renewable energy sources include solar energy, wind energy, and geothermal energy.

- **Conserving water:** Water conservation measures can be used to reduce the amount of water used in a building. Water conservation measures include using low-flow fixtures and landscaping with drought-tolerant plants.

How to Evaluate the Feasibility of a Project

The feasibility of a project can be evaluated by considering the following factors:

- **The need for the project:** The first step in evaluating the feasibility of a project is to determine if there is a need for the project. This can be done by conducting a market analysis and identifying the potential users of the project.
- **The cost of the project:** The cost of the project is another important factor to consider when evaluating its feasibility. The cost of the project should be compared to the benefits of the project to determine if the project is financially feasible.
- **The risks of the project:** There are always risks associated with any project. The risks of the project should be identified and evaluated to determine if the project is feasible.

How to Make Decisions About How to Allocate Resources

When making decisions about how to allocate resources, it is important to consider the following factors:

- **The goals of the organization:** The first step in making decisions about how to allocate resources



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