CropMatrix
Cropmatrix International Journal of Commerce, Management and Innovation
International Publication
ISSN: 3139-874X

# Organizational Resistance to Green Building Adoption: The Influence of Cost-Oriented Decision-Making in Small and Medium Real Estate Developers in Pune

**[1]RAMDAS DAMODAR PHUGE,**

Research Scholar, Neville Wadia Institute of Management Studies and Research, Savitribai Phule Pune University, Maharashtra, India

**[2]DR. ANAND DADAS**

Research Guide, Neville Wadia Institute of Management Studies and Research, Savitribai Phule Pune University, Maharashtra, India

## Abstract

The concept of green building is increasingly recognized as a crucial strategy in real estate, driven by a growing emphasis on sustainability. Nevertheless, acceptance among small- and medium-scale developers in emerging urban markets, particularly in Pune, India, is inconsistent due to cost concerns. This paper investigates the resistance faced by these developers towards green buildings, despite their long-term benefits. Key obstacles include high initial costs, uncertainties regarding returns, knowledge deficits, and fluctuating market demand. While existing literature has addressed various financial, technical, institutional, and informational barriers, it lacks focus on the organizational processes that contribute to this resistance stemming from cost concerns. Employing the Technology-Organization-Environment framework alongside institutional theory and organizational inertia, the paper presents a conceptual model detailing how cost-driven decision-making leads to resistance. This model identifies primary factors such as perceived high upfront costs, short-term thinking, and resource limitations, while also emphasizing the roles of risk perception and organizational inertia. Moreover, it considers boundary conditions including institutional pressures and the availability of financial and technical support. The findings offer insights into the reasons financial concerns induce organizational resistance and suggest strategies for real estate developers, financial institutions, sustainability professionals, and policymakers to address these challenges effectively.

***Keywords: Green Building Adoption, Organizational Resistance, Cost-Oriented Decision-Making, Small and Medium Real Estate Developers, Sustainability Management, Organizational Inertia, Pune.***

## 1 Introduction

In terms of real estate and construction, there are various challenges in trying to ensure business goals can be balanced with environmental goals. Buildings require a lot of energy, water and construction inputs throughout their development and operation. Therefore, many decisions made during planning and construction can have a large impact on the environment over a long period of time. Green building aims to reduce negative environmental impacts by using energy efficient designs, effective water management, sustainable materials, quality indoor environments and efficient resource management. However, the usage of green building methods is not always consistent within the construction and real estate sector. This can be a particular issue for smaller and medium sized real estate developers. They may not have as much financial funding as larger developers, therefore may not have as many specialist technical staff available. Additionally, as their investment decisions are often based around construction costs, timescales, finance and how much they will sell the property for, green building features may appear as an extra cost. Within Pune, there are plenty of opportunities for sustainable construction due to the increase in residential and commercial developments. However, developers often compete within the property market meaning investment decisions are based around construction costs, selling price, customer demands and profitability of the project. The large number of educational institutes, tech companies and increasing professional population creates an environment where sustainability could be relevant. However, this does not mean that all developers will feel pressured to be sustainable. There have been studies completed within India looking at the reasons why green buildings are not adopted. Abraham and Gundimeda (2018) grouped reasons into policy and market barriers, financial and economic barriers, information and education barriers and managerial and organisational barriers. Their findings showed that having knowledge of lifetime costs, information relating to environmental benefits, knowledge of certifications and having institutional support was very important. Saha et al. (2021) looked at the barriers to commercial green building adoption within India. This showed the importance of understanding the issues faced by industry stakeholders. Singla (2024) looked at barriers to residential green building adoption from the perspective of real estate developers within India. They found that price, customer willingness to pay extra, knowledge and lack of information about the costs and benefits of energy saving technologies were key barriers. Whilst these studies provide valuable information about why green buildings are not adopted, simply knowing that there are financial barriers does not explain why organisations are still reluctant to adopt sustainable construction. Whilst financial barriers and organisational reluctance are linked, they are different issues. Some organisations genuinely may not have the resources to adopt certain technologies. Whereas others may have enough resources but will not invest due to managers making decisions based primarily around current costs. If these two issues are not separated, they will cause confusion. This is the main issue this paper looks to answer. Having cost driven decisions is not necessarily a bad thing. Developers need to ensure they remain financially controlled, manage risk and make sure the project is viable. However, if decisions are being made solely based around current costs, this can create a culture of cost control within the organisation. This means organisations will be reluctant to try new things. Many studies look at reasons why green buildings are not adopted. Many looks at how financial resources, technology readiness, government regulations, market demand and stakeholder knowledge play a role. However, it is not always clear how cost driven financial decisions are ingrained into the organisation causing resistance. A theoretical explanation is required. This paper looks to combine the Technology-Organization-Environment framework,

institutional theory and organisational inertia. The Technology-Organization-Environment framework looks at how the characteristics of the technology, the situation within the organisation and pressures from the environment will affect the adoption of innovations (Tornatzky & Fleischer, 1990). Institutional theory looks at how organisations comply with regulations, professional standards and competition (DiMaggio & Powell, 1983). Organisational inertia looks at how organisations continue with current practices despite new options becoming available (Hannan & Freeman, 1984). The main aim of this paper is to create a conceptual framework which explains how cost driven decisions can lead to organisational resistance towards adopting green buildings amongst small and medium real estate developers in Pune. This paper looks to answer the following questions: How does cost driven decisions affect developers' willingness to adopt green building? How do financial concerns become ingrained within the organisation leading to resistance? What conditions will reduce this resistance through manager knowledge, institutional pressure and resources? This paper provides three theoretical insights. Firstly, it shows how genuine financial barriers differ from cost driven decisions by managers. Secondly, it looks at how cost driven decisions can create organisational inertia. Finally, it identifies what institutional and organisational factors can reduce/increase this relationship. This framework is conceptual and would need to be tested empirically in the real estate sector in Pune.

## 2 Conceptual Background and Review of Literature

### 2.1 Understanding Green Building Adoption in the Real Estate Sector

Adopting green building practices involves incorporating sustainable principles into building planning, design, construction and operations. This means including energy efficient appliances and sustainable materials within designs. Passive design, natural ventilation, water harvesting, sewage treatment, energy efficient lighting, renewable energy sources, sustainable materials and waste management are some examples of sustainable practices. When adopting green building practices within real estate developments, decisions need to be made regarding how to incorporate sustainable practices in design, purchasing decisions, construction costs, compliance and offerings. Architects, engineers, builders, suppliers, consultants and financial institutions will all need to work together to incorporate these practices. Adoption of green building practices is therefore not just a decision to invest in sustainable technologies; it is a decision to invest in how a business operates and manages its resources. This can be an issue as sustainable technologies may be available however businesses may not be willing or able to incorporate them within their standard developments. Even if a developer knows that using water harvesting or making energy efficient designs are beneficial for the environment, they may decide against it due to the cost, uncertainty of return on investment and complexity of the build. A study was undertaken by Abraham and Gundimeda (2018) to identify the barriers to adopting green building practices within India. They identified different categories of barriers such as financial, policy, market, information and management. It was found that lack of understanding of lifecycle costs and lack of information on benefits can also be barriers. This shows that developers will consider not only how much sustainable technologies will actually cost but also whether they can understand and analyse the cost implications. Another study was undertaken by Saha et al (2021) to identify barriers to adopting green buildings within commercial developments in India. They identified many barriers within this sector such as economic, government, organisational, social, information and technological. Specific issues faced within India include long return on investments, uncertainty of availability of green

materials, longer timeframes to complete projects and poor policy implementation. Whilst this study was focused on commercial developments there were still many issues that could affect smaller residential developments as they will still involve the construction supply chain, funding and technical aspects. A very relevant study was undertaken by Singla (2024) looking at barriers to residential developments adopting green buildings from the perspective of real estate developers in India. The study identified affordability, buyers not wanting to pay the additional premium, low knowledge among stakeholders and lack of information on cost and benefits of energy saving technologies as barriers. This identified that financial factors are barriers to residential developers making management decisions. However, the study did not look at the whole process within a business of why cost could become a barrier.

### 2.2 Financial Barriers and Perceived Investment Risk

One of the most common reasons given for the lack of uptake of Green Buildings is the financial aspects. Developers may have to pay more when planning, designing, purchasing materials and building due to sustainable building techniques. Smaller developers may find it difficult to put in these extra outlays due to limited resources as they will have spent money on purchasing land, building and paying workers. This could be a real or a perceived cost. The real cost refers to how much actual resources must be spent in order to install a particular sustainable feature. The perceived cost refers to how managers perceive the sustainability investment to be financially viable. This may result in a situation where a technology will have an increased upfront cost but will lead to reduced operational costs over the lifespan of the building. However, a developer that looks at the upfront costs may turn down the investment as the savings would not come into play until after the property was sold. The World Bank report 'Green Buildings: A Finance and Policy Blueprint for Emerging Markets' states that the perceived large upfront costs are one of the main barriers to green building. It goes on to say that there may be a difference between the perceived and real incremental costs. Due to improvements in technology, building standards and supply chain the economics of sustainable buildings can vary. This is because if decisions are made based on incomplete cost data it can cause resistance to occur. Not all sustainability investments will be profitable. Depending on the type of technology, location, type of project and type of funding will affect the economics of the development. The issue is that theoretically managers may place more emphasis on the upfront costs rather than considering all of the factors such as the life cycle costs, savings from operations, environmental impact and potential market benefits.

### 2.3 Cost-Oriented Decision-Making as an Organizational Phenomenon

A cost-driven decision-making approach will look predominantly at the short-term financial impact, cost implications and expected returns from investment decisions. Within property development this is an understandable approach given that projects require large amounts of capital; can be subject to delays in completion; and are subject to market fluctuations. However, when an organisation has a high cost driven decision making approach, there can be issues. This can cause sustainable developments to be viewed as non-essential. The development may be made using traditional materials, suppliers and methods due to known costs and performance. This can cause cost driven organisational barriers within the organisation. These are caused by organisations delaying, restricting or avoiding sustainable development due to their current decision-making practices focusing on the short-term costs. This should not be confused with financial constraints. Financial constraints occur when an organisation does not have enough resources to make the investment. Cost driven organisational barriers occur when the decision-making practices of an organisation are focused on short term costs. They can

happen simultaneously but need separate explanations and actions. For example, a small developers may not have enough funding to invest in a complex renewable energy system. However, another developer may have enough funding but still choose not to invest in some of the more affordable energy efficient design improvements due to management viewing traditional development as offering more predictable short-term returns. This can help to understand why organisational barriers may not be overcome by providing financial incentives. If decision making practices are still focused on short term costs, then there may not be enough funding to encourage sustainable innovation.

### 2.4 Organizational Resistance and the Persistence of Conventional Construction Practices

Organisational resistance is when an organisation finds it difficult to implement changes to its current ways of working. This can be due to uncertainty, fear of cost implications, lack of abilities, professional practices and concerns about how the organisation will perform. Within the construction industry there are often many traditional ways of working that have become a norm. The developers will have built up good relationships with certain contractors, suppliers, consultants and material suppliers. The project team will also become very accustomed to using certain design and procurement methods. Whilst this can help streamline operations, it can make it more difficult to implement new sustainable practices. Organisations can suffer from structural inertia (Hannan & Freeman, 1984). This can make it challenging for organisations to change their current structure. This can cause issues with implementing sustainable building practices. Organisations may be unwilling to change procurement methods, lack the desire to try new materials, lack training in sustainable areas and continue to use traditional methods of construction. Resistance may occur at various levels within the organisation. Senior management may not want to spend extra money. Project managers may not wish to use certain construction methods that may cause issues with the schedule. Procurement staff may want to stick with suppliers they know. Technical staff may not be keen to recommend new technologies they have little experience with. This can create a cycle. If the management are focused on reducing costs in the short term, employees may feel that investing in sustainable practices will cause them unwanted financial risk. If employees are not suggesting new technologies, the management will not have many options. Traditional ways of working will become more embedded. Therefore, organisational resistance may not just be down to one person not wanting to be sustainable but can occur due to management priorities, organisational habits and good working relationships.

### 2.5 The Organizational and Institutional Environment

The external environment can have an influence on how developers implement a green building approach. This can be due to factors such as government regulations, certification schemes, professional requirements, customer expectation, competitor actions and financial institutions influencing organisational decision making in regards to sustainability. Organisations can experience coercive, mimetic or normative forces due to institutional pressures (DiMaggio & Powell, 1983). Coercive forces occur due to regulation and dependency. Mimetic pressures result from organisations copying others, especially during uncertain times. And normative occurs due to professional requirements, education and industry expectations. In relation to real estate, there may be pressures from building regulations and sustainability requirements that will influence developers to become more environmentally responsible. Market pressures may come from competitors using green certifications or promoting sustainable residential buildings. Professional knowledge from architects, engineers and sustainability consultants can challenge traditional

building practices. However, institutional pressures may not lead to meaningful implementation. Developers may simply perform symbolic actions and include some visible aspects of sustainability but avoid making changes to procurement, planning and building performance. This will likely happen if sustainability initiatives are seen as extra costs. The Technology-Organization-Environment framework can be used to understand how innovations are implemented. It recognises that there needs to be appropriate technology, organisational capability and environmental factors (Tornatzky & Fleischer, 1990). This is relevant to smaller developers as they will need appropriate solutions, capabilities and supportive factors to implement green building technologies.

### 2.6 The Emerging Theoretical Gap

The literature review highlights that there are multiple interrelated factors that hinder the adoption of green buildings. Previous research has examined cost, lack of knowledge, limited technical capabilities, poor regulation and uncertainty. However, the existing classifications include cost as one of many factors but often fail to explain how cost can influence an organisation's decision-making process. Explanations of how organisations adopt green buildings do not always fully address the difference between a lack of financial resources and a managerial focus on reducing costs. Further clarification is needed regarding how focusing on cost in decision making can create inertia within an organisation. Although individuals may make investment decisions based on a cost focus, over time this can become part of an organisational routine. This can cause resistance to change. This paper provides a processual explanation linking cost focused decision making to managers' perceived risk, organisational inertia and resistance to adopting green buildings. It also considers how institutional pressures, and awareness of sustainability, along with financial and technical support can influence this relationship. This paper does not suggest these factors have not been researched before. Instead, it provides a more detailed theoretical explanation of how managerial evaluation based on a cost focus may create long term resistance to change within small real estate development firms.

## 3 Theoretical Foundations

The model combines three different theories, namely the Technology-Organization-Environment framework, institutional theory and organizational inertia theory. This is due to the problem in this study being related to technology adoption, managerial decisions, external pressure and organizational inertia.

### 3.1 Technology–Organization–Environment Framework

Tornatzky and Fleischer (1990) developed the Technology-Organization-Environment framework to explain factors that influence the adoption and implementation of technological innovations within an organization. The framework outlines three key factors that influence adoption decisions: Technology: Refers to the technologies available within an organisation and how they are viewed. Within green building developments this will include the energy efficient technologies, sustainable materials, water management systems, passive design systems and building performance systems. Developers will consider factors such as cost, complexity, integration with existing building practices and performance. Organization: Refers to the internal factors within the organization such as finances, managerial capabilities, structure, staff expertise and decision making. This is particularly significant for smaller real estate developers who may have limited resources and rely on key decision makers in the management team. Environmental: Refers to external factors such as regulations, competition, client's expectations, availability of suppliers and professional support. These factors will influence how essential and commercially viable adopting green buildings will appear. This framework is suitable for this research as it outlines why just having access to

technology does not always mean it will be adopted. A developer may have access to sustainable materials and energy efficient technologies, but may not have the resources within the organisation or the managerial willingness to implement these. However, the TOE framework is mainly a contextual framework and does not fully explain how cost will become an inherent factor within the organization. It may also not explain why there may be resistance to the technology. This paper will use the TOE framework as a base for the technological, organizational and environmental factors that influence adopting green buildings. The other theories will be used to explain the pressure from the institution and organizational inertia.

### 3.2 Institutional Theory

Institutional theory shows how external factors such as regulation and expectations, professional standards and procedures influence organisations. There are three forms of institutional isomorphism that can be identified (DiMaggio and Powell, 1983). These are; Coercive – This occurs when organisations comply with regulation or government guidelines. Green buildings may be influenced by building regulation, environmental guidelines and government sustainability initiatives. Mimetic – This happens when organisations imitate others. In relation to smaller developers, they may look at established developers within real estate and replicate their sustainability initiatives. Normative – This occurs due to professional standards, education and shared expectations. Developers may be influenced by architects, engineers, project managers and sustainability consultants, introducing them to 'best practice' methods within the industry. Institutional theory is relevant to this research. It shows how smaller developers may change traditional methods due to external pressures. However, there is no guarantee that the organisation will fully implement changes. They may just make changes to give the appearance they are being sustainable. The framework suggests that institutional pressures may have an influence. It may reduce the relationship between cost focused decisions and organisational resistance. How effective this is may depend on how strict regulation is, how credible the professional expectation is and how important it is seen to be from a business perspective.

### 3.3 Organizational Inertia Theory

Organizational inertia explains how organisations may be reluctant to change their processes, structures and procedures. Structural inertia occurs because of the difficulty organisations may face in adapting their structures (Hannan and Freeman, 1984). This shows that organisational structures may become quite inflexible. In practice, organisational inertia can occur within real estate development due to using traditional methods of construction, working with known suppliers, using tried and tested procurement methods and following consistent project management processes. These processes can result in inefficiency but can assist co-ordination, reduce uncertainty and improve project delivery. However, they can also discourage new technologies and construction methods to be adopted. A cost-based culture can cause organisational inertia. If managers consistently consider cost as a key factor, then employees will become used to considering the short-term financial impact of new ideas. This would mean ideas which require changes in procurement, training and co-ordination to be sustainable may not receive much support. The key idea from this theory is that organisational resistance can become a self-fulfilling prophecy. As investment decisions are made based on financial concerns, this becomes a routine meaning traditional methods are used. These traditional methods then make it seem like alternative methods would be more challenging. Organizational inertia theory can explain how a cost-based culture among managers can cause ongoing resistance to adopting green buildings.

### 3.4 Integration of the Theoretical Perspectives

A comprehensive explanation is offered. Institutional Theory (TOE) provides the context within which adoption decisions are taken. Institutional theory helps explain how external expectancies can be influential. Organizational inertia theory helps explain why internal factors can have a continuous constraining impact on decisions. The key theory states that cost driven decision making will not result in organisational resistance. However, an interaction between managerially driven risk perception and inertia can result in stronger relationships within firms of low financial and technological capability. The positive influence of supportive institutions, managerially driven sustainability consciousness and greater resource availability may weaken these relationships. This integration provides the theory behind the conceptual framework provided in the next section.

## 4 Development of the Conceptual Framework

### 4.1 Central Argument of the Proposed Framework

This paper argues that factors surrounding the financial aspects of green building are insufficient to fully explain the organisational resistance to implementation held by small and medium real estate developers. Instead, it is important to consider how financial factors will be interpreted by managers within an organisation and turned into decision making. Small and medium real estate developers face an environment requiring financial discipline. Their development projects often have high capital requirements, uncertainty surrounding their projects, potential delays during the construction process and multiple stakeholders. This can lead to a focus on controlling costs and having predictable outcomes. As a result, sustainability initiatives may consistently be placed at a lower priority due to the immediate focus on financial factors. This paper argues that using an approach based around cost will lead to organisational resistance due to increased perception of risk, short term focus and organisational inertia. However, the framework can also take into account that the extent to which resistance is caused by cost focussed decision making can be influenced by institutional pressures, managers' knowledge of sustainability and availability of financial and technical support.

### 4.2 Cost-Oriented Decision-Making as the Primary Antecedent

This is an overarching factor to consider within the proposed framework. This looks at how much emphasis is placed on saving costs during the implementation of projects. In traditional real estate development, care must be taken to keep costs under control for the project managers and developers. However, when considering sustainable buildings, there are several economic factors to consider such as, energy saving, water efficiency, maintenance requirements, building performances and any impact on property value. If only looking from a narrow view, these points may not be considered. Some have a delayed impact, for example, a building being energy efficient can help to reduce electricity used by the residents. The developer would have to pay for this energy saving design. This can become more complex if buyers are unsure about paying more for sustainable features. The developer may be reluctant to include these due to uncertainty around how much extra cost will be applied to the sale price. Buyer willingness to pay, affordability and lack of information about the costs and benefits of energy saving technology were identified as relevant issues for residential property developers in India (Singla, 2024). The framework does not assume cost driven decision making is irrational. However, the focus on upfront costs can limit consideration of sustainable investments from a broader perspective.

### 4.3 Perceived Investment Risk as the First Explanatory Mechanism

Perceived investment risk refers to the belief held by the manager that an investment into green buildings will result in unexpected costs, delays or provide expected economic returns. Green building technologies can introduce new materials and additional technical advice and specialist installation requirements. Smaller sized developers may be particularly concerned if they do not have any previous knowledge of these technologies. Uncertainties around investment can occur in a number of ways. Firstly, it could be believed by the developer that using sustainable methods will increase the overall project costs. Secondly, there may be doubts regarding the reliability and availability of sustainable materials. Finally, there may be no assurance that the additional benefits will be valued by their customers. Despite technological and economic barriers being overcome, there are still many social and psychological barriers to overcome (Hoffman and Henn, 2008). The importance of individual, organisational and institutional barriers is highlighted through the analysis. This shows that green building decisions cannot simply be based on costs. Perceived investment risk is a way in which decisions are made based on costs, leading to organisational resistance. As managers are mainly basing their decision on the short-term financial risk they may place more emphasis on the uncertainty. This could lead to delays, partial implementation or complete refusal of green building initiatives.

### 4.4 Short-Term Financial Orientation and the Underestimation of Life-Cycle Benefits

Short term financial orientation is defined as a manager's preference for projects that will generate quick returns. This is particularly relevant within residential real estate due to conflicting interests between developers and occupants. Developers are likely to only consider the costs associated with the purchase of land, costs of constructing, completing and selling. Occupants will be more likely to consider the long-term costs of using electrical appliances, water, maintenance and internal environment. As a result, the developer may not benefit from all the economic gains associated with sustainable features. An example of this could be if the residential development has increased insulation, energy efficient lighting and water systems. This would generate cost savings for the occupant; however, the developer may have incurred the cost of this. The occupant will receive a large proportion of the benefit. This can act as a deterrent for investing. If the buyer will not pay extra for sustainable features. Hart (1995) developed the Natural-Resource-Based View of the Firm. She argues that organisations can gain a competitive advantage by having environmental capabilities. This can be achieved through developing strategies such as pollution prevention, product stewardship and sustainable development. Within real estate, this means that investments in the environment may lead to resource efficiency and provide greater differentiation. As well as creating capabilities within the organisation. However small developers may not realise these advantages quickly. Therefore, short term financial orientation can prevent them from investing in capabilities which may generate long term benefits. This framework highlights that short term financial orientation is an important mechanism linking cost focus with organisational resistance.

### 4.5 Organizational Inertia as the Process Reinforcing Resistance

In relation to the theory behind this argument, organisational inertia will be key. Real estate development is an industry that thrives on regular processes and relationships to help deliver the project. Developers often work with the same contractors, suppliers, architects, engineers and project management processes. This provides certainty to the project. However, the implementation of green buildings may require changes to be made to these processes. Using sustainable materials may require new suppliers to be

used. Energy efficiency may require additional technical processes and environmental certification may cause additional paperwork and assessments. If managers are always making decisions based on controlling costs, staff may develop habits of not investing in anything new. Purchasing staff may always purchase traditional materials, project managers may not want to make any changes that would affect the construction schedule and senior management may not want to invest in anything that involves uncertainty. These decisions will become habitual. This idea of organisational inertia can be explained using the theory from Hannan and Freeman (1984). The importance of organisational and psychological barriers when implementing green buildings can also be seen (Hoffman and Henn, 2008). This paper has developed this idea further by showing how organisations may develop inertia due to cost driven decisions. Decisions about investment may initially be made based on cost considerations but overtime this can become habitual. Therefore, organisational inertia is not just another barrier but actually refers to the process of organisations becoming habitual due to cost driven decisions.

### 4.6 The Moderating Role of Institutional Pressure

Institutional pressure is created by pressures from regulation, professional standards, changes in the market and competition. Organizations face pressures arising from coercive, mimetic and normative forces (DiMaggio & Powell, 1983). These can cause developers to re-evaluate their standard construction practices. Small and medium developers may face institutional pressures from compulsory construction regulations, local regulations, Green Certifications, professional recommendations and competitors adopting sustainable initiatives. These pressures can reduce any cost resistance. Firstly, increased regulation can make sustainable initiatives a crucial part of planning. Secondly, if competitors are using sustainable building, there is less uncertainty around whether green construction is feasible financially and technically. However, the pressure can only be effective if it is a credible source. If regulation is not enforced, it can create a culture of just meeting the minimum requirements. Similarly, if competitors are copying the sustainable initiatives there may just be a superficial adoption. In this framework institutional pressure is seen as a moderating factor.

### 4.7 The Moderating Role of Managerial Sustainability Awareness

Sustainability awareness relates to managers' understanding of the environmental, financial and strategic impacts of sustainable building practices. An increased level of sustainability awareness in managers may result in consideration of wider implications of investments. This may be by understanding of life cycle costs, energy efficiency, water saving, environmental and long-term investment in building. This can affect how cost information is perceived. For example, two developers could be presented with the same proposal to install a water efficient system. One could refuse due to the increase in initial costs whereas the other could consider how this will provide water savings, lower costs and meet regulations. This does not necessarily relate to available funds but more how the management view the investment. A lack of understanding of life cycle costs and benefits of sustainable buildings are identified as key barriers to adoption in India (Abraham and Gundimeda, 2018), supporting the importance of sustainability awareness in management. This paper proposes that an increased level of sustainability awareness in managers may reduce the impact of cost driven decision making as a barrier.

### 4.8 The Moderating Role of Financial and Technical Support

Financial & Technical Support are external resources that provide an advantage to developers that helps overcome the issues of investing into and implementing sustainable development. This can include access to

appropriate funding, incentives and discounted loans. Technical support would include competent consultants, experienced architects, skilled contractors, dependable suppliers and useful knowledge on sustainable building methods. This is particularly important for smaller companies who may not have the dedicated departments and available funds that larger developers may have. An investigation into green initiatives amongst small and medium sized enterprises found that lack of funding and human resource capabilities were key barriers however financial support and organisational commitment were identified as relevant drivers (Wang et al., 2023). Whilst this research isn't specific to property developers, it does provide evidence to support the inclusion of this factor within the current model. Financial & Technical Support may reduce the extent to which cost driven decisions become a barrier however this doesn't guarantee it will be adopted if managers aren't willing to change their financial assessment strategies. Resource availability and manager willingness should be seen as complimentary factors.

## 5 Boundary Conditions and Alternative Explanations

The proposed relationships may vary according to firm size, project type, ownership structure, financial capacity and market positioning. For instance, a developer undertaking a premium residential project may have stronger commercial incentives to adopt sustainability features than a developer competing primarily through affordability. Similarly, developers with previous green building experience may perceive lower investment risk than organizations encountering these technologies for the first time. Actual technological limitations, material availability, regulatory uncertainty and insufficient customer demand may also independently explain non-adoption. Therefore, not every decision to reject green building practices should be interpreted as organizational resistance. This distinction is important because responsible management may require rejecting a technology that is unsuitable for a particular site or financially unviable under existing conditions. The theoretical concern arises when conventional cost priorities systematically prevent reasonable consideration of suitable sustainable alternatives. The proposed framework is therefore context-sensitive and should be tested across different categories of smaller real estate developers before broader conclusions are drawn.

## 6 Discussion and Theoretical Contributions

### 6.1 Understanding the Relationship Between Cost Orientation and Green Building Resistance

The proposed framework demonstrates why smaller real estate developers are struggling to implement green buildings. This is because cost should not be seen as a one size fits all issue. The way in which managers perceive cost, risk and resource allocation will also play a key role. One real estate developer may decide not to invest in sustainable construction due to genuine inadequate funding. Whereas another may decide not to invest due to the focus on short term costs over long-term benefits. This therefore provides us with a better understanding. The framework demonstrates that the cost focus of the organisation can impact the perception of risk and short-term financial gains. This can cause the organisation to become more resistant to change meaning that they will often use traditional construction methods. This ties into Hoffman and Henn (2008) who explain that green building implementation will be impacted by organisational, psychological, technological and economic barriers.

### 6.2 Theoretical Contribution One: Distinguishing Financial Constraints from Cost-Oriented Resistance

Contribution 1: Resource availability versus cost-driven resistance This area has been widely explored within

green building literature. However, many cases where sustainable construction options have been resisted by organisations will not be due to financial barriers, high up-front costs or uncertain payback periods. The suggested framework provides a distinction between the availability of resources and the criteria set by management when allocating them. This can help to show how providing finance may help overcome resource barriers, but will not change the investment priorities of the organisation. The framework explains that there are more precise reasons why cost decisions have been made by management. The adoption of sustainable construction within an organisation depends on whether it is affordable, and whether management consider it economically and environmentally beneficial.

### 6.3 Theoretical Contribution Two: Explaining the Development of Organizational Inertia

Secondly, it looks at how cost-based decision making can create routine behaviours. The concept of organizational inertia explains how routines are created within an organization (Hannan & Freeman, 1984). This paper looks at how this concept can be applied to decisions around making sustainable investments. It is proposed that over time, cost-based thinking in managers will influence purchasing decisions, choosing suppliers, planning, and expectations of employees. As traditional practices become routine, they are seen as predictable and conventional. Sustainable choices are seen as unconventional and risky.

This creates a positive feedback loop in the organization where routines are created that reinforce the original bias towards short term cost control by managers. This goes beyond simply providing another variable by explaining how financial decision making can cause and encourage inertia within an organization.

### 6.4 Theoretical Contribution Three: Integrating Internal Decision-Making with Institutional Conditions

Finally, it helps to connect the internal aspects of management with external aspects. The TOE framework helps explain the organisational and environmental factors affecting organisational readiness and conditions. Institutional theory explains how organisations behave due to regulatory, professional and competitive pressures. By connecting these theories to organisational inertia, this framework can be used to show how pressures from outside the organisation can lead to changes in traditional cost focussed practices within an organisation. This will depend on organisational capabilities and managers being aware. As small developers cannot make decisions about investing independently of their business environment, they face pressures from regulation, banks, customers, competition and professionals.

This framework provides a multi-level view of how green buildings can be adopted by showing how managers make decisions, how routines work and how the institution plays a role.

### 6.5 Alternative Explanations and Critical Considerations

Because this framework focuses on cost-based decisions, it does not mean there isn't any other reason why managers would be resistant. It could be they genuinely do not have the resources to make these high-cost decisions. They may also be constrained by a lack of materials, skills or poor conditions on site or unclear regulations. Customer issues could also cause them to not invest into sustainability. If customers are unaware of the benefits of green building, they may not want to pay for these additional features making it reasonable for developers not to invest into them. Sometimes organisations can face tokenistic change due to the pressures they face. Developers may add some obvious sustainable features but not make any real changes to

their organisation. This shows that this framework is only one theory into why organisations may be resistant. It doesn't explain why all decisions may be made when adopting green building.

## 7 Managerial and Practical Implications

Implications For small and medium real estate developers, this framework has a number of implications regarding how they make investment decisions. The management team within the organisation should not only look at the upfront costs from implementing green technologies as part of their investment decisions. Where possible, investment decisions should take into account the life cycle costs, energy use, water efficiency, maintenance and benefits to occupants. This does not mean that every sustainable investment will be approved but that they have been adequately assessed. The developers should try to create awareness around sustainability within their project managers, procurement and technical teams. By providing training and working with experienced architects and engineers there will be less uncertainty regarding sustainable materials and construction technologies. For policymakers, it is important to support small developers. This can be done through providing funding packages that are easy to access, providing technical support and having clear standards for certification. This can help overcome any issues regarding implementing sustainable technologies. Financial institutions can also play their part by designing financial packages that work well with small real estate developments and increasing the amount of information available regarding the financial impact of sustainable construction. Architects, contractors, suppliers and sustainability consultants can help provide developers with realistic cost comparisons, accurate information and guidance for implementing sustainable technologies. This can make it easier to assess sustainable alternatives. Overall, the framework shows that to encourage green building you must consider the financial resources and the decision-making process within an organisation.

## 8 Limitations and Directions for Future Research

Due to this being a conceptual piece of research there are no primary data sources to back up the proposed links and theories. This means that the framework is based purely upon theory. Another issue here is that whilst the research focuses on SMEs in Pune there is a lot of literature looking at larger construction markets in India, commercial building and SMEs in other industries. Whilst this provides useful theory there is no evidence to prove all the barriers will be present in the same way within residential developers in Pune. Future research could look into exploring this framework by carrying out qualitative interviews with developers, architects, project managers and procurement professionals in Pune. This will help to highlight if there are actual issues with resource availability or if they are facing resistance from management. It can also highlight how cost is a key issue for them. Future quantitative research could look into developing and validating scales for measuring cost orientated decision making, perceived risk of investment, resistance to change and resistance to green building. Structural equation modelling can then be used to validate the proposed links. Comparative research could be carried out looking at small, medium and large developers to see if company size and financial resources impact the strength of the links. Longitudinal research may also be useful to look at whether institutional pressures, sustainability training and financial support are having an impact on changing organisational practices over time. Research should also be carried out looking at differences between residential and commercial developments. It would be good to see if customer demand, project placement and building ownership impacts the mechanisms.

## 9 Conclusion

Implementation of green building requires sustainable technologies and financial resources but also organisational readiness to change long-standing investment priorities and building methods. This paper provides a conceptual perspective on the organisational barriers to the adoption of sustainable building by small and medium real estate developers in Pune. The paper uses the Technology-Organization-Environment framework to examine how an emphasis on cost can increase perceptions of risk associated with investments whilst reinforcing short term financial priorities. This can lead to inertia within the organisation resulting in resistance to the implementation of sustainable building. The framework shows how pressures from the institutional context, managerial awareness of sustainability and financial and technical support can reduce these effects. This paper provides a key contribution to the literature by identifying how true financial barriers may be confused with managerial resistance to implementation due to prioritisation of short-term costs. This helps to understand why sustainable building may not be widely adopted despite availability of suitable technology. The framework proposed can provide a foundation for further empirical research and encourages viewing sustainability focused decision making from a wider perspective within smaller real estate development organisations.

## 10 Bibliography

The following references are presented in APA 7th edition format. Priority has been given to original theoretical publications and research directly relevant to green building adoption, Indian real estate and organizational sustainability.

1. Abraham, P. S., & Gundimeda, H. (2018). ‘Greening’ the buildings: An analysis of barriers to adoption in India. *Cities and the Environment (CATE), 10*(1), Article 10. https://doi.org/10.15365/1932-7048.1228

2. Delmas, M. A., & Toffel, M. W. (2008). Organizational responses to environmental demands: Opening the black box. *Strategic Management Journal, 29*(10), 1027–1055. https://doi.org/10.1002/smj.701

3. DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147–160. https://doi.org/10.2307/2095101

4. Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review, 49*(2), 149–164. https://doi.org/10.2307/2095567

5. Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of Management Review, 20*(4), 986–1014. https://doi.org/10.5465/amr.1995.9512280033

6. Hoffman, A. J., & Henn, R. (2008). Overcoming the social and psychological barriers to green building. *Organization & Environment, 21*(4), 390–419. https://doi.org/10.1177/1086026608326129

7. International Finance Corporation. (2019). *Green buildings: A finance and policy blueprint for emerging markets*. World Bank Group.

8. Saha, S., Hiremath, R. B., Prasad, S., & Kumar, B. (2021). Barriers to adoption of commercial green buildings in India: A review. *Journal of Infrastructure Development, 13*(2), 107–128. https://doi.org/10.1177/09749306211058499

9. Singla, H. K. (2024). What makes a residential building green and barriers to its adaption: A real estate developers perspective in India. *Journal of Management, 11*(3), 53–70. https://doi.org/10.5281/zenodo.14474621

10. Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books.

11. Wang, D., Si, R., & Fahad, S. (2023). Evaluating the small and medium sized enterprises motivating factors and influencing barriers about adoption of green practices. *Environment, Development and Sustainability, 25*, 3029–3041. https://doi.org/10.1007/s10668-022-02166-0