

eValuBuild

A flexible
performance
evaluation tool
for commercial
buildings

eValuBuild



CRC Construction Innovation
BUILDING OUR FUTURE

Decisions, decisions, decisions!

Owners, managers and investors involved in the non-residential building sector make a large number of decisions associated with buying, selling, leasing and refurbishing such assets. In making these decisions, many rely on the experience of their management teams and consultants; for some “gut instinct” is a decisive factor; for others who make more rational decisions, a fair amount of research, analysis and calculation is involved; and in many instances the timing of the implementation of the decision has a huge impact on outcomes.

Many of these decisions revolve around ways to improve the operational and investment aspects of the asset or portfolio. This is a complicated situation even from a financial performance perspective. It involves factors such as property market trends, economic forecasts, estimates of likely rental growth, leasing costs and incentives, operating/capital expenses and discounted cash flow analysis – to name but a few. However, with the advent of the triple bottom line

concept – which adds environmental and social considerations to the performance equation – the decision-making becomes more complex. The property industry has had pressure placed on it to become more environmentally and socially responsible and to take these additional performance factors into consideration when making business decisions. Adoption of these principles by the property industry introduces a greater degree of social responsibility, which for buildings translates into measures of improved sustainability. The challenge therefore is to incorporate these additional measures into the economic evaluation of property where this philosophy has been adopted.

It is against this background that the CRC for Construction Innovation (with the assistance of five industry partners) has developed eValuBuild, a decision-making tool that improves the operational and investment aspects of commercial building performance.

What is eValuBuild?

This software tool comprises a time-series, forecasting model that supports improved decision-making and is based on a risk-adjusted cash flow study of investment property. It allows building owners, managers and investors to evaluate a building’s financial, social and environmental performance into the future.

Based on case studies of four high-rise office buildings in the Brisbane CBD, the tool is flexible and can be adapted for use in other investment property, for example, retail, hotels, factories and other industrial buildings.

The eValuBuild product contains:

- a software disc
- an instruction manual
- a demonstration tutorial

Software

The software disc contains the user-friendly modules that aid the user in selecting the required input data, schedules and variables needed to generate the ultimate cash flow model that uses a spreadsheet platform. Output charts can be produced which are linked to the cash flow model showing the building’s projected performance based on the assumptions adopted. Sensitivity /simulation (Monte Carlo) analyses of the key variables are run via Crystal Ball™ software. This generates charts and detailed statistical analyses on the results of fluctuations in variables such as rent growth rates, discount rates and terminal capitalisation rates.

Instruction Manual

The detailed Instruction Manual contains:

- an introduction to the purpose of the software
- tables outlining the structure of the cash flow model
- comprehensive material on the key parameters for assigning and forecasting property market and

economic variables on which the cash flow model is based

- an explanation of each of the financial schedules used in the model
- a market rent forecasting module
- operating expense benchmarks
- identification of relevant environmental and social benchmarks and the classification for both these indicators
- illustrations of the resultant figures at various stages of the study together with benchmarks to check accuracy.

The manual also includes guidance and cautionary notes on forecasting and selecting some of the key property market and economic variables for application in the tool’s cash flow studies. Data sources for the selection of these crucial variables are also identified. A regular updating service can be provided to keep the information current, that is, information on terminal capitalisation rates, inflation, discount rates and market rents.

Demonstration Tutorial

A demonstration applies the software to an Australian office building. This tutorial uses market-based inputs and provides a full range of outputs.

What performance aspects are included?

As mentioned earlier, the tool incorporates the triple bottom line principles of financial, environmental and social performance. The performance factors included and the structure of the model are the result of substantial and rigorous market-based and academic research. They take account of the drivers of the relevant property markets, the identification and determinants of key variables, an examination of risk measurement and the incorporation of risk simulation exercises. The following table demonstrates the comprehensive nature of the performance aspects incorporated in the model.

Financial	Environmental	Social
<ul style="list-style-type: none">• Key assumptions highlighted (from sensitivity study)• Guidance on key assumption selection• Market rent forecasting module• Benchmarking of operating expenses• Initial yield return and returns over time (NPV/IRR)• Probability of output figures (return or value)• Variability of output figures (standard variation)• Sensitivity and other output graphics	<p>Indicators of:</p> <ul style="list-style-type: none">• Resource consumption• Design• Governance	<p>Indicators of:</p> <ul style="list-style-type: none">• Health & safety• Stakeholder relations• Community engagement• Accessibility• Occupier satisfaction and productivity• Cultural issues• Local impact

Who might use it?

Likely users include:

- property owners
- property managers
- property analysts
- property consultants
- valuers
- investment analysts
- property researchers
- property fund managers
- other building industry professionals.

What are the benefits?

The benefits include:

- better capital investment decisions in buying, selling, leasing or refurbishing a property investment
- improved risk management by analysing the income, expenditure, environmental and social variables on a property investment
- optimising the value of a property investment and portfolio by monitoring income and expenditure and basing decision-making on reasoned forecasts of performance.

eValueBuild



Who should I contact for further information?

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The Cooperative Research Centre (CRC) for Construction Innovation is a national research, development and implementation centre focused on the needs of the property, design, construction and facility management sectors.

Established in 2001 and headquartered at Queensland University of Technology as an unincorporated joint venture under the Australian Government's Cooperative Research Program, Construction Innovation is developing key technologies, tools and management systems to improve the effectiveness of the construction industry.

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