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DO SMALL PRACTICE ARCHITECT DESIGNED RENOVATIONS IMPROVE CAPITAL GAINS IN THE MELBOURNE RESIDENTIAL PROPERTY MARKET?

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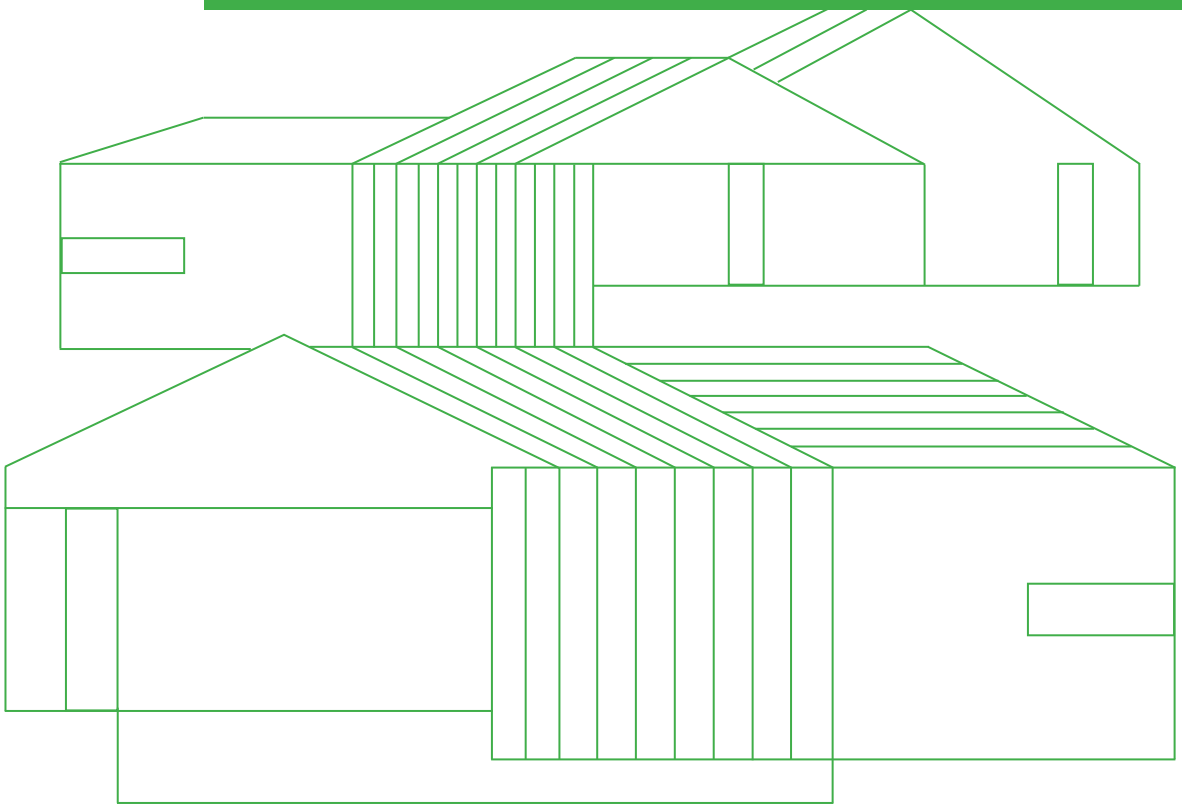
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ARCHITEAM

RAsP
RESEARCH FOR ARCHITECTS IN SMALL PRACTICE

DO SMALL PRACTICE ARCHITECT DESIGNED RENOVATIONS IMPROVE CAPITAL GAINS IN THE MELBOURNE RESIDENTIAL PROPERTY MARKET?



THE UNIVERSITY OF MELBOURNE

Melbourne School of Design
Faculty of Architecture, Building and Planning

ArchiTeam RAsP Research Project

On the basis of a number of measures it can be seen that the research question can be answered in the affirmative:

Small practice architect designed renovations improve capital gains in the Melbourne residential property market.

Highlights

- *Choosing an architect translates into a significant premium in growth in Capital Value relative to other asset classes.*
- *When adjusted for time the per annum average change in architects Pool 1 is 1.2% greater than non-architects Pool 2.*
- *In architects Pool 1 for every dollar spent on Architectural fees there were 11.4 dollars gained in Capital Appreciation*
- *Aggregate Capital Value in architects Pool 1 Outperformed the non-architects Pool 2.*
- *Average Change in the Capital Value of assets in architect Pool 1 was greater than non-architect Pool 2.*
- *Change in Average Value in architects Pool 1 Outperformed the non-architects Pool 2.*

Introduction

Australian Architects exist in a highly competitive fee for service market. Architects provide expertise and services in exchange for fees. For many architects it is difficult to argue the economic value of the services and architectural knowledge that they bring to a given situation. Data regarding the financial value that architects provide clients, in particular residential clients, is scant. From a client perspective a residential renovation or new housing project is a significant life decision. However, as most architects know residential renovation projects can be complex and often involve significant time and cost risks. To date, very little research has been undertaken that identifies how architectural services improve the management of risks in these projects. Moreover, very little research has established that the involvement of architects in residential projects improves the ex-post capital value of the client's asset.

In Australia, as well as in many other developed countries, as many as 65% of architects are small practices of less than 5 people. For the majority of these architectural practices housing including multi-residential, new housing and renovation work is a significant proportion of their work. However, in this market architects face many competitors and substitutes to their services. These competitors include allied professionals such as draftpersons, builders, project managers and volume home builders. This competition is compounded by the fact that for individual clients the decision to purchase architectural services is a complex one. For residential clients this decision involves balancing issues regarding lifestyle requirements against personal wealth related to income, expenses and long-term bank debt. For many clients commissioning an architect for a residential building is a once in a lifetime purchasing decision and few clients have had real experience in residential procurement and project delivery.

Perhaps because of these factors, anecdotal evidence from across the architectural profession suggests that residential clients feel that architectural services are unaffordable and that the benefits of employing an architect are not warranted.

Architects have responded to ongoing skepticism and competition for their services in a number of ways. One way has been to cut the price of their fees in order to gain work. In some instances, this has led to situations where many architects operate at very low profit margins. Arguably, this approach is reflected in the relatively low wages that architects receive after seven years of training and is reflected in the poor labor practices that bedevil the profession. Another approach, in the face of competition, has been for architects, through their professional bodies, to market their services and educate clients through media marketing and peer award programs.

In some instances, professional and government bodies have argued for the qualitative value that architectural design brings to the broader built environment. Architects have also attempted to argue that their skills and expertise enable clients to achieve sustainable outcomes in response to issues of climate change and the climate emergency. Post Occupancy Evaluation (POE) data through client surveys has also been seen as an approach to establish the value of architectural work. This emphasis on POE has the strategic aim of providing evidence that architects provide value to their clients. However, few small architectural practices, and few clients, have the time or the resources to gather this kind of data.

Many of the above industry wide responses to intense competition in residential market for architectural services have been based on qualitative measures. Housing is a consumption good because it provides shelter and satisfies the immediate lifestyle needs of consumers. But

alternatively, housing is also a capital asset and this project addresses housing from a capital asset perspective, rather than from a consumption good perspective. In other words, this research seeks to articulate the direct economic and financial value that architects bring to residential housing assets.

Overall statistics of the residential market in Victoria, where this research took place, suggest that architects can potentially capture more of this market. The following Victorian Building Authority statistics establish the scale and value of this market.[1]

- In 2018 the value of building permits for all new Class 1 residential work across all municipalities in Melbourne was a value of $17.4B.

- In 2018 the value of architectural work as listed through the VBA and for Class 1 alteration and extension permits building permits was around $533M representing 1475 building permits.

- In comparison the value of building permits sought by draftspersons was $716M representing 4,538 permits.

- Within the Melbourne City Council district in 2018 the statistics for class 1 alterations and additions completed by architects was 23 permits for a value of $6.404M

Research Aims Question

Research for Architects in Small Practice (RAsP) is a crowdfunded research program led by ArchiTeam. ArchiTeam wanted to examine the financial impact small practice architects have on the properties they are so integral to transforming. The research was funded in late 2018 through a crowd funding campaign.

RAsP's first research topic is:

> *"Do small practice architect designed renovations improve capital gains in the Melbourne residential property market?"*

In other words, the research asked, what is the value of an architect designed house renovation in property markets? The aim was to examine the financial impact small practice architects have on the properties that are such a large part of the fee-for-service market they operate in. The research tests the underlying assumption that the skills of architects will translate into increased capital gains and market valuations for clients.

The broader research aims aligned with the above research question were also:

- To establish an informed, evidence-based understanding of the relationship between small architectural practices and the Australian housing property market.

- Understand the range of value orientated design actions that architects employ in residential housing designs.

- Better understand how small architectural practices contribute to Australia's inner cities.

[1] Information provided by Tom Bulic Architect from VBA residential building permit data.

Previous Research

Very little previous research has been conducted across the global that examines the impact and value of architectural services in property markets. Despite a wide literature search we found no peer reviewed previous research that links the work of architects with projects and residential property markets. To reiterate, there have been no similar studies to this one seeking to link property capital gains to architectural design and the practice of architects.

However, in the course of the study a number of published research papers were found that serve as useful reference points and provide context to this report.

Firstly, a number of studies that have examined the macro-economics of the Australian housing market and these studies from a useful background to this study. Nigel Stapledon an economist looked at the rise in Australian house prices between 1991 and 2016 and names this rise as a "Long Boom." He argued that, as has been proved correct, this boom was not a guide to future housing asset prices.[2] More recently, in 2018 Creina Day argues that the Australian housing market was driven by demographic factors and household formation driven by strong population growth. The increase in the formation of households being driven by an ageing population and higher net immigration growth.[3]

There have been numerous hedonic studies that have examined housing attributes and property markets. Hedonic studies have had a long tradition in economics and seek to define the relationship between the price of a house and its various attributes and characteristics. Different pricing models and statistical modes of analysis are used to do this. For example, in 1984 Dale-Johnson and Phillips examined housing attributes associated with capital gain arguing that "within a 'micro' housing market, the effect of the 'macro' economic factors influencing housing prices or changes in housing prices is presumably constant across all housing units."[4]Arguably, this methodological position can be adopted in regard to this study. In Sri Lankan hedonic research Randeniya, Ranasinghe, and Amarawickrama, (2017) rightly argue that "Many studies suggest that, many attributes exist which affects the housing price. Since the attributes involved and dominant for a particular case differs from one situation to the other, there cannot be an exact list of attributes."[5] Sometimes specific attributes are researched, in 2018 Lu employed hedonic pricing analysis of south-facing units in the Shanghai housing market.[6] But many of the previous hedonic studies are based on and perhaps require large sample sizes.

These previous hedonic studies fall outside of the parameters of this study. This is because the

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[2] Stapledon, N. (2016). The inexorable rise in house prices in Australia since 1970: Unique or not? Australian Economic Review, 49(3), 317-327.

[3] Day, C. (2018). Australia's growth in households and house prices. Australian Economic Review, 51(4), 502-511.

[4] Dale-Johnson, D. and Phillips, G.M., 1984. Housing attributes associated with capital gain. Real Estate Economics, 12(2), pp.162-175.

[5] Randeniya, T.D., Ranasinghe, G. and Amarawickrama, S., 2017. A model to estimate the implicit values of housing attributes by applying the hedonic pricing method. International Journal of Built Environment and Sustainability, 4(2).

[6] Lu, J. (2018). The value of a south-facing orientation: A hedonic pricing analysis of the Shanghai housing market. Habitat International, 81, 24-32.

aim of this study is not to understand which factor, or indeed architectural attribute, amongst many may be of more importance in accounting for capital gains in architect renovated houses. Nonetheless, the hedonic pricing models suggest an avenue for future research if larger datasets were available regarding architect designed renovations and houses in Australia.

As the English academic Flora Samuel argues in her book ***Why Architects Matter,***

> *"If architects can evidence their value in a manner that the rest of the world understand the protection of the title [of the architect] becomes a non-issue. Their value becomes self-evident."*[7]

This research, in line with the above quote, seeks to establish *quantitative* evidence for the value of architectural services by directly measuring how these services impact and effect the capital value of assets.

This quantitative approach seeks to explain phenomena, and create knowledge, through the objective measurement and analysis of numbers. In contrast qualitative research explores, interprets and constructs knowledge through the analysis of meaning in different settings. Qualitative research often employs interview, case study and observation to gather data. Quantitative research is focused on numeric data gathering and statistical analysis.

This research is not seeking to describe client perceptions of how clients view architects. Nor is the research seeking to establish the qualitative benefits of design. This project, has the aim of gathering quantitative and numeric data about what architects do for their clients during the design process. How these activities increase or decrease the capital value of client owned properties is the central question of this research.

Definitions

The design of the survey is discussed below and it was based on established valuation definitions and terms.[8] The survey questions were designed in a way that correlated with common valuation definitions and categories. It was deemed that this approach had the advantage of allowing the survey's data gathering categories to be easily compared with the categories in the CoreLogic property data base. In addition, this approach allowed for public scrutiny of the results and findings avoiding a situation where terminology is unclear or ambiguous.

However, two definitions are key to the study:

Market Value

> *The estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.*[9]

[7] Samuel, F. (2018). Why architects matter: Evidencing and communicating the value of architects. Routledge.

[8] ANZRPTIP 6 - Property Research Guidelines

[9] ANZRPTIP 2 – _Property Advisors

Capital Gain

A rise in the value of a capital asset that gives a higher worth than the purchase price. [10]

Methodology

Rather than establishing the worth of architectural services through broad qualitative principles a rigorous quantitative method was adopted. At the outset it was recognised that any quantitative comparison between non-architect and architect design properties in Melbourne's housing market would potentially be problematic. This problematic nature is because:

- At face value no two projects in this property market are the same.
- As assets, different houses will have many different attributes in terms of location, land title, construction, renovations and sales history.
- Moreover, different architects, while operating under the regimes of their profession, will approach the design process differently and all housing properties will have had different interventions over time.

Given this research context and the seemingly problematic nature of directly comparing individual property assets it was decided that a comparative "pooled" approach be adopted. This approach allows for:

- Aggregate data to be combined and information compared between larger pools of housing assets.
- Variations in the characteristics of different data points; in this case housing assets.
- Is a method that is not reliant on having large or a so-called "statistically significant" sample sizes in order to draw quantitative or general conclusions from.

Moreover, the central framework for the methodology and methods employed in this study is based on a previous study examining PPPs and traditional procurement in Australia.[11]

This previous study also employed an aggregated and pooled method. In the RAsP project there are 22 projects in each project pool. For purposes of comparison, the number of data points in in the PPP study were 21 PPP projects and 33 traditional projects. This previous study has been widely cited and indicates the integrity of the methods adapted in in this project.

Methods

Using this pooled method, two pools are being compared within this property market: architect and non-architect housing. This in order to compare each pool and answer the research question.

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[10] ANZVTIP 1 – Retrospective Valuations

[11] Raisbeck, P., Duffield, C. and Xu, M., 2010. Comparative performance of PPPs and traditional procurement in Australia. Construction Management and Economics, 28(4), pp. 345-359.

Data Sources

Initially it was envisaged that up to 30 houses would comprise each pool. However, given the low response rates from architects, the high rate of incomplete surveys, incomplete sales data and the removal of outliers each pool contained 22 properties. Nonetheless in total this sample represents almost $70M dollars (Jan 2020) in property assets when the pools are aggregated together.

There were two primary data sources for the research.

- Firstly, the Pool 1 data of respondent selected projects gathered from the architects during the survey and then corroborated in the CoreLogic RP Data Professional (CoreLogic) database.

- Secondly, the Pool 2 data gathered directly from the CoreLogic database.

Survey design

The survey was intended to gather data about respondent selected projects that could then be included in the Architects pool.

The data gathering survey was piloted with five ArchiTeam directors, discussed, revised and then sent out to potential respondents. Gathering data on which independent valuations could be made was central for the design of the data gathering survey. This ensured that the results, findings and conclusions of the survey could be benchmarked against well established and well-known valuation criteria. This approach meant that the survey covered a range of important valuation categories and information.

The survey was designed in Survey Monkey and once finalised the survey included 46 questions, and it was estimated that it would take approximately 25 minutes to complete. Respondents were able to save the survey and come back to it later.

Respondents were asked to identify one particular project that could potentially demonstrate an appreciation in capital gains as a result of an architectural renovation.

The final data gathering survey contained 46 questions and the questions were organised into a series of sections that contained questions about:

- Circumstances of the practice and role of the respondent.
- The respondent selected project prior to the project commencing.
- How the design changed the property and any existing buildings on it.
- The marketing and sale of the property following completion of your project.
- The total cost of the selected project broken down into components.

To complete the survey respondents were asked that this project comply with the following criteria:

- Be a project for which you were commissioned, that is now complete.
- Be a new house or house renovation on its own title. The house may be freestanding, semi-

detached or attached.

- Be a project of which you are proud.
- Have been sold after the completion of your commission.
- Be located within Metropolitan Melbourne.

In order to gain as much data as possible potential respondents were advised that:

- Projects located outside Metropolitan Melbourne, or which have not been sold, can still provide valuable data. If you have not done a project that has been sold, please select a project of which you are proud.

- Unsold properties also provide useful data. This is because capital gains are either realised by the sale of a property, or unrealised and reflected in the property's off-market valuation as discussed below.

Core Logic RP Professional Property (CoreLogic) Database

The research utilised the CoreLogic RP Data Professional product. For a number of properties in each pool this provided an off-market valuation. CoreLogic is the largest provider of property information, analytics and property-related risk management services in Australia. Access to the database was provided free of charge. This is normally a subscription product that is described as giving access to market leading CoreLogic property data.

The database was also the principal source of data for Pool 2 the non-architect pool. The database had functionality that allowed for an understanding of the Melbourne property market at a suburb, street or individual address level. The information derived from the CoreLogic included, land area, year built, land area, property type, development zoning, titles details, sales histories, building permit applications and details of any real estate sales marketing campaigns. This latter information enabled the corroboration of particular properties that had been marketed as architect designed. It also included data on land size, housing attributes such as construction number of bedrooms, land size and comparable properties within a particular radius.

The database also has a function that uses an algorithm to estimate a price range for the current market valuation of particular properties. In the database these are called *IntelliVal Automated Valuation Estimates* (IntelliVal). The database algorithm returns an estimated value and a degree of confidence associated with it. This algorithm accords with valuation practice by being based on location data and recent comparable sales in the immediate local of the property. CoreLogic state that:

> *'An automated valuation model estimate (Estimated Value) is a statistically derived estimate of the value of the subject property. An Estimated Value must not be relied upon as a professional valuation or an accurate representation of the market value of the subject property as determined by the value'*

And also:

> *an Estimated IntelliVal is generated*
>
> - *by a computer driven mathematical model in reliance on available data;*

- *without the physical inspection of the subject property;*
- *without taking into account any market conditions (including building, planning, or economic),*
- *and/or without identifying observable features or risks (including adverse environmental issues, state of repair, improvements, renovations, aesthetics, views or aspect) which may, together or separately, affect the value.*

CoreLogic designates each IntelliVal as having a confidence level, measured between a low and high valuation price. In this regard it is stated that:

> *'The Confidence is based on a statistical calculation as to the probability of the Estimated Value being accurate compared to market value. An Estimated Value with a 'High' confidence is considered more reliable than an Estimated Value with a 'Medium' or 'Low' confidence. The Confidence is a reflection of the amount of data we have on the property and similar properties in the surrounding areas. Generally, the more data we have for the local real estate market and subject property, the higher the Confidence' level.*

In this study where values are based on the IntelliVal a common January 2020 valuation date is used. One limitation of the database is it does not allow for retrospective or future value estimates or predictions. In this study only the mid-range IntelliVal is used or refereed to for each property. In the database IntelliVal derived values appear to be relatively conservative. This conservative bias is evident when a property has been recently sold in the market. For example, when a property had been sold 3 to 6 months prior to January 2020 the IntelliVal was often lower than its recent sale price.

Formation of Project Pools

Project Pool 1 (Architects)

All of the data was gathered from the survey and those properties where there was relatively complete data included dates for sale were identified. These properties were then checked against their records in the public domain at RealEstate.com and later in the CoreLogic database. In order to ensure data integrity no historical sale data was used from the architect respondent surveys.

Project Pool 2 (Non-architects).

Using the properties in Pool 1 as a basis comparable properties were found to match them to form Pool 2. Again, it must be emphasized that this matching was not in order to compare each architect property with its matched non-architect property. Rather this method was to ensure that each pool was constructed in the same way using similar selection criteria.

Pool Matching Criteria

Location was a primary factor in determining how to match Pool 1 properties with Pool 2 properties. Pool 2 matching properties ideally selected from the same street as the Pool 1 property. But also considered was:

- Similar land size
- Similar complexity, plan configuration or building size
- Similar construction and other factors deemed to be relevant (e.g. car spaces).

It was important that each pool was constructed in a way that the pool was not biased by either overly successful or under-performing projects. In order to gain equivalence between each data pool the following selection criteria were applied:

- Same number of projects in each pool.
- Comparable Capex Range.
- Constructed (including renovations) and then sold between 2000 and January 2020.
- Two and three bedroom houses. Strata title and multi-res were excluded.
- Primarily Melbourne metropolitan locations.
-

Importantly, all Pool 2 properties were checked using the CoreLogic database to ensure that there was clear evidence that they had been renovated. As well as visual evidence the CoreLogic database contained building and planning permit information and sales marketing information.

Data gaps

In some instances, there was a lack of data. This was the case either with the architect's survey information, where for example the renovation completion date of the project was not recorded or where there was no recorded sale of the property in the CoreLogic database.

Outliers

During the course of the analysis a number of projects were removed because it was clear that they were development properties. Whereas the construction of the pools were intended to reflect dwellings owned by homeowners rather than developers.

Project Metrics

In order to compare the architect and non-architect pools of property data a series of quantitative project metrics were developed. Definitions of each of these metrics follows:

IntelliVal

For each project the IntelliVal as measured in the property data base was recorded. This was based on January 2020 dates and was the mid-range value as determined by the IntelliVal algorithm.

Time Measures

Date T0

Was the date of the first sale of a property as recorded in the property database.

Date T1

Was the second date of the sale of a property as recorded in the property database. However, if the IntelliVal was used for T1 for the property then the valuation date was January 2020.

Time T0-T1

The time elapsed between T0 and T1 as measured in months.

Capital Appreciation Measures

Value Cap T0

Market value of sale at time T0 and expressed in $M to three decimal places.

Value Cap T1

Market value of sale at time T1 and expressed in $M to three decimal places. For some projects where there was no available sale point in time the Intel value was used as T1

Normalised Measures

NValue T0, NValue T1 and NValue Change.

A normalisation formula was applied to each pool in order to make comparisons between each pool. These normalised measures were applied to each pool separately. The reason for this was to compare the difference between the two pools and not the differences between individual projects across pools.

In each of the pools the lowest sale value in the pool was determined to be the benchmarked point of reference. Hence this data point would have a value of 1.0 and all other normalised values within the pool could be measured against this point of reference.

These normalised values for market value were determined in accordance with the normalising formal:

N Value = 1+(TValueP12-TValueMaP12)/(TValueMaxP1P2- TValueLowP1P2)

- NValue Change is the normalised change in value between T0 and T1. Following on from this the rate of Annual NV/Time measures the average normalised value of change each month for a property.

- Normalised Cost Change this is the overall change in the normalised value of the property expressed as a percentage.

- Normalised Change per Annum is the average change per annum in the normalised value of the property. This was expressed as a percentage. For example, for the property M4 in Pool 1 the Normalised Cost Change was 11% and the Normalised Change per

Annum was 6%.

Overview of Survey Responses

Links to the survey were widely publicized via ArchiTeam the project sponsors to their members via email and across various social media channels. However, because the surveys were sent out through the project sponsors emailing system it is difficult to know how large the potential respondents, or sample, could have been. The project sponsor ArchiTeam has 750 members and it assumed that all of its members received a link to the survey.

It was estimated that the data-gathering survey was sent to both the 750 members and up to 5000 architects in Australia. The total number of partially complete or complete responses for the survey was 90, and 48 respondents completed the entire survey, and 33 plans were uploaded. The average time spent on the survey was 21 min 45 sec. In total 90 Surveys were completed but many of these surveys were incomplete. If the 90 Surveys were only sent out to only 750 members then the maximum response rate would be 12.26%. However, given the widespread circulation of links to the survey it can be assumed that the actual response rate was much lower.

Table 1 Summary of Response Numbers

Total Responses	90		
Completion Rate	54%		
Average Time Taken	21 minutes 45 seconds		
Willing to be contact to clarify answers	Yes	72.2%	65
	No	27.78%	25
No. of Responses to Q11, Street Address (Number, Name, Suburb and Postcode)			
Provided			56
Not Provided			34
No of Respondents who uploaded plans.			33

Given the large number of questions in the survey a lot of data was gathered from those architects who completed or partially completed the survey. There were 90 responses however only 54 architects indicated the street address and location of the property. 65 architects indicated they were happy to be contacted but during the course of the project when we contacted some of these architects, we only received two further responses.

Without location information we were unable to ascertain if some properties were suitable to be included in Pool 1. Without street addresses any capital gains property analysis cannot be undertaken. Out of the 54 responses with location data we included 26 properties in the final architect's pool. However, during the course of the analysis four of these properties were

removed as outliers or because of incomplete, and potentially ambiguous property sale data in the CoreLogic database. In Pool 1 these properties were M5, M6, M19 & M20.

Table 2 Summary of Fee and Project Cost question

No. of Responses to Fee Question	
Answered	76
Not Answered	14
No. of Responses to Project Cost Question	
Answered	76
Not Answered	14

Respondent reporting on architectural fees and the construction costs for the self-selected projects (15% of respondents did not answer these questions).

Survey Respondent Profile

Table 3 Summary of Respondents

Respondent Role			
Directors (Q3)		87.7%	79
Other		12.2%	11
Practice Location (Q1)			
	CBD	11.1%	10
	Inner Suburban	71.1%	64
	Outer Suburban	17.7%	16
Predominant Work in Practice (Q3)			
Residential Single		91.1%	82
Residential Multiple		2.2%	2
Other		6.6%	6
Q4 Percentage of work that is residential (Average)		79%	

Profile of Nominated Projects

Planning overlays

Many of the projects were subject to various regulatory planning overlays as well as other project risks and complexities. Given the matching process, of pairing architect to nearby non-

architect projects. it can be reasonably assumed that the planning overlays were similar across both pools.

Table 4 Planning Overlays

Planning overlays that affect the property (select all that apply) (Q13)		
Nominated overlay in order of precedence		
Heritage	45.28%	24
Neighbourhood character	16.98%	9
Environmental Significance	9.4%	5
Vegetation Protection	7.55%	4
Design and development	5.66%	3
Development plan	5.66%	3
Special building	5.66%	3
Bushfire management	5.66%	3
Development contribution plans	5.66%	3
Floodway	3.77%	2
Parking	3.77%	2
None reported	22.64%	12
Other	3.77%	2
Other Specified		8

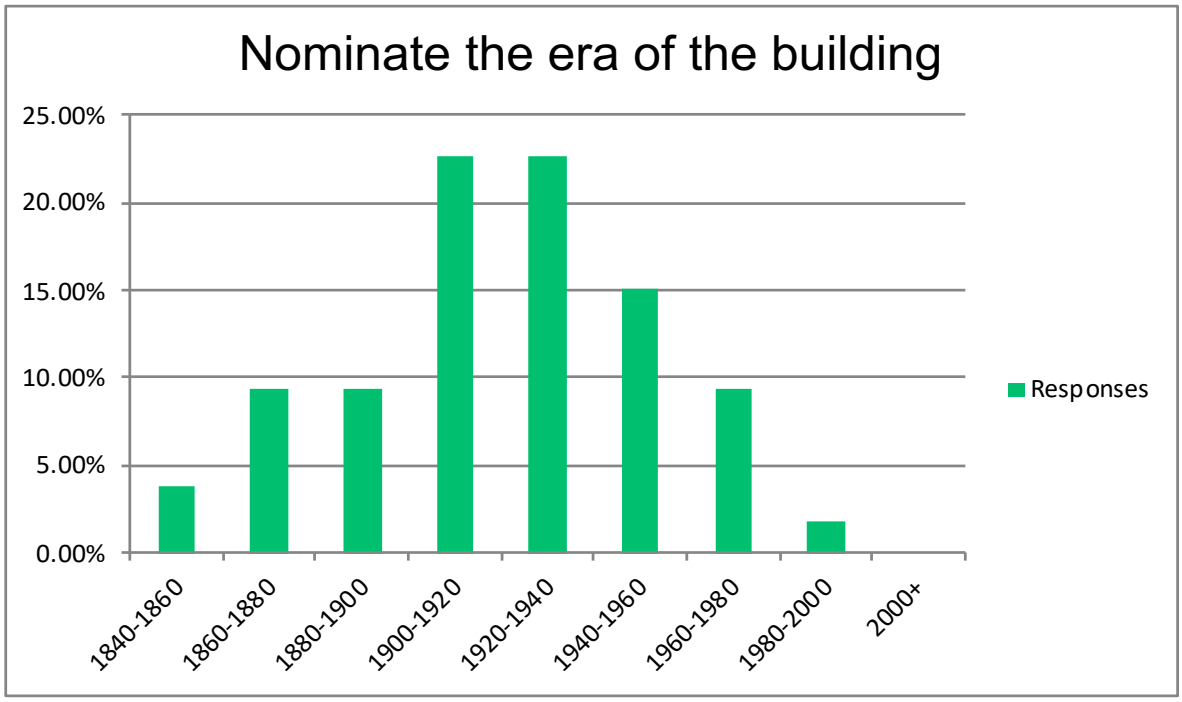
Many of the Pool 1 projects appear to have urban contexts that indicate risk profiles related to complex urban heritage and neighbourhood character issues.

In tandem with various planning issues a total of 22 respondents reported other issues that might also have impacted the design and project risks. These factors include property shape, slope, orientation and views. A predominant issue was blocks that were deemed to be narrow. Considered in tandem with the planning overlays it is clear that architects are required to manage significant project risks related to their client's sites.

Table 5 Property and Site Characteristics

Shape of Property	12 Respondents described the shape as narrow. Site broken in 2 (R2). Triangular site with 100% site coverage (R6). Rectangular with narrow frontage (R16) Rear of a battle axe shaped block (R25) Very Small Rectangular block (R26) Triangular (R57)
Slope of Property	3 respondents described the property as steep

Figure 1 Era of the Building



Many of the buildings nominated by the architects were originally built prior to 1960. This indicates that many of these projects required work at time when building elements required renewing. It also appears to indicate that many of the projects were located in inner cities with predominantly pre-WW2 and Victorian era building stock.

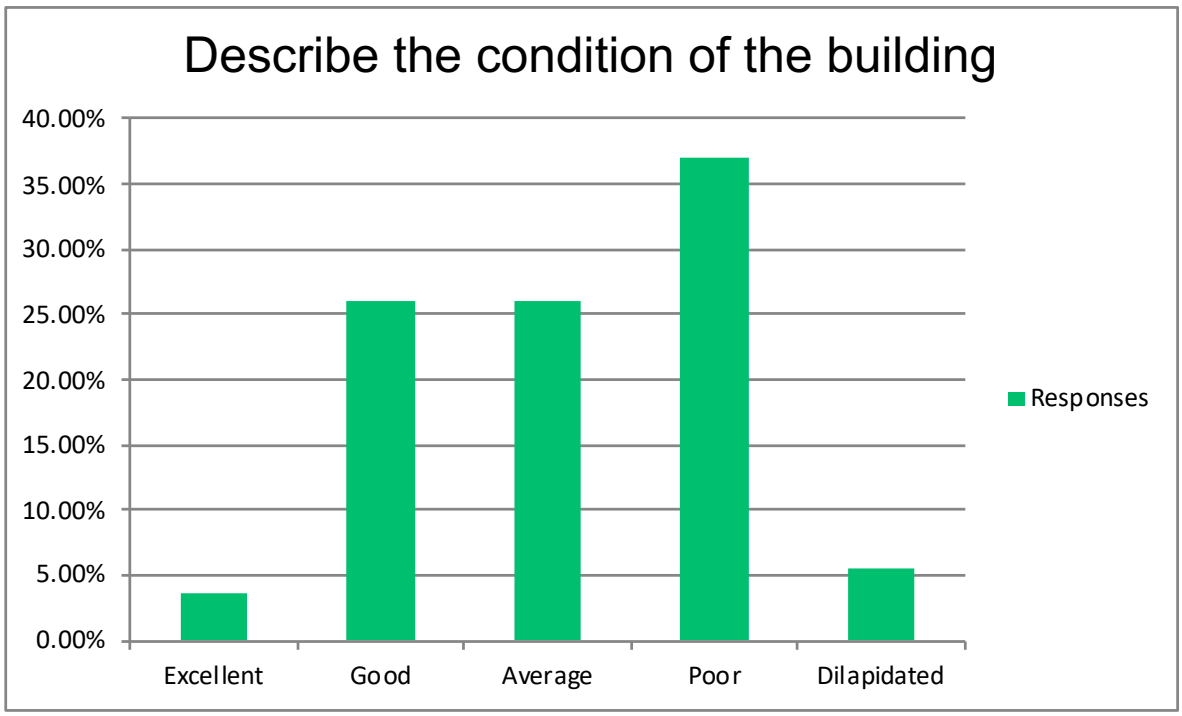


Figure 2 Condition of the Building (above).

Remarkably, most of the nominated buildings were ranked by their architects as being poor or dilapidated. Whilst no comparable data exists for the non-architect pool, this ranking indicates that clients were comfortable with architects managing their risks when the existing building was in poor condition.

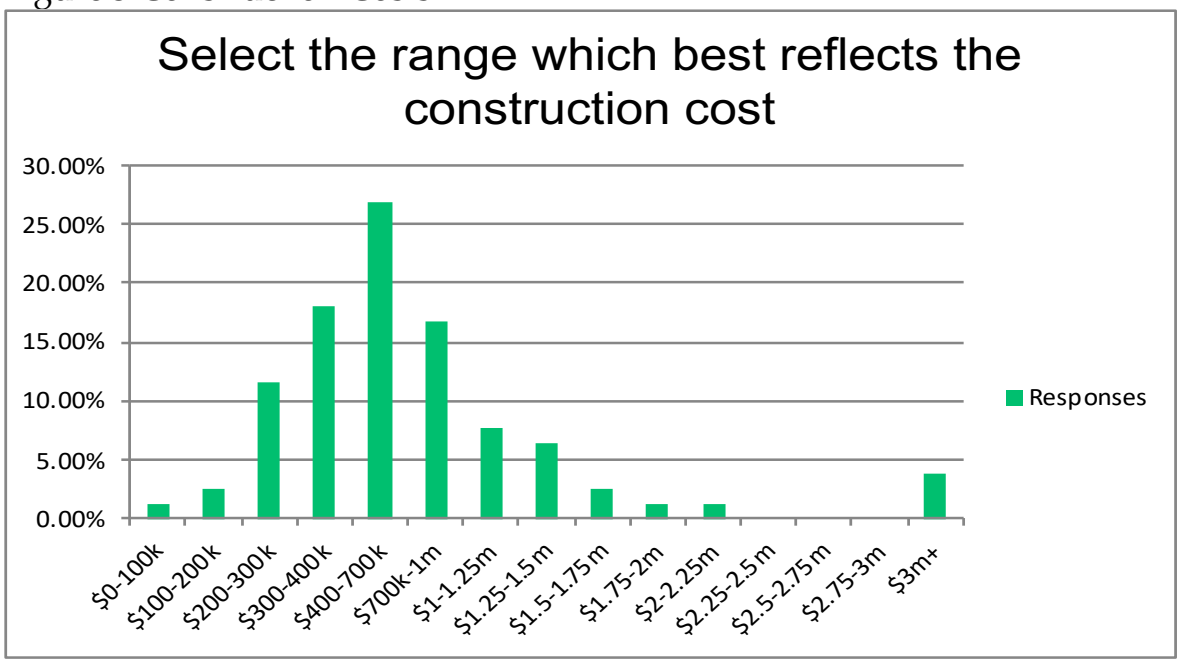
This above may explain, as Table 6 below indicates, that the extent of works in each project was extensive and that most of the projects nominated in the survey were renovations.

Table 6 Extent of the Works

Renovation of an existing architect designed house	6.00%	3
Renovation of an existing non-architect designed house	66.00%	33
Complete demolition of an existing house and construction of a new house	28.00%	14
Conversion from another building type to a house	0.00%	0
Other	0.00%	0
If other, please specify		0
	Total Answered	50
Average Percentage of finished project that was existing and not renovated (36 responses)	19%	
Average Percentage of finished project that was existing and renovated (38 responses)	40%	
Average Percentage of finished project that is new (47 responses)	64%	

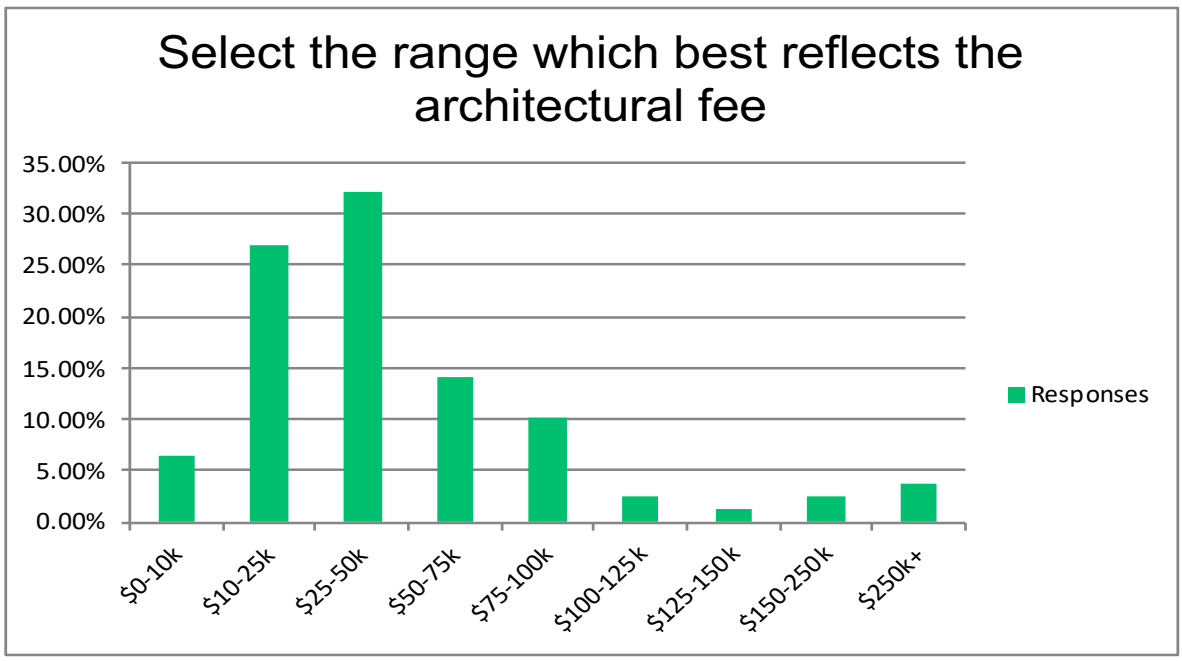
Financial Profile of Projects

Figure 3 Construction Costs



The project budget for the majority of projects nominated in the survey were less than $700,000. With the majority of architectural fees being less than $50,000 as indicated below.

Figure 4 Range of Architectural Fees



Property Marketing

Figure 5 Sales Marketing of Architectural Terms

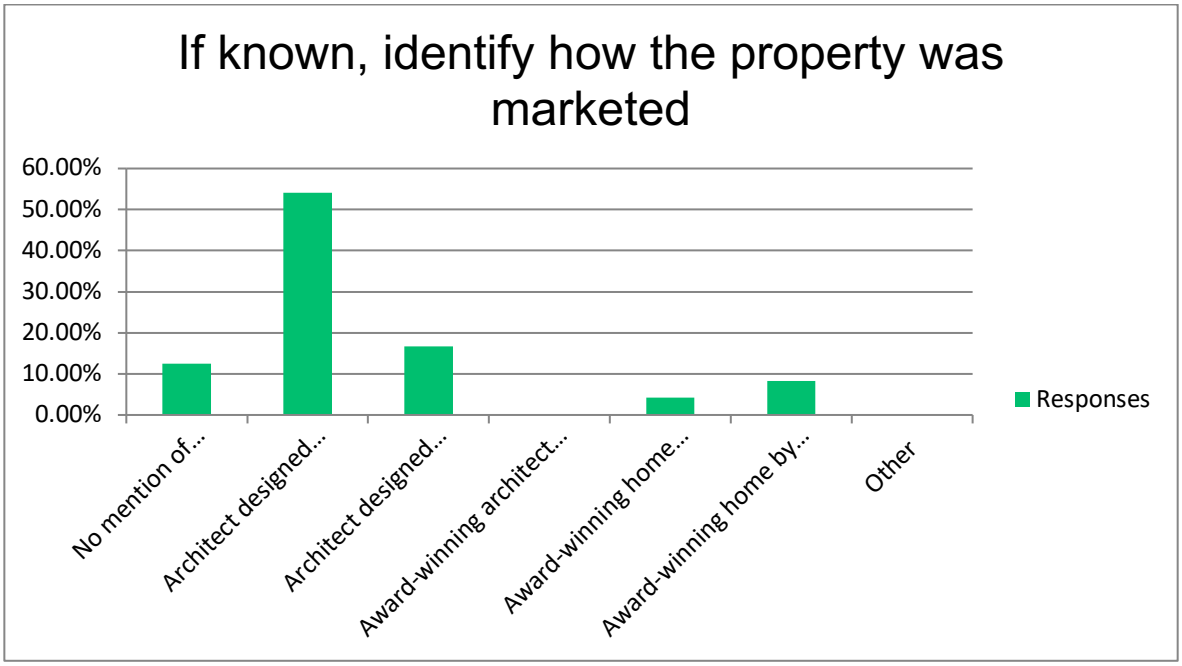


Figure 5 indicates that the majority of real-estate professionals see value in being able to market a property as architect designed.

Pool Comparison

Table 7 Aggregate Capital Value of each Pools ($M).

	T0 Aggregate Value (AV0) ($M)	T1 Aggregate Value (AV1) ($M)	Change in Value ($M)	IntellValue Jan 2020 ($M)
Pool 1 Aggregate	18.09	36.29	18.20	35.65
Pool 2 Aggregate	16.87	29.12	12.25	34.24

Aggregate Capital Value in architects Pool 1 Outperformed the non-architects Pool 2.

- The aggregate undiscounted increase in Pool 1 was greater than Pool 2 (220.6% vs.172.6%).
- Without making allowance for discounted cash flows and timing issues it can be seen that over time the undiscounted aggregate Value of Pool 1 almost doubled in value from $18.09M to $35.635M in January 2020.

- However, the time range of the T0 values for Pool 1 was between June 2002 and July 2016. For Pool 2 this was between November 1989 and September 2017. This broader range with earlier T0 vales (for example, M1, M10 and M12 in P2) may in part explain why the aggregate T0 value of Pool 2 was less than Pool 1 to begin with.

- Moreover, it can be seen that the aggregate January 2020 IntelliVal of the architects Pool 1 was greater $1.35M or 4% greater than the non-architects Pool 2.

Table 8 Average Capital Values of Properties in Pool 1 and 2 ($M)

	Average Time Held	T0 Average Capital Value (AV0) ($M)	T1 Average Value (AV1) ($M)	Average Change (AC) in Value ($M)
Pool 1 Average T0-T1 Time (range in months)	107 (21-200)	0.822	1.65	0.827
Pool 2 Average Time T0-T1 Time (range in months)	94 (26-264)	0.767	1.324	0.533

Average Change in the Capital Value of assets in architect's Pool 1 was greater than non-architect's Pool 2.

- The above average comparison of the pools indicates that the average time that the property asset was held in Pool 1 was 107 months compared to 94 months, about an extra 13 months.

- However, the greater length of time that these assets were held does not fully account for the average change in the dollar value of assets of Pool 1 was greater than Pool 2.

Table 9 Change in Average Value for all assets in Each Pool

% Changes in Average Value for All Assets (based on normalised figures for each pool).	
Pool 1 % Average Change (AV1/AV0 %)	200.7%
Pool 2 % Average Change (AV1/AV0 %)	172.6%

The Changes in Average Value in architects Pool 1 Outperformed the non-architects Pool 2.

Table 10 Normalised Average Change of Assets in Each Pool 1 and 2

Capital Changes in Value for Individual Assets in Each pool (based on normalised figures for each pool).					
	Average Normalised Value T0	Average Normalised Value T1	Average Change in Normalised Value (T1-T0)	% Normalised Change in Average Value	% Normalised Change in Annual Value
Pool 1	1.167	1.249	0.082	142%	15.7%
Pool 2	1.244	1.468	0.224	141%	14.5%

Architects Pool 1 Outperformed the non-architects Pool 2 in Change in Annual Value

- When adjusted for time the per annum average change for Pool 1 is 1.2% greater than Pool 2. This is a significant premium relative to asset classes. For example, the average annual market risk premium for stock markets is around 6%, adding 1.2% to this is significant.

- Whilst 1.2% may not seem like a significant premium for an architect designed house this still amounts to a significant increase in capital value. For a median house price of $1.2M dollars over the course of 10 years this premium if compounded would amount to a $256,000 increase in value for a residential client.

- The increased average change per month for Pool 2 over Pool 1 may be the result of timing issues in the Melbourne estate property market.

Note on the Normalised Method: The data in each pool was normalised with the lowest T0 number in the pool nominated as 1.0 All other T0 and T1 numbers were then translated normalised figures. For the sake of comparative analysis the changes in these normalised figures were then converted to percentages.

Table 11 Architectural Fees and Capital Value Analysis

		T0 Aggregate Value (AG0) ($M)	T1 Aggregate Value (AG1) ($M)	T1-T0 Change in Value ($M)
Pool 1 Aggregate	107	18.09	36.29	18.20
Maximum Aggregate Fees ($M)	1.595			
Maximum Aggregate Construction Costs ($M)	12.35			
% Max/Fee Construction Cost	13.0			

% Max Fees/Aggregate Value T0	8.8			
% Max Fees/ of Aggregate Value T1	4.4			
Fees $: Change in Capital Value = Change in Value/ Max Fee	1: 11.41			

In Pool 1 for every dollar spent on Architectural fees there were 11.4 dollars gained in Capital Appreciation

- Architects were surveyed about their fees and construction costs for each project. (Q.7 & Q.9). In the survey these fees were indicated as a range. For the purpose of analysis the maximum of this range was used for analysis.

- Architects Fees are a small proportion of overall construction costs at 13%

- Architects Fees are a small proportion of Initial Capital costs of the property 8.8%

Research Question Findings

On the basis of a number of measures it can be seen that the research question can be answered in the affirmative. **For clients, architect designed renovations improve capital gains in the Melbourne residential property market.** This assertion is based on the following points related to the above analysis and pool comparison.

- The January 2020 IntelliVal of the architects Pool 1 was greater $1.35M or 4% greater than the non-architects Pool 2.

- The aggregate value of Pool 2 at time T0 was less than Pool 1. However, the aggregate undiscounted increase in Pool 1 was greater than Pool 2 (220.6% vs.172.6%).

- Average change in the dollar value of assets per annum of Pool 1 was greater than Pool 2 (15.7% versus 14.5%).

Limitations and Further Research

- While the number of data points in each pool supports the above findings, these findings would be more firmly established and argued with more complete datasets.

- Most of these issues in this research project relate to the gaps in the survey data because of incomplete surveys. Arguably, amongst architects there is a mentality of “not another survey” and a reluctance to gather and share information about fees and project time and cost outcomes.

- It is through data gathering and professional surveys that the profession’s capability to effectively market its services are improved.

- Further research would be able examine more accurately the relationship between fees and project costs and quantify the value of architects managing the project risks of residential clients.

- Arguably collecting time and cost information for each project in an architects office would consume less resources than implementing POE studies.

- For architect's a knowledge of valuation basics enables architects to argue the worth of their architectural services and represents a key competence in the marketing of their professional services. Therefore, this research suggests that that property-based valuation knowledge and data gathering capacities of architects should be a core competency of the profession.

Conclusion

This survey is the most comprehensive account of architects and their specific involvement in house renovations. As can be seen in the above report small residential architects do a lot with a little. In inner cities they manage complex planning and site risks and they do this for relatively low cost compared to the value of the projects that they are responsible for. More importantly:

> *Small practice architect designed renovations improve capital gains in the Melbourne residential property market.*

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