SYSTEMIC RISKS IN THE AUSTRALIAN ARCHITECTURE SECTOR

Report

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rbv

Architects
Registration Board
of Victoria

NSW GOVERNMENT

NSW Architects Registration Board

CONTENTS

ABBREVIATIONS

ABBREVIATION	TERM
ABCB	Australian Building Codes Board
ACA	Association of Consulting Architects
AIA	Australian Institute of Architects
ARBV	Architects Registration Board of Victoria
Boards	Architect Registration Boards
BIM	Building Information Modelling
Code	Code of Professional Conduct
CPD	Continuing Professional Development
DCCEEW	Department of Climate Change, Energy, the Environment and Water
D&C	Design and construct
NCAT	New South Wales Civil and Administrative Tribunal
NCC	National Construction Code
ND&C	Novated design and construct
NSCA	National Standard of Competency for Architects
NSW ARB	NSW Architects Registration Board
NSW Architects Act	*Architects Act 2003* (NSW)
NSW Architects Regulation	*Architects Regulation 2017* (NSW)
NSW Code	NSW Architects Code of Professional Conduct, which is a schedule to the NSW Architects Regulation
Research Project	Research project on systemic risks in the Australian architecture sector, jointly undertaken by the ARBV and NSW ARB
RIBA	Royal Institute of British Architects
UK ARB	UK Architects Registration Board
VCAT	Victorian Civil and Administrative Tribunal

ABBREVIATION	TERM
Victorian Architects Act	*Architects Act 1991* (Vic)
Victorian Architects Regulation	*Architects Regulations 2015* (Vic)
Victorian Code	Victorian Code of Professional Conduct, which is a schedule to the Victorian Architects Regulations
Working group	The joint working group comprising representatives from the ARBV and NSW ARB who were involved in the preparation of this report

ABOUT THIS REPORT

A joint working group comprising the following representatives from the Architects Registration Board of Victoria (**ARBV**) and the NSW Architects Registration Board (**NSW ARB**) were involved in the preparation of this report:

ARBV

Candy Caballero	Principal, Legal & Regulation
Dr Glenice Fox	CEO and Registrar
Dr Giorgio Marfella	Chair

NSW ARB

Professor Helen Lochhead	Board Member
Dr Kirsten Orr	CEO and Registrar
Glenn Scott	Board Member

Preparation of the report was facilitated by Dr Dariel De Sousa, Director of Dart Legal & Consulting.

FOREWORD

This report is the product of a research project undertaken jointly by the ARBV and NSW ARB to identify current and future systemic compliance issues and associated risks affecting regulation of the architecture profession in Australia.

The project was initiated in light of a range of recent developments affecting the profession, including high-profile cases here and abroad alleging negligence of architects, reviews of the Australian construction sector that have raised questions about the role of architects in sectoral outcomes, and various emerging disruptive forces that may have an impact upon the provision of architectural services by architects.

The primary purpose of the project is to assist the ARBV and NSW ARB to target proactive regulatory activity so that systemic risks can be mitigated. This type of regulatory activity is designed to pre-empt and prevent regulatory non-compliance by architects and, in turn, avoid harm to clients and end-users of architectural services. The findings highlight the need for a collaborative and coherent approach across the sector to manage and, ideally, avert the materialisation of systemic risks. The report identifies the role that various other stakeholders can also play to address risk, including architects, industry bodies, providers of education and training to architects, as well as government.

A key message emerging from the report is the critical importance of regulation in delivering positive outcomes for the sector. Compliance by architects with professional standards and their broader regulatory obligations will help architects to thrive notwithstanding the challenges that current market conditions create and, in turn, will ensure that the interests of clients and end-users are protected. As regulators of the profession in Victoria and NSW respectively, the ARBV and NSW ARB remain committed to supporting architects in complying with the regulatory framework.

The findings of this project intersect with a broad spectrum of issues that concern the current state and future of architecture as a profession in Australia. While some of the risks identified may come as no surprise, this report provides an unprecedented perspective on the implications of such risks for the two largest regulators of the profession in Australia. The intent of this project's findings is to foster progress in existing discussions and provide the basis for further research and joint initiatives among regulators and other stakeholders, including professional bodies and academia.

The outcome of this project is the result of a collaboration steered by a joint working group from the ARBV and NSW ARB. We are thankful to Dariel De Sousa of Dart Legal & Consulting and acknowledge her contribution to the research, preparation of the report, and patient coordination and consolidation of inputs from the working group. We are also thankful to the Registrars, Dr Glenice Fox (ARBV) and Dr Kirsten Orr (NSW ARB), for their coordinated effort that brought this project to life. We finally wish to thank all members of the working group and the Board members of the ARBV and NSW ARB for supporting the establishment and funding of the research.

Dr Giorgio Marfella Chair, ARBV

Professor Helen Lochhead Board Member, NSW ARB

Glenn Scott Board Member, NSW ARB

EXECUTIVE SUMMARY

Systemic risks are risks that extend across a sector and that, if they materialise, can cause widespread harm as well as raise questions about the efficacy of the regulatory regime and the regulators that oversee it. Systemic risks may be latent because the harm that can be produced by them has not yet materialised or is not yet obvious. Moreover, systemic risks can be difficult to identify in advance in the absence of good quality information and intelligence that could enable trends to be detected.

This report outlines the findings from the joint research project undertaken by the ARBV and NSW ARB to identify systemic risks affecting the Australian architecture sector. At the core of those findings is the observation that architects face a range of factors that could challenge the profession moving forward. Intense competition, adversarial relationships caused by certain procurement models, and disruptive forces including climate change and technological advancements could dramatically change the market for architectural services and the way architects operate. These factors, among others identified in this report, could also give rise to systemic risk.

Key systemic risks identified in this report concern the increased risk exposure of architects in the context of certain procurement models, challenges associated with compliance with the National Construction Code and managing client-architect relationships, and the preparedness of architects for disruptive change. Notably, these risks are not insurmountable. Compliance with the regulatory framework will help architects to navigate and overcome these challenges. Moreover, regulatory compliance will provide a means by which architects can embrace the opportunities that current market conditions present, while ensuring that the interests of clients and end-users are also protected.

A summary of the main findings together with the associated implications and recommendations that will facilitate management of systemic risks in the Australian architecture sector are set out below followed by the detailed report. Issues for further research that will help clarify some emerging systemic risks are also identified.

SUMMARY OF FINDINGS, IMPLICATIONS AND RECOMMENDATIONS

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
THE MARKET FOR ARCHITECTURAL SERVICES			
1	› Architects face intensifying competition in the market for architectural services, which could challenge their compliance with professional standards. › Disputes have become endemic in the sector, which could also undermine architects' ability to discharge their professional obligations. › Disruptive trends are also likely to fundamentally affect the provision of architectural services and could exacerbate current market dynamics. › Compliance with the regulatory framework applicable to architects will enable them to overcome these challenges. › Prioritisation of compliance with professional standards obligations will help to ensure that the quality of architectural services is maintained, the reputation of the profession is preserved, and the interests of clients and end-users are protected. › There is a role for regulators and industry bodies to support architects in light of challenging market conditions. In addition, architects will themselves play a critical role in navigating the challenges arising from current market conditions.	**The ARBV and NSW ARB**	Where necessary, existing regulatory initiatives undertaken by the ARBV and NSW ARB to support architects to comply with their regulatory obligations will be informed by current market dynamics.
2		**Architects**	Architects should take stock of the various market forces at play, identify how professional standards can be maintained notwithstanding those forces by focusing on the factors that are within architects' control, and adjust operations and practices accordingly.
3		**Industry bodies**	Industry bodies should provide support to architects to enable them to better understand how to effectively mitigate risk in light of current market conditions.
4			Industry bodies should invest in initiatives to better inform clients and end-users about the differences between architects and building designers.

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
PROCUREMENT MODELS			
5	› The D&C procurement model can lead to adverse outcomes for architects, including increased exposure to legal risk. › D&C contracts are typically bespoke and may include unfair contractual terms for architects that could limit the availability of professional indemnity insurance. › The D&C procurement model has also led to a perception among some clients that architects do not have the technical skills to provide project management services, even though this is a core skill under the NSCA.	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to provide architects with support and guidance regarding their non-negotiable professional conduct obligations, which apply regardless of the procurement model that has been employed.
6		**Architects**	Architects must take active steps to assert themselves in a D&C context and ensure that their rights, interests and regulatory obligations are effectively represented and protected throughout the negotiation and implementation of a D&C contract.
7		**Industry bodies**	Industry bodies could support architects in navigating the challenges associated with D&C procurement, particularly to address unfair risk exposure and allocation of risk under D&C contracts.
8		**Education and training providers**	Providers of education and training should ensure that their programs educate architects about the pros and cons of procurement models, particularly the risk exposure for architects under these models.
CLIENT-ARCHITECT RELATIONSHIPS AND AGREEMENTS			
9	› Clients are diverse so architects' relationships with different types of clients are likely to differ. › The client-architect relationship can be affected by various factors, including factors that are outside an architect's control, particularly in the context of large-scale	**The ARBV and NSW ARB**	The ARBV and NSW ARB will place increased emphasis on educating architects about their various obligations to clients, particularly in relation to communicating meaningfully with clients and establishing useful and effective client-architect agreements.
10		**Architects**	Architects must invest in better relationships with their clients, through a service-oriented approach that is focused on good communication and engagement.

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
11	projects where a D&C procurement model is employed. › Poor communication can compromise client-architect relationships, and is a problem that is not uncommon. › Non-compliant client-architect agreements, and the absence of such agreements, can adversely affect client-architect relationships. › The approach to project costing and fees can also have an adverse impact on client-architect relationships and can lead the client to perceive that a cost blowout has occurred. › Clients' access to recourse may be limited under current regulatory arrangements, which may deter clients from raising concerns about unprofessional conduct.	**Industry bodies**	Industry bodies should encourage architects to use model client-architect agreements and assist architects to better understand the meaning and implications of key terms of client-architect agreements.
12			Industry bodies could explore alternative methods for determining architects' fees that reduce uncertainty for clients and concurrently protect architects' interests.
13		**Education and training providers**	Given the apparent difficulties faced by architects in estimating construction costs, including to establish architects' fees that are based on these costs, relevant aspects of education and training programs should be revisited.
14		**Government and regulators**	Government, in conjunction with industry bodies and regulators (including, but not limited to the Boards), are urged to engage in activities to raise the profile of the ARBV and NSW ARB to encourage clients to reach out to the Boards and alert them to issues regarding the compliance by architects with their professional standards obligations
BUILDING DEFECTS, PROFESSIONAL STANDARDS AND COMPLIANCE CULTURE			
15	› In light of the rise of building defects, it is incumbent on governments, industry bodies and regulators to identify core risk factors and entities responsible for building defects. › There is evidence indicating that some building defects may be linked to design issues, but the specific design services and	**The ARBV and NSW ARB**	In educating and engaging with architects about their obligations to act with reasonable care when providing architectural services, the ARBV and NSW ARB will emphasise the importance of good quality design and design documentation.
16			CPD requirements will be revisited to determine whether they effectively address relevant aspects of the NCC.

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
17	practitioners that may be responsible for these defects need to be clarified. › Common factors that could cause building defects include time and cost pressure, as well as unreasonable client demands and expectations, which are prevalent in the context of D&C contracts suggesting that the D&C context should be a focus of attention. › There is evidence that there may be a poor culture of regulatory compliance among limited pockets of practitioners, but there is no evidence of a general disinclination to comply within the sector. › The NCC may not be as user-friendly and accessible as intended, making it challenging for some practitioners to comply.	**Co-regulators**	Co-regulators in the construction sector should act in tandem to ensure that the core risk factors and entities responsible for building defects are clearly identified and targeted in a proportionate way so as to minimise the likelihood of defects materialising in practice.
18		**Education and training providers**	A stocktake of the education and training of graduates and architects on the NCC as they progress through their careers should be undertaken to determine whether there are any gaps and areas for improvement and enhancement of knowledge.
RISK, LIABILITY AND INSURANCE			
19	› Architects face a range of risks in the context of construction projects and the scope of the duty of care owed to clients in providing architectural services is broad. › The unfair allocation of risk under D&C contracts could increase architects' exposure to liability and, in turn, reduce protection for clients. › Efforts by industry bodies to tackle the imposition of unfair contract terms on architects, which heighten their exposure to risk, need to be ongoing. › Further initiatives to entrench the use of standard form contracts, such as AS4122, are also needed, particularly in the context of D&C procurement.	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to support architects to comply with their professional standards and insurance obligations as this will assist architects to manage risk.
20		**Industry bodies**	Industry bodies should invest in ongoing initiatives to address the prevalence of unfair contract terms, particularly in the D&C context, and seek to entrench the use of standard form contracts, such as AS4122.
21		**Education and training providers**	Education and training providers could focus more heavily on risk management, particularly for smaller practices. CPD requirements should also cover risk management.

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
	› The availability of insurance to help architects manage risk may be affected by increased insurance costs and limitations on coverage. › Education and support to assist architects to manage risk would be useful, especially for smaller practices. › Compliance with professional standards and insurance obligations and investment in sound risk management practices will help architects manage risk.		
CLIMATE CHANGE, SUSTAINABILITY AND THE TRANSITION TO NET ZERO			
22	› Architects are driving sustainable design in buildings and have the capacity to further benefit from the green building revolution that is underway. › Architects who choose to embrace the opportunities that the transition to net zero, adaptation to climate change and the push for sustainable outcomes create, will also face risk. › In particular, architects could be exposed to liability if they fail to explain the meaning and implications of sustainable design to their clients, the intended outcomes of sustainable design are not properly documented, risky untested designs and materials are relied upon, and architects providing the relevant services lack adequate expertise and experience. › However, failure to invest in green architectural services could result in non-compliance with burgeoning regulation to	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to support architects to understand their professional standards obligations , which will assist them to manage risks arising from the regulatory and practical changes associated with climate change, sustainability and net zero developments.
23		**Industry bodies**	Industry bodies should provide support to architects in the form of education and engagement to raise awareness of the opportunities and risks arising from climate change and associated drivers.
24		**Education and training providers**	Education and training providers should assess their respective programs to determine how effectively they address the challenges and opportunities arising from climate change, sustainability and net zero developments. CPD requirements should cover these areas.

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
	facilitate mitigation and adaptation to climate change risks. › Compliance with professional standards obligations in this context will assist architects in overcoming challenges and managing risk.		
AUTOMATION, DIGITALISATION AND INNOVATION			
25	› There are a range of technological changes that could disrupt the provision of architectural services. › Automation, digitalisation and increasing demand for building information modelling creates risks, but also opportunities for architects. › There are various factors that may compromise architects' capacity to respond to these disruptive forces, including lags in building standards and disincentives arising from procurement models and processes. › There is more work to be done in understanding the specific impacts of technological developments on the delivery of architectural services and the risks to compliance with professional standards that could arise.	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to support architects to understand and comply with their professional standards obligations in light of disruptive technological change.
26		**Industry bodies**	Industry bodies should provide support to architects in the form of education and engagement to raise awareness of the opportunities and risks arising from disruptive technological forces.
27		**Education and training providers**	Education and training providers should review their respective programs to ensure that they are effective in preparing architects for technological change.

	SUMMARY OF MAIN ISSUES AND FINDINGS	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
EDUCATION, TRAINING AND CONTINUING PROFESSIONAL DEVELOPMENT			
25	› University curricula and training programs for architects need to be responsive to recent and future disruptive changes to ensure that architects are ready to realise opportunities, overcome challenges and mitigate risks. › The adequacy of education and training for architects is being questioned in light of these changes. › Compliance with CPD requirements needs to improve to ensure that practitioners are well-positioned to respond to the changes.	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to monitor CPD compliance.
26		**Education and training providers**	Relevant education, training and standard-setting bodies should revisit their education and training programs to ensure that they adequately prepare and support architects in the face of disruptive change.

AREAS FOR FURTHER RESEARCH

TOPIC	CONTEXT	DETAILS
1	**The market for architectural services**	Assess the impact (if any) of the intensification of competition in the market for architectural services on the delivery of architectural services and compliance of architects with their professional standards obligations.
2	**Procurement models**	Determine the prevalence of and underlying reasons for insurance claims against architects, particularly to identify the most common claims and clarify whether they are linked to unprofessional conduct by architects in the context of D&C contracts.
3	**Client-architect relationships and agreements**	Further research is needed on pricing models for architectural services that balance interests and risks of architects and clients respectively.
4	**Building defects, professional standards and compliance culture**	Determine whether there is evidence of a link between building defects and design in Australia and, if so, determine whether architects or other design practitioners are responsible. Research to identify the most common defects attributable to poor design by architects would also be useful.
5	**Automation, digitalisation and innovation**	Identify and assess the impacts of technological change on the delivery of architectural services and compliance with professional standards, as well as the longer term implications of such changes for regulators, education and training providers, and current professional standards.

1 INTRODUCTION AND BACKGROUND

A. Purpose of Research Project

1. Systemic risks are risks that extend across a sector and that, if they materialise, can cause widespread harm as well as raise questions about the efficacy of the regulatory regime governing the sector and the regulators that oversee it. Systemic risks may be latent because the harm that can be produced by them has not yet materialised or is not yet obvious. Moreover, systemic risks can be difficult to identify in advance in the absence of good quality information and intelligence that could enable trends to be detected.

2. The ARBV and NSW ARB have jointly undertaken a research project to identify current and future systemic compliance issues and associated risks in relation to the regulation of the architecture profession in Australia (**Research Project**), with a particular emphasis on risks in Victoria and NSW.

3. The specific objectives of the Research Project are to identify:

   - Key current and future systemic compliance issues and associated risks within the sector.
   - The factors that could affect the materialisation or exacerbation of current and future systemic risks or could help to avoid such risks.
   - The manner in which systemic compliance issues and associated risks for the architecture profession are being addressed or could be addressed.
   - Insights regarding how to strike the appropriate regulatory balance between, on the one hand, encouraging innovation and creativity among the architecture profession and, on the other hand, mitigating systemic risks.

4. This report contains the results of the Research Project, including an identification of key issues that have or could give rise to systemic risks in the Australian architecture sector. It discusses the implications of those issues for architects, for the ARBV and NSW ARB, and for the Australian architecture sector as a whole.

B. Overview of regulatory regime for architects

5. A brief overview of the regulatory regime governing architects in Australia is set out below in order to contextualise the analysis and findings in this report.

6. Regulation of architects was first introduced in Australia around 100 years ago.[1] The primary rationale for the introduction of regulation at that time was to protect the public interest by ensuring that buildings were designed by people who were appropriately qualified and experienced.

[1] See Australian Research Data Commons (ARDC) website accessible at: https://researchdata.edu.au/architects-registration-board-victoria.

This rationale has endured until now and remains at the heart of the current regime for the regulation of architects across Australia.

7. The architecture profession is regulated by Architect Registration Boards (**Boards**), which have been established in every Australian State and Territory. While there are differences between the regulatory frameworks applicable in each jurisdiction, some common obligations imposed on architects across jurisdictions include the following:[2]

   › obligation to be registered by the relevant Board;
   › obligation to comply with applicable professional standards;
   › obligation to hold required insurance; and
   › obligation to maintain skills and experience to the required level.

8. In Victoria and NSW, the respective regulatory frameworks comprise:

   › The *Architects Act 1991* (Vic) (**Victorian Architects Act**), the *Architects Regulations 2015* (Vic) (**Victorian Architects Regulation**) and the Code of Professional Conduct (**Victorian Code**), which is a schedule to the Victorian Architects Regulations.

   › The *Architects Act 2003* (NSW) (**NSW Architects Act**), the *Architects Regulation 2017* (NSW) (**NSW Architects Regulation**) and the NSW Architects Code of Professional Conduct (**NSW Code**), which is a schedule to the NSW Architects Regulation.

   › The Victorian and the NSW Codes set out the standards required of architects when they have been engaged to provide architectural services.

9. The regulatory frameworks in Victoria and NSW impose obligations on architects in relation to a range of matters, including:

   › the provision of architectural services;
   › client-architect relationships, including client-architect agreements;
   › fees for services;
   › conflicts of interest; and
   › continuing professional development.

10. These obligations are aimed at ensuring that architects act professionally and in accordance with applicable standards. In turn, compliance with these obligations helps to protect the interests of clients of architectural services, end-users of buildings and infrastructure that involve the provision of such services, and the public at large.

C. The role of the ARBV and NSW ARB

11. As regulators of the architecture profession in Victoria and NSW respectively, the ARBV and NSW ARB are responsible for ensuring compliance with the regulatory framework governing architects in each of those jurisdictions. Various powers exist to secure compliance by architects with their obligations under the regulatory framework, including:

[2] AACA, *Regulation of the Architectural Profession: A Summary of Australian State and Territory Legislation* (2021), at p. 4–5.

- to encourage and support compliance (such as through webinars and the publication of educational material about how to comply with the regulatory framework); and
- to enforce compliance (through, for example, suspending and cancelling registration and disciplinary proceedings for unprofessional conduct).

12. In practice, the ARBV and NSW ARB employ a combination of proactive and reactive regulatory activities to pre-empt, prevent, detect and respond to non-compliance by architects with the regulatory framework.[3] In addition, while the remit of the ARBV and NSW ARB does not extend to remedying harm that may be suffered by a client due to an architect's unprofessional conduct, each regulator accepts complaints about architects, which could lead to regulatory action.

13. This Research Project has helped to identify current and future systemic compliance issues and associated risks for the architecture profession in Australia. The findings will be used to inform, prioritise and strategically target regulatory activities undertaken by the ARBV and NSW ARB in Victoria and NSW. In turn, this will help to ensure that the objectives and outcomes underlying the regulatory frameworks applicable to architects in these jurisdictions can be achieved.

14. This report includes implications and recommendations for the ARBV and NSW ARB, as well as for other stakeholders including architects themselves. Collectively, the recommendations are intended to foster a collaborative and coherent approach to the management of systemic risks affecting the Australian architecture profession.

[3] See the ARBV's Statement of Regulatory Approach (June 2021) accessible at: https://www.vic.gov.au/arbv-publications and the NSW ARB's Strategic Plan 2020 – 2023 accessible at: https://www.architects.nsw.gov.au/publications.

2 METHODOLOGY

A. Scope

15. This report concerns systemic risks in the architecture sector across Australia. However, the report is particularly focused on the situation in Victoria and NSW and the role that the ARBV and NSW ARB can play to address systemic risks arising in their respective jurisdictions.

16. The lens for analysis of the systemic risks facing the Australian architecture profession is on issues that are, could be or should be within the regulatory remit of the ARBV and NSW ARB. More specifically, the report focuses principally on issues that concern the regulation of architects in Victoria and NSW. Nonetheless, broader issues affecting the architecture sector are also considered for context and to ensure that systemic risks can be addressed in a holistic, comprehensive manner.

B. Approach

17. A desktop review was undertaken of the following Australian and global sources of information, primarily for the last 5 – 10 years:

- reports and other information published by regulatory and other relevant institutional bodies concerning the regulation of the architecture profession;
- reports published by government bodies, private sector bodies and NGOs that have considered the Australian construction and architecture sectors;
- academic literature on the regulation of architects and the provision of architectural services; and
- tribunal and judicial cases from Australia and other relevant foreign jurisdictions that relate to architects and the provision of architectural services.

18. The desktop review included consideration of detailed surveys and studies of the construction and architecture sectors. The main surveys and studies of relevance to the Australian architecture sector that were relied upon in this report have been identified in the **Appendix**, together with a summary of the scope and methodology employed in each case.

19. The desktop review was used to identify high-level issues that could give rise to systemic risks for the Australian architecture sector. These issues were the focus of two in-depth workshops with the working group to consider and discuss those issues, particularly to:

- determine the relevance of those issues for the regulation of architects and the architecture sector in Australia, particularly in Victoria and in NSW;
- consider the existence of complaints data and other anecdotal evidence available to the ARBV and NSW ARB that validated or disaffirmed the observations and findings from the desktop review; and
- identify possible regulatory responses that could be employed by the ARBV and NSW ARB, especially in the context of their proactive regulatory activities to pre-empt harm that could otherwise occur.

C. Qualifications

20. Analysis for this report revealed a lack of comprehensive data relevant to the identification of systemic risks affecting the Australian architecture sector. Accordingly, this report uses the information, data and evidence identified in this report to draw reasonable inferences about systemic risks in the sector. Ideally, the results of this report will be used to direct further research, particularly to gather more data about systemic risks affecting the sector.

D. Structure

21. The subsequent chapters of this report are structured around each context that was found to have the potential for producing systemic risks in the Australian architecture sector, namely:

- The market for architectural services
- Procurement models
- Client-architect relationships and agreements
- Building defects, professional standards and compliance culture
- Risk, liability and insurance
- Climate change, sustainability and the transition to net zero
- Automation, digitalisation and innovation
- Education, training and continuing professional development

22. Key issues for the regulation of architects have been identified and analysed for these contexts. Each chapter concludes with implications, recommendations and areas for further research.

3 THE MARKET FOR ARCHITECTURAL SERVICES

***Overview**:*

- *Architects face intensifying competition in the market for architectural services, which could challenge their compliance with professional standards.*
- *Disputes have become endemic in the sector, which could also undermine architects' ability to discharge their professional obligations.*
- *Disruptive trends are also likely to fundamentally affect the provision of architectural services and could exacerbate current market dynamics.*
- *Compliance with the regulatory framework applicable to architects will enable them to overcome these challenges.*
- *Prioritisation of compliance with professional standards obligations will help to ensure that the quality of architectural services is maintained, the reputation of the profession is preserved, and the interests of clients and end-users are protected.*
- *There is a role for regulators and industry bodies to support architects in light of challenging market conditions. In addition, architects will themselves play a critical role in navigating the challenges arising from current market conditions.*

A. Background

23. The construction sector globally and in Australia is a major contributor to economic growth.[4] It involves the development of a spectrum of small-scale and large-scale residential and non-residential projects and covers a broad range of services including planning, surveying, architectural design, engineering, structural construction, and painting and decorating.[5]

24. During the COVID-19 pandemic, the Australian construction sector experienced an unexpected boom due to government support for the industry, including through the 'HomeBuilder' program, which sought to encourage consumers to proceed with residential building projects.[6] However, data published by the Australian Bureau of Statistics in 2022 indicates a downwards trajectory in building and construction activity,[7] which is linked to a range of factors, including disrupted global supply chains, rising input costs, and falling business confidence.[8] The sector has also seen a recent spate of insolvencies of major construction companies.[9]

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[4] Atradius, *Market Monitor: Focus on Construction Sector Performance and Outlook* (2020), at p. 17. See also J. Sharkey, P. Greenham, M. Bell, W. Jocic, J. Korolkova, & D. Hu, *The Health of the Australian Construction Industry: Research Report* (2020), at p. 1.

[5] Australian Industry and Skills Committee, *National Industry Insights – Construction* accessible at: https://nationalindustryinsights.aisc.net.au/industries/construction.

[6] See Fact Sheet on the Home Builder program accessible at: https://treasury.gov.au/coronavirus/homebuilder.

[7] Australian Bureau of Statistics, *Building and Construction* accessible at: https://www.abs.gov.au/statistics/industry/building-and-construction.

[8] IBIS World, *Architectural Services in Australia: AU Industry Report M6921* (2021), at p. 12.

[9] R. Clun, 'Construction industry faces "raft of insolvencies" without assistance', *The Sydney Morning Herald* (25 July 2022) accessible at: https://www.smh.com.au/politics/federal/construction-industry-faces-raft-of-insolvencies-without-assistance. See also ASIC insolvency statistics accessible at: https://asic.gov.au/regulatory-resources/find-a-document/statistics/insolvency-statistics/.

25. The current state of the construction sector in Australia will have impacts for all sectoral participants, including architects. Declining activity in the construction sector is predicted to translate into reduced demand and limited profitability for architectural firms.[10] In addition, fears have been expressed about the domino effect recent insolvencies of construction companies could have on the large number of contractors operating in the sector,[11] including architects who are facing increasing pressure as a result of various market forces that are outlined below.

B. Key issues

Architects face intensifying competition in the market for architectural services, which could challenge their compliance with professional standards

26. The market for architectural services in Australia is intensely competitive. Local market structures and ease of entry have resulted in a proliferation of mostly small companies with limited economies of scale.[12] Around 98% of architectural firms employ less than 20 people.[13] The industry's largest firms account for a small proportion of industry revenue.[14] None hold more than 2% of the market for architectural services.[15]

Falling demand and downward pressure on fees

27. Demand for and revenue from the provision of architectural services is expected to decline over the next 5 years, as clients delay or cancel projects.[16] Falling construction activity has increased competition for the available construction projects and has placed downward pressure on fees for services.[17] Some firms have sought to reduce costs, which has contributed to decreasing wages and employment levels over the past five years.[18] The latest 'pulse check' of architectural practices around Australia undertaken by the Association of Consulting Architects (**ACA**) refers to a very 'tight employment market' coupled with concerns about staff well-being that are associated with exhaustion, fatigue and ongoing uncertainty.[19]

[10] IBIS World, n. 8 above, p. 4.
[11] M. Bleby, 'Cash flow a looming risk for builders as insolvencies rise', *The Australian Financial Review* (17 August 2022) accessible at: https://www.afr.com/property/commercial/cash-flow-a-looming-risk-for-builders-as-insolvencies-rise. See also J. Coggins, B. Teng, & R. Rameezdeen, 'Construction insolvency in Australia: Reining in the beast' (2016) 16(3) *Construction Economics and Building*, pp. 38–56.
[12] McKinsey & Company, *The next normal in construction: How disruption is reshaping the world's largest ecosystem* (2020), at p. 5.
[13] IBIS World, n. 8 above, p. 35.
[14] Ibid.
[15] Architects Accreditation Council of Australia, *Industry Profile: The Profession of Architecture in Australia* (2018), at p. 7.
[16] IBIS World, n. 8 above, p. 4. See also Architects Accreditation Council of Australia, n. 14 above, p. 7.
[17] IBIS World, n. 8 above, p. 9.
[18] Ibid. p. 13.
[19] ACA, 'Navigating Practice Two Years In – Preliminary Findings', *ACA Pulse Check No. 6*, 22 August 2022.

Vertical integration

28. Architects are also likely to face increasing competition from large, vertically integrated and multidisciplinary construction firms, limiting the ability of many architectural firms to raise prices for their services despite increasing input costs due to inflationary pressure.[20] These large firms can offer clients a 'one-stop shop', including project management, surveying, engineering, architectural and construction services.[21] The trend towards integration is a response to the preference of property developers to use large firms that can provide the range of services required to deliver a construction project.[22]

29. The increasing integration of the architectural sector in Australia appears to be in line with what has been occurring in the United Kingdom. The results of a survey commissioned by the Royal Institute of British Architects (**RIBA**) in 2011 – the **UK RIBA Survey** – reveal an unprecedented growth of integrated and multidisciplinary consultancies within the construction sector.[23] The report notes that these large conglomerates offer a more cost-effective and 'business savvy package' than typical architectural practices.[24] The report further suggests that medium sized-architectural practices are increasingly under threat from these conglomerates, which have the capacity to 'swallow' smaller firms.[25]

Building designers

30. Another source of competitive pressure for architects comes from other building designers, including draftspersons, who do not have the same educational background and qualifications as architects, are not regulated in the same way as architects, and are not held to the same professional standards. Nevertheless, building designers can perform similar services to architects (particularly architectural drafting) and typically charge lower fees.[26]

31. Building designers that hold themselves out as architects could be in breach of the 'title offences' contained in both the Victorian Architects Act and the NSW Architects Act, which prohibit representations and expressions that indicate a person is an architect without being registered as such.[27] They could also be found to have engaged in misleading and deceptive conduct in breach of the Australian Consumer Law.[28] Despite these deterrents, the ARBV and NSW ARB have been

[20] IBIS World, n. 8 above, p. 9.
[21] Ibid. p. 19.
[22] Ibid. p. 14.
[23] C. Jamieson, *'The Future for Architects?'*, *A report commissioned by the Royal Institute of British Architects* (2011), at p. 22.
[24] Ibid. p. 22.
[25] Ibid. pp. 22, 25.
[26] IBIS World, n. 8 above, p. 23.
[27] See Part 2 of the Victorian Architects Act (Prohibited conduct) and Division 2 of Part 2 of the NSW Architects Act (Offences relating to the practice of architecture), which contain the title offences.
[28] In a matter before the NSW Civil & Administrative Tribunal in 2022 (Application to the Tribunal concerning Adrian Di Francesco and Stephanie Di Francesco – Sydesign Pty Ltd), NCAT found that the website of the respondent design firm contained an implied representation that plans drawn up by the firm would be drafted by, or under the supervision of, a registered architect and that the client in that matter relied on such a representation to enter into the contract. However, the firm was not listed on the NSW List of Architect Corporations and Firms nor were any

receiving an increasing number of complaints about building designers. It is apparent from those complaints that clients may not be able to easily discern the difference between architects and building designers, nor to understand the differences in the way they are respectively regulated.

32. The difficulty for clients to distinguish between architects and building designers may be linked to various factors. In the experience of the NSW ARB, some architects routinely fail to publish their registration numbers, including on their websites. In addition, under the NSW regulatory framework, the term 'architectural services' is defined as 'a service provided in connection with the design, planning or construction of buildings that is *ordinarily provided by architects*' (emphasis added),[29] which could give rise to ambiguity as to whether practitioners other than architects could also provide such services. Meanwhile, the ARBV has noted that confusion could arise from the fact that some practitioners who are not architects could nevertheless legally reference 'architectural' services in their title – such as the category of draftsperson registered by the Victorian Building Authority as 'building design (architectural)'.[30]

Partial services

33. Engagement of architects for 'partial services' in the context of residential and non-residential construction projects is not uncommon within the sector. This approach towards procuring architectural services could pose further challenges for architects.

34. When partial services are procured, an architect may be engaged to develop the initial design, but the builder, other type of practitioner or client may progress the project without further input from the architect. Apart from the additional competitive pressure this can exert, engagement of architects on the basis of partial services could also expose architects to undue risk, particularly when the demarcation between the responsibilities of the architect and other parties involved in completion of the project is unclear.

Perverse outcomes that could arise from intense competition

35. Promoting competition is broadly accepted as being in the best interests of consumers because it can lower prices, create more choice, enhance efficiency and encourage innovation. However, competition that is too intense can lead to suboptimal consumer outcomes. Stucke (2013) refers to the 'dark side of competition', which can actually result in poor quality, exploitation of consumer biases and overall bad outcomes for consumers.[31]

36. The intense competition faced by architects in the market for architectural services could lead to perverse outcomes, such as unviable low fees charged for architectural services that do not reflect the actual work and time involved. As explained in the RIBA Journal (2021), '[t]here is a danger of a

employees on the NSW Register of Architects. The firm was found to have engaged in misleading and deceptive conduct in breach of section 18 of the Australian Consumer Law and ordered to pay restitution to the client.

[29] Section 4 of the NSW Architects Act (Definitions).

[30] These building practitioners are regulated by the Victorian Building Authority (VBA) under the *Building Act 1993* (Vic). The categories of draftspersons regulated by the VBA are listed on the VBA's website accessible at: https://www.vba.vic.gov.au/registration-and-licensing/building-practitioner-registration/draftsperson.

[31] M.E. Stucke, 'Is competition always good?' (2013) 1(1) *Journal of Antitrust Enforcement*, pp. 162–97.

pincer movement as clients become alarmed at the rising cost of material and labour, so try to compensate by negotiating architects' fees down'.[32] In such a context, there is a risk that consumer expectations are not met.

37. In particular, complaints data available to the NSW ARB indicates that, in at least some cases, there could be a correlation between low fees and adverse client outcomes, including delays, disputes and poor quality design. Nevertheless, there is no evidence demonstrating that intensification of competition in the market for architectural services is leading to these outcomes across the sector, nor that there has been a generalised adverse impact on architects' compliance with professional standards. Further research could be useful in this context to identify and assess the actual impact of the intensification of competition in the market for architectural services on the delivery of these services and the compliance of architects with their professional standards obligations.

Disputes have become endemic in the sector, which could also undermine architects' ability to discharge their professional obligations

38. Disputes within the construction sector are endemic.[33] Many have analysed why this is the case.[34] Love et al (2009) explain that disputes are the result of a complex interplay of causal variables.[35] One study undertaken by Kumaraswamy (1997) used data from construction projects in Hong Kong to identify 'root causes' – that is, underlying reasons, which, if eliminated, would prevent recurrence.[36] The root causes that were identified included:

- unfair risk allocation;
- unrealistic time/cost/quality targets by the client;
- adversarial industry culture;
- inappropriate contract type; and
- unrealistic information expectations.

39. Despite the fact that the Kumaraswamy study was undertaken more than two decades ago, the findings appear to have ongoing relevance in the Australian construction sector today. Indeed, there is some evidence of a linkage between disputes in the Australian construction industry and the prevalent design and construct procurement model, which can lead to an adversarial culture and unfair risk allocation.[37] In a submission on unfair contract terms, the ACA (2014) noted that architects may be subject to unfair contractual terms that expose them to liability and impose additional burden in a marketplace that is already highly competitive.[38]

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[32] A. Mirza, 'The fee squeeze: sector dictates whether your fees will rise or fall', *The RIBA Journal*, 24 November 2021 accessible at: https://www.ribaj.com/intelligence/architects-survey-shows-fee-squeeze-cost-monitoring.
[33] P. Love, P. Davis, J. Ellis, & S. On Cheung, 'Dispute causation: identification of pathogenic influences in construction' (2010) 17(4) *Engineering, Construction and Architectural Management*, pp. 404–23, at 405.
[34] Ibid. pp. 406–8.
[35] P. Love, P. Davis, K. London, T. Jasper, 'Causal modelling of construction disputes', in *Twenty-Fifth Annual Conference 2009 Sept. 7-9 Albert Hall Nottingham*, (ARCOM, 2009).
[36] M.M. Kumaraswamy, 'Conflicts, claims and disputes in construction' (1997) 4(2) *Engineering Construction and Architectural Management*, pp. 95–111.
[37] Love et al, n. 33 above, p. 405. See also J. Sharkey et al, n. 4 above, pp. 28–9.
[38] Association of Consulting Architects, 'Submission to Unfair Contract Terms and Small Business Consultation Paper' (2014), at 1.

40. The issues facing architects that arise from procurement models,[39] an adversarial culture[40] and unfair risk allocation[41] are considered in more detail later in this report. Suffice it to note here that the success of a construction project critically depends upon well-functioning relationships between all participants, including building contractors and architects. Yet, these participants may have different ways of thinking, attitudes, practices and approaches to work and, often, divergent objectives.[42] For example, developers and contractors are incentivised to deliver large-scale construction projects at the lowest possible cost in order to maximise profit,[43] whereas architects are more likely to be motivated to deliver good quality architectural services not least because the regulatory framework governing their conduct requires them to do so.

41. The inherent tension that can arise between contractors and architects in the context of building projects needs to be considered in light of the relative bargaining position of these parties. The asymmetry in power, control and information in favour of contractors, particularly for large-scale projects, can limit architects' options to resist the demands and expectations imposed on them by contractors. These dynamics are of concern because they could compromise the ability of architects to insist on best practice service-delivery and design and, at worst, this could lead to unsatisfactory outcomes for the client and end-users.

Disruptive trends are also likely to fundamentally affect the provision of architectural services and could exacerbate current market dynamics

42. In the coming years, McKinsey (2020) predicts that fundamental change in the construction sector is likely to be catalysed by factors including persistent cost pressure and evolving sophistication and needs of customers and owners.[44] Emerging disruptions within the sector include the development of new construction materials, increasing importance of sustainable design, and the automation and digitalisation of construction products and processes.[45]

43. McKinsey speculates that, while all participants in the construction value chain will need to contend with these disruptive forces, the impact is likely to be particularly pronounced for entities involved in engineering and design (among others) due to the commoditisation of some services they offer and the emergence of specialists for other types of services.[46] The UK RIBA Survey (2011) notes that, increasingly, specialist service providers are being engaged in place of architects – for example, in relation to cladding – and that this trend is likely to be exacerbated as architects seek to reduce their exposure to liability.[47]

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[39] See Chapter 4 of this report (Procurement models).
[40] See Chapter 5 of this report (Building defects, professional standards and compliance culture).
[41] See Chapter 7 of this report (Risk, liability and insurance).
[42] N.A. Ankrah & D.A. Langford, 'Architects and contractors: A comparative study of organizational cultures' (2005) 23(6) *Construction Management and Economics*, pp. 595–607, at 205.
[43] M. Hardie & S. Saha, 'Builders' Perceptions of Lowest Cost Procurement and Its Impact on Quality' (2012) 9(1) *Construction Economics and Building*, pp. 1–8.
[44] McKinsey & Company, n. 12 above, p. 5.
[45] Ibid. p. 5.
[46] Ibid. p. 3.
[47] C. Jamieson, n. 23 above, p. 24.

44. Various disruptive forces are considered in more detail later in this report.[48] Here, it is simply noted that these forces are likely to intensify competitive pressure in the market for architectural services. For the reasons identified earlier in this chapter, there is a risk that this additional competitive pressure will create further challenges for architects when complying with their regulatory obligations and striving to meet the applicable professional standards. Clearly, in light of the current market conditions, architectural practices will need to employ new strategies to remain competitive and viable and able to thrive.[49]

C. Findings

45. The analysis of the market for architectural services in Australia indicates that architects face intense competition, adversarial relationships and disruptive forces. These developments are not new. However, it is their confluence and likely intensification over time that are a cause for concern.

46. While there is no evidence to indicate that market forces are leading to a decline in compliance with professional standards by architects across the sector, these forces will undoubtedly create challenges for architects in providing architectural services, which are explored in greater detail later in this report.

47. The regulatory framework applicable to architects will enable them to overcome these challenges, notwithstanding the existence of adverse market conditions. More specifically, compliance with regulatory obligations will help architects to deliver positive outcomes – not just for the architect, but also for clients and end-users. Prioritising compliance with professional standards obligations will help to ensure that the quality of architectural services is maintained, the reputation of the profession is preserved, and the interests of clients/end-users are met.

D. Regulatory role

48. The ARBV and NSW ARB have a range of regulatory initiatives that are currently in place to support architects to comply with their regulatory obligations, including compliance with professional standards. They include the provision of educational material and engagement with architects to ensure that these obligations are well understood. These initiatives will continue in the future and, where necessary, will be informed by current market dynamics.

[48] See Chapter 8 of the report (Climate change, sustainability and the transition to net zero) and Chapter 9 (Automation, digitalisation and innovation).
[49] J. Bruen, J.P. Spillane, J. Bradley, & T. Brooks, 'Managerial representations of achieving a competitive advantage in architectural practices: a UK perspective' (2022) *Archnet-IJAR: International Journal of Architectural Research*.

E. Role of other stakeholders

49. Architects will play a critical role in navigating the challenges arising from current market conditions. It will be important for architects to take stock of the various forces at play, identify how professional standards can be maintained notwithstanding those forces by focusing on the factors that are within architects' control, and adjust operations and practices accordingly.

50. Specific actions that architects can take include putting measures in place to assess and respond to risk, particularly in the context of projects and procurement models that could give rise to an unfair allocation of risk. Architects should ensure that their registration status, and the implications of registration for the provision of architectural services, are made clear to prospective clients so that they can better differentiate between architects and building designers. Architects should also ensure that their fees are at a level that support the provision of quality architectural design services.

51. Industry bodies could also play a role in informing clients and end-users about the differences between architects and building designers, particularly the services that they respectively provide and standards that they must meet. They could also provide educational material and seminars to support architects to better understand how to effectively mitigate risk in light of current market conditions.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
1	**The ARBV and NSW ARB**	Where necessary, existing regulatory initiatives undertaken by the ARBV and the NSW ARB to support architects to comply with their regulatory obligations will be informed by current market dynamics.
2	**Architects**	Architects should take stock of the various market forces at play, identify how professional standards can be maintained notwithstanding those forces by focusing on the factors that are within architects' control, and adjust operations and practices accordingly.
3	**Industry bodies**	Industry bodies should provide support to architects to enable them to better understand how to effectively mitigate risk in light of current market conditions.
4		Industry bodies should invest in initiatives to better inform clients and end-users about the differences between architects and building designers.

G. Areas for further research

	TOPICS
1	Assess the impact (if any) of the intensification of competition in the market for architectural services on the delivery of architectural services and compliance of architects with their professional standards obligations.

4 PROCUREMENT MODELS

***Overview**:*

- *The D&C procurement model can lead to adverse outcomes for architects, including increased exposure to legal risk.*
- *D&C contracts are typically bespoke and may include unfair contractual terms for architects that could limit the availability of professional indemnity insurance.*
- *The D&C procurement model has also led to a perception among some clients that architects do not have the technical skills to provide project management services, even though this is a core skill under the National Standard of Competency for Architects.*
- *Architects must take active steps to assert themselves in a D&C context and ensure that their rights, interests and regulatory obligations are effectively represented and protected throughout the negotiation and implementation of a D&C contract.*

A. Background

52. Procurement models used in the construction sector can have a significant impact on project outcomes, including the time frames for completion as well as the cost and quality of building projects.[50] Certain models and associated processes can support high quality architectural design and documentation and help to foster effective and efficient relationships between client, architect, and other contractors. Conversely, poor procurement processes can lead to inefficiency, higher costs, and increase the likelihood of delays and defects, including defects caused by poor design.[51]

53. Alliance arrangements, where parties work together collaboratively and on the basis of sharing risk and reward, is a procurement model that has historically been used in Australia.[52] The touted benefits of these types of arrangements include the avoidance of adversarial relationships, minimisation of the duplication of processes, maximisation of innovation, and enhancement of skills sharing. In turn, these features are said to drive efficiency and minimise waste.[53]

54. However, over the past 20 years, the design and construct (**D&C**) model has become the dominant procurement approach in the Australian construction industry, particularly for large-scale residential and non-residential building projects. Under this model, the client enters into a single contract with a construction company, which provides both the design and construction of the project, based on the client's initial design requirements and project brief.[54]

55. Novated design and construct (**ND&C**) contracts, which are a variant of the traditional D&C model, is the widely preferred method to procure construction projects across many countries, including

[50] Association of Consulting Architects (WA), *Procuring Architectural Services: An Industry Discussion Paper* (2017), at p. 5. See also F. Rahmani, T. Maqsood, & M. Khalfan, 'An overview of construction procurement methods in Australia' (2017) 24(4) *Engineering, Construction and Architectural Management*, pp. 593–609.
[51] Association of Consulting Architects (WA), n. 50 above, p. 5.
[52] F. Rahmani, T. Maqsood, & M. Khalfan, n. 50 above, p. 599.
[53] CFMEU, *Solving the National Crisis in Construction* (2019), at p. 8.
[54] Australian Institute of Architects, 'Design and construct', *Acumen Practice Notes*, 15 June 2022.

Australia.[55] Under this model, the design team engaged by the client for developing preliminary design documentation is inherited by the contractor. Upon appointment of the design team by the contractor, the pre-existing agreement between the client and the design team ceases and a new contractual agreement is implemented between the contractor and the design team to complete the project.[56] This model may be favoured by architects because of a perception that certain aspects of design risk may be assumed by the contractor.[57]

56. In addition, an advantage of the D&C procurement model for clients is that it creates a single point of responsibility – namely, the contractor. This model typically involves a fixed lump sum payment from the client to the contractor for delivery of the project, which provides the client with cost certainty. The use of milestone payments will also incentivise the contractor to complete the project expeditiously, which could reduce the time for completion of the project.[58] Nonetheless, as cost is an important driver for contractors in the context of the D&C model, low-cost options may be prioritised over quality design solutions.[59] The prioritisation of cost over quality can result in various adverse consequences for architects and the delivery of architectural services, which are discussed below.

B. Key issues

Design and construct procurement models can lead to adverse outcomes for architects, including increased exposure to legal risk

Discharge of professional standards obligations

57. In 2019, the Australian Institute of Architects (**AIA**) conducted a national survey of its members on the outcomes of procurement methods that involve novation of a contract (the **AIA Novation Contract Survey (2019)**). A number of the findings in the AIA Novation Contract Survey (2019) relating to Victoria indicated that architects' ability to deliver quality architectural services were hampered.[60] In particular:

    - architects were less likely to be included in project control meetings, which limited their capacity to ensure the integrity and quality of the ultimate design;[61] and
    - architects had limited access to information, which affected their ability to fulfil their duties. [62]

    The report notes that 'Respondents believed that maintaining the integrity of the design intent was a challenge when the contract was novated. There was concern about delivering design quality and

[55] H. Doloi, 'Analysing the novated design and construct contract from the client's, design team's and contractor's perspectives' (2008) 26(11) *Construction Management and Economics*, pp. 1181–96, at 1181.
[56] Ibid. p. 1181.
[57] Ibid. p. 1194.
[58] These advantages of the D&C procurement model are outlined in G. Wood, 'The Design and Construct System for Project Delivery – Critical Issues', *Australian Construction Law Newsletter*, Issue #64.
[59] CRC Construction Innovation, *Building Procurement Methods* (2008), at pp. 11–3.
[60] These findings relate to a survey undertaken in Victoria of 71 architectural practices and 158 projects delivered between 2009 and 2019.
[61] Australian Institute of Architects, *The Benefits and Challenges of Novation for Architects - Victoria*, (2019), at 3.
[62] Ibid. p. 7.

regulatory compliance, contractor commitment to ecological sustainable design, maintaining quality control over finishes and construction methodology so that substandard finishes are not applied. There was also significant concern about material substitution in a bid to reduce costs'.[63]

58. While these findings regarding a possible link between the procurement model and design quality were made in an ND&C context, they are potentially also relevant to D&C contracts more generally. Khan et al (2021) note that 'Quality in the construction industry is an important issue yet ignored during the initial stages of the life cycle of a project, that is, the design and construction stage. The contribution of stakeholders, especially the architects is generally suspended though it has huge significance in terms of cost and time related to quality'.[64] Further, in noting a 'crisis of quality', an architect involved in projects utilising the D&C model stated that 'True cost savings – without the negative side effects on quality – are in fact made by proper collaboration between the design team and contractor at the outset of a project to embed value … Despite this obvious logic, we're seeing design budgets and scope squeezed, alongside the rise in popularity of design and construct (D&C) procurement, with an associated decline in quality'.[65] Findings in the Khan study, which suggests a negative relationship between design budgets for D&C construction projects and quality,[66] supports the assertion regarding the quality crisis.

59. Notably, the ARBV and NSW ARB receive very few complaints about construction projects involving the D&C model, which means that the evidence cited above which tends to indicate a relationship between the D&C model and compromised design quality, cannot be corroborated. There are a number of possible explanations for the lack of relevant complaints. In particular, the D&C model is typically used for large-scale projects involving firms of a commensurate size, capability and expertise. These entities will generally be driven by commercial imperatives and may have limited motivation to report unprofessional conduct by architects to the regulator, especially given that they will not benefit financially from doing so, even if unprofessional conduct is established.[67] They may address unprofessional conduct using other mechanisms, such as private dispute settlement.

60. Anecdotally, the NSW ARB understands that professional indemnity insurers for architects are making losses and some are being driven out of business. This, coupled with insurance policy exclusions (such as for cladding claims), suggests that there may be some aspects of architectural services that pose high levels of risk. An area for further research could be to determine the prevalence of and underlying reasons for insurance claims against architects, particularly to identify whether they are linked to unprofessional conduct.

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[63] Ibid. p. 7.
[64] S. Khan, M. Saquib, & A. Hussain, 'Quality issues related to the design and construction stage of a project in the Indian construction industry' (2021) 1(2) *Frontiers in Engineering and Built Environment*, pp. 188–202, at 188.
[65] S. Ollmann, 'A Crisis of Quality: The Disconnect Between Design and Delivery', *The Urban Developer*, 18 November 2019.
[66] See S. Khan, M. Saquib, & A. Hussain, n. 64 above.
[67] It should also be noted that a possible disinclination to report unprofessional conduct to the regulator is not confined to the D&C context for large-scale projects. In the experience of the ARBV, many clients decide not to progress complaints with the regulator once they discover that compensation is unavailable for unprofessional conduct.

Unfair contractual terms

61. The current edition of Australian Standard AS 4122-2010 – General Conditions of Contract for Consultants was drafted by key industry bodies to meet the needs of sectoral participants through the fair and proportionate allocation of risk in line with industry best practice.[68] However, instead of utilising this standard, contracts employed in the context of D&C procurement models are typically bespoke. The AIA Novation Contract Survey (2019) notes the unfair contractual terms to which architects could be subjected in this context. In particular, it was found that unfair and onerous consultant agreements placed too much responsibility on architects, while also hampering architects' ability to advise or instruct and, thereby ensure quality outcomes.[69]

62. Moreover, unfair contract terms can affect the ability of architectural businesses to produce high quality work, to run a successful practice, and to grow.[70] They can increase the cost of providing architectural services because of increased exposure to liability that can make insurance more expensive, and result in less collaborative, innovative and efficient outcomes.[71] And they can affect the health and well-being of architects. The AIA Novation Contract Survey (2019) found that architects were often unable to increase their fees to match increased workloads, leading to inadequate resource allocation for projects and adverse health and wellbeing outcomes for staff.[72]

Exposure to responsibility and risk

63. Some findings in the AIA Novation Contract Survey (2019) also indicated that architects' exposure to responsibility and risk was increased. More specifically, the report notes that:

- architects had increasing responsibilities for all aspects of construction, yet had diminishing power to influence good design and constructability outcomes; [73]
- architects were required to take on more risk/responsibility for sub-consultants, even where those sub-consultants were appointed by the contractor; [74] and
- rates of product substitution by the contractor were higher, which could compromise safety for end-users.[75]

64. Weir (2019) notes that a number of the findings in the AIA Novation Contract Survey (2019) are consistent with evidence given by the architect in the Lacrosse matter, which concerned a fire at the Lacrosse apartment tower in Melbourne that was linked to flammable cladding used on the building.[76] The architect in that case complained about the builder's lack of consultation and failure to ask for or follow the architect's advice.[77] The architect further said it was not treated as the 'head

[68] Association of Consulting Architects (WA), n. 50 above, p. 23.
[69] Australian Institute of Architects, n. 61 above, p. 7.
[70] Association of Consulting Architects, n. 38 above, p. 1.
[71] Ibid. p. 1.
[72] Australian Institute of Architects, n. 61 above, p. 20.
[73] Ibid. p. 2.
[74] Ibid. p. 7.
[75] Ibid. p. 3.
[76] Weir, B. 'Room for (in)novation: Responsibilities of and liabilities for architects' (2019) 108(6) *Architecture Australia*, 17 referring to *Owners Corporation No 1 of PS613436T v L U Simon Builders Pty Ltd* [2019] VCAT 286.
[77] Ibid. para. 417.

design consultant' and that it, therefore, should not be attributed responsibility for that role.[78] However, the Victorian Civil and Administrative Tribunal (**VCAT**) found that the actual relationship between the contractor and architect could not override the architect's contractual obligations.[79] VCAT further found that the cladding specified by the architect in the original design failed to comply with the National Construction Code (**NCC**), as was the case for the substitute used by the builder during construction.[80] The builder, building surveyor, fire engineer and architect were all found to have breached their respective agreements by failing to exercise due care and skill.[81]

The design and construct procurement model has altered perceptions about architects' role in project delivery

65. Historically, architects had responsibility for both the design and the construction of a building. However, that role has since evolved as construction projects have grown in complexity and scale.[82] Construction management firms have increasingly gained more authority and responsibility, whereas architects have assumed more of a subordinate role.[83] Ahuja (2020) refers to studies conducted in the UK, France and Australia that 'confirm that marginalization of architects and the invasion of their professional role in construction projects is pervasive across different scales of engagement, from house building to large-scale projects'.[84]

66. In the **AIA Client Survey (2021)**, 80% of clients said that they do not use architectural practices for project management.[85] For larger scale, more complex residential and non-residential projects, while the presence of an architect on-site was valued to support the client relationship, clients did not perceive value in architects also performing a project management role.[86] Significantly, many saw project management as a specialised skill, necessary to address risks in the entire 'design to delivery' process and preferred to engage organisations that possess this skill. Clients also said 'The majority of architects lack delivery experience outside typical design or documentation role. Hard to compete with experienced project managers from a project management consultancy'.[87] In fact, a commonly held view appears to be that architects do not have the technical skills to provide project management services to the standard required.[88] Yet, project execution is a core skill in the National Standard of Competency for Architects (**NSCA**) and is examined as part of the Architectural Practice Examination as a precursor to registration as an architect.

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[78] Ibid.
[79] Ibid. para. 443.
[80] Ibid. para. 7.
[81] Ibid.
[82] K.L. Burr & C.B. Jones, 'The Role of the Architect: Changes of the Past, Practices of the Present, and Indications of the Future' (2010) 6(2) *International Journal of Construction Education and Research*, pp. 122–38, at 122.
[83] Ibid. p. 133.
[84] S. Ahuja, N. Nikolova, & S. Clegg, 'Professional identity and anxiety in architect-client interactions' (2020) 38(7) *Construction Management and Economics*, pp. 589–602, at 24.
[85] Australian Institute of Architects, *Stronger Insights for Stronger Practices: 2021 Client Feedback Report* (2021), at p. 17.
[86] Ibid. p. 23.
[87] Ibid. p. 24.
[88] Ibid. p. 23.

67. The perception of an architect's role in construction projects is also likely to be affected by the proliferation of various entities providing design services to clients. The UK RIBA Survey (2011) refers to the gradual residualisation of architects in favour of specialist service providers, who deal with specific design issues, such as cladding. The report suggests that the trend away from architects in favour of other specialists may be exacerbated as architects seek to reduce their exposure to liability and thereby lose influence and control in construction processes.[89]

68. A survey conducted by Burr and Jones (2010) of a panel of US experts involved in the architecture and construction process revealed that 50% of panel members felt that 'If the architecture profession continues on its current path, the panel collectively agrees that its role will become more specialized and carry less responsibility'.[90] According to the panel, architects are stepping back and allowing construction management firms to assume their role.[91]

C. Findings

69. There is evidence to indicate that the procurement model employed for construction projects can have a significant impact on relationships, risk exposure and allocation, and outcomes.

70. The D&C model is dominant for large-scale projects. The enthusiastic uptake of this model was originally based on the assumption that it could deliver construction projects more quickly and at a lower cost compared to other procurement models. Indeed, this model offers clients cost and time certainty and the benefit of centralised responsibility for project delivery. While the contractor assumes responsibility for design and construction under its contract with the client, responsibility and risk are typically transferred from the contractor to sub-contractors, including architects, along the contract chain.

71. There is also evidence to suggest that cost can be prioritised over quality when a D&C procurement model is employed. This, in turn, has the potential to lead to bad relationships between the various entities involved in project delivery and, ultimately, can result in poor built outcomes. Sectoral surveys and anecdotal evidence also indicate that the model can lead to the imposition of disproportionate responsibility on architects, marginalise their role in construction projects, and expose them to undue risk.

D. Regulatory role

72. The analysis in this chapter suggests that the D&C model has the capacity to compromise the capacity of architects to discharge their professional standards obligations, which is of concern from a regulatory standpoint. Nonetheless, the regulatory frameworks administered respectively by the ARBV and NSW ARB do not include power to limit or hinder in any way the choices made by architects about whether or not to enter into a particular construction agreement, nor to dictate the procurement model that should be used for particular types of construction projects. Accordingly, the ARBV and NSW ARB will continue to provide architects with support and guidance regarding

[89] C. Jamieson, n. 23 above, p. 24.
[90] K.L. Burr & C.B. Jones, n. 82 above, p. 135.
[91] Ibid. p. 136.

their non-negotiable professional conduct obligations, which apply regardless of the procurement model that has been employed.

E. Role of other stakeholders

73. Architects must take stock of what is at stake when a D&C procurement model is used and ensure that their rights, interests and regulatory obligations are effectively represented and protected throughout the negotiation and implementation of a D&C contract. Architects also need to take active steps to reassert themselves as the 'vision maker' and the 'conductor' of construction projects.[92]

74. Industry bodies have already sought to tackle the challenges faced by architects in the context of D&C procurement. For example, the AIA has recently published a Code of Novation, which defines standards of conduct that promote good design, safety and quality throughout the procurement process.[93] There could be scope for industry bodies to further support architects in navigating the challenges associated with D&C procurement, particularly to address unfair risk exposure and allocation of risk under D&C contracts. Providers of education and training also have a role to play in educating architects about the pros and cons of procurement models, particularly the relative risk exposure for architects under these models.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
5	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to provide architects with support and guidance regarding their non-negotiable professional conduct obligations, which apply regardless of the procurement model that has been employed.
6	**Architects**	Architects must take active steps to assert themselves in a D&C context and ensure that their rights, interests and regulatory obligations are effectively represented and protected throughout the negotiation and implementation of a D&C contract.
7	**Industry bodies**	Industry bodies could support architects in navigating the challenges associated with D&C procurement, particularly to address unfair risk exposure and allocation of risk under D&C contracts.
8	**Education and training providers**	Providers of education and training should ensure that their programs educate architects about the pros and

[92] Ibid.

[93] The AIA Code of Novation is accessible on the AIA website accessible at: https://www.architecture.com.au//code-of-novation.

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
		cons of procurement models, particularly the risk exposure for architects under these models.

G. Areas for further research

	TOPICS
2	Determine the prevalence of and underlying reasons for insurance claims against architects, particularly to identify the most common claims and clarify whether they are linked to unprofessional conduct by architects in the context of D&C contracts.

5 CLIENT-ARCHITECT RELATIONSHIPS AND AGREEMENTS

***Overview**:*

- *Clients are diverse so architects' relationships with different types of clients are likely to differ.*
- *The client-architect relationship can be affected by various factors, including factors that are outside an architect's control, particularly in the context of large-scale projects where a D&C procurement model is employed.*
- *Poor communication can compromise client-architect relationships, and is a problem that is not uncommon.*
- *Non-compliant client-architect agreements, and the absence of such agreements, can adversely affect client-architect relationships.*
- *The approach to project costing and fees can also have an adverse impact on client-architect relationships and can lead the client to perceive that a cost blowout has occurred.*
- *Clients' access to recourse may be limited under current regulatory arrangements, which may deter clients from raising concerns about unprofessional conduct.*
- *Architects need to invest in better relationships with their clients, particularly through more effective and meaningful communication*.

A. Background

75. The success of a construction project is likely to depend heavily on relationships among the various parties involved in the project, including the relationship between the architect and client.[94] A positive and constructive client-architect relationship can drive alignment between the architect and client.[95] In turn, this can help ensure that the client's core concerns are addressed – typically, that projects will be delivered within budget, on time, in accordance with specifications and with no surprises.[96]

76. In Victoria and NSW, various aspects of the client-architect relationship are regulated under the Codes of Professional Conduct applicable in those jurisdictions respectively.[97] These requirements include:

    - A written client-architect agreement is required for the provision of architectural services.
    - Architects must discharge their obligations diligently and promptly.
    - Architects must keep clients informed and respond with reasonable promptness to clients' requests for information.
    - Information provided to clients must be accurate and unambiguous.

[94] A. Dansoh & S. Frimpong, 'Client perspectives on relationships with architects on private house projects' (2016) 2(3) *International Journal of Qualitative Research in Services*, at p. 2. See also Australian Institute of Architects, 'Client and architect relationship' (2019) *Acumen Practice Notes*, at 1.
[95] V. Van der Linden, H. Dong & A. Heylighen, 'The good client: How architect-client dynamics mediate attention to users', in *Professional Practices in the Built Environment* (2017).
[96] J. Adafin, J.O.B. Rotimi, & S. Wilkinson, 'Risk impact assessments in project budget development: architects' perspectives' (2016) 12(3) *Architectural Engineering and Design Management*, pp. 189–204, at 191.
[97] See in particular, Division 2 (Client Relations) of the Victorian Code and Part 2 (General Practice Standards) and Part 3 (Standards concerning dealings with clients) of the NSW Code.

77. The mandatory content of client-architect agreements includes:[98]

- the scope, nature and specific requirements of the architectural services;
- the timeframes for providing the services;
- the manner in which professional fees and the costs of services will be calculated;
- the way the architect will inform the client of progress regarding the provision of services;
- the requirement that the architect must inform the client how a change or amendment to the services will affect professional fees and costs for the services; and
- how the agreement may be terminated and for what reason.

78. These regulatory requirements are designed to ensure that the client-architect relationship is managed well. This, in turn, can help to drive successful outcomes for both the client and the architect. Based on complaints data available to the ARBV and NSW ARB, cost overruns and delays in completion of construction projects are common sources of complaints by clients, which can lead to relationship break-downs. This data raises questions about whether the way client-architect relationships are being established and managed by architects in practice are consistent with regulatory obligations.

B. Key issues

The client-architect relationship can be affected by various factors, including factors that may be outside an architect's control

79. The AIA Client Survey (2021) indicates that the most important criteria for clients regarding their service and relationship expectations of architects are that they communicate effectively, they anticipate and respond well to clients' needs, and that they are strong leaders and good team players.[99] Clients seek relationships with architects that involve meaningful collaboration.[100] The capacity of architects to meet these expectations depends upon various factors, which are largely linked to the type of client and project for which architectural services are sought.

80. Clients of architectural services are diverse and so too are the projects for which architectural services may be sought. Architects may be engaged by owners and end-users for small-scale residential projects, or by developers and builder contractors for large-scale, multi-storey residential and non-residential projects.[101] The degree of knowledge and sophistication, motivations, perspectives and interests of clients are likely to differ in each of these contexts. These differences are likely to have an impact on various aspects of the client-architect relationship, including:

- the way the architect is sourced by the client;
- the client's preferred profile of the architect;
- the terms of the client-architect agreement;
- the degree of proximity between the architect and the client;

[98] See clause 4 of the Victorian Code and clause 7 of the NSW Code.
[99] Australian Institute of Architects, n. 85 above, p. 11.
[100] Ibid. p. 19.
[101] O. Arora, S. Das, S. Siva E S, S. A S, & S. Nagdeve, 'Client expectations in the purview of architecture' (2021) 9(4) *International Journal of Students' Research in Technology & Management*, pp. 40–53, at 41.

- the degree of influence and control that the architect can exercise in relation to the project; and
- the dynamics of the relationship between the architect and client over the course of the project.

81. So, for example, in the context of large-scale projects where a D&C procurement model is employed, the developer or contractor client is likely to be relatively knowledgeable and sophisticated and, consequently, demanding.[102] Delivery of the construction project on time and within budget will be important drivers for the client. Multiple service providers will typically be involved in delivery of the project. These features will, in turn, have an impact on the terms of the contract between the architect and client and may result in the marginalisation of the role of the architect.[103] The architect's ability to communicate directly with the client and to exercise quality control may also be compromised.[104]

82. In comparison, for small-scale projects undertaken by an architect for the end-user, the client is likely to be concerned about the quality of the services provided by the architect,[105] but will be less knowledgeable about these services compared to developer and contractor clients. The architect is more likely to interact directly with the client than in the case of larger projects.[106] Delivery of a project within budget will be a particularly important concern for this type of client.[107] However, compared to developer and contractor clients, they will have less ability to dictate and control the budget.

83. The foregoing indicates that an architect's opportunity to successfully establish a good relationship may be more limited for developer and contractor clients in the context of large-scale projects compared to end-user clients for small-scale residential projects. This inference has been borne out in the **NSW Architect Survey (2019)**. In that survey, architects noted the significant impact of knowledgeable and sophisticated clients on the provision of architectural services.[108] They referred to the 'constant battles' with clients in the context of large-scale projects, where the focus is on speed, cost and area of lettable space.[109] The survey also referred to research indicating that, in the context of these types of projects, architects can be viewed as 'technicians' rather than experts and that their autonomy and control over a project could be compromised.[110]

[102] Ibid.
[103] Association of Consulting Architects (WA), n. 50 above, p. 15. See also A. Angral, 'Architect–client relationship and value addition in private residential projects' (2019) 13(1) *Archnet-IJAR: International Journal of Architectural Research*, pp. 58–71.
[104] CRC Construction Innovation, n. 59 above, p. 13. S. Ahuja, N. Nikolova, & S. Clegg, n. 84 above.
[105] O. Arora et al, n. 101 above, p. 41.
[106] Ibid. p. 41.
[107] Ibid.
[108] S. Ahuja, N. Nikolova, & S. Clegg, n. 84 above, p. 13.
[109] Ibid. p. 13.
[110] Ibid. p. 15.

Poor communication can compromise client-architect relationships, and is a problem that is not uncommon

84. Good communication is a critically important facet of a client-architect relationship. This is reflected in regulatory requirements in Victoria and NSW, which include obligations that require an architect to ensure that information provided to a client is accurate and unambiguous,[111] to keep the client informed about decisions the client is required to make in relation to the provision of architectural services,[112] to provide information to a client with reasonable promptness to enable the client to make informed decisions,[113] and to notify the client in writing of any circumstances that could prevent provision of services by the architect.[114]

85. In the context of the AIA Client Survey (2021), clients rated effective communication as the most important factor for their relationships with architects.[115] Clients said, 'We want a firm that is practical and easy to deal with. It is important that they understand our needs. We appreciate collaboration, a firm that is responsive to feedback and an understanding of contemporary practices in the relevant field.'[116] The importance of good communication between architects and clients was also highlighted in a survey of registered architects in Indonesia in 2018.[117] In the context of that survey, architects perceived communication as a crucial indicator of their performance because it helps architects understand clients' needs and requirements.[118] In contextualising the results of the survey, the author noted that good communication between an architect and client – including clarity, brevity, certainty and comprehensiveness in the information provided to the client – can optimise the architect's performance. Conversely, poor communication can lead to ambiguity and misinterpretation, which could lead to defective design and project failure.[119] Ambiguity can also lead to distrust and undermine the client-architect relationship.[120]

86. Various reasons have been put forward as causing communication difficulties between architects and clients, some of which are attributable to clients whereas others are caused by architects. In relation to the former, if the contract terms proposed by a client are overly onerous, the architect may be seen as 'difficult' merely because the unfair terms are not accepted. Moreover, clients may frequently change their requirements or provide insufficient feedback to the architect. Regarding the latter, the architect may communicate infrequently or fail to fully consider and reflect the client's views in the design.[121]

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[111] Clause 7(d) of the Victorian Code. Clause 6(2)(a) of the NSW Code.
[112] Clause 7(a) of the Victorian Code. Clause 6(2)(b) of the NSW Code.
[113] Clause 7(b) of the Victorian Code. Clause 6(1) of the NSW Code.
[114] Clause 8 of the Victorian Code. Clause 14 of the NSW Code.
[115] Australian Institute of Architects, n. 85 above, p. 11.
[116] Ibid. p. 10.
[117] A. Marisa, 'Analysis of architect's performance indicators in project delivery process' (2018) 126 *IOP Conference Series: Earth and Environmental Science*, p. 012106.
[118] Ibid. p. 4.
[119] Ibid. p. 3.
[120] N. Norouzi, M. Shabak, M.R.B. Embi, & T.H. Khan, 'The Architect, the Client and Effective Communication in Architectural Design Practice' (2015) 172 *Procedia - Social and Behavioral Sciences*, pp. 635–42, at 635.
[121] Ibid. p. 636.

87. Communication difficulties may be exacerbated in cases where the client's knowledge and familiarity with architectural services is limited. In these cases, the asymmetry in skills, experience and information between the architect and the client means that consumers may not be able to assess the quality of architectural services.[122] This can lead to 'disorientation'[123] and to feelings of inferiority and helplessness on the part of the client.[124]

88. Such disorientation could be alleviated through effective management of the client-architect relationship, which is geared towards helping the client learn, understand and adjust.[125] A more 'client-centric' approach, which is 'user-friendly' and involves better communication skills, a greater responsiveness to client feedback, and employs 'soft skills' to enhance the client experience could improve architects' relationships with their clients.[126] Nonetheless, striking the optimal balance between cost of a project, time to complete, and quality can be challenging and failure to do so could have an adverse impact on the client-architect relationship.[127]

89. Moreover, failure to properly communicate with a client can expose an architect to liability. For example, in the Queensland case of *Christian Education Ministries – Qld Ltd v Thomson Adsett Pty Ltd*,[128] an architect was engaged to design a multi-purpose assembly hall for a school. The school alleged that the architect was given express instructions regarding the size of a basketball court within the assembly hall, but the architect denied having received those instructions. The court found that the architect breached his duty of care to the school for not following the school's instructions. The court further stated that even if the school had not provided express instructions regarding the size of the basketball court, the architect would have breached his contract with the school or would have been guilty of negligence for failing to clarify those instructions.

Non-compliant client-architect agreements can adversely affect client-architect relationships

90. Client-architect agreements are mandatory under the Victorian and NSW regulatory frameworks. These agreements establish the foundation for and can shape interactions between an architect and client, and help avoid blurring of the line between professional and personal relationships.

91. The ARBV's complaints data indicates that non-compliant client-architect agreements, and the absence of such agreements, are a common thread in many complaints received by the regulator. Despite the obligation to have a client-architect agreement in place for the provision of architectural services, the ARBV has encountered cases where architects have not entered into such an

[122] I. Paterson, 'Regulation of Professional Services: Lawyers & Notaries, Accountants, Architects & Engineers, Pharmacists' (2006) Proceedings of OeNB Workshops(10) *Strategies for Employment and Growth in Austria*, at 58–9.
[123] J. Siva & K. London, 'Client learning for successful architect-client relationships' (2012) 19(3) *Engineering, Construction and Architectural Management*, pp. 253–68.
[124] A. Dansoh & S. Frimpong, n. 94 above, p. 1.
[125] J. Siva & K. London, n. 123 above.
[126] Australian Institute of Architects, n. 85 above, pp. 19–20. A. Angral, n. 103 above.
[127] A. Angral, n. 103 above, p. 69.
[128] [2015] QDC 292.

agreement or, when one is in place, it is not compliant with the detailed requirements set out in the Victorian Code.[129]

92. The absence of a client-architect agreement or one that does not satisfy regulatory requirements could provoke an adversarial relationship between the architect and client, lead to distrust and dispute, and result in outcomes that do not meet the client's needs or expectations.[130] The ARBV's complaints data also indicates that the failure to properly scope the architectural services and client's requirements in a client-architect agreement can have a significant adverse impact on project outcomes for the client.

93. High-level, ambiguous agreements that fail to communicate the detail and specifics of an architectural project could lead to disagreement between the architect and client.[131] As noted by clients in the context of the AIA Client Survey (2021), 'the documentation produced by an architect can take much of the guesswork out of a project – much more attention to detail is needed to ensure it is delivered as per clients brief'.[132]

94. However, onerous terms of a client-architect agreement under which a client seeks to impose obligations beyond a reasonable standard of care or require an architect to assume responsibility for the performance of other contractors can set the tone for a less than ideal relationship between client and architect and could render the provision of the architect's services uninsurable.[133] Bespoke contracts used by large developers and contractors and government bodies that apportion risk unfairly and disproportionately are examples where insurance for architects may be unavailable.

95. In practice, the level of detail to be included in a client-architect agreement may need to be tailored to the particular project, with more detail required for relatively complex commissions. Nonetheless, there is scope for the use of standardised agreements both in the context of small-scale residential projects, as well as larger projects involving complex designs. In 2019, the NSW ARB published a 'Short Form Architect Client Contract', which is freely available on the NSW ARB's website.[134] The AIA and ACA have recently republished standard client-architect agreements. However, these agreements are only available to members of those organisations respectively. The Australian Standard AS4122 contains general conditions of contract, which are flexible enough to be used for a wide variety of projects.[135]

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[129] Clause 4(2) of the Victorian Code sets out the matters that must be included in the client-architect agreement. The equivalent provision in the NSW Code is clause 7(2).
[130] Royal Australian Institute of Architects, *Guiding Principles for Balanced and Insurable Client/Architect Agreements* (2005), at p. 3.
[131] Ibid. pp. 4–5.
[132] Australian Institute of Architects, n. 85 above, p. 23.
[133] Ibid. pp. 4–5.
[134] The Short Form Contract published by the NSW ARB is accessible at: https://www.architects.nsw.gov.au/news/537-nsw-arb-short-form-architect-client-contract-2019.
[135] However, the ACA notes that AS4122 is not intended for use in a design and construct context or where the client intends to novate the contract. See the ACA's website accessible at: https://aca.org.au/as4122-2010-general-conditions-of-contract/.

96. Even in cases where client-architect agreements are in place, it is important for parties to the agreement to understand the terms of those agreements. In the experience of the NSW ARB, while there is a high level of compliance with the obligation to have a client-architect agreement in place in NSW, some architects and their clients may not have read those agreements or understand the implications of the terms of those agreements for the provision of architectural services. In these cases, the mere existence of a client-architect agreement may be insufficient to avoid a break-down in the client-architect relationship, particularly if the parties do not understand their respective rights and obligations.

97. The UK case of *Freeborn & Goldie v Mr Daniel Marcal*[136] illustrates the risks of failing to have a client-architect agreement in place. In that case, an architect was engaged to design and develop a pool house in an exclusive London property. Amongst other things, the clients wanted a home cinema room to be included with a 'sleek modern' appearance and had kept good records to document their requirements. However, the architect – who did not enter into a written contract with the clients and did not keep minutes of any meetings with the clients or contractors – designed the home cinema room to have more of an industrial feel. The architect was found guilty of negligence for failing to have a clear written agreement with the client and the judge strongly criticised the architect for poor management practices in failing to keep records.

The approach to project costing and architects' fees can also have an adverse impact on client-architect relationships

98. Various aspects of architects' fees are regulated under the Victorian and NSW Codes. Under both Codes, the client-architect agreement must set out how professional fees and costs of architectural services will be calculated,[137] reasonable estimates of disbursements (where possible),[138] and a requirement that the architect must inform the client how a change or amendment to the services will affect the professional fees and costs for the services.[139] The Victorian Code further provides that fees and costs should not exceed the fee structure specified in the client-architect agreement,[140] whereas the NSW Code provides that the cost of architectural services should reflect the fee structure specified in the agreement and accurately reflect the amount of work done or to be done.[141]

99. The AIA has stated that the fee for a particular architectural project should be consistent with the scope of services provided and the level of skill the client expects to be applied to the project.[142] It has further stated that 'It is essential that architect fees reflect the true value of the services delivered'.[143] The NSW ARB understands that concerns exist among clients in relation to architects' fees where they are determined as a percentage of construction costs, particularly in cases where

[136] [2019] EWHC 454.
[137] Clause 4(2)(e) of the Victorian Code. Clause 7(2)(b) of the NSW Code.
[138] Clause 4(2(f) of the Victorian Code. Clause 7(2)(e) of the NSW Code.
[139] Clause 4(2)(j) of the Victorian Code. Clause 7(2)(i) of the NSW Code.
[140] Clause 6(b) of the Victorian Code.
[141] Clause 7(3) of the NSW Code.
[142] AIA, 'Fees', *Acumen Practice Notes* (published 23 October 2015, edited 31 March 2020).
[143] Ibid.

the percentage is relatively high and the actual construction costs are significantly more than estimated.[144] This is consistent with the AIA Client Survey (2021), which found that 73% of surveyed clients believed architects' services represented value for money, but concern was expressed about architects' 'elastic fees' and 'cost blowouts'.[145] Survey participants perceived that these blowouts were due to a gap between the design process and a technical understanding of the construction process, leading to inefficiency and delays.[146] The **UK Residential Architecture Study (2019)** also found that a percent-based fee structure might be 'major source of discontent' for clients.[147] Around 45% of all respondents, and 47% of architects, who participated in that study considered that this fee structure is 'out-of-date'.[148]

100. Percentage fees may be useful when it is difficult to estimate project costs. In fact, the challenges associated with accurately estimating design costs have been acknowledged, particularly when there is uncertainty as to how the construction process will evolve.[149] Nonetheless, research suggests that an accurate estimate of project fees can help ensure the success of a project, and that the converse is also true – that an inaccurate estimate could result in project failure.[150] Yet, there is evidence indicating that deviation between construction cost estimates and actual construction costs is common in construction projects around the world.[151] The **NZ Architect Survey (2016)** showed that the most significant factors impacting variability between design estimates and final construction costs in traditionally procured commercial projects included project complexity, expertise and relevant experience of consultants, and quality and flow of information.[152]

101. Notwithstanding the estimation difficulties, cost certainty helps to foster a good relationship with clients.[153] Such certainty could be provided through a scale of architectural fees to guide the establishment of fees by architects for particular projects. However, architectural industry bodies moved away from these scales some time ago on the premise that they would prevent fair trade and competition, although some firms continue to rely upon them. The AIA Client Survey (2021) suggests that architectural firms could instead consider value-based pricing – that is, pricing that is linked to the client's perceived value of architectural services – which prioritises the delivery of value to the client rather than driving down costs.[154] Nonetheless, the UK Residential Architecture

[144] As noted on the NSW ARB's website, the Board has recorded a rise in calls and complaints against architects related to project cost overruns, accessible at: https://www.architects.nsw.gov.au/news/402-boom-sends-costs-through-the-roof.
[145] Australian Institute of Architects, n. 85 above, p. 20.
[146] Ibid. p. 20.
[147] A. Angral, n. 103 above.
[148] Ibid. p. 66.
[149] T.H. Dandan, G. Sweis, L.S. Sukkari, & R.J. Sweis, 'Factors affecting the accuracy of cost estimate during various design stages' (2020) 18(4) *Journal of Engineering, Design and Technology*, pp. 787–819, at 788.
[150] Ibid.
[151] Studies in the UK, Middle East, Asia and Africa are referenced in J. Adafin, J.O.B. Rotimi, & S. Wilkinson, n. 96 above, p. 191.
[152] J. Adafin, J.O.B. Rotimi, & S. Wilkinson, n. 96 above.
[153] H. Xiao & D.G. Proverbs, 'Cost certainty and time certainty: an international investigation', in D. J. Greenwood (ed.) *19th Annual ARCOM Conference*, (2003), pp. 23–32.
[154] Australian Institute of Architects, n. 85 above, p. 21.

Study (2019) suggests that it may be difficult to identify client value, particularly for certain types of clients.[155]

102. Alternatively, fixed pricing for architectural services could be an option. In fact, almost two thirds of participants in the AIA Client Survey (2021) expressed a preference for fixed price agreements over the traditional cost-based fee model,[156] but this approach would leave architects exposed when unexpected cost blowouts occur. The NSW ARB has encountered cases where architects have quoted extremely low fixed fees in order to remain competitive. This practice could result in poor quality design work and limit the scope for the transfer of business knowledge within architectural practices as well as the potential for architectural firms to grow and flourish because of the tight budgets implied by low fixed fees. Further research on pricing models for architectural services that balance interests and risks of architects and clients respectively could be beneficial.

103. Complaints data available to the NSW ARB indicates that, when there are possible or likely cost blowouts, architects may fail to communicate this to the client in a timely manner. The ARBV has also encountered complaints about overcharging by architects due to defective design that results in rework or duplication of work, as well as cases where architects have billed clients before architectural services have been fully provided.

104. Clearly, the basis for architects' fees and associated construction costs is a contested and challenging issue, for which there is no readily apparent solution. At a minimum, clarity, transparency and accountability about fees may help to avoid client-relationships being compromised when fees deviate from what was originally estimated or expected and could protect architects from exposure to legal risk. The NSW case of *Morris v Leaney* [157] highlights the risks for architects when they fail to advise clients about likely construction costs. In that case, the architect was engaged for a residential home renovation. The architect provided an opinion on the 'probable cost' of the renovation, which was used to establish the owners' renovation budget. A builder was subsequently engaged and advised the owners that the renovation costs would far exceed their budget, prompting the owners to revise the scope of the renovation work. The court held that the architect breached his duty to advise the owners on the likelihood of achieving their budget. The architect was expected to inform his clients if he felt unable or unqualified to give an accurate estimate of costs and advise that they obtain an estimate from a properly qualified professional.

Clients' access to recourse may be limited under current regulatory arrangements, which may deter clients from raising concerns about unprofessional conduct with the regulator

105. While the primary role of the ARBV and NSW ARB is to regulate architects, both Boards are able to receive and consider complaints made by aggrieved clients about architects.[158] Anecdotally, the ARBV and NSW ARB understand that clients may be disinclined to complain about architects'

[155] A. Angral, n. 103 above, p. 67.
[156] Australian Institute of Architects, n. 85 above, p. 21.
[157] [2022] NSWCA 95.
[158] Part 4 of the Victorian Architects Act. Part 4, Division 2 of the NSW Architects Act.

unprofessional conduct because of limited regulatory power on the part of the Boards to order refund of monies paid by clients, remediation of defective work and payment of compensation.

106. Notably, section 43(4)(b) of the NSW Architects Act empowers the NSW ARB to order the withholding or refunding of part or all of the payment for architectural services that are the subject of a complaint. However, the scope of this power was called into question in a recent decision by the NSW Civil and Administrative Tribunal (**NCAT**) in *Manfredini & McCrae v NSW Architect Registration Board*.[159] That case involved an application for administrative review of, among other matters, a decision made by the NSW ARB to order architects found guilty of unprofessional conduct to refund money that was paid for architectural services by the complainants. In the circumstances of the case, including the fact that the complainants were considered to have contributed to the poor performance of architectural services, NCAT considered that the exercise of section 43(4)(b) would not serve the purpose of the disciplinary proceedings against the architects. It was noted that 'this is not a case of payments made to an architect for work not done: while not to the complainants' satisfaction, and not strictly in accordance with the terms of the contractual arrangement, the architectural services were provided'.[160]

107. The NSW ARB also has power to mediate between a complainant and architect in an attempt to resolve any issue raised by the complaint, if the Board considers the complaint may be resolved expeditiously by doing so.[161] Similarly, the ARBV has power to refer a complaint to mediation if the Board considers it appropriate to do so,[162] and mediation does not preclude a determination that an inquiry into the fitness to practise or professional conduct of an architect should be held.[163] However, such a referral can only occur with the consent of the person making the complaint and the architect concerned.[164]

C. Findings

108. Architecture as a profession is essentially client-centric.[165] Architects' ability to properly serve their clients may be limited in the context of some procurement models, but architects otherwise have considerable control over various factors that could be determinative of the client-architect relationship.

109. Communication is core to a successful client-architect relationship. There is evidence to indicate that architects could improve their relationships with their clients through better communication and engagement. Communication and engagement are important in relation to all facets of a project, but particularly so regarding the clients' requirements, the duration of the project, and the cost of the architect's fees, as well as builders' costs.

[159] [2021] NSWCATOD 116.
[160] Ibid. para. 262.
[161] Section 40(2) of the NSW Architects Act.
[162] Section 18A(1) of the Victorian Architects Act.
[163] Section 18J of the Victorian Architects Act.
[164] Section 18A(2) of the Victorian Architects Act.
[165] O. Arora, S. Das, S. Siva E S, S. A S, & S. Nagdeve, n. 101 above, p. 40.

110. The prevalent basis for establishing architects' fees, which is tied to construction costs, may cause client-architect disputes. Some disputes could be avoided with greater transparency and clarity about the basis for calculation of fees and the likely implications for overall projects costs. Serious consideration of an alternative basis for charging fees for architectural services (such as value-based pricing and fixed fees) is needed to limit the prospect of price shock that clients can often experience, as this can be damaging for the client-architect relationship.

111. There is also room for improvement in relation to the documentation of client-architect relationships. In Victoria, anecdotal evidence derived from complaints data available to the ARBV indicates that client-architect agreements are absent in some cases and, in other cases where such agreements are in place, questions exist about the extent to which those agreements are compliant with the Victorian Code. Such non-compliance can undermine the effectiveness of agreements in keeping client-architect relationships on track. In NSW, while there appears to be relatively good compliance with the requirement to have a client-architect agreement, it is unclear how well those agreements are understood by architects and their clients, which could defeat their very purpose.

D. Regulatory role

112. The ARBV and NSW ARB have already invested in various initiatives to ensure compliance by architects with regulatory obligations regarding their relationships with clients. For example, the ARBV has issued guidelines about client-architect agreements and professional fees and costs.[166] In addition to the Short Form Architect Client Contract, the NSW ARB has also published a guide for clients about working with architects.[167] Despite these initiatives, the available evidence tends to indicate that there may be more work to be done by the ARBV and NSW ARB in educating architects about their various obligations to clients, particularly in relation to communicating meaningfully with clients and establishing useful and effective client-architect agreements.

113. The ARBV and NSW ARB do not have direct regulatory power to dictate or limit the basis used by architects to establish their fees. However, given the possible link between fees that are based on a percentage of construction costs and compromised client-architect relationships, the educational program for architects regarding architects' fee obligations could include greater emphasis on the need for and importance of clear and transparent fee arrangements, that are well-understood by clients.

114. Given the critical importance of good client-architect relationships in the context of regulation of the profession, the ARBV and NSW ARB take compliance with architects' obligations in this context very seriously. Various regulatory powers are available to deal with situations where architects have failed to fulfill their obligations to clients, including the power to refer architects for an inquiry into their fitness to practise or professional conduct.[168] The ARBV and NSW ARB continue to commit to

[166] These guidelines are available on the ARBV's website accessible at: https://www.vic.gov.au/arbv-architect-guidelines.
[167] The 'Working with your Architect' consumer guide is available on the NSW ARB's website accessible at: https://www.architects.nsw.gov.au/publications.
[168] See Part 4 of the Victorian Architects Act (Disciplinary proceedings) and Part 4 of the NSW Architects Act (Complaints and disciplinary proceedings).

taking appropriate regulatory action when client-architects are mismanaged, particularly when this leads to poor outcomes for the client and end-users.

E. Role of other stakeholders

115. Architects are primarily responsible for their relationships with clients, especially in relation to the matters over which they have control. A service-oriented approach that is focused on good communication and engagement will go a long way in laying the foundation for a productive and effective client-architect relationship. The available evidence indicates that architects need to invest in better relationships with their clients, particularly through more meaningful and useful communication.

116. Industry bodies could have a role to play in encouraging architects to use model client-architect agreements. This could be achieved by making industry-based model agreements freely available. Industry bodies could also play an important role in assisting architects to better understand the meaning and implications of client-architect agreements.

117. On the matter of fees, industry bodies could revisit fee scales to determine whether and how they could be used, particularly in light of ongoing client concerns about the basis for architects' fees. Concurrently, alternative methods for determining fees that reduce uncertainty for clients could be explored with architects and, if possible, support and assistance could be provided to architects to enable them to utilise those alternatives in practice so that their interests are also protected. In the meantime, given the apparent difficulties faced by architects in estimating construction costs, including to establish architects' fees that are based on these costs, relevant education and training programs should be revisited.

118. In order to encourage clients to reach out to regulators to alert them to issues regarding the compliance of architects with their professional standards obligations, the profile of the regulators needs to be elevated and the importance of raising unprofessional conduct with them should be highlighted. This will require the support of government, industry bodies and other regulators such as building regulators.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
9	**The ARBV and NSW ARB**	The ARBV and NSW ARB will place increased emphasis on educating architects about their various obligations to clients, particularly in relation to communicating meaningfully with clients and establishing useful and effective client-architect agreements.
10	**Architects**	Architects must invest in better relationships with their clients, through a service-oriented approach that is focused on good communication and engagement.

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
11	**Industry bodies**	Industry bodies should encourage architects to use model client-architect agreements and assist architects to better understand the meaning and implications of key terms of client-architect agreements.
12		Industry bodies could explore alternative methods for determining architects' fees that reduce uncertainty for clients and concurrently protect architects' interests.
13	**Education and training providers**	Given the apparent difficulties faced by architects in estimating construction costs, including to establish architects' fees that are based on these costs, relevant aspects of education and training programs should be revisited.
14	**Government and regulators**	Government, in conjunction with industry bodies and regulators (including, but not limited to the Boards) are urged to engage in activities to raise the profile of the ARBV and NSW ARB to encourage clients to reach out to the Boards and alert them to issues regarding the compliance by architects with their professional standards obligations.

G. Areas for further research

	TOPIC
3	Further research is needed on pricing models for architectural services that balance interests and risks of architects and clients respectively.

6 BUILDING DEFECTS, PROFESSIONAL STANDARDS AND COMPLIANCE CULTURE

***Overview**:*

- *In light of the rise of building defects, it is incumbent on governments, industry bodies and regulators to identify core risk factors and entities responsible for building defects.*
- *There is evidence indicating that some building defects may be linked to design issues, but the specific design services and practitioners that may be responsible for these defects need to be clarified.*
- *Common factors that could cause building defects include time and cost pressure, as well as unreasonable client demands and expectations, which are prevalent in the context of D&C contracts suggesting that the D&C context should be a focus of attention.*
- *There is evidence that there may be a poor culture of regulatory compliance among limited pockets of practitioners, but there is no evidence of a general disinclination to comply within the sector.*
- *The NCC may not be as user-friendly and accessible as intended, making it challenging for some practitioners to comply. A stocktake of the education and training of graduates and architects on the NCC as they progress through their careers could help in identifying gaps and areas for improvement and enhancement of knowledge.*

A. Background

119. Defects and failures in newly constructed multi-storey residential buildings have recently been in the spotlight, including Opal Tower (Sydney),[169] the Spencer Street apartment building (Melbourne)[170] and Elara apartment complex (Canberra).[171] Moreover, as explained below, there is evidence indicating a rise in building defects in Australia over time, particularly for multi-owner and high-rise residential buildings.

120. The **Deakin University Study of Residential Multi-owned Properties (2019)** found that, among the 212 building reports that were examined across NSW, Queensland, and Victoria, 85% had at least one defect.[172] The **NSW Building Survey (2021)** found that 39% of strata buildings in the sample experienced serious defects in the common property.[173] A study published in 2021 in relation to residential buildings in Victoria found that there has been a notable increase in the number of defects in residential building construction from 2011 to 2018 in line with an increase in the number of residential constructions in Victoria during this period[174] and multi-owner dwellings were found to be among the main source of residential defects.[175] The **CIE Study for the ABCB**

[169] See: https://www.theurbandeveloper.com/articles/out-of-court-settlement-reached-over-opal-tower.
[170] See: https://www.abc.net.au/news/2019-02-04/spencer-street-apartment-fire-melbourne/10776018.
[171] See: https://www.canberratimes.com.au/story/6317525/you-failed-us-elara-apartment-owners-compensation-plea/.
[172] N. Johnston & S. Reid, *An Examination of Building Defects in Residential Multi-owned Properties* (2019), at p. 21.
[173] Office of NSW Building Commissioner & Strata Community Association NSW, *Construct NSW: Improving consumer confidence* (2021), at p. 6.
[174] M. Sandanayake, W. Yang, N. Chhibba, & Z. Vrcelj, 'Residential building defects investigation and mitigation – A comparative review in Victoria, Australia, for understanding the way forward' (2021) *Engineering, Construction and Architectural Management*.
[175] Ibid. p. 21.

(2021) suggests that a higher prevalence of defects in multi-storey buildings may be linked to the fact that developers do not maintain ownership and, therefore, are incentivised to build at lowest cost in the shortest period of time.[176]

121. A wide range of building defect types have been identified in various Australian studies, the most common of which are:[177]

- structural;
- fire protection;
- cladding;
- waterproofing/weatherproofing; and
- entry/exit problems.

122. Defects reduce the quality of construction but can also lead to increased costs associated with rework, unexpected delays and poor reputation within the industry.[178] As defects can take some time to emerge, it may be difficult to determine the cause.[179] This, in turn, can hamper efforts to ensure that the cause of defects are identified and rectified as soon as possible.

123. To date, studies undertaken in Australia have not established a clear correlation between design services rendered by architects and the growing incidence of building defects. Nonetheless, architects are likely to face increasing scrutiny regarding their contribution, if any, to these defects.

B. Key issues

There is evidence indicating that some building defects may be linked to design issues

124. Architectural services encompass a broad range of design activities, including:

- pre-design (for example, client briefing and site analysis);
- concept and/or schematic design;
- design development;
- co-ordination of design consultants and liaison with relevant authorities;
- preparation of design documentation, including drawings and specifications; and
- managing and/or monitoring the construction process to ensure that the built outcome aligns with the design intent.

Some of these services may be provided by practitioners that are not qualified or registered as architects.

125. Design issues have been consistently identified as the cause of some building defects in various foreign studies including by Olubodun and Mole (1999), Akinpelu (2002), Ayininuola et al (2004),

[176] The Centre for International Economics (prepared for the Australian Building Codes Board Economics), *Building Confidence Report: A case for intervention* (2021), at p. 18.
[177] Office of NSW Building Commissioner & Strata Community Association NSW, n. 173 above, p. 26. N. Johnston & S. Reid, n. 172 above, pp. 10, 22. S. Pamera & A. Gurmu, 'Framework for building defects and their identification technologies: Case studies of domestic buildings in Melbourne, Australia' (2020), *The 54th Conference of the Architectural Science Association*, at 502. See also The Centre for International Economics, n. 176 above, p. 19.
[178] M. Sandanayake et al, n. 174 above, p. 11.
[179] The Centre for International Economics, n. 176 above, p. 20.

Chew (2005) and Carretero- Ayuso et al (2015).[180] According to Akinpelu (2002), improper presentation and interpretation of architectural design are among the major causes of structural failures.[181] These views have been echoed by Carretero- Ayuso et al (2015), who identify the lack of detailed plans as a direct cause of many defects.[182]

126. An in-depth review was undertaken of previous studies and found that the factors contributing to construction defects could be reduced to five groups, including one group of factors related to design.[183] More specifically, the study undertaken by Alomari (2022) found that factors concerning design and construction respectively are the most prevalent contributors to building defects.[184] A Singaporean study undertaken by Chong & Low (2006) suggests that between 50 – 60% of building defects could be attributed to design issues or would have been preventable with better design.[185] Analysis by insurance giant Allianz in 2021 also suggests that design defects are among the leading causes of construction and engineering claims, accounting for around 20% of the value of engineering insurance losses over the past five years.[186]

127. The various foreign studies suggesting a possible link between some building defects and design issues must be considered in context and may have limited relevance for the Australian construction sector. Moreover, these studies do not clearly identify the scope and nature of design under consideration, nor the entity responsible for design. In other words, it is unclear whether the studies concern the provision of architectural services by registered architects or, rather, involve other practitioners and services that do not technically qualify as architectural services of the kind regulated by the ARBV and NSW ARB. Notwithstanding these qualifications, it is notable that studies have also been undertaken in Australia which could be interpreted as indicating a possible link between certain types of building defects and design issues.

128. In particular, a survey conducted in 2012 of certain members of the building industry (mostly builders) suggests that some problems experienced on site can be traced to architectural design decisions, inaccurate documentation, deficient specifications or ineffective knowledge of construction technologies.[187] More recently, Paton-Cole and Aibinu (2021) reviewed VCAT cases between 1998 – 2019 to understand trends in defect disputes and types, including a detailed examination of 10 selected landmark cases on defects to explore the root and proximate causes, as well as the triggers of defects and the impact of the disputes on parties. That analysis indicated that poor and defective workmanship is the proximate source of defects and is often created by poor

[180] See, for example, S. Pamera & A. Gurmu, n. 177 above, p. 502 which refers to a number of these studies.
[181] Ibid. p. 502.
[182] Ibid.
[183] O.M. Alomari, 'Identification and Categorization of Building Defects' (2022) 10(2) *Civil Engineering and Architecture*, pp. 438–46, at 441.
[184] Ibid. p. 444.
[185] W.-K. Chong & S.-P. Low, 'Latent Building Defects: Causes and Design Strategies to Prevent Them' (2006) 20(3) *Journal of Performance of Constructed Facilities*, pp. 213–21. See also N. Johnston & S. Reid, n. 172 above, p. 11.
[186] Allianz, *Managing the new age of construction risk: 10 trends to watch as the sector builds back better* (2021), at p. 5.
[187] R. Slater & A. Radford, 'Perceptions in the Australian building industry of deficiencies in architects' design documentation and the effects on project procurement' (2012) 8(1) *Australasian Journal of Construction Economics and Building*, p. 23.

supervision, incorrect design, and the procurement arrangement.[188] These Australian studies also have their limitations and do not provide a strong basis for concluding that there is a clear correlation between building defects and design issues in Australia. Nonetheless, the studies do raise questions about the existence, extent and implications of any possible correlation. Clearly, further research is needed to establish whether there is a link between building defects and the provision of design services in Australia and, if so whether architects are responsible.

Some studies question the adequacy of certain aspects of architectural design services, particularly design documentation

129. The Victorian and NSW Codes impose general obligations on architects to act with reasonable care in providing architectural services.[189] Evidence indicating that standards of design and associated documentation may have fallen in recent times is notable in light of these obligations.

130. An Australian study undertaken in 1999 involving contractors and designers to determine the extent and impact of design and design documentation quality on the construction process spoke of 'design deficiency' and design documentation that was 'substandard or deficient due to incomplete, conflicting or erroneous information' leading to construction inefficiencies and increased project costs'.[190] That study suggested that the main contributing factors include reduced fees, tight delivery deadlines and unrealistic client expectations.[191] The authors of the study stated that 'the quality of design and documentation produced in Australia is of major concern to many parties within the construction industry'.[192]

131. The authors of another Australian study undertaken in 2012 that involved a survey of a limited number of members of the building industry (particularly builders) suggest that 'design deficiencies' account for almost half of all documented variation orders, rework, cost overruns, extensions of time, program delays, contractual disputes and requests for information. They assert that these impressions are supported by data about the principal causes of claims against architects. [193] The survey responses were used to inform the identification of the main reasons leading to inadequate design documentation. It was suggested that these include external time pressure, disregard of applicable documentation standards, reduced consultancy fees and inadequate coordination among other relevant contractors, including engineers.[194] Survey respondents also stated that they were not aware of any industry initiatives to help ensure that design documentation is 'fit for purpose' – that is, 'unambiguous and coherent; timely, accurate and complete; easily communicated and constructed; and coordinated with external documentation as appropriate'.[195]

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[188] V.P. Paton-Cole & A.A. Aibinu, 'Construction Defects and Disputes in Low-Rise Residential Buildings' (2021) 13(1) *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, p. 05020016, at 13.
[189] Clause 1 Victorian Code. Clause 4 NSW Code
[190] P.A. Tilley, S.L. McFallan, & S.N. Tucker, 'Design and Documentation Quality and its Impact on the Construction Process', in *CIB W55 W65 Joint Triennial Symposium - Customer Satisfaction: A Focus for Research & Practice*, P. Bowen & R. Hindle (eds.), 1999.
[191] Ibid.
[192] Ibid.
[193] R. Slater & A. Radford, n. 187 above.
[194] Ibid.
[195] Ibid.

132. The above studies call into question the adequacy of certain aspects of design services. However, once again, it is unclear whether the studies concern the provision of services by registered architects or involve other practitioners and other types of design services. Nevertheless, there is some evidence that findings in these studies may be relevant for architects in Australia today. The ACA has suggested that, together with other factors, declining revenues and associated incentives which can be produced by certain procurement models mean that architects are 'unable to spend sufficient time conducting research, exploring options, looking at whole-of-life value, checking documentation and co-ordinating the work of secondary consultants'.[196]

133. Moreover, it is not unusual for the ARBV to see complaints about poor quality drawings and discrepancies in specifications arising in the context of broader allegations of professional misconduct. This is paradoxical given increasing reliance on digitalisation, like building information modelling (**BIM**), which should theoretically enhance the quality of design documentation.[197]

134. Koo and O'Connor (2021) point to previous studies showing that incomplete and incorrect design deliverables lead to project cost overruns, rework and schedule delays. They argue that high-quality design deliverables are essential to successful project outcomes but acknowledge that, as construction projects become increasingly complex, achieving satisfactory design quality is more of a challenge.[198] The literature suggests that the quality of design documentation appears to be of particular concern. Good quality design documentation must be precise and accurate, comprehensive and unambiguous, and fit for purpose by conveying design intent.[199] Yet, the seminal '**Building Confidence Report'** by Shergold and Weir (2018) states that the adequacy of documentation prepared and approved as part of the building approvals process, including documentation prepared by architects, is often poor in part because owners and developers seek to minimise costs on documentation.[200]

Questions have also been raised regarding architects' compliance with the National Construction Code

135. The Building Confidence Report also observes that schemes across Australia that regulate architects do not expressly require architects to prepare documentation that demonstrates that the proposed building will comply with the National Construction Code (**NCC**).[201] The report further states that poor quality design documentation may lead builders to improvise and make decisions that are not compliant with the NCC.[202] The CIE Study for the ABCB (2021) reports that, despite a lack of

[196] Association of Consulting Architects (WA), n. 50 above, p. 7.
[197] BIM and associated issues are discussed in more detail in Chapter 9 of the report (Automation, digitalisation and innovation).
[198] H.J. Koo & J.T. O'Connor, 'Building information modeling as a tool for prevention of design defects' (2021) *Construction Innovation*.
[199] P. Agbaxode, S. Dlamini, & E. Saghatforoush, 'Design documentation quality influential variables in the construction sector' (2021) 654(1) *IOP Conference Series: Earth and Environmental Science*, p. 012007, at 1.
[200] P. Shergold & B. Weir, *Building Confidence: Improving the effectiveness of compliance and enforcement systems for the building and construction industry across Australia* (2018), at p. 28.
[201] Ibid. p. 28.
[202] Ibid.

comprehensive data, anecdotally there is evidence indicating unacceptably high levels of non-compliance with the NCC.[203]

136. Clearly, compliance with the NCC is essential to ensure safety in the built environment. Evidence available to the ARBV and NSW ARB is that architects do document compliance with the NCC and the great majority of them do so with reasonable skill and care. Having said that, the NCC is a detailed and complex document, aspects of which may be poorly understood by some architects. This is consistent with findings in a 2020 survey conducted of relevant stakeholders in the building and construction industry in New Zealand to identify challenges faced by those seeking to comply with the NZ building code. A significant number of respondents referred to complexities in the building code, absence of training and capacity building, and a general lack of awareness about the code.[204] In light of the challenges associated with understanding and applying the NCC in practice, architects may rely, instead, on consultants with specific expertise in the NCC to ensure that their designs and design documentation meet the applicable standards.

137. As for mechanisms in Australia to enhance knowledge and understanding of the NCC, aspects of the Code are covered in university architecture curricula. The 2021 NSCA places greater emphasis on knowledge of the NCC in the context of these curricula, including principles of fire safety. Ideally, architectural graduates would emerge from university with a clear understanding of how to navigate the NCC. The Architectural Practice Examination, which is a precursor to registration of architects, is currently under review by the Architects Accreditation Council of Australia (AACA) to implement the 2021 NSCA and will have a stronger and mandatory emphasis on the NCC. A focus on the application of the NCC would be helpful at this stage of an architect's career. Continuous professional development (**CPD**) could then be used to maintain awareness of the NCC, particularly as building standards evolve and change.

138. A 2019 article on the ACA's website indicates that the cost of accessing Australian Standards referenced in the NCC may be an obstacle to compliance by architects.[205] Interviewees for the Deakin University Study of Residential Multi-owned Properties (2019) also suggested that the lack of open access to these Standards is a barrier to compliance.[206] They further noted that, in some cases, the provisions of the NCC may be at odds with the relevant Australian Standards.[207] Additionally, concern has been expressed that the minimum performance requirements in the NCC may not always reflect best practice.[208]

139. The Lacrosse case (mentioned earlier in this report) illustrates that compliance with the NCC is a facet of an architect's professional conduct obligations. However, there is no evidence from tribunal decisions and case law to suggest that there is widespread non-compliance with the NCC by

[203] The Centre for International Economics, n. 176 above, p. 2.
[204] A. Nwadike & S. Wilkinson, 'Challenges facing building code compliance in New Zealand' (2020) *International Journal of Construction Management*, pp. 1–11.
[205] J. Held, 'A Question of Standards', *The Business of Architecture* (12 September 2019) accessible at: https://aca.org.au/a-question-of-standards/.
[206] N. Johnston & S. Reid, n. 172 above, p. 44.
[207] Ibid. p. 44.
[208] Ibid. p. 59.

architects, nor that they are disinclined to comply. Indeed, some stakeholders consider that there may be a misplaced perception that compliance problems are more significant than they actually are, partly due to high-profile cases where the rectification costs have been significant, the UK Grenfell Tower disaster, and alarmist reporting within the media.[209]

140. In any case, BIM, which is considered in more detail later in this report, is regarded as a promising solution to address design quality issues. In particular, designers can use BIM to determine how well their designs comply with applicable requirements by implementing automated rule-checking in the design review process. Having said that, the breadth and complexity of rules are key challenges for successful BIM-based automated rule checking. Moreover, even though automated rule checking applications may effectively identify design compliance with rules, they may not be capable of providing appropriate recommendations in cases of non-compliance.[210]

There also appears to be cultural issues regarding regulatory compliance by some architects

141. Fisher and Guy (2009) suggest that architects may view regulations as inhibiting creativity or professional licence and that, at best, regulation is a necessary evil, but not central to the ethos and practice of design.[211] Anecdotally, the ARBV considers that there is evidence of a poor culture of compliance among some architects. Based on the ARBV's experience, some architects believe that compliance with regulation is optional and may display dismissive behaviour towards the regulator. Similarly, data available to the NSW ARB suggests disengagement and ambivalence among some architects towards regulation. Both the ARBV and NSW ARB also have anecdotal evidence that architects may confuse the regulator with member organisations.

142. Nonetheless, the profession is very diverse, ranging from sole practitioners and small to medium-sized practices to multinational companies, so it is clearly inappropriate to make generalisations about the sector's compliance culture. Indeed, complaints data indicates that there is variability in levels of professionalism within the sector, ranging from high to very low levels. Some architects do not manage time and costs well. Some architects even commit fraud, such as submission of false information to the regulator.

143. There is anecdotal evidence that university graduates and recently registered architects may have limited practical understanding of the NCC, although this is not borne out in the complaints data nor in tribunal and judicial cases involving architects. Assuming there is some basis for this anecdotal information, the complexity and ambiguity of certain aspects of the NCC could be at play, as well as the fact that the NCC is heavily text-based and may be difficult for new graduates with limited experience to understand in practical terms and apply.

144. Complaints data available to the ARBV and NSW ARB tends to indicate that experienced architects are no less likely to be non-compliant with the regulatory framework than other practitioners. The compliance culture among high risk practitioners could be exacerbated by market dynamics. Drane

[209] The Centre for International Economics, n. 176 above, pp. 2–3.
[210] H.J. Koo & J.T. O'Connor, n. 198 above.
[211] J. Fischer & S. Guy, 'Re-interpreting Regulations: Architects as Intermediaries for Low-carbon Buildings' (2009) 46(12) *Urban Studies*, pp. 2577–94, at 2577–8.

(2015) speaks of a 'corrosive mix of private development, inappropriate D&C systems, a mercurial approach to delivery across the industry and the advent of private certification'.[212]

145. Comments made during confidential hearings before the NSW Public Accountability Committee in 2020 on the 'Regulation of building standards, building quality and building disputes'[213] clearly reflect the toxic environment and hint at the challenges architects may face regarding regulatory compliance. The report notes the following:

- Architects being told by development managers that they are 'good friends' with the certifier and that the certifier can be 'flexible'.
- Architects being directed by developers to not communicate at all with certifiers during construction of a building.
- Following the development application stage, the original architect working on the designs is 'dumped' and another office is given the project with the focus on only documenting work to ensure an occupancy certificate is issued.
- Architects preparing reports detailing concerns relating to the construction of their designs, however the developer takes no further action and claims that it is 'too late to do anything about it'.
- Architects being threatened with legal action unless they sign a design verification statement, despite raising issues with the developer for months about the as-built design.

146. The Committee's report suggests that the context is critically important in considering architects' attitudes towards regulatory compliance. While the context does not obviate the need to comply with regulatory obligations, the report highlights that the current market environment needs to be considered in order to facilitate regulatory compliance by architects, as well as the other participants in the sector.

C. Findings

147. The apparent rise in building defects in Australia over time, particularly in the context of multi-storey residential buildings, is a cause for concern. However, at present, there is a lack of data establishing a clear correlation between building defects and design failures for which architects are responsible. As building defects rise, efforts to establish such a correlation are likely to increase.

148. It is incumbent on governments, industry bodies and regulators to probe this matter scientifically to determine whether there is, in fact, a linkage between rising building defects and design issues and, if so, to identify the root causes and the extent to which architects or other design practitioners are implicated. Common factors identified in the literature that could lead to inadequate design deliverables include time and cost pressures as well as unreasonable client demands and expectations. Those factors are prevalent in the context of D&C procurement models. This suggests that addressing the problems associated with D&C procurement must be a focus of attention.

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[212] J. Drane, 'Building Defects: How can they be avoided? A builder's perspective', in *Strata Community Title Australia 21st Century 2015 Conference,* (2015), at 10.
[213] NSW Parliament (Public Accountability Committee), *Regulation of building standards, building quality and building disputes – Final Report, Report 6, April 2022*, p. 20.

149. On the matter of culture, there is no evidence to indicate that there is a general disinclination on the part of architects across the sector to comply with their regulatory obligation to exercise reasonable care in providing architectural services. Nevertheless, the ARBV and NSW ARB will continue to be vigilant in relation to those that may need support in complying, particularly in light of the complexity and challenges associated with complying with the NCC, and will take action against those that show disregard for their regulatory obligations.

D. Regulatory role

150. In assessing compliance with architects' obligations to act with reasonable care in providing architectural services, the emphasis by the ARBV and NSW ARB is on the reasonableness of the actions of an architect in preparing and documenting a design, rather than the aesthetics of the design or other aspects of the design process that are within the discretion of the architect.

151. The role of the ARBV and NSW ARB also includes raising awareness among architects about the importance of good quality design and design documentation and the serious implications for clients, end-users and for architects if relevant professional standards obligations are not complied with.

152. Based on the available evidence, upskilling architects regarding compliance with the NCC should be a priority. Ongoing CPD could be used to educate architects in relation to areas of NCC compliance that are of particular concern.

E. Role of other stakeholders

153. Co-regulators in the construction sector could act in tandem to ensure that the core risk factors and entities responsible for building defects are clearly identified and targeted in a proportionate way so as to minimise the likelihood of defects materialising in practice.

154. Given the apparent challenges around compliance with the NCC, a stocktake of the education and training of graduates and architects on the NCC as they progress through their careers would be beneficial to determine whether there are any gaps and areas for improvement and enhancement of knowledge.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
15	**The ARBV and NSW ARB**	In educating and engaging with architects about their obligations to act with reasonable care when providing architectural services, the ARBV and NSW ARB will emphasise the importance of good quality design and design documentation.
16		CPD requirements will be revisited to determine whether they effectively address relevant aspects of the NCC.

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
17	**Co-regulators**	Co-regulators in the construction sector should act in tandem to ensure that the core risk factors and entities responsible for building defects are clearly identified and targeted in a proportionate way so as to minimise the likelihood of defects materialising in practice.
18	**Education and training providers**	A stocktake of the education and training of graduates and architects on the NCC as they progress through their careers should be undertaken to determine whether there are any gaps and areas for improvement and enhancement of knowledge.

G. Areas for further research

	TOPIC
4	Determine whether there is evidence of a link between building defects and design in Australia and, if so, determine whether architects or other design practitioners are responsible. Research to identify the most common defects attributable to poor design by architects would also be useful.

7 RISK, LIABILITY AND INSURANCE

***Overview**:*

- *Architects face a range of risks in the context of construction projects and the scope of the duty of care owed to clients in providing architectural services is broad.*
- *The unfair allocation of risk under D&C contracts could increase architects' exposure to liability and, in turn, reduce protection for clients.*
- *Efforts by industry bodies to tackle the imposition of unfair contract terms on architects, which heighten their exposure to risk, need to be ongoing.*
- *Further initiatives to entrench the use of standard form contracts, such as AS4122, are also needed, particularly in the context of D&C procurement.*
- *The availability of insurance to help architects manage risk may be affected by increased insurance costs and limitations on coverage.*
- *Education and support to assist architects to manage risk would be useful, especially for smaller practices.*
- *Compliance with professional standards and insurance obligations and investment in sound risk management practices will help architects manage risk.*

A. Background

155. Construction projects are inherently risky.[214] Materialisation of risk can result in a project deviating from expected outcomes and, in turn, can compromise the project itself.[215]

156. Risks that could arise in a construction project have been categorised into five main categories – namely, time, cost, quality, safety and the environment.[216] Factors giving rise to time and cost risks are likely to be similar and include inadequate project planning, co-ordination and communication, inflation of material costs, labour shortages, approval delays, variations, and emergence of disagreements and conflicts. Quality and safety risks may occur due to lack of co-ordination, lack of skilled and experienced workers, and tight budgets. Environmental risks include unexpected site conditions and bad weather. Given the spectrum, nature and potential consequences of these risks for a construction project, the management of risk management is a crucial aspect of the building delivery process, including for architects.[217]

157. The Victorian and NSW Codes impose a range of obligations on architects regarding the provision of architectural services. Among other things, architects are required to have suitable skills and experience, to maintain thorough knowledge of architectural services, to act with reasonable care in the provision of architectural services, and to discharge obligations diligently and promptly. Compliance with these obligations may assist architects in managing risks that could arise in the context of a construction project. Professional indemnity insurance can also provide some

[214] A. Burke, 'Risk, innovation and the business of architecture' (2015) 104(2) *Architecture Australia*, pp. 50–2, at 50.
[215] M. Ali Rezvani Befrouei, 'Identification and Management of Risks in Construction Projects' (2015) 3(5) *American Journal of Civil Engineering*, p. 170.
[216] Ibid.
[217] A. Burke, n. 214 above, p. 50.

protection for architects against claims for alleged negligence and breach of duty of care arising from acts, errors and omissions in the performance of professional services. In Victoria, architects are prohibited from carrying out work as an architect unless covered by the required insurance[218] and the ARBV may take steps to immediately suspend the registration of an architect in cases where this obligation has not been complied with.[219] In NSW an architect may be removed from the register if the architect has not met professional indemnity requirements.[220]

158. This chapter considers various issues concerning architects' exposure to legal risk, particularly in light of current market dynamics within the Australian construction sector.

B. Key issues

The unfair allocation of risk under certain types of contracts could increase architects' exposure to liability

159. In the **Australian Construction Industry Research Report (2020)**, risk allocation is noted as one of the most commonly nominated issues affecting the industry.[221] The report states that 'there is a general tendency and expectation to shift risks down the contracting chain to parties who are not necessarily best suited to manage such risks'.[222]

160. In a similar vein, in its submission on unfair contract terms, the ACA (2014) refers to increasing anecdotal evidence that many architectural practices are asked to engage in contracts that unfairly disadvantage them. The ACA notes that this is a particular concern for small architectural businesses, which have few resources to negotiate or contest the contract, and often suffer an imbalance in bargaining power.[223] The submission references the following examples where risk may be unfairly allocated to architects, including in relation to matters that are outside an architect's area of professional expertise or ability to control:[224]

- Architects are regularly expected to assemble full project delivery teams and to accept primary responsibility for submission preparation.
- Some emerging government contracts require the architect as primary consultant to offer unlimited liability.
- It is increasingly common for projects to require insurance that is far in excess of the scale of the project.
- Architects may be exposed to the same liquidated damages as building contractors for delays to completion of a construction project despite the significant differences in fees charged by these parties respectively.

[218] Section 8B(1) of the Victorian Act.
[219] Section 36A(1)(f) of the Victorian Act.
[220] Section 24(2)(h) of the NSW Act.
[221] J. Sharkey et al, n. 4 above, p. 6.
[222] Ibid. p. 26.
[223] Association of Consulting Architects, n. 38 above, p. 1.
[224] Ibid. p. 3.

161. Perversely, these types of unfair contract terms may result in the allocation of risks away from those who are best placed to manage them, such as developers and contractors. The problem is compounded by the fact that contracts for large-scale projects are typically bespoke. Notwithstanding differences in the specific requirements of these projects, the ad hoc and typically opaque contractual arrangements may be unnecessary given the predictable construction approaches, processes and technologies used for most Australian projects.

162. Unfair contract terms can provoke defensive and risk-averse behaviour, including more investment by architects in mechanisms to manage legal risk.[225] The ACA suggests that managing the risks of unfair contract terms could increase the cost of delivery of services, which cannot be easily absorbed in a market that is already intensely competitive.[226] Many architects may lack the skills or resources to understand their obligations and exposure to risk and may be unable to negotiate better contractual arrangements to reduce their exposure to risk.[227]

163. The Australian Consumer Law may provide some architectural practices with recourse in cases when they have been saddled with unfair contract terms. However, architects may be inclined to accept, rather than challenge, unfair contract terms out of fear of losing work. As noted by the ACA, some architects may not have sufficient work to allow them to negotiate with those offering work.[228] Ultimately, unfair allocation of risk can have the greatest impact on owners and end-users. This can increase project costs, compromise built outcomes and limit recourse for owners and end-users against the appropriate parties because of complex and counter-intuitive risk-sharing arrangements.

Architects' ability to discharge the broad scope of the duty of care owed to clients may be compromised in the context of certain procurement models

164. Design professionals, including architects, owe a common law duty of care to their clients that is independent of any duty that may be owed under contract and obligations that are imposed under the regulatory framework. Failure to discharge the duty of care may give rise to claims in negligence. While there is limited available data on this matter, an article published in 2018 on the ACA's website suggests that actions in negligence against architects are on the rise.[229]

165. The scope of an architect's duty of care when providing architectural services is broad. Whether or not that duty has been breached will depend upon the particular circumstances of each case, although the following general points can be made:[230]

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[225] R. Imrie & E. Street, 'Risk, Regulation and the Practices of Architects' (2009) 46(12) *Urban Studies*, pp. 2555–76, at 2561.
[226] Association of Consulting Architects, n. 38 above, p. 1.
[227] Ibid. p. 4.
[228] Ibid.
[229] K. McLeish, 'Common Claims and How to Avoid Them', *The Business of Architecture* (13 March 2018) accessible at: https://aca.org.au/common-claims-and-how-to-avoid-them/.
[230] Various cases regarding an architect's duty and standard of care are referenced in D. Kearney, 'Professional Liability - Design Professionals', Issue No. 66, *Australian Construction Law News*, pp. 32–43.

- *Formulation of design*: Generally, where a project has an inherent element of risk, the architect has an obligation to warn the client of that risk. Where a project calls for judgments to be made outside an architect's area of expertise, they may be negligent in failing to engage the services of a more qualified individual, such as a quantity surveyor or structural engineer.
- *Documentation*: The standard of care expected in preparing design plans and specifications is to avoid negligent errors or omissions that may cause a client to incur additional costs.
- *Representations*: The duty of care may extend to oral representations made by an architect to a client. Negligent misstatements that are relied upon by a client and cause loss or damage may expose an architect to liability.
- *Contract administration*: If an architect is responsible for contract administration, care must be exercised to ensure that the project meets specifications, is on time and on budget. The architect may be required to monitor progress, supervise work and issue instructions to others involved in project delivery with the contract to discharge the duty of care.
- *Cost*: Reasonable skill and care must be exercised when preparing cost estimates. The duty of care may extend to advising the client about risk, the effect of inflation on construction costs, and the advisability of engaging a quantity surveyor in order to provide a more accurate estimate of those costs.
- *Third parties*: An architect may have a duty of care to a third party who relies on designs and documentation prepared by the architect if that party suffers loss or damage, even if the architect has not entered into a contract with that third party or engaged directly with the party, such as subsequent property owners. A duty of care may also be owed to contractors and their employees.

166. As illustrated by the Lacrosse case (discussed earlier in this report), an architect's capacity to ensure that the duty of care is discharged may be compromised in the context of certain construction projects, particularly where:

- the architect's ability to influence and control design processes and decisions and choice of materials is limited;
- the architect has limited involvement in project planning and administration;
- communication and co-ordination between contractors is limited; and
- the architect has been engaged for 'partial services' and is not able to oversee final project delivery.

167. However, it should be noted that the increased exposure to risk may be self-inflicted in some cases. For example, complaints received by the ARBV include cases where architects do not have the skills or experience to know whether and when to engage other specialists if the scope of work extends beyond their sphere of expertise.

168. The ARBV is also increasingly encountering cases where employees, particularly in large practices, are purporting to act under the supervision of architects for periods far in excess of the timeframe required to obtain practical architectural work experience to be eligible for registration. Anecdotally, the ARBV and NSW ARB understand that some of these employees may choose not to be registered, even though they are eligible, because they may perceive that they lack the requisite

expertise, whereas others may believe that they are less accountable to the regulator. Either way, appropriate insurance cover may not be in place for the architectural services these practitioners provide as a consequence. In addition, this scenario can contribute to professional complacency and may mean that compliance with professional standards is compromised because these practitioners are not registered.

The availability of insurance to manage risk may be affected by increased cost of and limitations on coverage

169. The capacity of architects to adequately manage risk may be adversely affected by rising insurance costs and limitations on availability of insurance coverage. In an article in the RIBA Journal (2021) noting anecdotal evidence from UK architects, the following conclusions were reached regarding professional indemnity insurance for architects:

> Overall, the findings are clear: PII costs are rising for the majority, and exclusions and restrictions are regularly being applied to renewed policies. Because of these exclusions and restrictions, it is becoming difficult for architects to work in certain sectors – often the ones where they are most needed. For many, the issue of PII is not an inconvenience or a regrettable expense. It is a threat to their business.[231]

In avoiding risk because of the impact of insurance restrictions, architects may diminish their ability to win work and to influence design outcomes when they are engaged.[232]

170. In Australia, a higher proportion of buildings with defects has reportedly resulted in either significant increases in insurance premiums for practitioners, exclusions such as for flammable cladding or, in some cases, some practitioners are unable to obtain insurance at all.[233] It has been suggested by the ACA that it is increasingly common for insurance requirements to far exceed the scale of a construction project.[234]

171. Anecdotally, some private and public sector clients require architects to agree to unlimited liability, even though it is legally impossible for many entities to offer this (e.g. if they are companies with limited liability). The challenges in obtaining insurance could conceivably lead to the perverse situation that architects are disinclined to comply with their insurance obligations because insurance is too expensive or architects are prevented from doing so because certain projects are uninsurable. This leaves architects exposed to risk but also compromises clients' access to recourse in the event that a legitimate claim against an architect exists because contract clauses that impose unlimited liability could void the architect's insurance policy. Clients may not be aware of this risk when they demand that architects offer unlimited liability.

172. Despite these concerns about the availability of insurance, the ARBV and NSW ARB have observed that there are relatively high levels of compliance with architect's insurance obligations in both

[231] A. Malleson, 'PII is failing architects, say RIBA members', *The RIBA Journal* (27 August 2021) accessible at: https://www.ribaj.com/intelligence/pii-is-failing-architects-riba-members-survey-shows.
[232] C. Jamieson, n. 23 above, p. 13.
[233] The Centre for International Economics, n. 176 above, p. 50.
[234] Association of Consulting Architects, n. 38 above, p. 3.

Victoria and NSW. However, architects will need to ensure that they are aware of the scope of coverage for each project and that the insurance is adequate.

C. Findings

173. Architects are exposed to a broad variety of risks in providing architectural services. The undue reliance on unfair contract terms by developers and builders, particularly in the context of D&C procurement models, is well-known and can increase the exposure of architects to risk and liability. Moreover, the evidence indicates that unfair contract terms provoke defensive, risk-averse behaviour, which could lead to increased costs to mitigate risk that ultimately results in disadvantage for clients. In the worst-case scenario, unfair contract terms can render projects uninsurable, which removes protection for architects as well as their clients.

174. There is some concern about eligible practitioners in large practices failing to seek registration. These practitioners may fall short of the professional standards expected of architects and, consequently, undermine the credibility and reputation of the practices of which they are a part. Furthermore, eligible practitioners that provide architectural services without being registered may be in breach of the title offences under the regulatory framework.

175. Rising insurance premiums and exclusions from insurance coverage for certain aspects of architectural services are also a cause for concern. These limitations on the availability of insurance may deter some architects from obtaining insurance. Apart from this constituting a serious breach by architects of the regulatory framework, clients may also be left without adequate recourse if the provision of architectural services results in loss or damage.

176. Compliance by architects with their professional standards and insurance obligations can help to mitigate some of these risks.

D. Regulatory role

177. The ARBV and NSW ARB will continue to support architects to comply with their professional standards and insurance obligations as this will assist architects to manage risk. Where necessary, action will be taken in cases when these obligations have been breached to address risk exposure for clients and for the sector more generally.

E. Role of other stakeholders

178. Industry bodies have already attempted to tackle the problem of unfair contract terms, particularly by educating members about the risks they create for architects. These efforts need to be ongoing until the prevalence of such terms subsides. Additional initiatives to entrench the use of standard form contracts, such as AS4122, are also needed to reduce the incidence of unfair contract terms.

179. Architects in small practices could also benefit from additional education and training about effective risk management, particularly in the D&C context.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
19	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to support architects to comply with their professional standards and insurance obligations as this will assist architects to manage risk.
20	**Industry bodies**	Industry bodies should invest in ongoing initiatives to address the prevalence of unfair contract terms, particularly in the D&C context, and seek to entrench the use of standard form contracts, such as AS4122.
21	**Education and training providers**	Education and training providers could focus more heavily on risk management, particularly for smaller practices. CPD requirements should also cover risk management.

8 CLIMATE CHANGE, SUSTAINABILITY AND THE TRANSITION TO NET ZERO

***Overview**:*

- *Architects are driving sustainable design in buildings and have the capacity to further benefit from the green building revolution that is underway.*
- *Architects who choose to embrace the opportunities that the transition to net zero, adaptation to climate change and the push for sustainable outcomes create, will also face risk.*
- *Architects could be exposed to liability if they fail to explain the meaning and implications of sustainable design to their clients, the intended outcomes of sustainable design are not properly documented, risky untested designs and materials are relied upon, and architects providing the relevant services lack adequate expertise and experience.*
- *However, failure to invest in green architectural services could result in non-compliance with burgeoning regulation to facilitate mitigation and adaptation to climate change risks.*
- *Compliance with professional standards obligations in this context will assist architects in overcoming challenges and managing risk.*

A. Background

180. In its 2022 report on 'Our Future World', which identifies global megatrends that will impact the way we live over coming decades, CSIRO notes that climate change is causing extreme and unprecedented weather events with increasing frequency and scale of impact. The report asserts that adaptation of infrastructure and settlement patterns to climate change and extreme weather conditions will become a growing reality for many countries in the years and decades to come, including Australia.[235]

181. Yet, the bulk of Australia's infrastructure has been and continues to be built and maintained to standards based on historic – not future – climate patterns.[236] Based on modelling undertaken by the Climate Council of Australia in 2019, the property market is expected to lose hundreds of billions of dollars by 2030 due to the impact of climate change and extreme weather on infrastructure, and will continue to lose value in the following decades while carbon emissions remain high.[237] There are a range of climate change effects that may affect the stability, operation and, potentially, the ongoing viability of buildings, including floods, bushfires, and degradation and failure of building foundations and building materials.[238]

182. In addition to being vulnerable to physical hazards caused by climate change, buildings are also significant emitters of greenhouse gas emissions.[239] The inevitable transition of economies,

[235] CSIRO, *Our Future World: Global megatrends impacting the way we live over coming decades* (2022), at p. 4.
[236] Climate Institute, 'Coming ready or not: Managing climate risks to Australia's infrastructure' (2012), at p. 15
[237] Climate Council, *Compound Costs: How climate change is damaging Australia's economy* (2019), at p. II.
[238] Maddocks, *The Role of Regulation in Facilitating of Constraining Adaptation to Climate Change for Australian Infrastructure*, Report for the Department of Climate Change and Energy Efficiency (2012), at pp 78.
[239] United Nations Environment Programme, *2020 Global Status Report for Buildings and Construction: Towards a zero-emissions, efficient and resilient buildings and construction sector* (2020), at p. 4.

including Australia, to a net zero future and the imperative to ensure resilience of infrastructure in the face of climate hazards are likely to require continuous changes in the way buildings are designed and built. A 2020 UN report states that strategies to make buildings net zero are a key part of the global decarbonisation strategy and must become the primary form of building construction across all economies.[240]

183. In tandem with increasing concern about climate change, a global transition to a more sustainable future is currently underway. CSIRO explains that, as the size of the global population continues to grow and as more people transition from lower to higher income brackets, there will be escalating pressures placed on finite food, water, mineral and energy resources. At the same time, there will be increasing pressure to 'do more with less'. According to CSIRO, this megatrend is pushing us towards a more sustainable future.[241] A 2016 report prepared by the World Economic Forum also suggests that sustainability is becoming a requirement, rather than being discretionary, and that its pursuit is bound to affect both the construction process and built assets. Priorities that are likely to emerge include more efficient use and recycling of raw materials, optimisation of space, more efficient methods of heating, cooling and lighting, distributed power, and resilience of assets.[242]

184. Climate change, sustainability and the transition to net zero are driving new government incentives and regulation, including many that apply to the built environment.[243] Stakeholders in the construction sector are also demanding proactive, environmentally conscious design and construction.[244] These stakeholders include clients, non-governmental organisations, employees and the general public.[245] The AIA Client Survey (2021) finds that 60% of clients feel pressure to keep up with new trends and advancements, particularly in the areas of climate change and the demand for more sustainable design.[246] In fact, the market for 'green buildings' – that is, buildings for which specific measures are incorporated to provide healthier environments for their users and mitigate their negative impact on the environment[247] – is reportedly expected to grow and could outpace demand for 'standard' buildings in the near future.[248]

185. There is evidence to indicate that architects are at the forefront of this green revolution[249] and that there will likely be many new opportunities for architects to diversify their services to include 'green

[240] Ibid. p. 8.
[241] CSIRO, n. 235 above, p. 4.
[242] World Economic Forum (in collaboration with The Boston Consulting Group), *Shaping the Future of Construction: A Breakthrough in Mindset and Technology* (2016), at p. 13.
[243] See, for example, initiatives in relation to buildings identified on the website of the federal Department of Climate Change, Energy, the Environment and Water (DCCEEW) accessible at: https://www.energy.gov.au/government-priorities/buildings .
[244] P. Oluwole Akadiri & O. Olaniran Fadiya, 'Empirical analysis of the determinants of environmentally sustainable practices in the UK construction industry' (2013) 13(4) *Construction Innovation*, pp. 352–73, at 353.
[245] Ibid. pp. 357–8.
[246] Australian Institute of Architects, n. 85 above, p. 22.
[247] H. O'Connor, 'Architect's Professional Liability Risks in the Realm of Green Buildings' (2012) 4(2) *Perkins & Will Research Journal*, at p. 23.
[248] United Nations Environment Programme, n. 239 above, p. 26.
[249] See, for example, K. Barker, 'Architects need to share sustainable best practice quickly' (2021) *UK Architects Journal* accessible at: https://www.architectsjournal.co.uk/news/opinion/architects-need-to-share-sustainable-best-practice-quickly.

architecture' – that is, architectural design that has the aim of minimising harm to the environment and ecological systems, along with human health.[250] However, as outlined in this chapter, as the sector transitions, architects are also likely to face increased risk, at least in the short term.

B. Key issues

Architects will face more regulation resulting from initiatives to mitigate and adapt to climate change

186. Data available to the federal Department of Climate Change, Energy, the Environment and Water (**DCCEEW**) indicates that, in Australia, buildings account for around 19% of total energy use and 18% of carbon emissions.[251] Most of these emissions are associated with common building materials, such as steel and cement. However, design that affects the longevity and energy efficiency of a building will also affect emissions.

187. The Commercial Building Disclosure Program is among various existing regulatory regimes designed to reduce the level of emissions generated by buildings and thereby mitigate the effects of climate change. It is a national program that requires sellers and lessors of commercial office spaces over 1000m^2 to provide energy efficiency information to prospective buyers and tenants.[252] Similar regulation for residential buildings is likely to follow.[253]

188. Regulatory measures affecting buildings to facilitate adaptation to climate change are also likely. For example, the Australian Building Codes Board (**ABCB**), which writes the standards in the NCC, is currently carrying out work to make buildings 'fit for the future'. This work includes consideration of how the resilience of buildings to climate risks and extreme weather events like bushfires, floods and extreme heat could be improved under the NCC.[254]

189. Fischer & Guy (2009) suggest that, as regulatory requirements tighten to address climate change risks, architects' reactions may vary. Some may respond defensively, as 'guardians of aesthetic autonomy' in the face of regulatory intervention, or more positively, as 'new interpreters' as they struggle to interpret and respond to the new regulatory requirements.[255] The challenges facing architects in complying with these new requirements will be compounded in the context of large-scale projects, where coordination with multiple entities may be required – such as the builder, fire

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[250] IBIS World, n. 8 above, p. 14.
[251] See the website of DCCEEW regarding 'Buildings' accessible at: https://www.energy.gov.au/government-priorities/buildings
[252] Details of the Commercial Building Disclosure Program are accessible at : https://www.cbd.gov.au/.
[253] See the website of DCCEEW regarding 'Residential buildings' accessible at: https://www.energy.gov.au/government-priorities/buildings/residential-buildings. See also ABCB, *Energy efficiency: NCC 2022 and beyond – Outcomes report* (2022) accessible at: https://www.abcb.gov.au/resource/report/outcomes-report-energy-efficiency-ncc-2022-and-beyond.
[254] See the ABCB 2020 – 2023 Business Plan accessible at: https://www.abcb.gov.au/about/business-plan. See also the ABCB's comments about an 'eye on the future' in the context of the NCC 2022 accessible at: https://ncc.abcb.gov.au/news/2022/building-ministers-finalise-ncc-2022.
[255] J. Fischer & S. Guy, n. 211 above, p. 2578.

engineer and other specialist consultants.[256] As discussed earlier in this report, such coordination may be difficult to achieve, at least in the context of certain procurement models for building projects.

Architects providing 'green' architectural services may face increased exposure to legal risk

Ambiguous concepts

190. Despite the growth of scholarly research regarding environmentally sustainable practices in the construction industry, the concepts of 'sustainable design' and 'green architecture' remain poorly understood.[257] Further, they are open to subjective interpretations.[258] Even in cases when concepts may appear clear, misunderstandings may arise as to what they mean in practice. In this regard, Assaad et al (2021) note a concerning confusion among architects regarding commonly used terms like reuse, recycling, and salvaged materials.[259] Architects may be exposed to legal risk if they commit to deliver green or sustainable outcomes without first gaining a clear understanding of what that means in practice and effectively communicating that understanding to clients.[260]

Failure to explain

191. Even though long-term operating costs for green buildings may be less than for conventional buildings due to energy-efficient design and the use of more durable building materials, the initial cost of construction of green buildings can be greater than for traditional buildings. Further, the process to design and construct green buildings may be longer because new project participants may be involved, such as sustainability consultants and energy modelers.[261] Architects may be exposed to risk if they fail to explain and document reasonably foreseeable impacts of sustainable design on the project schedule and cost.[262] The duty to explain may also extend to the impact of sustainable design on operation and maintenance of a building.[263] Architects must ensure that clients are in a position to make fully informed decisions when balancing overall cost, schedule and the quality of a construction project involving sustainable design.

Untested designs and materials

192. Green and sustainable buildings might involve the use of new and novel materials that have environmentally, socially, and economically preferable life-cycle impacts. The use of products that are new to the market, untested for the intended application, or do not possess historical performance records could cause challenges, including in relation to their availability and their

[256] U. Iyer-Raniga & T. Dalton, 'Challenges in Aligning the Architecture Profession in Indonesia for Climate Change and Sustainability' (2017) 180 *Procedia Engineering*, pp. 1733–43, at 1741.
[257] P. Oluwole Akadiri & O. Olaniran Fadiya, n. 244 above, p. 354.
[258] R. Assaad, I.H. El-adaway, K. Baxmeyer, M. Harman, L. Job, & H. Lashley, 'Allocation of Risks and Responsibilities in Green and Sustainable Buildings' (2021) 27(2) *Journal of Architectural Engineering*, p. 04021002, at 12.
[259] Ibid. p. 9.
[260] H. O'Connor, n. 247 above, p. 30.
[261] Ibid. p. 26.
[262] Ibid.
[263] Ibid.

performance in practice.[264] This could give rise to increased risk of defects or unexpected safety, environmental or health consequences. For example, the insurer Allianz reports that the use of timber in construction has increased in recent years because it is viewed as a sustainable and cost-efficient material, but this may exacerbate fire and water damage risks.[265]

193. Risk associated with the use of untested designs is particularly pronounced when the regulatory regime is silent or only contains minimum requirements to guide such designs. Green building architects may design projects that incorporate features which exceed these minimum requirements. However, by extending design efforts beyond minimal compliance, architects may also increase their exposure to risk and liability.[266]

Contractual risks

194. The contract for the design of a green building may need to include specific provisions to deal with the unique features of such buildings. For example, the contract may need to address the qualifications about the achievement of sustainable outcomes and any risks associated with the use of new or untried materials and products. Failure to do so could give rise to conflicts, claims and disputes.[267]

Inadequate skills and expertise

195. Accepting a brief for a green building project without having the requisite qualifications and experience could also expose architects to risk. Architectural firms may need to spend time training their staff in green design approaches.[268]

196. Similarly, there are risks for architects who take on projects for buildings that are exposed to climate change impacts without the requisite expertise. Allianz states that greater consideration of the impact of extreme events, such as wildfires, flash flooding and landslides on construction projects is required.[269] Yet, one study focusing on the design of flood-prone urban projects in Europe, found 'uneven degrees of sensitivity to manage floods through design' among the 22 built-environment professionals who were interviewed.[270] Some perceived flood adaptation as a technical issue outside the scope of architectural practices, to be managed only through hard-engineering measures, whereas others considered that floods risk should be embedded in design.[271]

197. As outlined in this section, there are various risks associated with the provision of green architectural services, but these risks could well be outweighed by the benefits.

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[264] R. Assaad et al, n. 258 above, p. 12.
[265] Allianz, n. 186 above, p. 9.
[266] H. O'Connor, n. 247 above, p. 25.
[267] R. Assaad et al, n. 258 above, p. 2.
[268] H. O'Connor, n. 247 above, p. 26.
[269] Allianz, n. 186 above, p. 19.
[270] L. Hobeica & A. Hobeica, 'How adapted are built-environment professionals to flood adaptation?' (2019) 10(4) *International Journal of Disaster Resilience in the Built Environment*, pp. 248–59.
[271] Ibid. p. 251.

C. Findings

198. Architects are already driving sustainable design in construction projects and have the capacity to further benefit from the green building revolution that is underway given the rising demand for green architectural services. Failure to invest in these services could result in non-compliance with burgeoning regulation to facilitate mitigation and adaptation to climate change risks. It could also result in other professionals stepping into the breach, such as specialist sustainability design consultants.

199. However, those architects who choose to embrace the opportunities created by the transition to net zero, adaptation to climate change and the push for sustainable outcomes will also face risk. Specifically, architects could be exposed to liability if they fail to explain the meaning and implications of sustainable design to their clients, the intended outcomes of sustainable design are not properly documented, risky untested designs and materials are relied upon, and architects providing the relevant services lack adequate expertise and experience. These failures could additionally result in non-compliance with architects' professional standards obligations.

D. Regulatory role

200. The ARBV and NSW ARB do not have a direct role in ensuring architects are ready for the inevitable changes arising from climate change, sustainability and net zero developments. Nonetheless, they have an indirect role in ensuring architects comply with professional standards reflected in the NSCA, which cover these issues. The ARBV and the NSW ARB will continue to support architects to understand their professional standards obligations in this context.

E. Role of other stakeholders

201. There is scope for further support for architects from industry bodies and education and training providers as the sector transitions. Such support could take the form of education, training and engagement to raise awareness of the opportunities and risks. Architects need to avail themselves of these resources to ensure that they are as well-prepared as possible for the future.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
22	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to support architects to understand their professional standards obligations , which will assist them to manage risks arising from the regulatory and practical changes associated with climate change, sustainability and net zero developments.
23	**Industry bodies**	Industry bodies should provide support to architects in the form of education and engagement to raise awareness of the opportunities and risks arising from climate change and associated drivers.

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
24	**Education and training providers**	Education and training providers should assess their respective programs to determine how effectively they address the challenges and opportunities arising from climate change, sustainability and net zero developments. CPD requirements should cover these areas.

9 AUTOMATION, DIGITALISATION AND INNOVATION

***Overview**:*

- *There are a range of technological changes that could disrupt the provision of architectural services.*
- *Automation, digitalisation and increasing demand for building information modelling creates risks, but also opportunities for architects.*
- *There are various factors that may compromise architects' capacity to respond to these disruptive forces, including lags in building standards and disincentives arising from procurement models and processes.*
- *There is more work to be done in understanding the specific impacts of technological developments on the delivery of architectural services and the risks to compliance with professional standards that could arise.*

A. Background

202. The construction sector is not known for innovation and the rapid uptake of technology. In fact, one study finds that the construction industry is among the least digitised industries.[272]

203. Construction largely involves project-based activity, with temporary coalitions of different organisations that come together to complete a specific project. The various parties usually disband once the project is finished. Consequently, any innovation that may be generated in the context of a project may be consigned to that project and the likelihood of knowledge being transferred from one project to another may be limited, which is major barrier to innovation.[273] Further, clients may not support innovation as this may lead to unwanted risk.[274] This may encourage conservatism in building design and construction.[275]

204. However, as explained in more detail below, there are some major disruptive changes that could fundamentally alter the way the construction sector operates in the foreseeable future, including in relation to the provision of architectural services. These changes could alter the risk profile of construction projects, but could also provide opportunities for those practices that are ready for change. Anecdotal evidence indicates that some private equity firms may target architectural design practices in the future because they see opportunities for growth, particularly through automation and digitisation of products and process. Failure to account for these disruptive changes could expose architects to competitive risks.

[272] McKinsey & Company, n. 12 above, p. 17.
[273] S. Naoum, K. Lock, & D. Fong, 'Is Fragmentation of the UK Construction Industry the Main Barrier to Innovation? The Architects' View' (2010) *Conference Paper*.
[274] Ibid.
[275] Ibid.

B. Key issues

There are a range of changes that could disrupt the provision of architectural services and, consequently, also increase architects' exposure to legal risk

Automation and modularisation

205. Automation and modularisation are likely to characterise the future in the construction sector.[276] Modular construction is defined as the process in which a building is constructed offsite, under controlled factory conditions, using the same materials and design and built to the same codes and standards as conventionally-built facilities, but more quickly.[277] It has been suggested that this apparent trend could significantly lower construction costs.[278] However, it could also decrease the volume of services required in particular segments of the market, including architectural services.[279]

Digitalisation

206. The rapid adoption of digital and data technologies in recent times is another megatrend identified by CSIRO in its 2022 report about 'Our Future World'.[280] Digital tools can help to optimise energy performance and cost of a building and enable stakeholders to visualise the building.[281] The AIA Client Survey (2021) suggests that the use of digital technologies, such as high-level 3D modelling to help clients, authorities and other stakeholders understand design development, is critical.[282] Cities are already leveraging digital technologies to enable buildings to become interactive elements of broader systems, such as the energy system.[283] Yet, it has been suggested that there is significant and largely untapped potential to use digital solutions for design, construction, operation, and refurbishment or demolition to make buildings more energy efficient.[284]

Building information modelling

207. Big data and analytics are also likely to have an impact on architectural design.[285] BIM has been defined as 'a digital representation of physical and functional characteristics of a facility'. Beyond providing a basic geometric building model, BIM also incorporates all related information which can help project teams improve design, construction and operation and maintenance of buildings. BIM can also facilitate effective real-time collaboration by enabling project stakeholders to share information across a centralised cloud-based platform.[286]

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[276] McKinsey & Company, n. 12 above, p. 48.
[277] Allianz, n. 186 above, p. 14.
[278] McKinsey & Company, n. 12 above, p. 48.
[279] Ibid.
[280] CSIRO, n. 235 above, p. 5.
[281] United Nations Environment Programme, n. 239 above, p. 22.
[282] Australian Institute of Architects, n. 85 above, p. 22.
[283] Deloitte, *Urban Future With a Purpose: 12 trends shaping the future of cities by 2030* (2021), at p. 7.
[284] United Nations Environment Programme, n. 239 above, p. 22.
[285] Marsh & McLennan, *Emerging Risks in Construction: Expert Perspectives on the Construction Industry*, at p. 5.
[286] H.J. Koo & J.T. O'Connor, n. 198 above.

208. In the AIA Client Survey (2021), a progressive use of design technology to support innovation in design and operational efficiency was found to be important to almost 50% of surveyed clients. Concerningly, around 40% of respondents indicated that the firm they used had not provided them with useful information to help educate their team on the advancements and benefits of BIM, with a further 25% stating that they were unsure.[287] Clients said 'we're looking for post-occupancy evaluation but with skin in the game. Architects should invest in this to prove interest in knowing how the building performs. We require BIM, proper construction documentation, planning expertise, value engineering. We require high-level 3D modelling to help client, authorities and other stakeholders understand design development'.[288] Those architects who do not have skills and expertise to use BIM to service clients who are increasingly looking for data and evidence to inform investment, particularly for sustainable design,[289] may face additional competitive pressure. Conversely, investing in BIM may drive up architects' fees, which could also undermine competitiveness.

209. There are also risks associated with the use of BIM for architectural design. In particular, its use significantly changes the relationships between parties in the project by blending responsibilities and roles. It also assumes a more collaborative environment among project participants.[290] A study conducted by Almarri et al (2019) showed that BIM success depends on close collaboration with the client, designers, contractors and consultants.[291] However, for reasons discussed earlier in this report, such collaboration may be compromised under some procurement models, particularly the D&C model.

There are various factors that may compromise architects' capacity to respond to these disruptive forces

210. Building codes have historically been slow to respond to change and technological developments. It can take a decade or more for a new concept to achieve acceptance and result in incorporation into relevant codes and standards.[292] In the absence of support in the building regulatory framework for new technologies and approaches, architects may be deterred from embracing them.

211. The procurement model may also act as a deterrent. The fragmented nature of design and construction under a D&C procurement model may prevent innovations from being adopted and implemented.[293] Burke (2015) further suggests that architects are not well-placed to respond to the risks that innovation in the sector poses, largely because of their small scale which make it uneconomic to fund innovation.[294] Research into the subject of innovation also suggests that there may be cultural reasons for the lack of uptake, namely the perceived risk associated with innovative

[287] Australian Institute of Architects, n. 85 above, p. 22.
[288] Ibid. p. 22.
[289] Ibid. p. 13.
[290] K. Almarri, M. Aljarman, & H. Boussabaine, 'Emerging contractual and legal risks from the application of building information modelling' (2019) 26(10) *Engineering, Construction and Architectural Management*, pp. 2307–25, at 2314.
[291] Ibid.
[292] American Institute of Architects, *Disruption, Evolution and Change* (2019), at p. 8.
[293] S. Naoum, K. Lock, & D. Fong, n. 273 above.
[294] A. Burke, n. 214 above, p. 50.

ideas.[295] In particular, a 2010 study undertaken in the UK found that architects who participated in the study perceive the risk associated with innovative ideas to be the most significant barriers to innovation in the UK construction industry.[296]

C. Findings

212. The requirement for architects to maintain professional standards in providing architectural services will not wane in the face of wide-scale technological change that is set to fundamentally disrupt the sector. Regulation of compliance with professional standards is likely to be become more complex in light of these developments. In this regard, there is more work to be done in understanding the specific impacts of these developments on the delivery of architectural services and the particular risks to compliance with professional standards that could arise.

D. Regulatory role

213. The ARBV and NSW ARB have no direct role in ensuring architects are prepared for disruptive technological forces that are already in play in the sector. Nonetheless, the ARBV and the NSW ARB will continue to support architects to understand and comply with their professional standards obligations in light of these developments.

E. Role of other stakeholders

214. Industry bodies and education and training providers could provide support to architects in the form of education, training and engagement to raise awareness of the opportunities and risks associated with the disruptive technological forces affecting the sector.

215. There may also be a need to review building standards to ensure that they keep pace with technological change.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
25	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to support architects to understand and comply with their professional standards obligations in light of disruptive technological change.
26	**Industry bodies**	Industry bodies should provide support to architects in the form of education and engagement to raise awareness of the opportunities and risks arising from disruptive technological forces.

[295] S. Naoum, K. Lock, & D. Fong, n. 273 above.
[296] Ibid.

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
27	**Education and training providers**	Education and training providers should review their respective programs to ensure that they are effective in preparing architects for technological change.

G. Areas for further research

	TOPIC
5	Identify and assess the impacts of technological change on the delivery of architectural services and compliance with professional standards, as well as the longer term implications of such changes for regulators, education and training providers and current professional standards.

10 EDUCATION, TRAINING AND CONTINUING PROFESSIONAL DEVELOPMENT

***Overview**:*

- *University curricula and training programs for architects need to be responsive to recent and future disruptive changes to ensure that architects are ready to realise opportunities, overcome challenges and mitigate risks.*
- *The adequacy of education and training for architects is being questioned in light of these changes.*
- *Compliance with CPD requirements needs to improve to ensure that practitioners are well-positioned to respond to the changes.*

A. Background

216. Rapid social, environmental, technological and economic changes are imposing new demands on architects and, consequently, also on the institutions and other bodies responsible for preparing them for these changes, including education and training providers. Education and training that are responsive to the current market context and likely future changes will be critically important to ensure that architects are equipped to face the various challenges and risks they may encounter in the course of providing architectural services. This chapter considers some of the risks architects could face if this shift in education and training does not occur.

B. Key issues

The adequacy of education for architects is being questioned, particularly in light of recent disruptive change

217. Studies have been undertaken both abroad and closer to home that call into question the adequacy of the education of architects. For example, in 2022, the UK Architects Registration Board (**UK ARB**) undertook a survey of architects. Over 80% of recruiting architects said that applicants lacked the levels of competence required by firms, primarily because of a lack of necessary skills and knowledge relating to building contracts, health and safety risks, and procurement.[297] Further, a US study of the educational curriculum for architecture schools undertaken in 2022 found that topics like leadership, life cycle cost, and scheduling were lacking.[298]

218. The UK ARB specifically mentions climate change as a disruptive force and states that architects have a significant role to play in addressing it through robust sustainable practice and design. The report states that, if the profession is to be positioned to make a positive contribution towards mitigating the impact of their work on the environment, future architects must be equipped with the

[297] UK Architects Registration Board, *Modernising the initial education and training of architects: Discussion Document* (2022), at 12.
[298] F. Cruz Rios, D. Grau, & M. Bilec, 'Barriers and Enablers to Circular Building Design in the US: An Empirical Study' (2021) 147(10) *Journal of Construction Engineering and Management*, p. 04021117, at 10.

right blend of knowledge and skill, underpinned with a commitment to sustainability.[299] This sentiment is echoed by the RIBA in introducing its new professional development framework for architects. The RIBA states that 'Change in architectural education is being demanded by those stakeholders who will succeed the current generation of practice and institutional leadership, including students, graduates, and emerging professionals, for many of whom the current business model of architectural practice sometimes seems to pay insufficient attention to the critical questions of designing first for health, safety and wellbeing, embracing creative environmental stewardship, and placing a greater emphasis on the ethical role of the architect. This change is supported by growing bodies of evidence, literature and commentary which must now animate the debate in our universities and, consequently, the profession.'[300]

219. However, the US study of university curricula finds that many recent undergraduate alumni feel a sense of obligation to protect the natural environment through their design efforts, but do not consider that they have tangible skills to do so.[301] Similarly, responses to a 2022 survey of Australian and NZ architecture schools undertaken by the AIA and the Association of Architecture Schools of Australasia indicates high levels of concern about climate change and sustainability issues among both staff and students.[302] Yet, students express concerns about their university learning lacking depth and practical context, which in turn impacts their perceptions of whether they have properly learned about a topic.[303] In a similar vein, educators often perceive themselves as competent but not expert in matters of climate change, and express confidence in topic knowledge while sensing that they are lacking specialist knowledge and skills.[304]

220. As many university educators in Australia are also practitioners, CPD training will play an important role in addressing this apparent gap in knowledge and skills, although this measure will not be relevant for full-time university educators who are not practitioners. The lack of practical experience among at least some university educators could be problematic, particularly if this means that the curriculum is not sufficiently connected to the current context within which architects provide architectural services.

221. Iyer-Raniga and Dalton (2017) further suggest that educational changes in universities need to occur in tandem with other institutions, including government, peak industry bodies and the practitioners themselves.[305] In this regard, the AIA has noted that the 2021 NSCA embeds a greater emphasis on issues of climate change and sustainability. Compliance with this standard is a pre-requisite for registration and will inform CPD for practising architects.[306] Accreditation standards for universities offering architectural programs are also expected to change in line with the NSCA.

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[299] Ibid. p. 6.
[300] RIBA, 'The Way Ahead: An Introduction to the New RIBA Education and Professional Development Framework and an Overview of its Key Components' (2020), at 6.
[301] E.J. Grant, 'Mainstreaming environmental education for architects: The need for basic literacies' (2020) 1(1) *Buildings and Cities*, p. 538.
[302] Australian Institute of Architects & Association of Architecture Schools of Australasia, *Climate Literacy & Action in Architecture Education: Australasian Perspectives* (2022), at p. 6.
[303] Ibid. p. 15.
[304] Ibid. p. 9.
[305] U. Iyer-Raniga & T. Dalton, n. 256 above.
[306] Australian Institute of Architects, n. 302 above, p. 2.

Compliance with continuing professional development requirements needs to improve

222. On the matter of CPD, under the Victorian Architects Act, architects are required to comply with CPD requirements and provide the ARBV with proof of compliance.[307] In NSW, the NSW ARB may remove an architect from the register if the architect has failed to comply with CPD requirements.[308]

223. Clearly, CPD is critically important to ensure that architects are equipped on an ongoing basis to deal with the challenges and risks associated with the provision of architectural services. However, the NSW ARB notes that compliance with CPD requirements is patchy. The ARBV considers that CPD compliance would be enhanced if specific requirements were prescribed in the Victorian Architects Regulation.

C. Findings

224. There is evidently much change underway in the market for architectural services. University curricula and training programs for architects need to be responsive to these changes to ensure that practitioners are ready to realise opportunities, overcome challenges and mitigate the risks that these changes are likely to entail. Equally, compliance with CPD requirements – particularly components relevant to the sectoral changes faced by architects – needs to improve.

D. Regulatory role

225. Given the importance of CPD in preparing architects for disruptive change, the ARBV and NSW ARB will continue to monitor compliance with CPD requirements.

E. Role of other stakeholders

226. It would be prudent for relevant education, training and standard-setting bodies to revisit their education and training programs to ensure that they adequately prepare and support architects in the face of disruptive change.

F. Implications and recommendations

	ENTITY	IMPLICATIONS AND RECOMMENDATIONS
25	**The ARBV and NSW ARB**	The ARBV and NSW ARB will continue to monitor CPD compliance.
26	**Education and training providers**	Relevant education, training and standard-setting bodies should revisit their education and training programs to ensure that they adequately prepare and support architects in the face of disruptive change.

[307] Section 15B of the Victorian Architects Act.
[308] Section 24(2)(g) of the NSW Architects Act.

11 CONCLUDING REMARKS

227. This Research Project has revealed a series of systemic risks that affect, or are likely to affect, the architectural sector in Australia. These risks are largely linked to current market conditions, including intense competition, endemic disputes and disruptive change, although some risks are associated with the way some architects operate. There is no evidence to indicate that the systemic risks identified in this report have resulted in generalised non-compliance by architects with the regulatory framework. Nonetheless, the ARBV and NSW ARB want to ensure that architects are well-placed to manage these risks while ensuring regulatory compliance.

228. The main sources of systemic risks identified in the Research Project relate to:

- *Exposure of architects to undue risk in the context of D&C procurement models*: There is clear evidence to indicate that the D&C procurement model can lead to adverse outcomes for architects, including unfair contract terms, increased exposure to legal risk and limits on access to professional indemnity insurance. Industry bodies have already invested much effort in tackling these issues. However, ongoing support for architects is needed as the risks do not appear to have abated.
- *Challenges associated with complying with the NCC*: The NCC is a complex document and may be challenging for some architects to interpret and apply in practice. These challenges highlight the need to ensure that the NCC is well-understood, particularly the roles and responsibilities of the various sectoral players in ensuring compliance with the NCC.
- *Management of client-architect relationships*: There are many factors that can affect the client-architect relationship, including factors that are outside the control of architects such as the procurement model. However, the evidence indicates that architects can do better in managing their relationship with clients, particularly in relation to the way they communicate with clients. Greater effort is also required by architects and their clients to understand client-architect agreements, which are designed to provide clarity about the parameters for client-architect relationships and can help to keep these relationships on track.
- *Disruptive change*: Disruptive change caused by climate change and technological developments will change the risk profile of many construction projects. Architects will need to ensure that they are prepared for this change. Education and training providers will play an important role in supporting architects to navigate change.

229. Notwithstanding the challenges created by the sectoral systemic risks for architects, there are also opportunities. Architects will be best placed to embrace and realise these opportunities if they commit to regulatory compliance and, particularly, to use professional standards as the means to guide them through disruptive change. The ARBV and NSW ARB also remain committed to supporting architects in this journey and call on governments, industry bodies and other relevant stakeholders to do so as well. Ultimately, this will generate benefits for the entire construction sector, but particularly clients of architectural services and end-users.

APPENDIX: MAIN SURVEYS AND STUDIES CITED IN REPORT

ABBREVIATION	
AIA Client Survey (2021)	The survey involved senior professionals across a range of sectors that had engaged the services of an architectural firm for at least one project across the last three years. Over a three-week period, through direct conversations and survey responses, clients across Australia provided insights drawn from their experiences engaging architectural services on a wide range of public and private projects.[309]
AIA Novation Contract Survey (2019)	A national survey was undertaken by the AIA of its members to provide an initial indication regarding the pitfalls and positive outcomes of the ND&C procurement method. The findings from the survey for Victoria are set out in the AIA report.[310]
Australian Construction Industry Research Report (2020)	The research for this report was based on a literature review, a web-based survey and a number of interviews with participants in the construction industry in order to examine the health of the Australian construction industry.[311]
CIE Study for the ABCB (2021)	The Centre for International Economics (CIE) was commissioned by the ABCB to conduct a high-level assessment of implementation of the Building Confidence Report recommendations. The assessment involved consultation with and surveys of relevant industry stakeholders combined with a review of available evidence.[312]
Deakin University Study of Residential Multi-owned Properties (2019)	This study involved analysis of building defect audit reports, stakeholder and end-user interviews, and a regulatory review to investigate the types of defects reported, the reasons why defects are so prominent, and the impacts of these defects.[313]
NZ Architect Survey (2016)	Data for this study was collected through an online questionnaire survey of 82 practising architects in New Zealand regarding risk assessment in project budget development.[314]
NSW Architect Survey (2019)	The survey involved qualitative interviews with 50 architects across four large multidisciplinary professional service firms located in

[309] Australian Institute of Architects, n. 74 above, p. 7.
[310] Australian Institute of Architects, n. 61 above.
[311] J. Sharkey et al, n. 4 above.
[312] The Centre for International Economics, n. 176 above.
[313] N. Johnston & S. Reid, n. 154 above.
[314] J. Adafin, J.O.B. Rotimi, & S. Wilkinson, n. 96 above.

ABBREVIATION	
	Sydney, Australia, which were supplemented by ethnographic observations.[315]
NSW Building Survey (2021)	The survey involved a questionnaire, which was issued to over 1,400 strata managers for multi-storey buildings completed in the last 6 years to examine serious defects in these buildings.[316]
UK Residential Architecture Study (2019)	This study involved a combination of qualitative online survey, semi-structured interviews, and online focus group discussions among architects and non-architects to examine value addition by architects in residential projects.[317]
UK RIBA Survey (2011)	Interviews were conducted with over 40 individuals from across the built environment professions, with an aim to compare their long term views of the supply and demand side of the built environment industry. The study aims to examine the breadth of those who shape the built environment, encompassing those who have taken the traditional route through the profession and those who are working in expanded and experimental fields of practice, as well as those working elsewhere in the wider construction industry.[318]

[315] S. Ahuja, N. Nikolova, & S. Clegg, n. 84 above.
[316] Office of NSW Building Commissioner & Strata Community Association NSW, n. 173 above.
[317] A. Angral, n. 103 above.
[318] C. Jamieson, n. 22 above.

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