

Architectural design competitions

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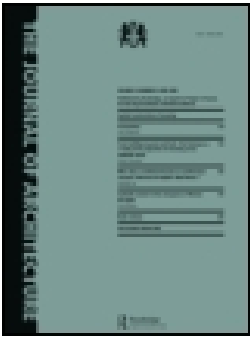
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Architectural design competitions: the effects of competition format on design processes and outcomes

Much of the extensive literature on design competitions is based on individual case studies and grounded in long-standing beliefs and assertions about the merits of what we term here 'pure' competition formats: competitions that are open to all, where entries are anonymous and judging is undertaken by independent design experts. Drawing from a mixed-methods, empirical study of 46 design competitions held in Sydney between 2000 and 2017, this paper focuses, in contrast, on the benefits and drawbacks of 'impure' design competitions. It examines the influence on design processes and outcomes of four key competition variables: the number of entrants, designer anonymity, the flexibility of briefs, and the independence of judges. Opportunities are considered for impure competition formats to address the main drawbacks of pure competitions while maintaining their benefits. We conclude that the benefits of competitive design are not contingent on an open field nor flexible briefs, but that a move towards an impure competition format can be problematic where jury independence is diminished and designer anonymity is lost.

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Introduction

For centuries, the design competition has been a trusted means of procuring architectural services. Yet competitions themselves remain a source of considerable anguish and contention within the architectural community. Advocates point to the benefits of a competitive process for design quality: by enabling the exploration and testing of alternative visions, and pitting designers against one another, a competition is supposedly more likely than any other design process to produce the best possible solution for a given site.¹ Critics, meanwhile, point to certain 'counterbalancing' drawbacks of the method: the cost of competing, the susceptibility of competitive design processes to manipulation and abuse, and the potential for winning designs to be eye-catching but poorly matched with stakeholder needs.² These arguments about

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benefits and drawbacks are not mutually exclusive, and there is already compelling evidence to support both sides: while design competitions have yielded many of the world's most highly regarded buildings and spaces, there are also numerous examples of competitions that failed to produce a workable solution.³

The focus of this paper is on the use of the design competition as a procurement method for architectural services. Our starting point is to accept that a competition vis-à-vis alternative procurement methods is an effective way of elevating design quality, but that it will tend also to increase cost and unpredictability. From here, what we wish to examine are the effects of competition format on design processes and outcomes. Specifically, the influence of four variables in format is investigated: the number of entrants; designer anonymity; brief flexibility; and the independence of judges. Ultimately, the work is guided by one central question: to what extent might the benefits of competitive design be harnessed without the counterbalancing drawbacks?

In order to address this question, the paper first revisits the arguments for and against the use of design competitions as a procurement method. We then propose that competitions can be seen to exist on a spectrum between 'pure' and 'impure' — with variations in format that determine the position of a given competition on that spectrum.⁴ For us, a 'pure' competition is one that is open to all, where entries are anonymous, briefs are flexible, and judging is undertaken independently by design experts. Adjustments to these four key variables — for example through restricting entry to a limited number of invited designers — move a competition towards the 'impure' end of the spectrum. Having established this conceptualisation, we apply it to our own empirical analysis of 46 design competitions in Sydney, Australia. We conclude that the benefits of competitive design are not markedly diminished where the number of competition entrants is limited, nor where briefs are tightly prescribed. However, our findings indicate that a move towards 'impure' competition formats may be problematic where it involves the loss of jury independence, especially alongside a lack of designer anonymity. The final section of the paper considers the implications of these findings for practice. Whilst endorsing the more widespread use of impure competition formats and the flexible application of the design competition method more generally, we caution that there may be harmful consequences for design processes and outcomes where competition juries are dominated by non-designers and/or client appointees, and where designers are known to judges.

The 46 design competitions in our dataset were held between 2000 and 2017, and all were mandated and overseen administratively by the City of Sydney through its Competitive Design Policy (CDP). The latter is a globally unique planning policy that makes a design competition a statutory planning requirement for all major public and private development projects. Although the Australian Institute of Architects (AIA) was involved in the preparation of the CDP, the competitions mandated by the policy are not required to have AIA endorsement.⁵

The shared policy roots of the 46 competitions enabled more systematic comparative analysis than would usually be possible with such a large number of competitions — with all the contextual, procedural, and administrative variations involved. Beyond sample size, however, these 46 competitions provided an outstanding opportunity to examine the benefits and drawbacks of competitive design because of their varying format. Whilst mandating some form of design competition for all major property developments in its jurisdiction, the City of Sydney allows for a range of competition formats and makes a series of concessions to those who view design competitions as overly costly and risky exercises. For example, juries are permitted to consist of just three people; clients (i.e. applicants) can select competitors, write competition briefs, and be appointed to juries; competitor anonymity is not required; and remuneration is provided for competitors. The formats of the 46 competitions in our dataset varied and were in every case the product of negotiation between the City of Sydney and the client: the number of entrants ranged from three to seven; all design teams were known to clients; briefs were site-specific, but based on a standard City of Sydney template; and the number of jury members ranged from three to six.⁶

The paper is informed by a larger research project comprising five main methodological components, summarised below and elaborated upon elsewhere.⁷ First, we gathered information on all of the design competitions held in the Sydney Central Business District (CBD) under the provisions of the CDP. Of more than 60 competitions, a total of 46 projects were either built, under construction, approved, or pending approval in 2017. The principal focus in our subsequent investigations was on these 46 projects that had resulted in a built product (26 out of 46) or were soon to be completed. We have summarised the key quantitative characteristics of these projects (Table 1) while seven of the most highly awarded projects are pictured in Figure 1 (Figure 1). Second, we undertook 60 interviews to examine the workings of design competitions in the City and their impacts over time. Interviewees were selected based on their experience with the design and/or operation of the CDP, and most were currently or recently in senior management and/or design positions.⁸ The inter-

Table 1. Key quantitative characteristics of the dataset projects.

	Site area (m ²)	Floor area (m ²)	Height (m)	Capital value (\$AUD — unadjusted)
Minimum	305	4,215	25	11.1m
Maximum	11,378	142,222	263	604.1m
Mean	3,185	35,025	111	158.7m
Median	2,090	22,362	109	99.6m
Total	146,500	1,611,135	—	7.3b

Source: compiled by the authors using data from planning documents and City of Sydney database.



Figure 1.
Products of competitive design in Sydney Central Business District, clockwise from top-left: the highly awarded '200 George' (fjmt); '8 Chifley' (Rogers Stirk Harbour + Partners/Lippmann Partnership); '1 Bligh' (Ingenhoven/Architectus); 'Lumiere' (Foster and Partners) buildings; public-private interfaces at 1-19 Shelley Street (Fitzpatrick and Partners); 161-167 Castlereagh Street (fjmt); and 416-20 George Street (Bates Smart), photographed by the authors, 2018

views were semi-structured and ran between 30 and 150 min. They were professionally transcribed and inductive coding of all transcripts was undertaken. Third, as one proxy for design quality, we undertook a survey of industry design awards received by each of the completed dataset projects.⁹ Fourth, we undertook site visits and appraisals of the 26 projects completed and occupied in 2017. The appraisals involved judgement of each project's performance across 26 measures, most of them qualitative in nature (Table 2). Information about building interiors was sought through interviews with clients, occupiers, and approval authorities. Finally, we observed two competitions for projects not in our dataset. This gave us a first-hand understanding of the process in action.

Architectural design competitions

A design competition is a formal method for evaluating different design propositions. It involves two or more designers responding to a specific task or brief, with the work produced being submitted for comparative evaluation by an expert jury. The design competition has a long, illustrious, and sometimes controversial history in architecture,¹⁰ and it remains in widespread use today. In EU member states, public commissions for architectural services above a

Table 2. The list of measures used in our appraisals of the completed dataset projects.

-
- Mix of land uses
 - Variety in building age, form and condition
 - Business and pedestrian activity (who, what, when, where?)
 - Inclusivity (visible restrictions on access, activities/groups excluded, opportunities to personalise environment)
 - Protection from crime (passive surveillance, lighting, demarcation of public and private realms)
 - Protection from vehicles
 - Level of upkeep
 - Fit between behaviour and form; designed for users or owners?
 - Freedom from nuisance and pollution
 - Comfort for pedestrians and cyclists (obstacles, delays, crowding, level changes, materials, human scale, permeability)
 - Comfort for sitting and standing
 - Buildings that define the public realm
 - Shelter from the weather
 - Response to microclimate (light, wind, temperature, shade, etc.)
 - Welcoming
 - Legibility (supports legibility, cues to use, visible entries and exits)
 - Visual appeal (richness at close and long range, materials, building and streetscape design, integration, skyline)
 - Non -visual sensory experience
 - Interest at street level (active uses, solid-to-void ratio, street entrance intervals)
 - Open space
 - Opportunities for play (relaxation, recreation, public art)
 - Response of buildings and spaces to morphological context (scale, massing)
 - Opportunity for personal expression and participation in public life
 - Presence of community institutions
 - Levels of social interaction
 - Sustainability (natural assets incorporated, protected, or restored; high surface permeability; surface materials; adaptable spaces).
-

Note: Further information about the development and application of the appraisal tool is provided in Robert Freestone, Gethin Davison, and Richard Hu, *Designing the Global City: Design Excellence, Competitions, and the Remaking of Central Sydney* (Singapore: Palgrave Macmillan, Springer Nature Singapore, 2019).

threshold value must be awarded through a competitive process. Competitive procurement procedures have similarly been institutionalised in China and Australia.¹¹ And elsewhere, design competitions remain a popular method for selecting designs and/or design teams for major public or private works, albeit their use tends to be less systematised.¹²

Although the focus of this paper is on design competitions as a procurement method, the design competition, as a *phenomenon*, has resonance and *raison*

d'être that extends well beyond this goal of selecting a design and/or design team for a project. Competitions provide settings in which designers are able to experiment, where new 'voices' have the opportunity to enter the field of architectural discourse,¹³ and where established notions of 'what architecture is' can be challenged.¹⁴ Viewed in this way, design competitions take on a key role in the development of architecture by offering a test-bed for innovation, a means of unearthing new talent, and a platform for different opinions about design to be publicly articulated.¹⁵ The staging of a design competition can also raise the profile of a project, help garner community and political support for it, and stimulate broader public engagement on design issues.¹⁶

There has been an outpouring of research on design competitions in recent years.¹⁷ The literature nonetheless remains dominated by anecdotal accounts of individual competitions and is written mostly from the perspective of those with pre-existing beliefs in the value of the format.¹⁸ Relatedly, accounts have been criticised for lacking systematic analyses of the costs and benefits of the competition format, especially in relation to alternative procurement methods.¹⁹ Despite the well-rehearsed arguments about the benefits and drawbacks of the method, few attempts have been made to explore the relationships between those benefits and drawbacks; to what extent do they go hand in hand? Beyond addressing criticisms about the anecdotal nature of much work on competitions and the need for systematic analyses of their costs and benefits, our principal aim here is to engage with this latter gap in knowledge. Whilst recognising that design competitions serve a range of purposes, and need not result in a built outcome or commission, our focus is on the use of 'project' competitions as a procurement method.²⁰

Competitions as a procurement method

As a method of procuring design, competitions produce strong feelings both for *and* against.²¹ While many in the architectural community would regard competitions as 'uncomplicatedly good things' and 'an expression of disinterested commitment to quality',²² just as many view them, at best, as a 'necessary evil',²³ while criticising the costs of competing and 'their lottery-like quality'.²⁴ Advocates point principally to the benefits of a competitive process for the eventual design quality of a project, compared with more 'conventional' methods of designer selection, such as interviews or direct hiring.²⁵ Three main arguments are used to support this view.

The first is that, by enabling greater exploration and testing of alternative design visions, competition is more likely than other procurement methods to find the best possible solution.²⁶ In the same vein, competitions can provide a 'safety net against design incompetence' and 'insurance against mediocrity'.²⁷ And they are an inherently open and 'democratic' way of making design decisions;²⁸ when run fairly and transparently, the competition represents a form of design 'meritocracy'.²⁹ The second argument is that, by pitting multiple design teams against one another, a competition will increase the motivation of designers and, in turn, improve their performance.³⁰ Here there are links to studies in social psychology on the effects of competition

on motivation and performance. Research suggests those effects are variable, at least in part due to individual differences; competition can facilitate performance, but may also undermine it.³¹ With respect to architectural design competitions, however, there remains a widespread belief that competitive tension helps generate creativity and innovation.³² The third main argument is that, compared with a traditional client-designer relationship, competitions create the conditions for design 'unfettered' by client control.³³

At the same time, various drawbacks have been identified. Foremost among these is the cost of competing, relative to the chances of success. Even where design teams receive remuneration, the costs of producing a competitive entry will usually exceed their fees. Critics see this situation as exploitative and point out that 'no other professions are prepared to "give away" their time' in this way.³⁴ As well as the direct costs of participating, there are also opportunity costs for designers and related questions about whether it is a 'waste of time and money' for multiple design teams to be competing for a single commission.³⁵

A further criticism is that a lack of dialogue between designers and clients, as well as decision-making by independent jurors, can create the potential for competition-winning designs that are poorly matched with client or user needs, cater too much to the tastes of judges, and are eye-catching but difficult to build.³⁶ Relatedly, consensus-seeking by juries may lead to conventional designs winning out, and concerns have been aired about the potential for procedural irregularities and manipulation; 'secrecy' and lack of specificity in assessment criteria can turn competitions into 'black boxes'.³⁷

Discussion of both the benefits and the drawbacks of design competitions tends to centre on competitions in what might be termed their 'purest' form: those in which entry is open to all, where designers are unknown to judges, briefs are flexible, and judgement is independent and made on design merit alone. Yet there is significant variety in the format of contemporary design competitions, as well as a trend towards the increased use of 'invited' or 'restricted' formats with a small number of competitors.³⁸ In this context, this paper examines the effects of variations in competition format on design processes and outcomes. As a first step towards this, we propose that design competitions can usefully be conceptualised as existing on a spectrum from 'pure' to 'impure'. Variations in the format of a competition will determine its position on that spectrum. This is illustrated with reference to the four variables in the format that we examine in this paper (Table 3).

The claimed benefits of competitive design for quality are closely associated with pure competition formats: an open field enables thinking and ideas to be drawn from a more diverse pool of designers, with potential dividends for creativity, innovation, and the unearthing of talent, while flexibility in the brief and an independent judgement process can enable a fuller exploration of design alternatives and reduce the influence of non-design considerations. It follows that these benefits would be progressively diminished the more 'impure' a competition format becomes. By the same token, however, the drawbacks of competitive design are also likely to be of the greatest magnitude in pure com-

Table 3. Pure and impure design competitions.

	Pure	Impure	
	Variables in format		Associated beliefs
Entrants	Unlimited	Limited	An open field and a large number of competitors increase the chance of fresh thinking, innovation, the identification of new talent, and full exploration of design alternatives. An open field and large number of competitors make outcomes less predictable, pose logistical challenges, and increase amount of work 'wasted'.
Anonymity	Designers unknown to judges	Designers known to judges	Designer anonymity increases the likelihood that judgement will be made on the basis of design merit rather than reputation. Designer anonymity prevents judgement of an entrant's capacity to deliver a project post-competition.
Brief	Flexible	Prescriptive	Flexible briefs enable fuller exploration of design alternatives and thereby increase opportunities for creativity and innovation. Flexible briefs reduce predictability and generate impractical winning designs poorly matched with client needs.
Judging	Independent of client/sponsors	Dominated by client/sponsors	Independent judgement frees designers of client/sponsor control, increasing the scope for creativity, innovation, and a focus on design. Independent judgement leads to winning schemes that are poorly matched with client/user needs.

Source: compiled by the authors based on research findings.

petition formats: the overall costs and the amount of 'wasted' effort are likely to be higher than they would in impure formats, the chances of winning are slimmer, outcomes are less predictable, and there is therefore greater potential for impractical winning designs. This suggests that as one moves along the spectrum from pure competition formats towards impure formats, both the benefits *and* the drawbacks of competitive design might be likely to diminish. This is an important point because the empirical study that follows challenges any inevitability of such a relationship. Through its CDP, the City of Sydney has sought to devise flexible competition formats that allow for the drawbacks of pure competitions to be addressed while maintaining their benefits. It is to this initiative that we now turn.

The city of Sydney's design competitions

Sydney CBD is a narrow and geographically constrained area of land bounded to the west and north by the harbour and to the east by parklands (Figure 2). It has a haphazard morphology produced by the combined effects of topography, unplanned beginnings, post-war land amalgamation, and high-rise development. Many property boundaries are irregularly shaped, streets are narrow and irregularly laid out, and levels of site coverage and enclosure are high. Following decades of design 'agnosticism', the legacy of which was a swathe of unsympathetic developments that damaged the city's heritage, blocked views, and overshadowed public spaces, design concerns were uplifted by the City of Sydney from the 1990s.³⁹ Alongside design review processes and more sophisticated design guidance, a key initiative here was the introduction of mandatory design competitions for major public and private developments in 2000. The principal aim of this initiative, enacted through the City's Competitive Design Policy (CDP), was to improve the design quality of major property developments, not least by generating greater variety in the practices designing buildings.

The CDP provisions introduced in 2000 survive today, albeit with recalibrations. The City's statutory plan, the Local Environmental Plan (LEP) 2012, requires all developments in the CBD that meet or exceed either specified height (55 m), site area (1,500 sqm), or capital value (AUS\$100,000,000) thresholds to be subject to a design competition. The granting of planning approval is contingent on those competitively designed developments being deemed by planning authorities to exhibit 'design excellence', as determined by the way they address the matters listed in Table 4. To compensate developers for the costs of undertaking competitions, the City may award a bonus of up to a 10% increase in either building height or Floor Space Ratio (FSR).

There are three types of design competitions identified in the CDP: 'open' competitions, 'invited' competitions, and 'the preparation of design alternatives on a competitive basis' (known as 'design alternatives').⁴⁰ We have summarised the similarities and differences between these three competition types (Table 5). The key difference between 'competitions' and 'design alternatives' is jury composition. Although there is some blurring, juries for open and invited



Figure 2.
Aerial view of Sydney Central
Business District, 2019, courtesy of
sydneyimages.com.au, photo ID
190531-A102

competitions are split between nominations from the Council and the client, while the design alternatives juries are client-appointed and require no design expertise. The client makes the decision on the choice of competitive design process.

Most design competitions in the City involve a 'staged' Development Application (DA) process. Within this process, a 'Stage 1' DA is akin to a development control plan, essentially gaining in-principle support from the planning authority for the basic parameters and configuration of buildings and spaces. This Stage 1 approval informs the subsequent brief for the design competition, which is prepared by the client but must be approved by the City. Setting out the client's aspirations, the programme for the project and competition deliverables, as well as details of the judging process and assessment criteria, the brief is central in shaping competition outcomes. The assessment criteria and their weightings blend design, commercial, and practical considerations: compliance with the planning brief including relevant controls (15%); compliance with the commercial brief including development budget, marketability, floor space, use, and parking (15%); compliance with the design brief including urban design, public domain, architectural design, internal planning, sustainability,

Table 4. Matters considered by the City of Sydney in assessing design excellence.

-
- a high standard of architectural design, materials and detailing appropriate to the building type and location
 - form and external appearance that will improve the quality and amenity of the public domain
 - impacts on view corridors
 - the suitability of the land for development
 - the existing and proposed uses and use mix
 - any heritage issues and streetscape constraints
 - the location of any tower proposed, having regard to the need to achieve an acceptable relationship with other towers (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity, and urban form
 - the bulk, massing, and modulation of buildings
 - street frontage heights
 - environmental impacts, such as sustainable design, overshadowing and solar access, visual and acoustic privacy, noise, wind, and reflectivity
 - the achievement of the principles of ecologically sustainable development
 - pedestrian, cycle, vehicular, and service access and circulation requirements, including the permeability of any pedestrian network
 - the impact on, and any proposed improvements to, the public domain
 - the impact on any special character area
 - achieving appropriate interfaces at ground level between the building and the public domain, excellence and integration of landscape design
-

Source: Sydney Local Environmental Plan 2012, Division 4 <<https://www.legislation.nsw.gov.au/view/html/inforce/current/epi-2012-0628#sec.6.21>> [accessed 25 November 2022].

and heritage (55%); and buildability including construction methodology, structural design, and services (15%).

The selection of competitors is the client's responsibility but occurs in consultation with the City. There must be at least one registered architect in each competing team, and the City's staff encourage clients to include at least one 'emerging' design practice. Mirroring approaches elsewhere, the latter recognises that smaller and less experienced practices may be excluded from restricted or invited competitions due to client reservations about their capacity to deliver projects.⁴¹ Once invited to participate, the competing practices have approximately 6 weeks to prepare their entry, at which point they present to the jury. Each competitor receives remuneration from the client. This is usually in the order of AUD\$50,000–\$60,000, but sometimes more. After the design competition is completed, a jury report is written and a more developed 'Stage 2' DA follows. Final planning approval for the project is gained at this stage. The City requires that the winning

Table 5. Characteristics of different competition formats in the City of Sydney.

	Open Competition	Invited Competition	Design Alternatives
Invitation process	Public notification of an Expression of Interest	Client invites competitors, with advice from the City of Sydney	
Number of participants	All respondents can participate; usually ends with shortlist of approximately five firms	Minimum 5 firms	Minimum 3 firms
Number of jurors	Minimum 4; maximum 6		Not stipulated
Juror Appointment	Half nominated by planning authority, half by client Only persons with design or construction expertise Majority to be registered architects		All judges appointed by client; City of Sydney observer present
Shortlisting	Jury may suggest refinements to one or more schemes		Jury may request refinements to one or two schemes

Source: compiled by the authors based on research findings.

architect is appointed for design development and retained through to completion.

Evaluating competitive processes and outcomes

Although staff at the City oversee all of the design competitions mandated through the CDP and play a crucial role in shaping the competition brief, as well as determining architect and jury selection, it is the clients that have overall ultimate carriage of the process. This means that clients make the final determining decisions about competition format, programme, and the selection of designers and (most) judges. In 43 of the 46 dataset competitions, the client was a private developer. Clients were public bodies in the remainder. Despite the option of an open competition format being available, all 46 design competitions in our database had instead involved invited (18 out of 46) or design alternatives (27 out of 46) formats (one was indeterminate). These permit significant client discretion on entrant and judging protocols (Table 5). While aspirational in design terms, competition briefs are also highly pragmatic: construction budgets are specified and competitors are expected to accommodate the maximum allowable floor area and meet detailed technical requirements.

Given all this, the competitions for our dataset projects were ‘impure’ in the sense that involvement was not open to all, design teams were known to judges, briefs were prepared by clients and were lengthy and detailed, and those same clients were also directly involved in decision-making. Nevertheless, and despite their impure format, the data we collected for this research provided compelling evidence that the City’s competitions are delivering exactly the sorts of benefits associated with pure design competitions while also addressing many of their drawbacks.⁴² Below we unpack this relationship by

considering the effects of changes in competition format on design processes and outcomes. Drawing in particular on interviews with participants and organisers, we examine, in turn, the influence of four variables in competition format: the number of entrants, designer anonymity, brief flexibility, and the independence of judges.

Numbers of entrants

Although a competitive process, even an impure one, is inherently more open than direct hiring, the number of competitors was small in the competitions for the 46 dataset projects: 10 competitions had 3 competitors; 7 had 4; 19 had 5; 8 had 6; and 1 competition had 7 competitors (data was missing for one project). All these competitors would have been selected by clients, albeit in consultation with the City. The laws of probability tell us that the more entrants in a competition, the more likely it is that the best possible solution will be found. And, there is a related belief that the more open a field, the more likely it is that a competition will draw thinking and ideas from a diverse pool of designers.⁴³ The more competitors, however, the more 'wasted' work, the slimmer the chances of winning, and the greater the logistical challenges.

Although certain interviewees felt that three competitors were not enough for a 'genuine competition' (Architect 12), there was little evidence that the number of competitors was a key determining factor in the success (or not) of a competition, or the quality of winning designs. Rather, the general view from interviewees was that the calibre of designers was more important than the number. This was partly because the design parameters in briefs were tightly defined and largely inflexible. For most interviewees, the limited scope provided by briefs meant that five competitors were ample to ensure that 'everything's been explored' (Architect 6). Designer interviewees recounted the way in which organising for a competition differed from their approach to a direct commission: more staff were involved, particularly younger designers, with more brainstorming activity, a higher level of intensity, and greater emphasis on thinking 'outside the box' (Architect 24). These behaviours are mirrored elsewhere,⁴⁴ and there was no evidence that they diminished as competitor fields grew smaller; it was the presence of competition that changed designers' ways of working, regardless of the number of competitors.

Despite this, our project appraisals and survey of industry awards suggest a possible positive relationship between the number of competitors and the quality of outcomes. We have analysed the number of completed dataset projects achieving a positive appraisal rating and receiving an industry award, in relation to the number of competitors (Table 6). Of the 12 projects resulting from competitions with 3 or 4 competitors, 58% received an industry award and 17% achieved a positive appraisal rating. Of the 13 projects resulting from competitions with 5 or 6 competitors, 69% received an award and 38% achieved a positive appraisal rating.

These numbers are small, admittedly, and possibly skewed by the competitions with the largest fields tending also to be for the most costly and prestigious projects. Nevertheless, there is some support for the suggestion of a

Table 6. The relation between the number of competitors in the dataset projects and the quality of outcomes.

Number of competitors participating	Number of projects	Number achieving positive appraisal rating	Number receiving industry award
3	10	2 (20%)	5 (50%)
4	2	0 (0%)	2 (100%)
5	11	4 (36%)	8 (73%)
6	2	1 (50%)	1 (50%)
Total	25	7 (28%)	16 (64%)

Note: Of the 26 completed dataset projects, full competitor information could be obtained for 25. In the first column of Table 6, the number of competitors is shown. The second column shows the number of dataset projects in which there were this many competitors participating. The third and fourth columns show the number and percentage of projects receiving positive appraisal ratings and industry awards.

positive relationship existing between the number of competitors and the success of a competition. Judges did comment on how ‘a couple of designs will just drop away’ in most competitions, with this leaving a ‘choice between one or two’ where there are three or four competitors (Architect 10).

Despite none of the dataset competitions being of an open format, there was considerable variety in the design teams both participating and winning. A total of 88 practices participated in the 45 competitions, for which data were available, in 223 competitor slots. There were 52 competition-winning practices in total (several competitions were won by collaborations), including 11 wins for practices headquartered outside Australia. Our data record 31 one-time winners, 5 two-time winners, 1 three-time winner, and 2 four-time winners. This indicates that even when competition fields are not open, the systematic use of impure competition formats, over time, can generate considerable variety in the range of practices designing buildings. Interviewees with long-standing involvement in design and development in Sydney confirmed that the competitions mandated under the CDP had helped bring ‘new players into the market’ (Architect 21) and had ‘unpicked relationships’ (Architect 14) between developers and a handful of local practices.

Anonymity of entrants

As outlined in Table 3, designer anonymity is a double-edged sword: it can increase the likelihood that judgement will be made on the basis of design merit, rather than reputation, but it means that judges are unable to take into account the capacity of the design team to deliver a project.⁴⁵ This drawback can be practically eliminated where designers are known to judges and/or clients, as they were in all 46 dataset competitions.

Judgement is not made solely on design matters in the City of Sydney’s competitions: the recent practice has been for 55% of the assessment weighting to

be tied to design concerns, with the remainder relating to planning compliance, commercial considerations, and buildability. Coupled with the known and invited status of designers, this has meant that small and less experienced firms have effectively been excluded from competitions for many major projects because clients considered them not to have the necessary experience or resources. The City's recent approach of encouraging clients to include an 'emerging' practice represents an attempt to address this, and emerging practices have occasionally won. Nevertheless, clients reported that their selection of competitors was still approached cautiously: they would thoroughly vet and even interview design teams and would ensure the inclusion of at least some practices 'who we would know would give us [...] an outcome that we could ultimately work with' (Developer 9). In addition to influencing the selection of competitors at an early stage of the process in this way, certain interviewees pointed to competitions where they felt a competitor's reputation had influenced the decision made by judges. With juries in the City's competitions including client appointees, some entries were said to have won less because of their design merit, and more because client appointees had forced a particular outcome from a 'marketing perspective' (Architect 21), giving emphasis to 'the brand' (Architect 23) of the designers as much as their design. With high-profile global firms in the mix, it is easy to see how judges might find it 'hard not to be influenced by the author of the work' (Academic 2).

While the dataset competitions were entered and won by a wide range of firms, and though clients had frequently been partnered with design teams they had not worked with before, we formed a view that competition entries cannot be assessed solely on the basis of design merit where designers are known to judges. Where assessment criteria include other factors such as planning compliance or buildability, as in Sydney, this may not be a problem. However, it has the potential to become so where juries include client representatives. This we discuss further below.

Flexibility of briefs

There is an inherent tension between flexibility and prescription in any design competition brief.⁴⁶ Because of the limited communication between designers and clients during a competition, the brief must be tightly and unambiguously defined, and yet it must also provide scope for innovation by not being impossibly prescriptive.⁴⁷ There was a widespread view from long-standing competition entrants that briefs in the City of Sydney have grown progressively more detailed and inflexible over time. As one multiple winner put it:

When we used to do the competitions, it was a concept, it was loose. Now when we're doing them they're highly resolved [...] You have a whole panel of technical experts assessing your scheme [...] the whole process has become much more complex, demanding and detailed (Architect 19).

This increase in prescriptiveness is a product of private clients increasingly seeking to reduce their exposure to risk by establishing tighter parameters

for the competitive phase of a project and expecting of design teams a highly resolved entry that can be progressed to the planning consent phase quickly once a winner is announced. As well as the cost implications of producing highly resolved work, some interviewees felt that the level of detail and prescription in briefs was impeding 'real innovation' and reducing competitions to 'a beauty parade for what sort of facade you're going to put on the building' (NGO 1). As client interviewees explained, their role is 'all about risk mitigation and delivering certainty' (Developer 6). Such emphases are clearly at odds with the aims of pure competition, and they can stifle creativity and close down opportunities for qualitative debate among judges.⁴⁸ While client interviewees made it clear they 'don't want surprises' (Developer 6), however, they appreciated the opportunity that a tightly controlled competitive process provided for comparing alternatives; letting 'the market' decide on a winner (Developer 1). The support of private clients for competitive processes is unsurprising given the association of competition with efficiency and cost-effectiveness in the business world: competition is something that 'capitalists understand' (Architect 3).

While briefs may have become progressively lengthier and more detailed over time, this does not appear to be preventing high-quality projects resulting. Of the 26 completed projects in our dataset, 53% of those granted planning consent between 2001 and 2006 received industry awards, and 23% achieved a positive rating in our design appraisals. The equivalent figures for those approved between 2007 and 2012 were considerably higher: 73% and 36%. While many factors might have influenced these numbers, this does indicate that a more exacting competition brief does not preclude high-quality competition outcomes, and might even facilitate them. This is supported by our interview data, with the majority of interviewees believing that competition outcomes had improved over time, alongside the progressive tightening of briefs. What our findings suggest, overall, is that the tightening of briefs does not necessarily diminish the benefits of a competition for design quality, though it does constrain the scope for innovation unless non-compliance is permitted. They also suggest that an appropriate balance between prescription and flexibility in briefs is something that can be found iteratively over time through processes of trial and error. Importantly, however, more demanding briefs have cost implications for designers, something we return to in the conclusion.

Judging processes

The judgement of competition entries by experts with no personal or professional stake in a project can help focus attention on the relative design merits of entries, but it may also lead to outcomes that are poorly matched with the needs of clients and/or users.⁴⁹ In our dataset competitions, at least half of the jury members were appointed by clients. Those client appointees were sometimes independent design experts, but many were not. One positive consequence of this was that a focus on user needs and buildability was guaranteed. Although we inquired of our interviewees regarding any instances of

competitions not going according to plan, not one was able to point to an example where difficulties in the relationship between clients and design teams had led to the abandonment of a development, or even to its quality being seriously compromised. Nevertheless, interviewees did identify various problems associated with the involvement of client representatives in judging processes. These were particularly apparent when those with property backgrounds outnumbered those with design backgrounds on a jury. We were told of cases where client appointees had sought to direct designers in ways that took away their 'free hand' (Council Staff 1), or had outvoted other judges with greater design expertise. This recalls findings from Canadian competition juries in which client preferences were similarly found to have been decisive.⁵⁰

A frequent criticism of the City of Sydney's competitions among interviewees was a perceived lack of transparency. Because competitions effectively operate as a procurement method, there are no requirements for public scrutiny or airing of entries. And clients were hostile to the idea of any public involvement in what they saw as private processes. Although summaries of jury reports are eventually made public through the planning consent process that follows the competition, full documentation is not readily made available. For some interviewees, this lack of transparency was an opportunity missed for engaging members of the public in design debate, and it also created a situation where procedural irregularities could potentially arise.⁵¹ Although there was no evidence of procedural irregularities in the dataset competitions, interviewees did report to us that design considerations had sometimes been deprioritised where juries were dominated by client appointees.

Conclusion

This paper has focused on the benefits and drawbacks of 'impure' design competitions and is based on the analysis of the design competitions held for 46 major development projects in the City of Sydney over 17 years. It responds to calls for more systematic analyses of the costs and benefits of competitive design while also adding nuance to the arguments about the benefits and drawbacks of design competitions, and addressing criticisms of the anecdotal nature of much previous work on the topic.⁵² In this final section, we return to our original question of how the benefits of competitive design might be harnessed without the drawbacks and consider the implications of our findings for practice. Whilst the competitions in our dataset were all products of the City of Sydney's CDP, a globally unique planning policy, they closely resemble widespread practice elsewhere. In particular, they share similarities with procurement procedures used by many public bodies in Europe through their small number of competitors and high levels of client control.⁵³ In this sense, we believe our findings and conclusions have pertinence beyond the Sydney context.

Our overall finding is that impure competition formats can address most of the drawbacks of pure design competitions while still delivering many of their benefits.

Four key variables in competition format were investigated: the number of entrants, designer anonymity, brief flexibility, and the independence of judges. Our findings indicate that moving from a 'pure' to an 'impure' competition format increases the predictability of outcomes and reduces the chance of winning designs being poorly matched with client and/or user needs. The small number of competitors also makes remuneration possible and reduces the amount of logistical work for organisers. Despite their impure format, the City of Sydney's design competitions have elevated the quality of major property developments and shifted emphasis away from commercial imperatives while also diversifying the pool of practices attracting design commissions.

Despite these positive general findings, a move towards an impure competition format is problematic for some of the variables we investigated. While neither the success of a competition nor the quality of the winning design appeared to be contingent on a large number of competitors or a flexible brief, the loss of jury independence did seem to be more harmful: interviewees told us of cases where judges representing the private clients had sought to sway design direction for commercial reasons or outvoted fellow judges with more design expertise. These sorts of issues were reportedly the exception rather than the rule but had nevertheless occurred. A lack of designer anonymity had sometimes also been an issue where juries were dominated by client appointees; the marketability of a design team's brand had too easily become a key determinant in decision-making.

With respect to practical implications, our research findings provide support for the more widespread use of impure design competitions. Compared with pure competitions, an impure format can reduce cost (for both participants and clients) and unpredictability while maintaining many of the quality-related benefits of competitive design. Greater predictability may be undesirable in certain circumstances, for instance, for high-profile cultural projects, but it is not a problem for the sorts of projects that dominate our dataset and are commonplace worldwide: privately financed developments in high-density urban settings.

We therefore see value in legislative and policy settings that make competitions mandatory while providing scope for variations in format. A pure competition format will be appropriate for public projects where 'out of the box' thinking (Architect 5) and high levels of public engagement are desired. Where a site is located in a sensitive and highly regulated context, however, and especially where the client is a profit-seeking entity, there appears to be no real need for a large number of competitors, nor a flexible brief. The planning controls will already establish tight design parameters, and a limited number of competitors will be enough to ensure that there is a varied and thorough investigation of design possibilities and that a high-quality design should result. The inclusion of smaller and less experienced design practices among competitor invitees should nonetheless be encouraged. It can help harness the creative potential of a competition and its capacity to unearth talent. Regarding judging processes, our findings indicate that the domination of juries by non-designers and/or client appointees is something to be avoided. And, with respect to designer anonymity, competition

entries can never be judged solely on the basis of design merit where the authors are known to judges. For this reason, and even within impure competition formats where fields are small and entry is by invitation only, an element of blind judging is likely to be beneficial.

There are two further points to make about practical implications. The first concerns the compensation available to developers for undertaking a design competition in the City of Sydney. To offset the costs of undertaking a competition, a bonus of up to a 10% increase in building height or floor area may be awarded. Where such an approach is in place, there is scope for these bonuses to be calibrated to incentivise particular competition formats. For example, reflecting on earlier discussions, the available bonuses might be scaled to increase in line with the numbers of competitors or independent judges. Our second point also relates to cost. It was apparent in our research that competitors routinely spend four or five times what they receive in fees on their entry. This is clearly a deleterious situation for both competitors and the profession. It can only be avoided through strict limits on the number and types of drawings and other materials that may be submitted.

Impure design competitions are not inherently open and democratic in the same way that pure competitions are, and their more tightly controlled nature is likely to reduce their potential for generating innovation, stimulating public discussion, and unearthing new talent. Nevertheless, our research findings suggest that they can represent a valuable means of balancing design aspiration and commercial pragmatism for privately financed projects in high-density urban settings. An impure design competition appears to us to be capable of delivering many of the quality-related benefits of a pure design competition, but in a format that is more palatable to private sector clients and less costly to both participants and the profession as a whole. Whilst cautioning that there may be harmful consequences for design processes and outcomes where an impure competition format allows for the domination of juries by non-designers and/or client appointees, we believe that our research findings make a compelling case overall for the more widespread and flexible use of mandatory design competitions as a governance tool.

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