Quantifying the Value of an Architect’s Fame, Using Game Theory

Steven Fleming
University of Newcastle

Matthew Dwyer
University of Newcastle

Game Theory is a branch of applied mathematics that analyses strategic situations where the success of one player’s strategy depends on which strategy their opponent adopts. Despite the theory’s pejorative associations with authoritarianism and Cold War paranoia, it remains an effective quantitative tool, and is increasingly finding uses among scholars looking at moments of conflict in history. To date, it has not been used in architectural research, possibly due to the qualitative nature of the field generally.

The paper helps build a case for the use of game theory by architectural historians, by showing the theory’s capacity to cast light on a particular conflict from the past, between Louis I. Kahn and the church building committee of the First Unitarian Church in Rochester, New York. From the maths, we can see that Kahn’s desire to become famous, and the fact that his client’s were complicit with this, were instrumental in the project ever reaching fruition.

The paper furthers an immersing trend toward quantitative research in architecture, and the humanities generally, resulting from a disquiet with purely poststructuralist approaches. Where an ideologically framed study might ponder the absolute rightfulness or wrongfulness of Kahn’s tactics in business, Game Theory asks what rewards or consequences awaited him as a rational self seeking player. It proves axiomatic that, on the basis of probabilities, the rewards that can be yielded from strictly unethical tactics often outweigh any negative consequences.
The Fame Game

It is hard to imagine an architect winning the fame game without, on their road to success, coercing a few semi-reluctant clients into funding their sensational shape-making, or similar extravagances, which the media savvy architect knows they can publish. By extravagances, we are not referring to marble or gold. In recent years the trend has been toward details that at first look Spartan, but remain evidently expensive, employing raw titanium, frameless glass, or smooth exposed concrete, for instance. While at times the architectural press may give coverage to innovative low cost solutions, there is still no escaping the reality of who does the paying: clients, who when it comes to low cost innovations often pay by wearing the risk that some detail or material selection for which their architects are receiving awards and reviews, may not perform or last as expected. Dramatic cantilevers, façade articulation, ostentatious proposals bound for delay during approval, operable roof and wall planes, decoration, or any other means of innovation along some agreed stylistic trajectory, are often designed to get an architect’s work into the architectural press, more so than serving clients’ expressed needs.

For many up-and-coming architects, those not yet receiving commissions to design opera houses or modern museums, the fame game must necessarily entail a little deception. For young architects, the fame game is often one of taking ‘clients’ and convincing them to spend money, or take risks, in the manner of ‘patrons’. Somehow, architects aspiring to fame need to drag a little photogenic extravagance from commissions their less endowed clients presumably hoped would be low budget ventures.

Research into the strategies employed by architects successful in the fame game, commonly try to demystify what researchers have nonetheless taken to be relatively complex cultural phenomena. Gary Stephens, as an example, stresses the importance of being raised in an artisan habitus.8 Becoming famous depends on how well the architect wields what Pierre Bourdieu calls ‘cultural capital,’ Stephens has argued. Alternatively, from a study of numerous cases, Roxanne Kuter Williamson concludes that architects are statistically more likely to find fame if they have previously worked alongside architects who, at the time, were in the process of becoming famous themselves. She argues that architects who witness firsthand the nitty gritty of the mechanics of fame, learn how to apply their former employers’ tricks when embarking on their own self-promotion.

Using Game Theory, the present paper investigates tactics that are rather more base. As well as being media savvy and chic, the paper provides evidence that fame-driven architects can be cunning when it comes to extracting more generous budgets from clients. Luring their clients into weaker bargaining positions, they charm, coerce and finally bully in order to get what they want. Architects who win at the fame game, it will be argued, are often the ones who play hardball.

It does not require proving that such questionable behaviour sometimes occurs. The story of Mies van der Rohe’s seductive coercion of Edith Farnsworth, who carried the bill for an unliveable house for which Mies is immortal, plainly tells of architects’ potential for selfishness. What Game Theory shows, is that even architects operating well within the ethical boundaries set by their peers, routinely bring clients into a game of sorts, at which architects are expert and clients are likely to lose.

To ground the inquiry, reference will be made in this paper to a particular case study example, one where the architect is not remembered for behaving unethically, or in fact for coming away the clear victor. It is the case of Louis i. Kahn verses the Church Building Committee for The First Unitarian Church in Rochester, New York. By closely examining the archival correspondence generated during the prolonged design phase for this project, with the aid of Game Theory, it will be shown that Louis i. Kahn, despite not achieving everything he might have hoped to achieve with this commission, nonetheless achieved more than he could have reasonably expected, given his clients’ meagre means. He appears to have done so as a rational agent, mindful of his opponents’ aims and their rationality, therefore making him able to anticipate their actions, and ultimately outplay them.

After providing a brief background to Game Theory as an historical tool, key moments in Kahn’s dealings with his clients in Rochester will be outlined. Focussing on two crucial moments, Kahn’s negotiations with them will be analysed using Game Theory. While some of what will be revealed may be obvious to those with experience in architectural practice, what can be shown about a formal game theoretical analysis that is unique, is the theory’s utility to architectural historians and theorists. In a very detailed manner, it casts light on “certain relational patterns that otherwise would [go] overlooked”, drawing attention to current practice in the process.

Game Theory as an Historical Method

While Game Theory is traditionally thought of as a tool that strategists use in making predictions, since the 1960’s certain criticisms, and misconceptions, have caused a shift away from such uses, and at the same time made space for Game Theory to be used to do history. Admittedly, most topics from the past which game theorists have chosen to study continue to reflect the tool’s traditional affinity with military and economic strategising. Examples of political histories include: an analysis of the history of US-China relations in terms of what game theorists call a 2x2 game; a retrospective on Mahatma Gandhi’s use of non-violent protests; an historical look at the main reasons for countries going to war; a comparison of political insurgencies; two studies by political scientist Frank Zagare – the first a critique of America’s war-time relations with the North Vietnam; followed by a similar study of America’s Cold War relations with Russia; a game theoretical study of an ingenious live-and-let-live, or shoot-to-miss pact, between fighting trench soldiers during the Second World War; and, an historical study of Germany’s reunification, where both sides faced what game theorists call a prisoners’ dilemma. Economic historical studies have addressed, for example: wage changes over time within the British Coal industry; failures in Chinese agriculture and the world’s overproduction of tea.

All these are works of history, in the crude sense that they unpack past events into an historical narrative. Where a specialist historian might contend that history when done by a game theorist lacks awareness of certain poststructuralists tenets—an obligation to give a voice to the voiceless, for instance—the studies referred to above feature something many histories lack,
and that is a quantitative component. This strength of game theory, either as a method of historical inquiry or as a tool to augment more sophisticated work by historians, will become more apparent as the example of Kahn's dealings in Rochester are worked through in the following section.

An Architectural Case Study Where Fame was a Factor

Owning an architectural practice is not like owning a factory. Notwithstanding recent attempts by software producers to implant themselves within the industry, set up costs remain so low it could be said that architects own little more than their reputations. Louis Kahn's office on Chestnut Street, Philadelphia, was certainly not capitalised the way industrial enterprises are capitalised, with stockpiles of materials or heavy machinery; this is one of the reasons liquidators of Kahn's estate unearthed a net debt. What Kahn did own in 1954, when Rochester's Unitarian congregation specifically set out to find a high profile architect for their new church, was a reputation for having designed the widely publicized Yale University Art Gallery in New Haven, (1951-53).

The principle innovation for which that building had received so much praise was the tetrahedral concrete space-frame construction of its floor slabs. These provided a hitherto unknown kind of interstitial space in which air handling services and lighting fixtures could be kept from direct view, particularly suited to the problem of exhibiting art. Yet from letters published much later by Kahn's muse and mistress Anne Tyng, it is now known this innovation was more the result of Tyng's fascination with Platonic solids and the work of the charismatic engineer Buckminster Fuller, than any predilections of Kahn's.

In 1954 the Unitarians from Rochester could not have known it was actually one of his employees, not Kahn himself, who was behind what was at that time Kahn's most publicised contribution to the advancement of architecture. To them, Tyng was invisible. Her impacts on Kahn's work could only have been viewed as proof of Kahn's own creativity. In fact, the creative efforts of many full time employees of Kahn's, like Marshall Meyers for example, plus the efforts of a succession of lowly paid and volunteer students and graduates to have passed through Kahn's office (many like Moshe Safdie, Robert Venturi and Tadao Ando who would go on to be famous themselves), would have appeared to Kahn's clients as Kahn's efforts, not those of his junior employees. From a game theoretical perspective, Kahn, like almost all name-brand architects, can be seen to have set himself up as part agent, part editor, operating in an airlock between his talented employees on the one hand and his clients on the other.

The inherent value of Kahn's own fame is evidenced by the fact that his employees did not attempt to steal his commissions. Neither did the Unitarians try to employ any of Kahn's staff directly, something they might have been tempted to do when they hit a stalemate in their dealings with Kahn, a little over one year into the project's design phase.

In the following pages, events leading to that stalemate will be brought into focus, so that Game Theory might be enlisted as a way of understanding how Kahn broke the impasse and saw this project through to fruition.

It is clear from the list of architects who were approached by the church building committee from Rochester's First Unitarian Church, that these particular clients were enamored by fame.

They would appear to have viewed Kahn as less famous than Frank Lloyd Wright and Eero Saarinen, who turned down the commission, but either more famous, better suited, or some combination of the two, than other famous architects like Paul Rudolph, Carl Koch and Walter Gropius, above whom Kahn was chosen.

If, as the quote at the beginning of this paper suggests, architects desirous of fame must exercise their talents for "sensational shape-making", Kahn's initial work on the project...
between May and December 1959, certainly betrayed his ambitions. Every scheme he presented to his clients came wrapped in a polygon, from octagons (Figure 1) to squares (Figure 2). By grossly inflating the size of the school they required, Kahn explored a variety of ways of enclosing a sanctuary with classrooms, in the hope he might build a polygonal edifice that would surely have captured the attention of the architectural press at a time when the norm was picturesque planning.

The illustrated square scheme (Figure 2), was presented on 12 December 1959, and would have cost $860,000. When the committee reminded Kahn their maximum budget was $460,000²¹, Kahn responded with an almost identical scheme, this one with an estimated budget of $660,000.²²

Kahn and his clients were at loggerheads. Kahn envisioned a grand building that he knew would bring him further press, but which would cost his clients far more than their budget allowed. The Unitarians, meanwhile, wanted the cache of a named architect's design, but for the price of something a purely commercial architect might have provided. A 2x2 game matrix (Matrix 1) can help us understand the situation more clearly.

Each possible outcome for the individual players is assigned with a positive or negative integer. For the client, for example, a budget increase was a negative outcome, but obtaining a church by a named architect would be a positive. The sum of these outcomes is the 'pay-off' entered in the matrix. The value left of the comma pertains to the client, while the value right of comma is Kahn's. Matrix 1 gives us an omniscient view of possible outcomes at this stage of the conflict.

If Kahn continued to persist with overblown design proposals, and his clients held their line by refusing to increase their budget, Kahn risked losing his clients and receiving minimal payment. Kahn would lose his time, any hope of increasing his notoriety through the project, and even the hope of receiving a full measure of professional fees. At the same time, should Kahn succumb to his clients' requests for a cheaper proposal, he could at best have achieved a neutral outcome, receiving remuneration for his time but without realising his envisioned design. Neither would he have furthered his fame.

From the Unitarians' point of view, being tough with Kahn by threatening to dissolve their arrangement, could at worst have given them a neutral outcome. They would have lost some time, but would at least have received advice on site selection, some preliminary plans to take to another architect, and they would have learned something from the experience. The client's payoff of '2' in the upper left cell, represents their ideal outcome of receiving a designer-name building without the designer-name price tag.

If Kahn was to persist with over blown schemes and force his clients to raise their budget, he stood to gain some fame from the project and a full measure of fees. The payoff of '2' to Kahn in the lower right cell represents Kahn realising a building from this commission to arouse the interest of the architectural press—if only his clients would raise the money required to build a polygonal edifice!

However, Matrix 1 reveals something about the state of play in December 1959 that would not otherwise be apparent, and that is that Kahn was the only player who stood to lose at this juncture. Looking at the matrix, Kahn was the only player with a likelihood of achieving an entirely negative outcome. Furthermore, the total sum of all outcomes available to Kahn at the time (0,-1,0,2) added up to a total of 1, while his clients' possible outcomes (2,0,1,0) add up to 3. Simply and quantitatively, Game Theory reveals Kahn's strategic disadvantage in December 1959.

What remains to be considered though, is Kahn's far greater experience in architect/client dealings over his relatively naïve opponents. It might also be noted that the act of architectural design itself is one that regularly demands exemplary foresight, an ability to envision a wide range of outcomes and a certain degree of empathy—all highly valuable in a situation of tactical strategy and in which Kahn would be practised. In order to turn the tables on his clients, Kahn appears to have orchestrated a game of attrition.

Kahn's opponents in this game, the volunteer members of the church building committee, were coming under increasing pressure to deliver a building. Their previous church had been demolished to make way for a down-town development. Compensation they had been paid for this was being held in their bank, waiting to fund the construction of their new church. However, the need to rent a temporary place of worship was starting to eat away at that lump sum.

Correspondence that today is kept in their church archive shows their fellow parishioners were also inundating the building committee with suggestions.²³ Many had even written directly to Kahn.²⁴ One member of the congregation would later go so far as to build a scale model to conduct photometric studies of lux levels in Kahn's proposed sanctuary.²⁵ Their entire Unitarian community in Rochester keenly anticipated the building of a church, and a school for their children.

The committee's December stalemate with Kahn ran into the Christmas/New Year break, and when the committee next met, on 4 January 1960, it was with a new sense of urgency. Appalled now by Kahn's apparent disregard for their financial circumstances, they kept accurate minutes of this and all subsequent meetings. Their convivial chair, Dr. Maurice Van Horn, was replaced by the more assertive Mrs. Helen Williams, who minutes record was directed to, "write to Kahn immediately."

Her letter told Kahn bluntly that his latest proposal had been over budget, inflexible, deficient of useable classroom space and unsuited to the site. "Under the circumstances," Williams declared,

we feel that further revision would be futile and that a brand new approach to the problem would be preferable [...]. It is disappointing to realize that some eight months have elapsed already and we have nothing to show.²⁶

Her strong words made no difference to the state of play though. As before, Kahn only stood to lose if he invested more time in the project—time he might not be adequately paid for—and win if the committee came through with more funds, to build something spectacular. Designing something on budget still would only have placed Kahn in the neutral position of working for money, a scenario that presented him with little hope of becoming more famous through this commission.

Viewed in the light of Matrix 1, Kahn's response to her letter was smart and strategic; he mailed back two poultry sketches. Although these no longer exist, we can gather from Williams's
letter in response ("[your sketches] represent a modification of your original idea")29, that very little time had been invested in them and only a token concession had been made to their budget. Similar letters from the committee, over the ensuing months, were met with similar responses from Kahn: petty rejections, none of them mindful of their budgetary constraints. Two decades later, one of the committee members told an interviewer that the committee, "agonized over [repeatedly] saying no to [Kahn]... taking the chance that he would say "Well alright, you want someone else, pay me off," because that would really cripple our funds."29

By keeping his clients on a drip feed, Kahn had brought about a situation where the building committee could not retreat without paying him for what, to the clients at least, would have locked like a large volume of work by this stage. He had also managed to draw out their stalemate to the point where the committee members would have been embarrassed to see their relationship terminated, as this would have meant going back to their congregation with nothing to show after a prolonged period of paying rent from funds that by this stage had started to dwindle. Matrix 2 reflects the new situation. Despite the remaining possibility of an ideal outcome for the clients if Kahn were to accept their request for something much cheaper, the clients also now faced a negative outcome that was not present earlier. Refusing to raise their budget could have left them with a net loss if Kahn were to persist with overlown schemes.

And Kahn was bound to persist. To persist was now Kahn's "dominant strategy"—to use the game theory term. Kahn would now be better off persisting irrespective of his clients' course of action. If his clients refused to increase their budget, Kahn could now wash his hands of them, and as a parting gesture send them a bill for design schemes he had now been trickling to them for months. Leaving and sending a bill was preferable to succumbing to their requests for a modest scheme, that he would still need to document and oversee during construction, all the while making no progress on his path toward greater fame. By persisting Kahn would leave the Unitarians no option but to return to their congregation and ask them to go into debt in order to raise their budget. While this could only yield a neutral outcome for the clients, a neutral outcome was preferable to the negative outcome that would have followed from Kahn's now guaranteed persistence, should the clients have gone on refusing.

Kahn's next proposal is ostensibly the design that was built, a somewhat pared down, but nonetheless over budget iteration of his original plan to completely encircle the sanctuary with classrooms. As though he knew already that his clients would go back to their congregation and convincingly argue for a budget increase, as they had not done to date, Kahn, who now found scope to realise his vision and increase his repute from the project, began working in earnest.

Shortly, Kahn would begin using the story of this project's design to illustrate a philosophical notion he had recently espoused during a public address at The Cooper Union, on 20 January 1960, that buildings participate in immutable 'forms', much the way Platonic philosophy says 'particulars' participate in the Forms or Ideas. It is a notion Kahn would espouse again in a Voice of America broadcast on 21 November 1960, from which a revised transcript appeared the April 1961 edition of Architectural Design 32 under the now famous title, 'Form and Design'. With each telling Kahn refers to his experience in Rochester, specifically the way he had remained true to his initial idea of encircling the sanctuary with classrooms, because this, according to the philosophy Kahn was creating, represents the immutable 'form' in which all buildings of this type must participate. As an exemplar of his theory of 'form', the Unitarian Church helped Kahn become the "major prophet" of the "metaphysical school" as historian Charles Jencks has described him. Insofar as his quest for fame was concerned, Kahn would drag maximum mileage from his Unitarian Church in Rochester, a building that many in the congregation might have first hoped would be a low budget affair.

Discontent among certain parishioners with the building committee's handling of the project, can be summed up by a letter one member of the congregation, the attorney Judson Parsons, sent to the committee in February 1961:

Had [the congregation] been told: "Yes, this building has just about twice the usual percentage of noise, half of them are unnecessary and they are expensive, and to surround the auditorium with them will shut out all natural light and make it necessary to build expensive, large, cumbersome towers on the roof to filter the light and channel some of it back into the auditorium", some people who voted for the plan might have done otherwise...

You who were then on the committee were our representatives to obtain a plan from Mr. Kahn and to report its advantages and disadvantages to us so that we might make an intelligent decision. You were not Mr. Kahn's representatives... As it is, if this were a purely business affair, people could almost ask for their money back.

As gratifying as it may be, to see Kahn being called out by Parsons, there is nonetheless something disingenuous about the above letter. It makes no mention of the way Kahn's growing fame was paying dividends to their church, which had been attracting new members from the day their new building opened. In fact, so many Rochesterians wanted to join the congregation that gathered each Sunday inside of, and sent their children to school in, the celebrated work of the famous Louis I. Kahn, that in 1964 Kahn was called back to design extensions, extensions no one had imagined would ever be needed. The committee's original interest in having a famous architect design their new church was being vindicated, even if it had meant paying for corridors some thought were unnecessary, or light towers that, in the eyes of people like Parsons, were expensive and cumbersome.

The social science tool that best explains the value of Kahn's fame to the congregation is Pierre Bourdieu's notion of cultural capital. In Rochester, a landlocked old mill town with a well educated workforce, largely serving two major employers—Kodak and the local university—we can imagine some percentage of the population feeling uneasy about having forsaken cultural connections for a good wage. Such unease might be assuaged however through a church member's unique sense of belonging to a building by someone like Kahn, or Wright, or Saarinen, etcetera. While an array of circumstantial arguments might be made, pointing to a craving for cultural significance among Rochesterians, it is safe to presume the building committee sensed from the start that some payoff could be expected if they secured the services of a notable architect.

This also addresses the aforementioned issue of poaching from within Kahn's firm. There is no evidence of any planned mutiny in the one place such evidence might remain now: the church archive in Rochester. Neither the minutes of the committee's crisis meetings in early 1960, nor the letters to the committee.

137
from disgruntled parishioners, suggested Kahn should be cut from the loop.

It is unlikely to have concerned an architect like Kahn, with a high media profile, that the church building committee might approach any of his staff about taking the helm with this project, just as none of Kahn's employees were likely to approach the committee with similar aims. The 'arctic' between client and firm was maintained by the advantages afforded to each side. The clients received the benefits noted above, while his employees were beneficiaries of Kahn's ability to manipulate clients. His junior architects gained experience and produced more elegant and successful buildings, later using Kahn's name to launch careers of their own. This case, with Kahn as the prominent architect at the fulcrum, is indicative of the network of games in architectural practice in which fame, and the desire for fame, remains pivotal.

Acknowledgements

This work was second authored by Matthew Dwyer, recipient of a Summer scholarship funded by the School of Architecture and Built Environment at The University of Newcastle. Thanks also to Agata Komendant-Brodowska from the Institute of Sociology, at the University of Warsaw, for offering her expertise in game theory.

Endnotes

18. The Unitarians from Rochester approached Kahn before he was receiving publicity for his Richards Medical Building, completed May 1960.
22. Report from the Building Committee Meeting, file labelled, "Building Committee Reports 59-60", Historical Records of The First Unitarian Church, Rochester.
23. See file labelled, "Letters to Building Committee", Historical Records of The First Unitarian Church, Rochester.
24. At one stage the committee were forced to write to Kahn and ask him to return requests sent directly. November 4, 1959, file labelled, "Building Committee Minutes 59-60", Historical Records of The First Unitarian Church, Rochester.
34. Letter, Parsons to Building Committee, 24 February, 1961, file labelled, "Letters to the Building Committee", Historical Records of The First Unitarian Church, Rochester.