

Negotiation and Decision Making to Develop a Public-Private-Partnership: A Case-Based Approach

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Abstract: Decision making in practice varies from theoretical models and processes. Unpredictable and ill-structured operating conditions require dynamic resolution approaches underpinned by effective negotiation and decision making strategies to support collaborative work and partnerships. This short paper evaluates negotiation strategies and decision making approaches adopted to reach agreement for a unique Public-Private-Partnership. It examines how decision criteria were formulated and decision rules generated through negotiation process executions, and uncertainties addressed by adopting multi-criteria and evidential reasoning approach. Findings are presented to help improve business performance in future PPPs by making effective decisions based on experience gained through past process executions.

Keywords: Decision attributes and criteria, negotiation, public-private partnerships

1. Introduction

Decisions are not always formally specified and optimised and often affect business performance, especially in rapidly changing and evolving environments characterised by high levels of uncertainty, volatility and ambiguity (Davies and Hobday, 2005). Unpredictable and ill-structured operating conditions require dynamic resolution approaches underpinned by effective decision making and creative problem solving to support collaborative work. Managers are under increasing pressure to deliver more with fewer resources, and this reality requires them to negotiate and make effective decisions in order to achieve, embed and sustain successful outcomes. This short paper evaluates negotiation strategies and decision making approaches adopted to reach agreement for a Public-Private-Partnership between London Underground Limited (LUL) and Heathrow Airport Limited (HAL), a subsidiary at the time of British Airports Authority Plc, to fund the Piccadilly Line Extension to Heathrow Terminal 5 (PiccExT5). The case study spanned a period from 1991 until 2004 when the contract was signed and the rail extension opened in 2008 in conjunction with Heathrow Terminal 5. The project is a truly unique PPP project, in that typically PPPs in the United Kingdom (UK) are governed by European Union Procurement and traditionally led by the public sector whereas with this case procurement was led by HAL alongside Heathrow Terminal 5's other rail project. Therefore, this case provides a source of rich data on which to explore decision-making and negotiations between the public and private sector on a major infrastructure project of significance to the UK economy. The project finance agreement is reviewed to understand how the contractual model was formed to develop the negotiated partnership. Decision and negotiation practices to reach agreement are correlated with theoretical approaches to understand the relationship between theory and practice during problem solving and while making rational judgements and choices. Findings are presented to help improve business performance in future PPPs by making effective decisions based on experience gained through past process executions.

2. Air Travel at Heathrow

Undoubtedly, international air travel is of major economic and political importance to the United Kingdom (UK); and in the South East, due to continued growth in air travel, Heathrow has needed to expand to meet this increased demand. In February 1993 British Airports Authority (BAA) Plc, who own the airport, submitted a planning application for a fifth air terminal on the western perimeter of the airport, costing £4.2 billion and that opened in Spring 2008 (Gannon & Snow, 1998c; Gillagan, 2006). BAA's Terminal 5 was planned to handle 30 million air passengers per annum (mppa) at full capacity, and increase the usage of Heathrow Airport from 55 to 80 mppa

delivering 55% growth (Elliot, 1995). Approximately 64 mppa were forecast to terminate their journey at Heathrow with the remainder inter-lining. In addition to this Heathrow is a major employer with approximately over 50,000 staff working in and around the airport (Kirkup & Gannon, 1996). Both BAA and LUL needed to know the current and future rail and airport demand as this was presented at the Heathrow Terminal 5 inquiry as part of the project's Statement of Case.

3. Rail Links to Heathrow Terminals 1, 2, 3 and 4

Two direct rail services link Heathrow and London, the Heathrow Express (HEX) and London Underground Limited's Piccadilly Line. HEX offers a dedicated airport service operating 4 trains per hour with journey times to Paddington of 16 minutes from Terminals 1, 2, 3 (CTA) and 20 minutes from Terminal 4 (T4). HEX charges a premium fare and has attracted approximately 7 million passengers per annum (mppa) a year in the early years of operation and will raise the mode share of public transport access to Heathrow to around 38% (Gannon et al., 1998). With the Piccadilly Line typical journey times are 40 minutes to Green Park and 50 minutes to King's Cross. The line is the single largest public transport carrier of air passengers to the airport, carrying some 6.1 mppa in 1991, and accounts for 21% of the airport's terminating air passengers, providing an important link to central London. The line also attracts a large number of staff, escorts, visitors and others travelling to the airport. Total usage, air and non-air passengers, for LUL of the Heathrow stations Central Terminal Area (CTA) and Terminal 4 (T4) amounted to 12.6 mppa in 1991 and 13.8 mppa in 1995 (Kirkup & Gannon, 1996; LUL & BAA Plc, 1994).

4. Rail Extensions to Heathrow Terminal 5

Criticality of Public Transport

Providing a high frequency service to central London is an important element of BAA's public transport strategy. BAA submitted a draft order under the Transport and Works Act (TWA) in September 1994 to extend HEX to Terminal 5 and jointly submitted a draft TWA order in November 1994 to extend the Piccadilly line to Terminal 5. BAA publicly indicated before the public inquiry that they wanted to increase the public transport share for air passengers from 30% to 50% (Kirkup & Gannon, 1996). The introduction of Heathrow Express (HEX), its extension (HEX-Ex), and the Piccadilly Line Extension to Terminal 5 were essential if BAA's vision was to be realised (Contract Journal, 1998; Kirkup et al., 1996). The public transport mode share in 2003 to Heathrow, including HEX, was forecast to reach 37.5% and with the PiccExT5 36%; with Terminal 5 itself the PiccExT5 was forecast to increase public transport mode share from 36% to 39.4% (Kirkup & Gannon, 1996). The PiccExT5 was forecast to carry more passengers than the Heathrow Express when non-air passengers such as those meeting air passengers and airport employees are included in LUL's forecasts. In 2010 the PiccExT5 was expected to handle approximately 3m passengers per year (TfL, 2005). Therefore the Piccadilly Line extension provided a significant contribution towards BAA achieving their ambitious public transport target for air passengers and those working at the airport (Gannon, 1998).

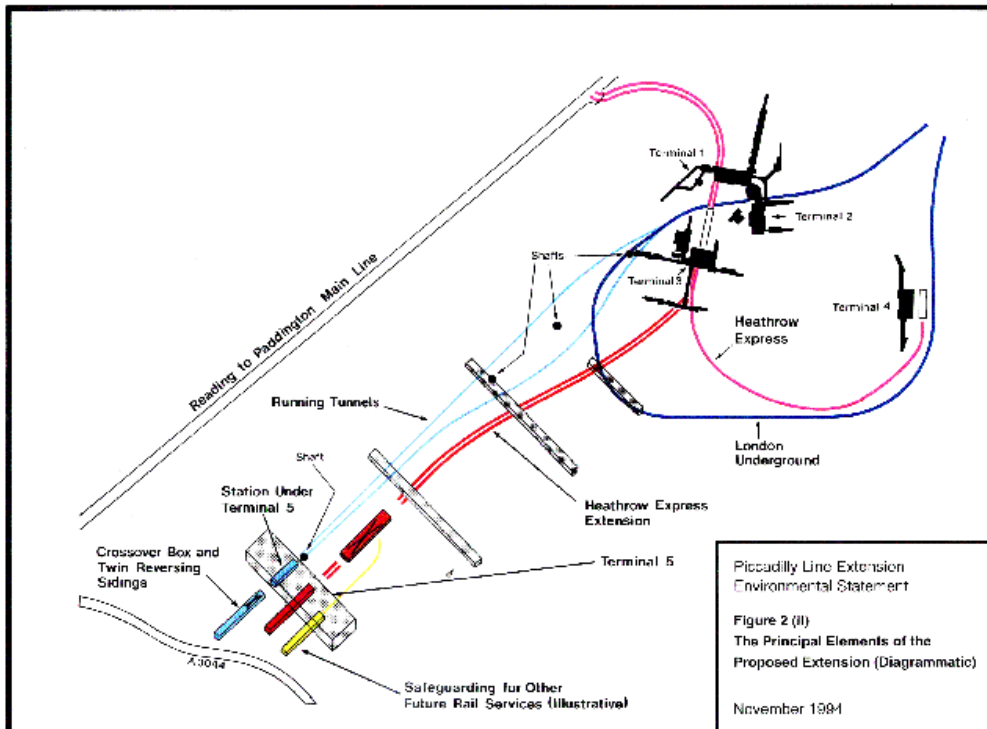


Figure 1: The Piccadilly line Extension and Heathrow Express Extension to Heathrow Terminal 5 (LUL 1994)

Configuration and Service Operations

The Piccadilly Line and Heathrow Express extensions required 2.5 km of new underground twin tracks from Heathrow Terminals CTA station to a new joint station beneath the proposed Terminal 5. Figure 1 shows the layout of the Piccadilly Line and Heathrow Express railway at Heathrow and their proposed extensions to Terminal 5. The Terminal 5 rail station is located in the basement of the concourse of Terminal and has six rail platforms: 2 for the Piccadilly line; 2 for Heathrow Express and 2 for future expansion to the west. Heathrow Express will operate the Terminal 5 stations (Airport Technology, 2008). Both rail services are open for passenger services when Heathrow Terminal 5 opened on 27th March 2008. During peak periods, the PiccExT5, will operate 12 trains per hour (tph) between Central London and Heathrow splitting at Hatton Cross: 6 tph to Terminal 4 returning to Central London via CTA; and 6 tph to CTA onto Terminal 5 returning to from Terminal 5 to CTA (TfL, 2007). Heathrow Express passenger will travel to CTA and arrive 8 minutes later at Terminal 5; passengers wishing to travel to Terminal 4 can change and CTA and board a free inter terminal transfer service (ATOC, 2007).

5. PPP Agreement

Initial Studies and Decision Approach

During 1991 BAA approached LUL concerning the possibility of extending the Piccadilly Line to the proposed fifth terminal at Heathrow Airport. LUL undertook feasibility studies and concluded that an extension to Terminal 5 would be worthwhile with anticipated total benefits, including social benefits, exceeding the likely costs of construction and operation. A number of funding offers were proposed by BAA however these were not deemed viable by LUL and therefore a more collaborative approach was required to be undertaken by both parties to explore funding options and impacts. An "in principle" decision to proceed with the extension by BAA and LUL Senior Managers was taken in March 1994, provided the project could be commercially justified for LUL. BAA and LUL then agreed a development agreement to jointly fund the development works of the project. During the early part of 1994 further feasibility studies were undertaken jointly by BAA and LUL to assess the viability of the project. In addition to these studies LUL and BAA undertook feasibility design and development of a joint draft Order application, under the Transport and Works

Act (TWA), to enable the project to be progressed alongside Terminal Five itself. The draft Order application was jointly submitted by LUL and BAA on 29th November 1994.

The above “in principle” decision agreed between BAA and LUL highlighted the nature of phased decision making processes between the two partners. The initial divergent and exploratory phase generated alternative solutions where decision maker’s personal style and experiential subconscious played a role to develop new solutions. The phase corresponded to the design phase on Simon’s (1977) model of rational decision making where possible courses of action are developed, and the multiple perspectives approach suggested by Mitroff and Linstone (1993). The development agreement lacked complete availability of data that required feasibility studies to be undertaken, and was based on the random nature of decision attributes that evolved during the initial negotiation processes. Both partners were able to work towards a reduced subset of feasible solutions where the outcomes exceeded expected criteria for initial decision attributes if the project was commercially justified. The early stage decision approach for the “in principle” agreement was similar to the evidential reason method discussed by Xu and Yang (2001) that aggregates outcomes from lower level attributes to higher level attributes during the negotiation process.

The Principles of the Agreement

From spring 1996 onwards BAA and LUL worked intensely to develop funding for the extension with the objective of finding a solution that was acceptable to both parties and would enable the Piccadilly Line extension to be operating at the opening of Terminal 5. It was considered essential by LUL that any contribution it made towards the capital costs did not exceed the net income generated by the extension only for LUL by Terminal 5 after additional operating costs were incurred. Furthermore it was important for LUL that any funding proposal considered the significant investment at the existing Heathrow stations that LUL was undertaking ultimately to satisfy the needs of BAA’s airport customers. LUL and BAA Senior Managers agreed to share forecast data and analysis to analyse funding options, sensitivities and scenarios. This meant that two business case perspectives were needed for decision-making: LUL’s public sector social benefit (non-financial) and value for money business cases; and BAA’s private sector business case that determined their Internal Rate of Return post tax nominal (IRR). These extended agreements correspond to the later convergent phase of exploring options based on differing perspectives of the context of the project, motivation of partners, and availability of information suggested by Russo and Schoemaker (2002). Towards the end of 1996 BAA and LUL finally reached an agreement to fund and extend the Piccadilly Line into Heathrow Airport Terminal 5, on the condition the proposed Terminal 5 and extension gained approval by the inspector.

Project Agreements

BAA and LUL then produced a Memorandum of Understanding (MOU) that outlined the principles of the deal was signed between the two parties. From the MOU a formal Project Agreement was then developed. On March 20th 1998, during the preparation of the project’s contractual agreement, LUL’s PPP was announced by the Deputy Prime Minister, John Prescott (Gannon et al., 1998). This announcement had a major funding implication for LUL and for the PiccExT5 project and in 2000 parts of the project agreement needed reviewing to accommodate the PPP and to improve risk transfer. After another round of negotiations taking a further two years the contract was signed between BAA and LUL in August 2004. The main revision to the funding principles were that LUL had 100% revenue risk transfer to BAA compared to the MOU signed in 1996 that provided a 30% of revenue risk transfer. This change facilitated a strong ‘off-balance’ sheet requirement needed for PPP projects approval by Central Government.

Outline of the Deal

BAA funded the construction costs for the extension. LUL made a contribution to these costs in the form of the project’s incremental gross margin on a passenger levy basis between a period of 25 to 30 years after the start of services to the new terminal (Kirkup & Gannon, 1998). BAA also provided a significant capital contribution to London Underground for upgrading facilities at Heathrow Central stations Terminals 1,2, and 3 (CTA) and undertake improvements to train services by 2006/7 (Gannon et al., 1997). With the PiccExT5 contract Tubelines Ltd were responsible for implementing the signals and providing two additional trains (Gannon, 2016). Three of LUL’s existing PFI contractors were responsible for providing and maintaining power, ticketing and communications equipment. BAA’s contractors were responsible for providing the station box, tunnels and track.

6. The Planning Inquiry and Terminal 5 Approval

The Heathrow Terminal 5 Planning Inquiry started on 16th May 1995 and finished on 17th March 1999, lasting 3 years and 10 months and costing BAA £64m and Central and Local Government £17m (DfT, 1999). During the inquiry BAA stated that it did not view the extension of the Piccadilly Line as necessary to support Terminal 5 because their technical evidence showed the impacts of Terminal 5 were acceptable with the Heathrow Express extension. However BAA did indicate the extension of the Piccadilly Line to Terminal 5 (T5) would clearly be advantageous in providing a wider choice of Public Transport services for passengers. London Transport's (LT), now Transport for London (TfL), response in the statement of case was, "LT believes that it would be a serious omission if the line was not extended from Heathrow Terminals 1,2,3 station to Terminal five as part and parcel of the proposed development and opened for service at the same time as the Terminal itself".

On 20th November 2001 the Secretary of State for Transport, Local Government and Regions (DTLR) announced in the House of Commons, "I have today given my approval to the development of Terminal 5 at Heathrow airport. Such a development is in the national interest. It will enable Heathrow to remain a world-class airport, and it will bring benefits to the British economy", (HC, 2001). On the 26th March 2002 the Secretary of State announced an imposed condition that Terminal 5 could not open prior to the PiccExT5 and Hex-Ex being provided before the core terminal building was open. This was to control railway development at Heathrow Terminal 5, as surprisingly these conditions had not been discussed at the inquiry (DTLR, 2002).

7. Findings

Decision making in practice varies from theoretical models and processes. Turpin and Marias (2004) studied the literature on decision making to compare the way managers make decisions in practice, and concluded seasoned decision makers do not rely on formal decision support tools to a large extent. Indeed decision making context along with personal styles and agendas of decision makers influence the nature of decision making processes and project outcomes. Decision making processes are often compromised when team members fall victim to the fallacy where benefits are overestimated and costs are underestimated (Flyvbjerg, 2008; Cantarelli et al, 2010). The case study highlighted that joint-working between the public-private partners required mutual consideration of motivation, work process strengths and weaknesses to ensure managers were clearly able to identify requirements and capabilities for targeted work processes, predict resources, optimise performance, and realise outcomes, (Mitchell and Zmud, 1999). The act of negotiation facilitated integration of interests, expectations, and perspectives and enabled managers to develop common understanding of aims and objectives, and the means to reach those objectives, (Reich and Benbasat, 1996). Integration was realised by synthesising varying expectations and expertise during negotiation and decision-making processes enabling views of both partners to be incorporated. Different sets of assumptions about optimal ways to proceed were considered by prioritising different values and perspectives, and were integrated in the process to develop required solutions.

Moreover, the BAA and LUL agreement demonstrated an approach of formulating decision criteria as decision rules were generated and developed through negotiation process executions suggested by Ghattas et al (2013). As negotiations progressed, managers were able to build on actual process paths followed and decisions made, along with taking into account context of each situation detailed above along with decision process executions. The negotiation processes and decision executions helped achieve business performance for both partners while addressing conflict of multiple criteria. The private partner's criteria were based on its transport strategy of providing high frequency service to the city centre, while outcomes of the feasibility study provided the public partner confidence that the extension project would be worthwhile with anticipated total benefits, including social benefits, exceeding the likely costs of construction and operation. Partner perceptions combined with negotiation and decisions sought to find satisfying and ideal solutions in a multi-criteria decision making and evidential reasoning approach as suggested by Xu and Yang (2001). The approach addressed uncertainties such as absence of data, incomplete description of decision attributes, and random and evolutionary nature of attributes during the public-private negotiated agreement. Thus BAA and LUL were able to reach agreement by developing attributes for criteria as the dynamic process of negotiation evolved.

Additionally, the complexities and unpredictability of unstructured situations required effective decision-making and creative problem solving to ensure successful outcomes as proposed by Munns and Bjeirmi, (1996). Negotiations during PPP development processes enabled managers to adopt new and innovative approaches to integrate perspectives and resolve issues. Decisions were based on negotiated shared contexts and interpretations created through common understanding of interests and expectations in changing situations as discussed by Simon (1977) and Nutt (1989). BAA and LUL mobilised and utilised the knowledge and heuristic judgement of experienced managers to address mutual considerations and integration of alternatives, interests, and expectations, (Sandhawalia and Dalcher 2017). Making decisions on the basis of managers' experience is especially complex as there is need for discussion and negotiation between stakeholders to evaluate issues and frame an agenda for shared context and understanding, (Garcia-Penalvo and Conde, 2014). During negotiation BAA and LUL started from positions of initial interest and recognised the possibility of different outcomes, and accordingly tried to ensure that risk activities were directed towards making an acceptable set of outcomes more likely. Common understanding allowed both parties to appreciate the 'many acceptable futures' proposition and manage risk to produce the changes needed to achieve acceptable outcomes. The findings of this case study have implications for PPPs regarding their ability to manage context and frame an agenda during the negotiation process to make informed decisions.

8. Conclusion

The above PPP agreement was reviewed to understand how the contractual model was formed to develop the negotiated partnership. The long and protracted decision and negotiation processes of developing the PPP from initial offer to contract signature is correlated with theoretical approaches to understand how rational judgements and choices were made and issues resolved. The process was long principally due to: delays in LUL and BAA reaching an agreement, the necessary re-working of the forecast components; lack of LT Board agreement with the principle of negotiating a contract with BAA; and organisational changes within LUL and its environment due to the PPP. In other words, the process required an integration of interests, expectations and perspectives to develop common understanding of aims and objectives, and the means to reach those objectives. Time was required to address uncertainties caused by absence of data, incomplete information and description of decision criteria, and evolutionary nature of attributes during the negotiation process. The examined period provides insights to negotiation strategies and decision approaches of both partners, and the outcomes have implications for future PPPs as despite the many complexities of reaching agreement, the PiccExT5 provides passengers with a cheaper alternative albeit a longer direct route into Central London from the new Terminal. Further work includes developing a multi-criteria decision making framework that addresses partner interests and expectations, and helps frame and agenda and formulate decision attributes to help guide the development of agreements in future private sector driven PPPs.

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