



26 Domestic Airports re-fitted in six months. Image shows Auckland Domestic Check-in completed and ready for passengers.

Project Kingfish

Client: Air New Zealand
 Contractor: Hawkins Interiors
 Architect: Ignite Interiors
 Project Director: Ignite Building Consultancy Limited
 Project Managers: Coffey Projects
 Publication Date: July 2009
 Value: \$15m
 Region: Nationwide 26 Domestic Airports
 Sector: Interior Fit-out
 Project Construction Timescale: June 08 to Dec 08
 Procurement: Negotiated Contract
 Form of Contract: NZ3910 with Special Conditions

What happens when groundbreaking innovation meets an aggressive timeline? In the case of our seventh Pathfinder Project, Air New Zealand's Project Kingfish, the outcome was a success, but valuable lessons were learned along the way.

Background

Air New Zealand's Project Kingfish, set out to revolutionise and improve the customer's journey. This 15-month project installed the latest mobile and barcode technology and platform and kiosk systems within 26 domestic airports around New Zealand whilst continuing to operate on a day-to-day basis.

It was an incredible achievement within such a short timeframe. The result was a world leading end-to-end automated check-in and bag drop procedure. The project met client's expectations, it was delivered on time, to the level of quality required and to the anticipated budget – albeit on the premium side. Yet due to the aggressive time constraint, issues arose. It is a testament to the Project Team that they have been willing to put forward a project that, whilst successful, also reveals valuable lessons that future clients and the rest of the industry can learn from.

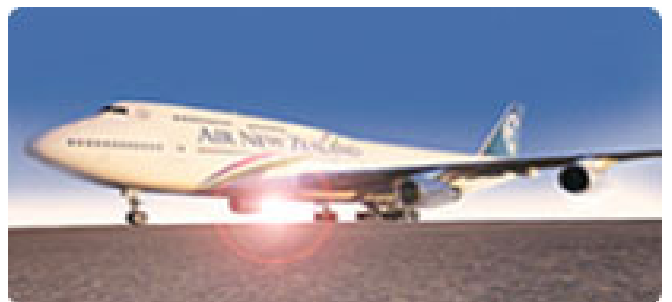
The issues that arose are generic ones that many clients are facing today. Clients are trying new, alternative methods of delivery, but they are setting them up under pressure and are not always aware of the systemic consequences that arise as a result of the choice they made. In this case, the Project Team proved they were able to step up and deliver, but sometimes the cost was a conflict of expectation, particularly between the client and their internal Property Group.

Initially, Air New Zealand had set a 12 month target programme. Four of their major departments, (IT, Marketing, Operations and Property) were involved, plus consultants - at some stages over 400 people. To put it into perspective, the construction segment made up only 20% of the whole project.

Nine months in, the Air New Zealand client found that the project had evolved from reviewing and redefining the customer process, to addressing the full customer experience. The new experience needed to be supported by a new design layout and rebuild of the domestic terminals. In light of this decision they extended the deadline from 12 months to 15 months.

Even with this extension both Air New Zealand's Property Group and Project Manager, Coffey Projects were highlighting the extremely challenging timeframe the client had set in place. Yet the client was determined to achieve this timeline, as it was of strategic importance.

There were now only 6 months for the design, appointment of contractor and construction fit-out of 26 domestic terminals, each with unique requirements. The need to coordinate between the stakeholders, focus direction, improve information flow, accelerate design decisions and establish an improved project governance structure resulted in the appointment of a Project Director. Ignite Building Consultancy's Peter Harris took up this important role.



Additional Challenges Faced

New designers were brought on board

To further exacerbate meeting the deadline, a late decision from the client brought in new designers to ensure that the check-in procedure aesthetic equalled the innovative technology in this world leading end-to-end automated service. Ignite Interiors were appointed to complete all of the design work for the project. Each airport required a different design whilst maintaining a consistent theme. Within one month of getting the go ahead, the Contractors were on site.

Corporate client in conflict with internal Property Group's experience

The Property Group's role was to deliver the fit-out works and ensure that the fundamentals were maintained. From prior experience they preferred the traditional procedures, which gave control of delivery and a known level of documentation in case things went wrong later down the track. In realising the client's timeframe, and still achieving necessary documentation to gain numerous consent processes and 26 airport authority approvals while designing, did not allow for a traditional design, bid, build procedure.

The intensity of the superfast-track approach often resulted in tension due to the 'real time' process and behavioural changes needed to achieve the deadline. Blurred roles provided the greatest source of angst. People were sometimes missed out of the loop, unsubstantial documentation slipped through at times and some traditional procedures were still maintained which created a tension with the demands of the workflow.

Initially this had an adverse effect on establishing relationships. But the team became stronger as people started to embrace the need to work differently and see that the goal was achievable. *"Once on site, everyone came together – it was one coordinated effort"* Graham Smith, Hawkins Interior.

Innovative design and technology

The strong focus on innovation both in design and IT added further pressure on the tight deadline, making delays inevitable. The continual evolution of both design and IT meant that as each aspect changed, others were affected. The design of various components of the airport fit-out had to be innovatively designed to deal with the conflicting objectives of health and safety, usability and material availability. Equipment fundamental to the operation was ordered from overseas early on.

Decision-making

The client also had to grapple with the sheer volume of decisions required from both the overall design and the different requirements of the 26 airports. There was no blueprint to base their decisions on, as it was such a radical departure from standard business models and the first in the world.

All departments needed to review changes to ensure both the functionality and consistency of branding. R&D was happening simultaneously with the design. Delays sometimes occurred as they grappled with decisions. Information was drip-fed to the clients to approve. *"Ignite worked through this with us and made us aware of decisions that were crucial to resolve"* Todd Grace, Air New Zealand.

Often changes had to be made due to availability of materials and resources. This too would need to be assessed. Design decisions fell into two strands – a functional requirement and an aesthetic one. Only if both those requirements were met could it proceed.



Installing the purpose designed kiosk cluster acrylic

Client with no prior experience with construction

The Air New Zealand project team responsible for delivering the project had no prior construction experience though were knowledgeable in project management. This had the benefit of *"allowing us to challenge what was normal practice and bring something different to the table"* Todd Grace, Air New Zealand.

Systems and procedures

Difficulties arose when the fast-track nature of the project meant that to ensure success, people had to let go of their roles at times to allow the project to flow. This meant that a more fluid and trusting approach were often required rather than following strict procedure. When control was maintained, potential delays and frustration occurred. But this fluidness needed to be constantly balanced by the need for appropriate information.

Additional people-power

The implications of the aggressive timeframe meant that more consultants were employed than under typical circumstances. Where one engineer might normally have done the work, 4-5 engineers were employed. This scenario happened throughout all spheres of the project and added to its complexity, skill base and information flow.

The enormity of the project meant that everyone, from the consultants, contractor and client underestimated the time spent on the project. The Project Team's high commitment went beyond normal work conditions where people were available 24/7. Everyone accepted the additional cost of the work to their companies to ensure the project was delivered.



The ceiling barrisol framing presented a significant engineering challenge

Successful Outcomes

Time

Beyond the additional three months granted prior to the commencement of the design, a further two-week extension was approved four weeks out from the original date agreed. It was a collective decision as everyone agreed to the benefits that the two week extension provided for IT, construction and training. Aside from this extension, the programme overall was adhered to. Some production milestones were missed but did not impact the end date. The Project teams were intent on sourcing solutions to meet the timeline. The client was also willing to change specifications to meet the deadline. To help minimise risk, the client also agreed to open the airports on different days rather than all at the same time.

Cost

Property Group maintained governance on the construction budget. The budget was developed simultaneously with the design. The main contractor was asked to fix P&G and margins. Subcontractors were engaged on provisional sums subject to finalised drawings. Where possible, three tenders were sought for the sub-trades. The PQS attended every PCG meeting to help manage the costs. Costs were managed as appropriately as they could be given the fluid nature of the project. There were definitely tradeoffs between the extra cost and speed of delivery. At times work was completed prior to receiving finalised costs. Where costs were at a premium, the client weighed this with costs associated with the need to stall the project for 3-4 months if it did not meet the deadline.

Quality

Overall the quality of the work was of a high standard. Occasionally where there were noticeable differences between the locations that involved local sub-trades, work was redone. Any mistakes were monitored and shared to ensure that they only happened once. *"The project was handed over on time with no problems. The staff are very happy, we have had no negative comments at all during the handovers and very positive comments from the customers"* Graham Smith, Hawkins Interiors.

Remedial lists were completed within two weeks nationwide. *"Ultimately a very good product was delivered"* Todd Grace, Air New Zealand.

The kiosk clusters incorporated hundreds of component parts



The completed product

Established relationships

The Property Group selected Hawkins as the contractor at an early stage of design and a negotiated contract was agreed based on fixed margin and schedule of rates. Their established relationship with Air New Zealand, extensive knowledge of the different airports, and the trust that had been developed between the two parties prompted their selection. It was believed that they would support the fast-track process well and not take advantage of the lack of documentation.

Considered approach

The Property Group's experience in construction and maintenance helped bring a considered approach to the potential chaos. This created a necessary balance between moving at speed and ensuring that key fundamentals were maintained during the process. The Property Group requested a certain level of documentation to achieve the necessary consent processes and ensure that they were covered in case issues arose after completion of work.

Client involvement

The client briefs, particularly the four main ones, stated the purpose and key objectives of Project Kingfish. The construction objectives set by the client helped the Project Team focus on what they had to deliver. They were also involved throughout the project delivery and in all key decisions. Sometimes they were in daily contact with Ignite, particularly during the formative stage.





The barrisol material had to be specially flown in from France

Flexibility

Whilst inherently based on traditional procedures the team also became very flexible and adaptable. *“Each airport was different, so there were always things that had to be changed. It was one of those projects that we all had to be flexible and on our toes”* Graham Smith, Hawkins Interiors. A blur of people’s roles also occurred to ensure deadlines were met. *“Ignite went above and beyond their role as they looked for solutions. They sourced alternative suppliers rather than change the design or cause a delay. They called in favours from their suppliers. The fast track approach meant some decisions were being made literally the day before and roles were becoming blurred – it was the nature of the project”* Todd Grace, Air New Zealand.

Project Control Group (PCG) weekly meeting

The Project Director quickly established a PCG to control the process, act as a decision-making forum and keep the project moving forward. This group ensured that issues were aired and resolved quickly and helped minimise mistakes recurring. Weekly meetings provided pressure to all parties to perform. *“Once the project was under construction the Project Team worked well together in making decisions and being proactive”* Graham Smith, Hawkins Interiors.

RACI Matrix

The RACI Matrix identified and confirmed the roles and responsibilities of the members of the Project Team and helped communication and the flow of information, Having this structure set up right at the beginning helped keep the majority of the fundamentals maintained, even though at times the focus on delivering meant procedures were not always met. This was monitored at the PCG meetings.

Combined Risk register

Air New Zealand Project Team and Coffey Projects, managed the risks throughout the project. The potential risks were discussed at a number of workshops that included the whole Project Team and formed the basis of the combined Risk Register. The risk analysis matrix was reviewed at every weekly PCG meeting.

Project planning

Site delivery of construction was micro-managed despite there being little forward planning due to time constraints. Project stages were detailed and carefully thought out and activities were mapped out on a daily basis. The planning had to take into consideration that it was not a building site but a working area that needed to address airport staff and customer comfort as well.

Part of the project planning was to build a prototype. This was done in parts as the items were produced. Time constraints meant that limited design changes could be made but it helped as a training facility and highlighted a few teething problems, particularly with the IT.

Communication

Key parties were available for input 24/7 throughout the critical phases of the project. This was vital to success. Communication was open and maintained through the weekly meetings and constant dialogue between the Project Team. *“We all thought it would happen, and we were all a team – all positive people and certainly no room for egos, otherwise this project could not have happened”* Graham Smith, Hawkins Interiors. The Project Team realised the need to control communication and agreed to have one source of communication through Coffey Projects who would then disburse information as required.

Health and Safety

Health and Safety was strictly adhered to even under intense time pressures, resulting in clear procedures and exemplary records. Both Hawkins and Air New Zealand placed great emphasis on this. This was crucial as the construction was being carried out whilst the airports operated as usual.

Key principles for repetition

- Importance placed on Health and Safety
- One source of communication
- RACI matrix
- Weekly Project Control Group meetings
- Risk Register formed from group workshops
- A good project Governance Structure



Erecting the barrisol frame and fit out installations had to be done overnight as the airport operates 24/7

Summary of Benefits

The outcome of this project was that Air New Zealand vision became a reality. The journey to create it was intense, often resulting in tension. It would be dangerous for clients to expect this level of intensity to become normal practice. On the upside, the intensity also generated friendships and everyone was extremely happy with the outcome and the sheer achievement of this most challenging project. *“This was a very innovative customer solution that had not been done before. Yes it was difficult, but ultimately a very good product was delivered”* Todd Grace, Air New Zealand.

Lessons learned

Key lessons to take forward from this project have been identified as:

- **Corporate and Property Clients:** This pathfinder project is a good example of the dilemma that clients often find themselves in today. Clients come in two halves – corporate and property clients. The ‘corporate client’s’ business is moving people in transit, or selling them goods and services, etc. Whereas the ‘property client’ is the team within the client organization whose role it is to deliver and manage property and infrastructure to support the core business. The client’s two halves are not always operating under the same drivers.
In this case, the corporate driver was to introduce a new customer experience as fast as possible and the property clients’ driver was to maintain integrity of the process, and ensure the best ‘price’. They achieved the client’s timeframe, a remarkable achievement, but at a premium cost, and so far there has been no major repercussions to the sometimes minimal specifications that supported the work.
- **Systems and Procedures** Continual tension persisted throughout the project between maintaining a level of project management and documentation and enabling a fast-track process. It is important to have knowledge and experience of systems and procedures prior to shortcutting them.
- **Holistic Approach** The time constraints sometimes meant that decisions were made without in-depth consideration of the consequences. It is important to take the time to reflect on key decisions to get the best outcome. Difficult in these circumstances, but the ramifications of some quick decisions did not always result in the best outcome.
- **Clearer Expectations** Even though the brief went a long way to informing decisions, the client felt that they could have been even clearer in their expectations to the external suppliers. Particularly as the fast-track process was different from previous working relationships with established suppliers.
- **Project Governance** On projects of this nature, establishing a good Governance structure is essential and this will often involve having an independent person acting as a client representative or Project director to compliment the project managers.

Possible improvements

As in all projects, there are always aspects which can be improved and which the team can take on board for future projects.

- **Upskill before change.** Property clients today would benefit by being more aware of alternative approaches to achieving their corporate goals before the corporate client descends upon them with a live challenge. Also corporate clients need to understand the implications and long-term consequences of their decisions. New approaches require time to upskill and embed behaviours. The business case for change has become clearer over recent years and there are many sources of further information on achieving best value from the construction supply chain.
- **Clearer communication channels within client organization.** A more simplified project management structure with less communication lines to go through would have helped the decision-making process. During the process Ignite supported the client in developing ways of ensuring fast decisions could be made by them as the design progressed.
- **Appropriate systems and processes.** Fast track projects demand strong leadership and high commitment from the whole Project Team in conjunction with appropriate systems and processes to manage time, cost, quality and Health and Safety. Systems and processes for a project’s needs, should ideally be developed and in place prior to embarking on a new delivery method. There is an opportunity for clients in New Zealand to become more familiar with the needs of delivering fast track projects well.
- **Earlier involvement of Contractor and Architect.** If the Contractor was brought in earlier changes could have been made that would have benefited time-wise to the project. By working as a complete team from day one improvements could have been made to the buildability of the design. *“Lessons have been learnt from this project and if an occasion arose for another similar project I believe that the process would be enhanced by bringing the main contractor at an earlier stage for the buildability of the joinery and workings of the whole concept”* Graham Smith, Hawkins Interiors.

Conclusion

Trialling and adopting new ways of working under pressure may mean clients get what they want, but not without some pain and a possible risk of failure. Ideally, where there are two client halves, corporate and property group, they should evaluate their procurement procedure together and develop an overall strategic plan aligned to their drivers before they ‘feel a project coming on’. In this case, the procurement procedures and delivery processes needed to match the fast track approach demanded by the corporate client.

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