Cost saving in the area of **Load Control safety**

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From the authors

COVID has put the aviation industry under a level of stress that has never been seen before. This is forcing airlines to consider every aspect of their operational practices and resourcing including areas that may previously been considered "off limits". The purpose of this white paper is to explain the long standing philosophy of Air Dispatch to safety in the load control process and to demonstrate how this approach also reduces costs.

Introduction

We can guarantee that a portion of the people reading the title of this white paper will have a Pavlovian and Luddite response of "it's dangerous to cut costs on safety processes". Many of those same people will also tell you that outsourcing always leads to a reduction in safety levels. It will come as no surprise that we at Air Dispatch passionately believe that neither of these two responses are valid. Indeed the closed mindset of this approach will see your costs increase over time whilst not taking advantage of the latest thinking in safety management or advances in operational best practice.

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KEY TAKEAWAYS

Maintaining labour intensive complex systems and processes means higher costs and sub-optimal safety.

The need to dramatically reduce costs across all areas has driven companies to look at areas that have previously been off-limits. Even the investigation of potential cost improvements in safety critical areas is hugely emotional and fraught with danger. This paper will argue that, done carefully, increased safety outcomes can be realised alongside cost improvements.

COVID is proving to require constant and significant changes to the flying program as countries open up and lockdown. Choosing to work with a specialist outsourcing provider allows airlines to manage this variable cost by moving away from fixed cost internal teams to a pay-as-you-go system whilst taking advantage of the latest thinking on productivity.

The specialist area of Load Control, which lives on the border between Ground and Flight Operations, is all too frequently overlooked. New generation systems have been programmed by some airlines to be sub-optimal in order to accommodate legacy process and thinking. Adopting and rigorously enforcing a simple process will allow the investment in the expensive and complex Departure Control Systems to be maximised.

Sometimes you can't do it yourself

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A simple process

Simplicity is safer than complexity.
Individuals or teams that are designing processes should look at the task that needs to be undertaken and identify the steps required to complete the task. Having identified the steps, look again and decide if the steps are really required and strip away anything that is not. An example of this would be a process around aircraft data held in a weight and balance system.

Some airlines will require the Load Controller to check aircraft data against the manuals for every flight which can take a minute or more.

1 minute check

1 666 hours

100,000 flights per year

Saving a head annually

The flight data comes from the master database which will be correct unless it has been altered and the staff notified.

Clearly the given example shows how there can be a saving by removing unnecessary tasks from the process - but will it reduce safety? We would argue that only on very rare occasions will the database and manuals be out of synchronisation, creating the possibility of an error. With this in mind, there is a significant chance the Load Controller checking the data will have confirmation bias and simply not see the error when it occurs.

A much better way of working would be to have a process with the database management team that requires them to alert the Load Controllers when they make a change to the data. This process should require the operator to check the specific piece of data that has changed for 24 hours after the change in order to ensure that the system has picked it up. By alerting the Load Controller that there is a chance of an error, you give the Load Controller on the flight a much higher chance of spotting the error whilst reducing the interaction time on each flight, thus improving safety and reducing costs.

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Limited exceptions to the process

The Air Dispatch team has been designing load control processes for well over 10 years and one of the most common pieces of feedback from the outstations is: "We can't do that, we need to do it this way". Whilst we understand the need to discuss the process with the outstations, the presumption should be that they will comply. After all, if an outstation were to suggest that they could not comply with the company's branding standards, it's unlikely that an exception would be granted, so why should an exception be granted for a safety process?

Take Control
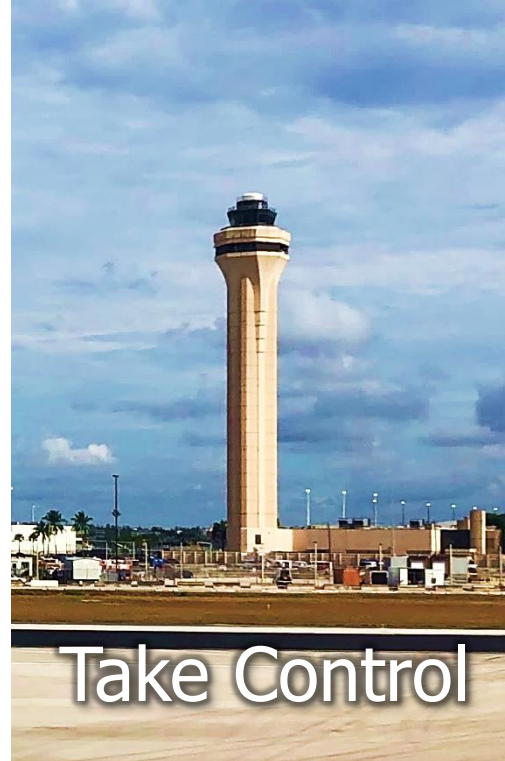
Rigorously enforce the process

Having now designed the simple process and put it into practice, the rigorous enforcement comes into play. There is a tendency in the aviation industry to only report incidents or significant near misses that have safety implications. We believe all process failures should be reported, collated and analysed.

Over time, there is a tendency of operatives to bend processes and normalise these deviations. If a process failure is not reported, even if it made no difference to flight safety or on time performance, then there is no record of the deviation and it will not be addressed and become normalised. Clearly there is no need to have a formal investigation into every failure but if, for instance, the cargo and mail figures are always late from a particular station and it's never reported, then it will never be addressed. When the issue eventually causes a delay to a flight, there will be the inevitable "your cargo figures are always late" versus the "you have never complained before, show me the evidence" conversations that are so typical of delay management in the industry.

Trending of reports can highlight and therefore address deviation of process before it becomes normalised.

In order to encourage staff to report, not only do you have to set out the regulations for reporting, you also have to **make the process of reporting easy enough** that it does not create a "speedbump" in the Load Controller's day. Finally, you have to do something with the report. If someone has taken the trouble to report an incident, then you have to address it - the Load Controller has to see that it makes a difference. If a Load Controller continually reports the same problem at a station and nothing is ever done, they will feel there is no point and stop reporting issues. Action does not always have to be taken for every individual report, but it is essential to **share the monthly analysis with the staff team** so that they can see how their individual reports are aggregated into the monthly reports.

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Culture, culture, culture

Having established the process and the enforcement, the final, and most important, piece of the puzzle is the company culture.

Culture in an organisation is everything and we have worked hard to establish a truly Just and open culture in Air Dispatch. We don't believe that anyone comes to work with the intention of making errors. If they do, then they are toxic and there will be HR processes in place to remove them from the organisation. Having established that principle, then it's the job of the management and the safety team to do all we can to provide the platform for the Load Controllers to go out and perform safely and efficiently thus minimising the chance of a human error. This culture is ingrained into them from the first days of training when a senior company manager will attend the training course to explain the culture to the trainees.

We instil in them the importance of the task they will undertake. We encourage them to feel comfortable reporting mistakes, no matter how small, and finally we make it clear that our zero tolerance approach to failing to report errors at the earliest opportunity means they risk dismissal no matter how inconsequential the original mistake. This leads to a high level of reporting compliance which in turn allows for trend analysis and addressing issues on a data-led basis before they become significant and systemic.

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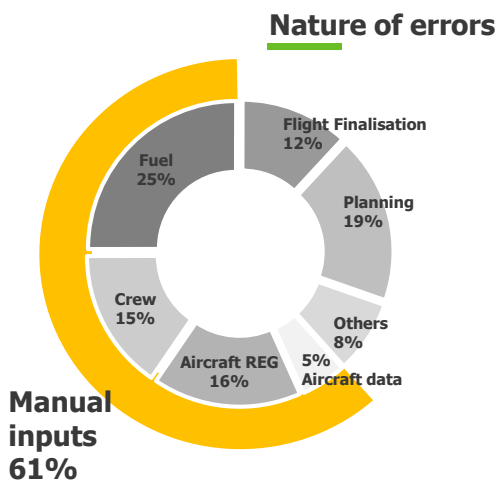
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Automated data transmission

Re-keying of data is a long-standing problem in the aviation industry. It goes back to the days of DOS based mainframes that could not communicate with each other and processes not being updated to take into account the power of modern computing. It's not just the Aviation industry though; in 2018, a freedom of information request to the UK government revealed that there were still over 8000 Faxes being used in the UK 's National Health Service. The use of them was so ingrained that it took a ban on the purchase of new devices in to encourage the Health trusts to look at modernising their processes.

We know from experience that frequently there is resistance to investing in integration of different systems in an organisation and this will mean continued re-keying errors.

Not only is re-keying data less safe than an automated bridge between systems, but it comes at a financial cost. Manually entering the cargo data for a widebody aircraft into a weight and balance system can take up to 30 minutes, and we are aware of one airline, not a customer of ours , that requires this on all their flights. This carrier operated about 90,000 flights pre COVID.

Incredibly, this **carrier wastes** approximately **45,000 hours** per year taking printouts from the Cargo Management System and manually re-entering that data into the weight and balance system. Automating the data transmission would improve safety and remove **20 heads** and their associated costs from the process. In addition to the labour saving there is the cost of printing and storing the paper copies in case of an incident. I am aware of one carrier that spends **20,000 US dollars a month** printing, storing and shredding load Control documentation.

Nature of errors

- Flight Finalisation 12%
- Planning 19%
- Others 8%
- Aircraft data 5%
- Aircraft REG 16%
- Crew 15%
- Fuel 25%
- **Manual inputs 61%**

Air Dispatch had an error rate of 0.01% in 2019; however, digging down into the data reveals that 61% of the 0.01% were due to input errors where we were required to take the data output from one system and manually re-enter it into another system.

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Beware of patchwork process change

No matter how focused things are, **there will, at some point, be a process failure** that either impacts safety or on-time performance. It's almost inevitable, after an incident and subsequent investigation, that there will be pressure to find blame and often it's easier to blame a process rather than accept a human error. Clearly in some cases the error will highlight a gap in process and adjustments need to be made to the process. In other cases, the need to be seen to be doing something after the incident generally results in pressure to add an additional, unnecessary, step to a procedure.

Can you imagine for a moment a wobbly bridge - the simple answer is to add more steel to the bridge to add rigidity and strength. Following this to its logical conclusion, eventually you have added so much steel that the bridge collapses and thus you have created exactly the situation you were trying to avoid. The same analogy is true in the area of process change; continual addition of elements to a process will eventually lead to a complex patchwork process which is much more likely to fail than the original simple process it was designed to replace.

Process change should be made on the basis of root cause analysis and not on the basis of emotion or just to satisfy a perceived requirement to implement corrective actions to close the case.

Notwithstanding the above, **every process should have a review date.** These reviews should be undertaken with a systematic approach, frequently asking the "why" question. Involve all the stake holders and have a mixed team including Load Controllers with a full range of experience. Use the review as a chance to develop less experienced members of the team. Don't be afraid to remove elements of a process if they are no longer needed.
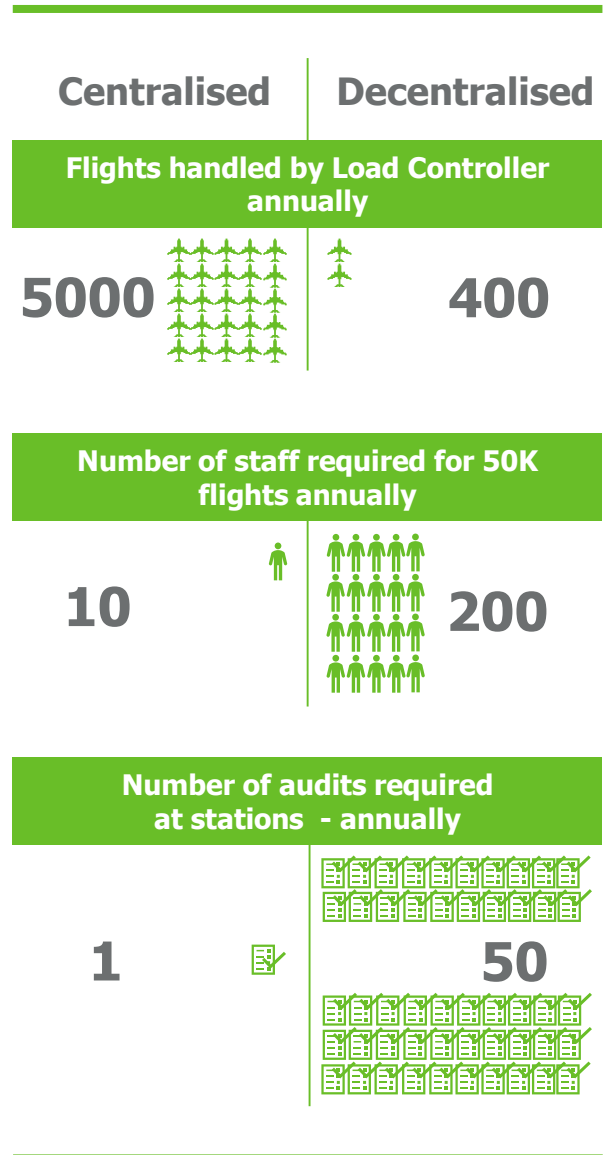
Every process needs maintenance

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Economies of skill will improve safety

One of the easiest things you can do to save money and improve safety is to concentrate the work with a skilled group of individuals in a small number of locations.

If you assume that the airline will operate to 50 airports with a three times daily operation - a morning, afternoon and evening departure. This will mean an operation of about 50,000 flights per year. In a decentralised environment this requires a minimum of four trained staff per station, or 200 across the network, to handle the weight and balance requirements of the carrier.

In a centralised environment, this volume of flights could be handled by just 10 staff. In the outstation, these Load Controllers will each handle a maximum of about 350-400 flights per year; whereas in the centralised environment, the same Load Controller would be able to handle 5000 flights a year. That means that a Load Controller in the centralised environment will gain more than twelve years of experience over the decentralised Load Controller every year. Clearly a decentralised Load Controller will look after a number of airlines in their shift which will increase the likelihood of an error, with them having to remember multiple airlines' different operating procedures. Reducing the number of trained staff from 200 in fifty locations to 10 in a single location has additional benefits on reduced training and audit costs.

Centralised	Decentralised
Flights handled by Load Controller annually	
5000	400
Number of staff required for 50K flights annually	
10	200
Number of audits required at stations - annually	
1	50

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Sometimes you can't do it yourself

Every organisation believes it has the best working methods but how do you know your organisation is actually making optimal use of your resources? Weight and balance is a process and the aim of that process is to deliver a loadsheet, there is no benefit to using anything other than the optimal process. Take the number of flights your airline operates each year and divide it by the number of load controllers employed by your organisation, if the answer is a number lower than 5,000 then there is a good chance you are using a sub optimal process.

Load Control is a highly specialised area often with a lot of legacy. It costs nothing to ask the price so I would recommend contacting a dedicated CLC provider with a deep understanding of modern process to ask the "why" question. They will also be able to provide fact based solutions and help build a business case for possible outsourcing and a move from fixed to variable costs.

Life after COVID

The aviation industry will recover and there will be a need for a return to scale. Many carriers will have scaled down their inhouse workforce and this offers the option to upscale via outsourcing. A specialist outsourcing partner is likely to have a significant amount of multi-platform, multi-customer experience in their area of competency that they will be more than happy to share. This sharing leads to continual refinement of process, a continual improvement of safety, and frequently a continual optimisation of costs.

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Air Dispatch CLC is the world's leading supplier of outsourced Load Control services and has a client portfolio of tier one national carriers. In 2019, it set a record for the number of flights handled, becoming the first organisation to handle a million flights in a calendar year.

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