Going live... lessons from Terminal 5

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A key measure of success for any project must be what customers experience immediately after the 'go live' date. When projects become fully operational, how often is there a negative impact on customer service?

When it comes to large projects, there is a strong tendency for top management to be focussed on the state-of-the-art infrastructure that is being introduced, whether it is a new distribution centre, computer system or airport terminal. While the long-term benefits of the new infrastructure may be unquestionable, this 'management focus' can often deflect attention away from the customer, who, as the Terminal 5 opening showed, may be severely affected by the transfer of the ongoing operation. Sadly the importance of the 'go live' period is a frequently neglected area of project implementations.

In today's rapidly changing markets, managers are increasingly focussed on multi-disciplinary projects in order to re-engineer business to provide a competitive advantage. In fact many managers may spend more time on project work than on traditional line management responsibilities. By their very nature new projects tend to be exciting – at least in the first few months or years of their life. However, key project personnel are often seeking to move on before the project finishes. While the initial design may be exciting, the operational detail of the 'go live' phase may seem rather mundane in comparison, and is often passed to day-to-day managers near the end of the project.

Unless the operational management has been the key driving force behind the project from its initiation, then there is a real danger that the 'go live' phase does not receive the attention it deserves.

While this decrease in interest may be happening at the project management level, senior management are obviously very interested in a new project reaching the commissioning stage and look forward to the benefits that this will bring. However, again the focus is likely to be on the overall design of the infrastructure and how this will eventually benefit customer service and profitability. The transfer of the ongoing operation is frequently regarded as a detail, not worthy of the same attention.

Should this 'detail' of transferring the ongoing operation be regarded more seriously by senior and project management teams? The experience of the opening of Terminal 5 would suggest that this should be the case and in fact, this is supported by previous research at Cranfield School of Management into warehouse automation projects – many of which happened to involve similar sortation technology as the baggage handling systems at Terminal 5.

Terminal 5 – success or failure?

It can be argued that Heathrow Terminal 5 was an outstanding success with the project reportedly completed on time and within budget. Awards have been given for its architectural design and the new terminal provides a platform for delivering higher customer service levels than were previously possible at Terminals 1 and 4.

Similarly, it could be argued that the planning for the 'go live' phase was extensive and thorough with preparations including:

- a six year construction programme
- 400,000 man hours of software engineering for the 17 kilometres of conveyors
- six months of training staff and testing systems
- 15,000 volunteers conducting 66 trials
- 32 aircraft trials
- baggage system tested (fully loaded) 20 times prior to opening

Nevertheless, the 'go live' was a customer and public relations disaster. As reported in the media, there were long queues and delays at the terminal, thousands of bags went missing (28,000 not with owners four days after opening) and many flights were cancelled (about 500 in the first two weeks). The backlog of baggage was so severe that many were forwarded to Milan and the USA for sorting and despatch to the last known addresses of customers. In addition, some insurance

Photograph courtesy of T5 Insider

"...We compromised on the testing of the building as a result of delays in the building programme. If I was to pick on one issue that I would do differently... it is that particular issue."

Willie Walsh, Chief Executive, British Airways.

Source: Minutes of evidence taken before the House of Commons Transport Committee, 7 May 2008.

Photograph courtesy of T5 Insider

companies declared Terminal 5 as a 'known risk' and would therefore not compensate travellers for lost baggage.

The corporate consequences were severe, with British Airways suffering a loss of reputation. The financial cost to the company was reported to be £16m in the final five days of March 2008 alone and traffic volumes in March/April 2008 were down from 5.6m to 5.3m passengers year-on-year (although, as always, this could be due to a mix of factors). As for the British Airports Authority, the bad publicity has stimulated the debate over their control of the three major London airports. In addition, affected airlines and retailers have sought compensation. For example, passenger throughput at Terminal 5 was down from the projected 70,000 to 40,000 per day (owing to the postponement of the transfer of long-haul flights) resulting in a loss of business and some closures of airport shops.

While the 'go live' difficulties appeared to come as a surprise to all concerned, there have been plenty of warnings of this danger, not only from other airport openings (such as Denver and Hong Kong, which also had significant baggage handling problems) but also from many other large scale projects. Some of these, such as the new distribution centres for Sainsbury's were also well publicised, with the availability of goods in the shops being disrupted, their market share falling and their share price being affected.

Cranfield research

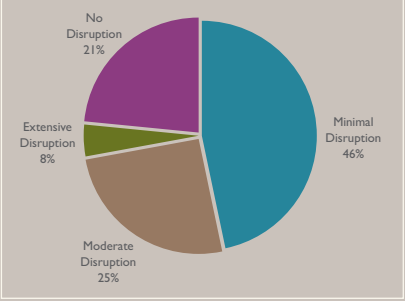
Prior to the Terminal 5 debacle, a research study was conducted by Cranfield School of Management and facilitated by The Chartered Institute of Logistics and Transport (UK). A survey of 27 automation implementation projects was conducted to answer the following questions:

- How often is customer service disrupted during the 'go live' phase of such projects?
- What are the main reasons for disruption?
- What lessons can be learned?

The projects were all based at distribution centres that had implemented automated equipment, such as storage and retrieval systems (ie computer controlled cranes for pallet or case storage), conveyors and sortation systems (ie similar technology to the baggage handling system at Terminal 5), order picking systems (such as automated dispensers), and unloading / loading equipment. Approximately half of these automation projects were in new buildings as at Terminal 5 and about half in existing buildings. The results showed that almost 80% of implementations involved some disruption to the ongoing operation, with 33% experiencing moderate or extensive disruption (see Figure 1).

Placed in this context, it should therefore not have been surprising that Terminal 5 experienced difficulties at the time of opening. The survey also found that the sites which suffered from major disruptions tended to have much shorter 'ramp up' times, with only one month being allowed on average for the full operation being transferred, whereas the other sites allowed an average of three months. Interestingly, the plan at Terminal 5 was for an initial 350 flights per day, followed by a further 120 long-haul flights within a month. The long-haul flights were later staged over a seven month period, after the initial opening difficulties.

Figure 1: Extent of disruption to the ongoing operation



The reasons for the disruptions, as quoted by the survey sites were wide ranging (see Figure 2), including the information technology system, the equipment installation, the building construction and the impact of new technology on people. This range of reasons indicates the multi-disciplinary nature of such projects.

Operational planning

The key question which remains is whether management in companies are fully aware of the importance of operational planning and preparations for the 'go live' period. In our survey, only one company mentioned they had a detailed plan for the ongoing operation and this company experienced no service level dip.

In the case of Terminal 5, the Chief Executive of British Airways advised the Transport Select Committee that the building programme was, in fact, not 100% complete and this compromised testing. At the same hearing, the Chief Executive of the British Airports Authority advised that 28 of the terminal's

Figure 2: Reasons for disruption to the ongoing operation

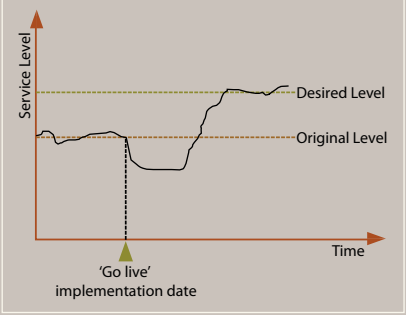
Factors	% of respondents
IT system	32%
Equipment installation	27%
Consolidation of sites	11%
Building construction	6%
Impact of new technology on people	6%
Failure of people to work on time	6%
Equipment not performing to specification	6%
Extended hand-over time	6%

275 lifts were not operational on day one. It was reported that a discussion took place as to whether to scale down or postpone the opening but, presumably, it was decided that the risk of a significant disruption was very low. With hindsight, the Chief Executive of British Airways stated that he regretted that decision and the one major lesson learned was that the planned six month testing period should not have been compromised. This should act as a valuable lesson for all management teams involved in major projects.

Potential risk to customer service

The potential effect of automation projects on customer service levels can be depicted by a 'service level dip' (see Figure 3). The intention of the project is often to improve customer service levels but, in the short-term, it needs to be recognised that there is a significant risk of a reduction in those service levels – unless the 'go live' period receives the senior management attention that it deserves.

Figure 3 : Service level dip, potentially arising from warehouse automation projects



Success factors

A key measure of success for any project must be what customers experience immediately after the 'go live' date. There are three important lessons from our research and from the experience at Terminal 5. Firstly, a key component of any project should be a detailed plan of exactly how the operation will continue through the 'go live' period. This should include risk assessments of what could go wrong in this critical period and contingency plans for every potential eventuality. Secondly, the testing, training and commissioning programme should be seen as an essential part of the project. It is not something that can be 'squeezed' if other elements of the project overrun. Finally, the ramp-up of the operations should be realistic. 'Teething problems' and 'snagging' are normal in all large infrastructure projects and therefore the scale of the operation should be increased gradually so that these problems can be rectified without affecting customer service.

Managers are frequently 'bullish' about projects and often it is regarded as being 'negative' to add a word of caution or realism to the discussions. A letter by Alan Braithwaite, visiting professor at Cranfield School of Management, to the Financial Times stated that: "T5 shows a troubling lack of corporate memory and learning", as there have been many prior instances of such events. All managers need to consider how to incorporate these important lessons from the past into their projects. MF

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Check list for the 'go live' period:

✔ *Have operational management 'driven' the project throughout?*

- if not, have they been responsible overall for the 'go live' plan?
- do they have any concerns?

✔ *Is there a detailed plan for 'go live'? Does this include:*

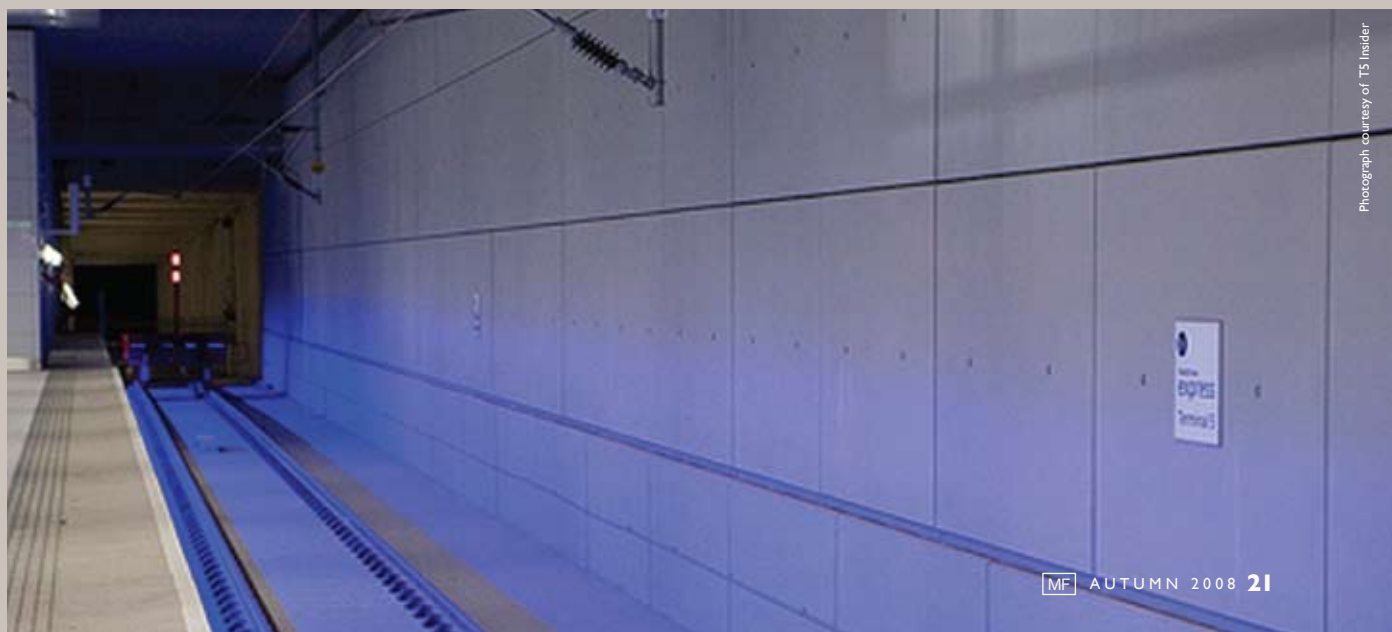
- hour-by-hour, and day-by-day, detail of the ongoing operation?
- risk assessment of what could go wrong?
- contingency plans for each eventuality?

✔ *Has full testing, training and commissioning been conducted?*

- have staff been fully involved, are they supportive and do they have any concerns?
- have all person / machine / system interfaces been properly assessed?
- is everything working fully?
- if not, what will be the impact of any ongoing 'snagging'?

✔ *Is the 'ramp-up' realistic?*

- will there be time for problems to be identified and rectified as the scale of the operation increases?
- is there a contingency in place so that 'ramp-up' can be slowed?
- if a rapid 'ramp-up' is necessary by the nature of the project, has there been any compromise of the testing programme?



Photograph courtesy of T5 Insider

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