Large technology projects - success and sustainability

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Abstract: Creating a successful and sustainable large technology project means asking some hard questions. What does your public find interesting about your object? What resources do you have for the project, now and in the future? How can you maximise the benefit you get out of the project? This article suggests some ways of answering these questions before you have made any costly and irreversible decisions.

Introduction

Large technology projects are usually started with such fanfare and enthusiasm, yet so often end up as expensive white elephants, struggling for visitors or languishing unfinished in a corner of the workshop. They sound so good when they are on the drawing board: the trouble is, on the drawing board they are nice and flat – they fit in a filing cabinet, don't leak, don't rust and don't cost money.

On of the big issues I see with large technology is that there are some very standard ways of dealing with it, basic assumptions about the way it "should" be restored, maintained, used and displayed. The most common ones seem to be:

- People will be interested in it
- We need to make it work
- We need to strip it, rebuild it and repaint it
- It's a one-off cost
- Everything will be finished by date X

Most of the time I think these assumptions are just plain wrong, and the successful projects are the ones where people have asked the hard questions BEFORE deciding how to use their large technology objects. So let's look at these assumptions in more detail.

Assumption 1: People will be interested in it.

Will they? Have you asked them?

What is most important about the object to you and your collection? It was used by a particular person? It demonstrates a particular type of technology? It provides evidence of a particular event?

What is important to other people about the object? This may not be the same thing that interests you! Many large technology objects were mostly used by adult men, but most museum visits are made by families and schools. Keeping these visitors interested means helping women and children relate to the technology, so information on individual people who used it and the effect it had on families and society may get more repeat visits than discussions of horsepower and torque.

Large technology items have long, complex lives. While this is often a challenge – if you decide to restore an object to one period you inevitably destroy evidence of other periods (Fig 1.) – it is also an opportunity; different aspects of the object's manufacture and history can be used to interest different types of people and to link the object to different themes and displays (Fig 2).

Fig 1: This M113A1 Armoured Personnel Carrier and Light Reconnaissance Vehicle has seen service in Vietnam, Rwanda and East Timor. All its service periods are significant, but repainting it for display in its Vietnam or UN colours would destroy all the paint and evidence of use from its East Timor service.

This is important because the more familiar people are with an object, the more they seem to become fond of it, as it becomes part of their own personal history. Having a depth and variety of information about the object, going beyond just the wood or metal structure, allows you to build a package of information which can be tailored quickly and efficiently to different outputs – brochures, web features, event publicity, education programs and even linkages with other museums. The more exposure you can give it, the more you can build a profile for your object, and – if you can get it right - the more people's interest will grow.

Figs 2a and 2b: The wooden wings of the Memorial's Albatros D.Va fighter aircraft provide information not only on the early use of aircraft in war, but also on the materials, construction and repair techniques in use at the time (note the bound and glued repair in 2a), the beginnings of mass production (note the rib numbering system in 2b), and even a connection to the individual people who made the aircraft (note the signed certification panel in 2a).

Assumption 2: We need to make it work

Do people really want to see technology objects working? Well – to some extent yes; operating objects are a huge drawcard and really help people to understand what a machine does. But one machine can often tell this story better than ten. One operating machine is a focus; people usually stop to watch it for a considerable time. Ten machines are more distracting – people tend to walk past all of them and then just keep walking, without having really engaged with any of them.

Also – how often are you really going to use them? In your galleries, with fixed operating times, they may get used regularly. If they only come out for special events, how many special events do you have each year? The Memorial spent a lot of resources developing a fleet of operating objects, before realising that there weren't that many events each year which needed them, and if they weren't used at events they needed to be exercised regularly to keep them in good condition. This used lots of resources but had a really minimal impact on public programs.

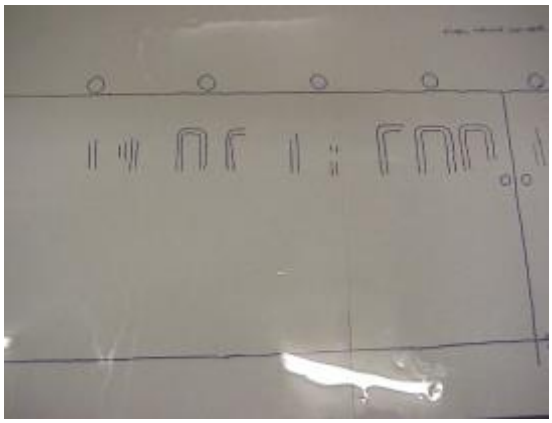
Assumption 3: We need to strip it, repaint it and rebuild it

Hmm...you could also translate this sentence as " We need to remove all the grease, filters, gaskets, repairs, dents and stains which demonstrate how this object was used and maintained. Then we need to remove all the paint which demonstrates what it really looked like and what sort of paint was available and popular at the time. Then we need to make new bits which don't have any of this information in them and put it all back together and say we have something that is more original than when we started." The sad fact is that most restored objects contain more information about the skills and materials used in the restoration than in the original manufacture and use of the machine.

But – I hear you say – it's corroding and dirty and the paint is all faded!

Well – yes and maybe no. Too often large technology is "preserved" by being sandblasted and repainted. Key information on paints, lubricants, manufacturing marks, use and wear marks and a hundred other small details is swept away as rubbish on the floor and lost forever.

- Corrosion is big a problem if the object is stored outside, but usually a minor problem indoors. Corrosion may date from before you got the object – in your museum environment the object may be quite stable, or just require cleaning and wax coating to protect it from dust and hands.
- Some dirt will be from when it was in use, particularly oil and soot stains and stuff in hard-to-reach places like underneath. Can you leave the dirt that it acquired in its service life and explain why it is there? Visitors find objects that look used much more believable than ones which look as though they just left the factory.
- The paint may be faded but it stills holds lots of information (Fig 3). Use rubbings to work out original colours and patterns, leave well-adhered paint where it is and do the minimum inpainting/overpainting to help your visitors understand the object.

Figs 3a and 3b: The original paint on the Memorial's Hawker Sea Fury FB.11 Fighter Bomber was retained under new paint which recreated its appearance when it was still in service. In a shaft of raking light one day, rocket markings in the original paint on the outside of the cockpit became visible as proud areas under the new paint. These confirmed the aircraft's service history, which before had been in some doubt.

The Burra Charter[1] has an excellent maxim: conservation should involve "changing as much as necessary but as little as possible". To work out what you <u>really</u> need to do to your object, try listing all your tasks under the following headings:

For stability

For safety

For handling/operation

For aesthetics

You DO have to do the tasks to make the object stable and safe. But you DON'T have to do the things that only change its appearance, and you DON'T need to do the tasks that would make it operational (unless you <u>are</u> actually going to operate it).

At the Memorial we have found this to be a very powerful way of clarifying what is essential (Figs 4a and b), what is desirable if you have the resources, and what has been put in because... er...well, actually we didn't really think about it that much.


Figs 4a and 4b: Initial plans for the restoration of the Lancaster Bomber "G for George" included $30,000 for the engines to be overhauled by Rolls Royce engineers. At an energetic round-table discussion however, we realised that we weren't intending to operate the engines, full dismantling would remove all evidence of WW2 assembly and maintenance practices, and what we had initially thought was corrosion in the

engines was just coolant precipitates. So we left the engines intact, flushed and inhibited the interior spaces and saved ourselves $30,000 and a lot of history.

Assumption 4: It's a one-off cost
Is it?? Sit down and imagine what will be happening to your object (and your funding) in 2, 5, 10 and 20 years.

At the start of a large technology project enthusiasm is often matched by money – grants are awarded to set the object or site up as a heritage resource. However few governments or private sponsors are interested in putting money into general maintenance, and money to do a big overhaul on an object is unlikely to become available more than, say, once a generation. So by and large, future costs for objects must be met by future income.

Firstly you need to estimate the annual costs for maintaining the object. For static objects the costs will mainly be "tender loving care" – regular inspection, dusting, lubrication and pest control. This sounds simple, but you need to make sure your display design gives you enough access to do your maintenance, that you have equipment like scissor lifts to get to the difficult bits and crucially that you have someone responsible who makes sure the maintenance happens. For running objects there will also be exercising, servicing, periodic repair (say an average of two repair jobs a year), fuel, and training, licences and insurance for the people who operate it.

Secondly, every 5-10 years you need to add in time and money to manage slow, cumulative change - renew coatings or inhibitors that are past their use-by date, reassess whether working objects are still safe and reliable, train new people to repair and run them.

Thirdly, you need to look at the long term plan for your organisation. You want to keep your objects in good condition, because in 10-20 years you will probably be looking at renewing displays or improving your site, not re-restoring objects you restored earlier. However you may be able to treat really big objects or collections in stages, perhaps coinciding with staged plans for your site. This way you may be able to get new funding and new corporate enthusiasm for each stage.

Assumption 5: Everything will be finished by date X
And pigs can fly! Large technology projects generally take months or even years to achieve, while management, sponsors and government departments all tend to change their budgets, their deadlines and their minds on a much shorter timescale. This means that as the project progresses you may face unexpected treatment problems, drastically reduced deadlines/budgets or major changes in the aims of the project. How do you cope and stay sane?

At the Memorial we have found that the Stability, Safety, Handling/Operation and Aesthetics headings can help here, as they make it easy to see what will be affected if you cut some parts of the project out. You also need to check exactly what needs to be achieved for what reason and when – for instance what is absolutely essential for the grand opening of the display and what could be done quietly after the opening?

Another solution can be to change your approach to a problem. For instance, stabilising corrosion by applying protective coatings takes workshop space, lots of

time and expensive materials and may need to be repeated every few years. Can you address the root of the problem instead and make the object's environment less corrosive? This will have the benefit of preserving any other objects in the same space.

But the most important thing of all is to get your managers and sponsors to understand what you are doing and to share in your enthusiasm. If they don't think what you are doing is worthwhile the project will be cut quicker than you can say "knife". And getting these people interested goes right back to the first point – finding a way to help them make a personal connection to the technology. And the more you know about what makes the object special and unique, the more of its history you have found and preserved, the better your chance of finding the angle that gets them hooked.

References:

1. The Burra Charter (The Australia ICOMOS charter for places of cultural significance), 1999, http://www.nsw.nationaltrust.org.au/burracharter.html