



You can lead a horse to water... Success & Failure in IT Projects

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Presentation Aims

- highlight the complexity of success (& failure)
- suggest a framework for on-going project review
- consider alliances between technology users and providers to promote "success"

For more details of this and other EVINCE work, see the website:
www.reading.ac.uk/EVINCE

This work and presentation has developed through delivery to a variety of audiences, usually combined with strategy ideas:

D. Neyland and C. Surridge (March 2003) 'High Speed EVINCE' (BCS, Reading)

D. Neyland and C. Surridge (September 2002) 'You can lead a horse to water...Success and Failure in IT Projects' (HUMANE

Conference, Exeter)

D. Neyland and C. Surridge (May 2002) 'High Speed EVINCE' (HEFCE FDGMP Conference, Sheffield Hallam)

D. Neyland and C. Surridge (March 2002) 'You can lead a horse to water... Success and Failure in IT Projects' (UCISA Management

Conference, London)

Management for Success

- Clarify project aims
- Set measurable outcomes (PIs)
- Produce a Functional Specification
- Assess risks and Plan contingencies
- Procurement
- Implementation
- Monitor and Evaluate progress

There are a variety of methodologies for project management - offering "recipes for success".

But what actually comprises success, and how do we know we have obtained it?

Success (and failure) in university IT projects is uncertain, and requires a great deal of on-going work.

Although there are a range of methodologies available, they did not fully meet EVINCE case study needs. A range of issues relating to definition, appropriate on-going work, and direction needed clarity, effort and support.

Bush Pump -The Problem

100's of
remote villages
needing
clean water
cost effective
means

water
clean
health
community

To help think through these issues, we drew on a story from STS (Science and Technology studies) - this time using water rather than IT. We have found water a useful analogy for IT, and in this instance look at a project attempting to distribute water, using an African Bush Pump.

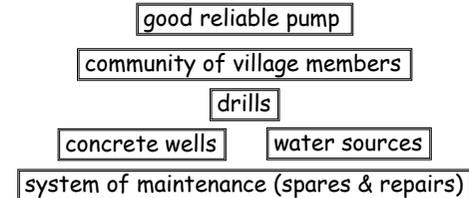
An apparently simple project... but with fundamental implications and many agendas.

We explore this story under four "chapter headings"... and the first is about "the Problem".

In the case of the African Bush pump, "the problem" appears straightforward - getting clean water to remote communities. However, the problem comprises a number of layers, where clean water can be seen as a step toward healthier living and a means of maintaining rural communities.

The problem needs to be formed in such a way that it can be carried between various groups and agreed upon. The problem has to be portable.

Bush Pump - The Entities



Next to look at the elements needed for successful planting of a well:

It isn't just about the pump technology, but inter-related resources, across time and space. These include:

- "hidden" resources - the water sources themselves and the wells to access them
- tools to dig the wells and install the pump
- local people to do the work, and
- the means to maintain the technology once it is in place

In other words, there are both social and technical entities.

Bush Pump - Enrolment

- Agree the problem (lack of clean water)
- Agree the solution so far (pump and site)
- Agree the community's role
- Establish a mutual dependency

It is insufficient just to identify the resources. The various entities involved need to be "enrolled" - to agree and take ownership of the problem, solution and means of achieving the solution.

They also need to be effectively identified - where existing social groups were ignored, and pumps supplied to an entire village for example, the technology, if used, was not adequately maintained because the resulting community did not operate effectively. Suppliers needed to learn how to identify the appropriate community in terms of size and existing relationships to ensure on-going maintenance.

There needs to be a dependency between the users and the technology, and a relationship with the technology suppliers.

Without enrolment, the well can become a children's playground, a dumping hole for dead animals or even an obstruction to walk around on the way to collect water from traditional sources.

So the community needs to be involved in pump installation to learn how the pump can be part of village life. In this way the pump becomes a central part of the community and the community plays an important role in maintaining the pump.

Bush Pump - Mobilisation

- Distribution of Pumps & their Ownership
- Maintenance by "Mobile Allies"
 - Social
 - Technical
- Growing independence

Distribution and installation of pumps needs to be sensitively carried out. The suppliers need to recognise local expertise, social organisation and culture. For example, where modern, high-tech means of locating water sources were used to the exclusion of local experts, the pump became an (unused) obstacle on the route to existing water supplies.

On-going support is needed from the suppliers, and this needs to include social as well as technical alliances, maintained over geographical distances. In this way incorporating the pump into village life can be approached as an on-going process. Over time the village can be reminded of how to use the pump.

The alliances between company and village also need to be two-way, recognising the development of communities' independence, as they developed their own ways of repairing the technology, for example. In the studied case, the suppliers and pump inventor were intrigued by the ingenuity demonstrated by communities as they sought to repair pumps using available knowledge and materials.

The robust nature of the technology was also demonstrated, as pumps continued working effectively with missing or damaged parts.

Bush Pump – Observations

- Problem recognised
- Entities for solution agreed
- Enrolment of entities
- Mobilisation on-going socially and technically
- Fluidity

So we have outlined various aspects of the project, and note the characteristic of fluidity.

This can be seen in various ways, including:

- the suppliers acknowledge local expertise and existing social groups in order to avoid imposing a single fixed solution, and instead develop a fluid range of responses
- adaptation of support - with mobility to reach geographic locations, and adaptation to each local situation
- recognition of innovation and ingenuity demonstrated by local groups to manage the technology pragmatically

Agreeing the Problem

- Maintaining the bibliographic record
- Gathering research expertise
 - promotion & support of initiatives
 - developing a research community
 - marketing research expertise
 - managing administration

To illustrate how the bush pump story might be used in the context of IT, we use one of the EVINCE case studies (research expertise), as it is unfolding at one of the institutions.

We use the four headings from the bush pump story as headings for our research expertise story - but they have not been used in place of conventional project management tools, or as milestones... We are not trying to swap one "recipe for success" for another. The idea is to suggest a complimentary way of looking at a project, as part of evaluating its progress.

Identifying and producing a portable version of the problem has (and still is) proved a major element of the project initiation.

EVINCE started with a brief concerned with maintaining a record of university publications.

Initial investigations with academics, senior managers and administrators at each partner institution soon extended that brief to include the list above.

Agreeing the Problem

This project
aims to initiate
an 'Expertise Directory'
providing academic staff profiles
in a partitioned, secure, on-line environment.

The list was developed until the eventual project scope read:

Aims and Objectives...

This project aims to initiate an 'Expertise Directory', providing academic staff profiles in a partitioned, secure, on-line environment.

Alongside search and browse access for internal and external audiences, individuals and departments will be able to edit the database information. To facilitate updating of on-line information, support services for data access and editing will form part of the project's remit.

The purposes of this database are:

To encourage collaboration between departments and other universities by highlighting research activity and areas of interest To provide management information regarding research activity and funding

To enable research interest/activity searching for publicity purposes external to the University and to increase awareness of the expertise available at the University

To provide a resource for maintaining research information web-pages

To provide an integrated source for administrative information for annual reports, RAE (etc)

Identifying the Entities

- Academics
- Senior management
- Research support
- Library and Bibliographic sources
- Marketing
- Annual reports and Management information
- Datasets

Sorting out who had a stake within such a project results in a long list, including:

- different groups,
- of different individuals,
- each already owning and/or using their own (individual or group) systems and sources for some of the data we required.

And this doesn't include the IT as an entity (technology or people) in its own right!

Achieving Enrolment- Recognise the Problems

- Administrative Centre
 - Current dataset gaps
 - Multiple information requests
 - Limited collaboration
- Academics
 - Multiple data requests
 - Expertise marketing needed
 - Research potential needs enhancement

Gathering main protagonists indicated wide agreement and acceptance of the needs, but there remained

- a desire for a single technology despite the complexity
- a desire for "anything now" on research initiative web pages

Achieving Enrolment- Recognise the Solution

- Tangible database entity(ies)
- Owner
 - for "long-term" maintenance
 - to foster collaboration
- Database product

Explicit agreement was obtained, alongside a request for "a map" to clarify routes for data providers and data seekers and agreement that "owners" may need further clarification and agreement, in terms of responsibility and function.

Mobilisation

- Database product purchase
- Initial population
- Request for academics' input
 - Collaboration fragmented
 - Data rationalisation minimal
 - No (concerted) PR

Initially mock-ups of data entry and retrieval schemes were produced, with a view to better defining required functionality. However, this was interrupted with the potential of an IT product to sit beside an existing "funding opportunities" database. The project began to roll:

- A key office took initiative on purchase and implementation, with EVINCE support in assessing a short list of products
- Purchase made
- Key collaborators were brought together with this office

We looked all set, but...

The potential collaborators each decided to continue individually, resulting in:

- a series of overlapping data requests to academics
- a lost opportunity to promote an integrated institutional approach
- a small, largely duplicated response

Somehow the recognition of a common solution was lost, until....

Enrolment - Take 2

- Research initiative
- Collaboration and rationalisation
- Data gathering
- Need for PR

Pick-up on a major strategic research initiative indicated the cross-threading of messages. While each office has retained its own problem and solution, there was a view that EVINCE had retained other parts of the brief as its own "problem", rather than a recognition of common problems and a shared solution.

This provided the opportunity to re-gather some key players and to re-establish the common, shared solution.

This time, EVINCE has tried to be more explicitly sensitive to the stake holder needs and concerns, and used the potential of shared activities, such as publicity and training, to establish a community to share the solution...

Mobilisation - Take 2

- Fluidity of database
 - multiple datasets and products
 - multiple means of data source & entry
 - multiple uses of content
- Distribution of ownership
- Establish "social/technical allies"
- Encourage independence

This has meant working in a more fluid and distributed manner, even though fluidity and distribution are not easily managed. This is likely to become a more common model, for example in the support of teaching and learning, where academic and administrative boundaries, in terms of activity and role, are becoming more blurred.

One way of operating is to work at "establishing social/technical allies" - in some ways this has become part of the current EVINCE role. We need to ensure an inter-dependence in explicit ways, for example by sharing the tasks involved in promoting and supporting use of associated technologies, as part of building the alliances necessary for a shared solution to be maintained and embedded in a shared, inter-dependant relationship.

Over time, these alliances need to develop independently of the originating project, as they become sustainable, operational and yet still evolving services.

Summary of Findings 1

- Technology Users
 - must reach beyond technology
 - be prepared to embrace/own the technology
- Technology Providers
 - must reach beyond technology
 - be prepared to relinquish technology

In other words...

Administrative and organisational leaders/managers need:

- a broad understanding of the organisation and its processes, and of the potential for information and technology
- to take some ownership, and accept some responsibility for guiding development and deciding patterns of use that fit the information needs of the organisation
- to empower staff to play their part in this (via careful recruitment, training & development, delegation of ownership & responsibility...)
- support of IT professionals able to see beyond and to some extent relinquish the technology.

Information and Technology specialists need to:

- develop a broader understanding of the organisation, processes, potential for information and IT and so need to understand other points of view, and mediate between them
- empower users to take and mould the technology as they need, within limits
- find the relevant committees, champions, doers, and find ways to work effectively with them....

...This implies a proactive alliance, building a community in which technology users and providers understand each others' points of view, and mediate between them.

Success is probably only assured at the point people realise they don't want to move on to the next thing!

- Maintaining success relies on noting signs of failure and managing the associated entities
- Projects need fluidity - in terms of management, people, technology and development: Maintaining aims and their fulfilment in the light of circumstances that arise.

Summary of Findings 2

- in a Proactive Alliance, where **Success**
 - fluctuates and needs maintenance
 - often requires fluidity
- with **Strategy** this requires
 - identifying key entities
 - effective networking
 - clear ownership and delegation

This largely brings us full circle with other EVINCE work on strategy - with a process, operating via robust routes throughout an organisation, the culture becomes responsive and flexible... offering a fluidity to handle the fast-moving world we currently work within.

Institutional structures and routine operations (such as web publication), and projects can provide vehicles for networking and directing change. Widely applied, fluid principles can provide a mechanism for communicating institutional strategy. This may often mean working across the traditional and managerial boundaries of an institution... requiring review of structures, working practice and institutional management/governance - areas EVINCE is investigating as part of the "Connections" work during Summer 2003.

As projects progress, and as they mature into routine operations, maintenance remains a critical element, to be managed in a fluid way that allows for on-going development and embedding.

To ensure development fits with an institution's strategic objectives, this needs to happen within an effective network across the organisation.

For this to happen you need to:

- Find the relevant committees, champions, doers...
- develop ways to work effectively with them and
- delegate the responsibilities and control that come with ownership - of the problem and means of solution.

You need to think: What does this imply for YOU, and your role?

For further details of this work see www.reading.ac.uk/EVINCE