

What went wrong: A programme manager's perspective

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Abstract. This paper argues that there are certain patterns that frequently prevent projects from being successful. It argues that many of these fall into one of three categories: A mismatch between the expectations of the funder and the project, the failure to respond to the changing environment, and failure to think through support beyond the end of the project. The paper goes on to consider how some of these might be addressed.

Introduction

This paper looks at some systematic failures in projects from a programme manager's perspective. As a programme manager I have overseen around two hundred projects ranging in size from about €10k to €4million, and I have seen a number of common problems which don't seem to be going away, though they are being addressed slightly better.

The problems I want to discuss fall into three categories

- project / programme mismatch
- inflexibility in a rapidly changing world
- after the end of the project

Project / programme mismatch

In my experience the first of these is usually the least serious, but often leads to the greatest bad feeling and can create problems that way. I believe that there are lessons to be learnt at both the programme and the project level. Writing an invitation to tender (ITT) or call for bids is really very similar to writing an examination paper. There is the same need for clarity and precision and telling the candidates (bidders) what is wanted. Equally, writing a proposal against an ITT is the same as answering an examination question. You have to answer the question. Unfortunately, in both the ITT and resulting bids there are often large areas that there is not the time (or space) to address in sufficient detail. The result is that a project may look good in the bid, but does not fit neatly into the programme, or take the programme as a whole

forward. There have been significant improvements in this area of late, with the result that the ITT may now be longer than the corresponding bids.

There are major lessons here for programme teams, in that they need to think through from the start how projects will (be expected to) work together to ensure that the whole is more than the sum of the parts. Defining it in the call, and making it clear to bidders, ensuring that bids will fit the model. If it is spelt out from the start then projects are usually very willing and can see the benefit to both their projects and the wider community.

There is, in my experience, a further danger that because bidding for money is usually competitive there are problems with collaborating that stem from the need to compete again later. However, this is usually not a great problem as most people seem to prefer cooperation to competition and are willing to work together positively.

I believe that many of these problems stem from not clearly laying out the purpose of the programme in the ITT. A bidder is only concerned with their own bid, and little worried about the wider programme. It is therefore imperative for both the writer of the ITT to explain how projects fit into the wider programme, explain what is required and make sufficient resources available to support the programme level activities. An interesting example of this is the JISC funded Users and Innovation Programme, which is funding a large project to support the development of a community (or practice) to support the projects. I think that this is an interesting model that is well worth watching.

Inflexibility in a rapidly changing world

The second problem that I want to consider relates to flexibility, and the speed with which both the environment and technology are changing. The second programme I oversaw was the JISC Technology Applications Programme (JTAP) which funded almost 150 projects (and for the first year only had me managing it - but that is another story). However, a number of projects were trying to make internet resources easier to locate, access and use. This was just at the time that Mosaic was beginning to catch on (for those who are young or have short memories, Mosaic was the first easy to use web browser). Many of the projects were doing developments which essentially mirrored what Mosaic was beginning to offer.

This gave both the projects and the programme (manager) a dilemma - should projects be expected to deliver what they are contracted to, or should the work and deliverables be varied as a result of changing circumstances? My personal belief (and what many of the projects did do) is to vary the outcomes and build on the work of others ("If I have seen further it is because I am standing on the shoulders of giants"). However, some projects felt that they had to do what they had committed to - (whether because they felt obliged to stick to the contract or because it was what they wanted to do I couldn't say). These projects effectively became dinosaurs. No doubt they had fun along the way, but they learnt less than they might have because they were behind what everyone else was doing, and always "playing catch-up", and their results were of no interest or value because the world had passed them by. In some cases they may have had the better product, but without the market behind them had no

chance of success (VHS vs betamax perhaps). One example that springs to mind is Microcosm - an idea whose time may come, but by working against what everyone else was doing with HTML was not going to catch on. That is not to say that the ideas were not good ones - they were good, and are beginning to come back into fashion. But, and this is my point, they ignored what was happening at the time in the technology environment and therefore were not taken up.

Similarly, it is important to be aware of the political environment and watch the changes in policy. Policies tend to be national and follow governments and fashion so I don't want to say much about them, beyond my belief that many projects could have been, or perhaps been seen to be, more successful if they had aligned themselves more closely with government policy.

After the end of the project

And that brings me neatly to my third point. Many projects succeed in building whatever they set out to build, but very very few manage to transform it into something that lasts beyond the end of the project funding.

There are many reasons for this including structural and cultural. I will look at a number of them.

Cultural failures

Most projects that I have overseen are undertaken by academics, or at least people who support an academic approach - even when they are based in a service department. This matters because very often they are more interested in demonstrating a concept than in making a service work. Once they have demonstrated that the idea works they lose interest. Even if they do want to see it as a service they don't necessarily know how to turn it into one. I have recently been working with a number of projects in the JISC information environment. What is clear is that there is a strong focus on building the system in order to prove the concept, then possibly in demonstrating that it works, but after that there is either a lack of interest or ability in taking it forward into a service. I have seen so-called business plans that do not consider the size of the market, the costs of running the service, or even what the market might be! Yet, they want to move towards being a service.

I believe that this issue needs to be addressed right from the start of the definition of the programme. Projects need, in their initial bid, to demonstrate that they have the wherewithal to actually embed the project in some form of production service. The development cycle should then support this, and the ability to move things into production needs to be rewarded. At the moment projects that successfully move into service are, at best, rare. Though both programme managers and projects are beginning to take the issue more seriously.

I now want to look at some of the barriers that are erected and make failure more likely, if not inevitable, in terms of moving towards a service.

Research oriented

There is often a confusion between research and research and development in IT projects. Research is important, of course, but many of the projects that I have been involved with are too concerned with the research agenda, and insufficiently with the development part. Or they may see the development as simply demonstrating the research idea. This leads to the development of software which proves the idea rather than being production level systems meeting real needs (of which more below).

Moving on to the next agenda

Many of the projects are with academics who find the project interesting for a while, but after some time they loose interest in the application. Often the loss of interest seems to occur at the point in the life-cycle that Gartner would identify as "the trough of disillusionment"¹, which occurs when the initial (over) optimism meets the real difficulties of implementing something.

The loss of interest may be because they loose interest in the area - for instance there have been enormous amounts of money thrown at learning objects, but now very few people are interested in them and most of the learning objects that have been developed are languishing on shelves unused or just used by the creators. I have also seen projects that have demonstrated the technology, but when it comes to the last part of the effort required - moving it from prototype to a production level service loose interest as it is no longer an interesting research issue and they want to move on to the next exciting project. To put it more bluntly where is the research paper in getting it to work for real?

Location of projects

We have already considered one aspect of this, in terms of researchers not being sufficiently interested in service. However, even where they are and they build a production quality service that is no guarantee that it will be picked up by a service delivery unit (typically information services) and included in their portfolio. I think that this stems from three reasons that, with sufficient forethought and planning, can be overcome

- **The system does not fit into the service portfolio.** This may simply be a matter of priority, or it may be that the service is not interested in the model that is supported by the project. I know of at least one university with a major open source VLE development, but the IT services refuse to support open source software - as the VLE project is being driven by senior management this will have to be resolved in the near future. There are many similar universities, so if it is seen to be a requirement of the funding that the system be open source, it will be very hard for these universities to implement them as a system.

¹ <http://www.gartner.com/pages/story.php.id.8795.s.8.jsp>

- **Planning cycles.** Service departments have planning cycles and the transition from project to service needs to be carefully planned to fit those cycles, otherwise you will be fighting the system rather than working with it.
- **Lack of interest.** It used to be said "build a better mousetrap and the world will beat a path to your door". Sadly this is not (or no longer) true, and marketing is imperative, of which more below. However, at the very least a system needs a champion in the service department that is to take it up. Someone who will argue its case in terms of need, fight for the resources needed to support it and ensure that it is included in plans. It takes considerable planning and effort to generate the necessary level of interest, and the effort needs to start early in the project, the earlier the better. If someone within the service delivery team is involved from the start then they are more likely to achieve the necessary buy-in to support the transition to service.

Lack of business case

Many projects start life as technology push (they may have some sort of business case, but frequently they do not bear close examination, with claims that are only believed by the credulous in terms of savings that they offer or benefits that they will bring). Such business cases suggest a divorce from the real business needs that they claim to be addressing. Few projects have members that are experienced in developing business cases or have an interest in doing so. It is not seen as an important task, simply something that has to be done to secure the project. In the long run, this leaves the project exposed, as when it comes to supporting the continuation of the work (by whatever means) there is no business strategy which shows the nature, size and importance of the market and the costs of continued support.

While, for instance, this has been partially addressed by the JISC in recent calls through the requirement that bidders complete espida – Impact Scorecards² it is not clear whether bidders see this as a useful exercise or simply as a hoop that they must go through to win the bid. Bidders are very likely to treat this as a hoop, as different funding agencies may use different tools and often give a relatively short time for the completion of bids. If, for instance, a university required a balanced scorecard approach³ (which is currently very popular in the commercial sector) for internal decision making, then this needs to be converted to the espida format for bidding purposes. On the other hand, if no such process has been embarked on then it is unlikely that it will be seriously undertaken in the few weeks available to write the bid given the difficulties in accessing all the people who should be involved.

² <http://www.gla.ac.uk/espida>.

³ See http://en.wikipedia.org/wiki/Balanced_Scorecard for definition and references

Lack of fit with university strategy

While project bidders are often able to manufacture a business case that makes the project appear to fit the university strategy, it does not mean that it does fit the strategy, or that if it does fit the strategy it is something which is seen as high priority by senior management. The approach that has often been requiring a member of senior management to provide a letter of support for the project has been demonstrated to be of very little value, as they will see the income as being worthwhile and are happy to sign the letter of support and then forget the project. In my experience the letters are completely worthless. I am aware of cases where the senior member has given the project author a blank signed letter to write.

It does not help that many university strategies barely deserve the name strategy (I have even seen some that are little more than a list of existing projects, and others that are essentially content free). It often means that by selectively quoting bits and pieces from the strategy almost any project can be shown to be strategic (I know about this, because I have done it myself). The effect is that when the project is finished it has not addressed any real need and there is no one to carry the work forward.

Lack of understanding of users' needs

Understanding user needs requires a set of skills that I have rarely seen in projects. The most common forms of user needs analysis are the questionnaire and the focus group. I believe that the questionnaire is particularly problematic. In the majority of cases that I have seen it takes the form of a list of features and potential users are asked if they would like to have them. The result is that few features are rejected - for most there is a chance that the feature might be useful one day. There is also little relation between the user requirements and the work processes (work flows) that users are doing. The result is that many projects develop systems that have numerous features that will barely be used and that the systems do not necessarily support the work processes of users.

Some programmes have provided limited training in user requirements gathering, but it is a complex and skilled process and I do not believe that brief training can impart the nature of the process to project teams with little experience of the process.

Sustainability models

One of the largest problems for projects is how to sustain the work once the project funding has come to an end. A very large proportion of projects fail to make the transition from development to production, so much so that I have taken to calling it life after death. I believe that the current fashion for encouraging projects to make their system available as open source is making the problem worse. I have recently spoken to programme managers who say that it is not a requirement that JISC projects develop their products as open source, however a recent call stated:

"It is expected that software outputs will normally be licensed as open-source unless a case is made to the contrary and accepted by the evaluation panel"⁴

Most people take this to mean that unless they have a compelling reason not to be open source it will count against them in the marking, and even then it may count against them.

Very few projects consider the consider their sustainability model from the outset, either assuming that it will be so good that the funder will continue to pay or not thinking about it all. Where they do think about sustainability, it often consists simply of putting the system into Sourceforge and saying that anyone can then pick it up. Whilst it is true that anyone can then pick up the system it is very rare for it to be successful. Sourceforge has, rightly, been described as a graveyard for failed projects. It is not a sustainable model, though it does work in a tiny number of cases⁵.

Most of the other models either rely on consultancy to cross-subsidise the continued development or the sale of the system, which is problematic if is freely available as open source. Examples that have succeeded, at least for a while, have included Microcosm, Multiverse and Elgg.

Lessons learnt

Which raises the question of what can project staff and programme staff do to ensure the successful development and use of projects? Clearly, there is no easy panacea (if there were we would have found it already), however there are things which can be done at all stages to improve the process, and some of these are discussed briefly here.

Bidding cycle

Currently the fashion is for an ITT to require fully considered responses, but I think that there is much to be said for two phase calls. The danger is that all the work has to be done for the first stage of the bid so that there is very little saving in this. Care would therefore be needed in designing the ITT to ensure that it saved effort for both the bid writers, bid markers and the programme staff.

I would see the initial phase of the bid asking for:

- The aims and objectives of the project.
- Work already done on the project eg. user requirements.
- Evidence that it supports the university's strategy and will be taken up, perhaps in the form of how it fits in with other developments that are going on. Letters of support would not be required as they are of little value.

⁴ Circular 1/07 capital programme call for projects http://www.jisc.ac.uk/fundingopportunities/funding_calls/2007/04/circular0107.aspx

⁵ See http://www.cs.auckland.ac.nz/~pgut001/pubs/oss_development.pdf for an interesting presentation on the issues

- Business case.
- Key people involved, their role and their experience in that role.

If the project is supporting real strategic development then this information should already be available and it should take little effort to assemble into a brief outline submission. If the information is not readily available then it would suggest that this is not a strategic issue. For this reason a relatively short time could be given for this work (so long as it did not fall during peak holiday, exam marking or admission times).

It would not ask for:

- Budgets
- Work plans
- Dissemination strategy
- Technical details

Those that were shortlisted could then be asked to develop a full bid which would include all the details required for funding.

Development of the invitation to tender

Invitations to tender have to cover a wide range of issues that they want bidders to address in the bid, from the aims and objectives of the call and the scope of the ITT through the bidding methodology and marking scheme to the format of the tender and timelines for submission. There is always a tension between specifying what is needed and giving bidders the freedom to approach the problem in different ways. I believe that there needs to be more prescription and proscription in the ITT. This has several advantages. It means that submitted bids are more likely to be fundable, that bids that are very unlikely to be funded are not written (saving the time of both the bid writers and the markers) and that the bids address the key issues.

There would be considerable advantages in producing a template document for the bid writers with the section headings that they need to write against. This would make the work of the bid writers easier as they would know exactly what was needed, and the work of the bid markers easier as the information would (or at least should) be in a standard form. I would even go so far as to include some of the standard risks that projects face and ask how they are addressing them.

Bid writing

I have heard people say that they believe that they need to write bids even if they do not want to apply for a particular grant to keep their visibility up. These bids are usually seen through, and if anything reduce the credibility of the bidder.

The first question that bid writers should ask is whether they really want to do the project, and if so do they want to do it to the requirements and timescales of the programme. If they don't then they should not bid!

Beyond that, writing a bid is like writing an answer to an examination question. It is essential to answer the question. I recently came across a young man doing his "A levels" and he announced that they are a travesty of education (as indeed they are),

and therefore he would answer the questions that they ought to have asked rather than the questions that they had asked. I doubt that he will pass. The same applies to invitation to tenders. If you do not provide the required information your bid is most unlikely to be funded. Further, if you provide the information in the way in which it has been asked for you will make the bid marker's work easier and you are more likely to get a good mark.

Assessing bids

Assessing bids is often quite a hurried affair, without sufficient preparation for the markers. Different markers can mark bids very differently. There is a need to prepare the markers in order to normalise the marking. For public exams this is a huge task with extremely detailed guidance. I don't think that is required. Simply getting all the markers to mark the same two bids at the beginning of the process and discuss why they arrived at different marks in order to reduce the variation.

Project initiation

This is very problematic in large programmes as there are many projects starting at the same time which can make supporting them all problematic. There tends to be a focus on the work plan and possibly dissemination strategy. I believe that the key areas needing attention are:

- User requirements
- Integrating with institutional processes
- Continuation / sustainability

If these are addressed from the start then there is a good chance that the project will deliver what is needed in a way that means that the system is likely to be used by the university and that the development model will lead onto something which can be self-sustaining.

Project termination and moving into service

Moving from a project to a service or a commercial model (especially without further funding from the project funder) is the most difficult part of the project. It requires a different business model, different skills and considerable preparation.

Few projects have the interest or skills necessary to make the transition and programme staff usually lack the skills to effectively support the process by helping projects to identify the issues and address them. Universities mostly have a unit concerned with the commercial exploitation of intellectual property developed at the University. However, they are unlikely to be interested in open source solutions as they are looking for significant returns on their investment. Indeed, very few projects are realistically going to produce the sorts of return on investment that would be of interest to such units.

It may therefore be necessary for programme teams to have the expertise available to support projects in the transition from project to service.

Conclusion

Most development projects are too small to have all the skills available within their team that are needed to run the project, determine the user requirements, ensure the project is meeting real needs of the host university and manage the transition from project to service as well as undertaking the research, developing the system, testing and documenting it and providing front-line support.

In short, either projects need to be more clearly defined and better supported, or we must continue to expect a high failure rate.