Reflection on the potential impact of EA on the Student Timetabling Online Project

Introduction

The Student Online Timetabling Project (STOP) saw the development of a new system to schedule timetables and publish personalised student timetables online. The project has faced many challenges and although it would be doing the project team a disservice to suggest these challenges would not have occurred if an Enterprise Architecture (EA) approach had been utilised, this case study will reflect on the potential impact a EA approach may have had. These reflections are those of a new EA practitioner, who is still exploring EA and developing an understanding of the approach.

Understanding of Enterprise Architecture

To put this case study into perspective we will first explore my understanding of EA , on which the reflections have been based. The EA approach has some key principles, which define it;

- It ensures ICT is business led in that development of ICT systems and structures are done so with the key focus of meeting the business need.
- Decisions will be based on Information and ICT Principles which are developed to ensure effectiveness and efficiency.
- There will be a governance structure in place to guide ICT projects.
- EA can be used along side other methodologies such as PRINCE2 and ITAL.

UCLan's similarity to the EA approach

UCLan has a governance structure in place through the Information Strategy Panel (ISP). The purpose of the ISP is to ensure;

- The overall development, implementation, monitoring, review and updating of the university's Information Strategy. The ISP is advisory to the Vice-Chancellor.
- To develop and adopt a five-year plan to meet the university's needs as identified in the Information Strategy, to assess and cost human and technological resource requirements and to make recommendations for funding.
- To receive proposals for solutions to information requirements within the context of the five year plan, to ensure that they conform to the Information Strategy and its associated principles and to agree plans and timescales for approved projects.
- To ensure that proposed systems meet the university's requirements before development begins.
- To determine responsibility for the management of approved projects and/or project phases using where appropriate the university's four stage development model.
- To ensure that target deadlines are set and adhered to for each development and to receive regular reports on progress.

- To monitor and evaluate the implementation of each system.
- To conduct an ongoing review of the Information Strategy and to recommend changes to it as appropriate.

UCLan's recent field test of the Strategic ICT Tookit, found that there were questions around the role of ISP and if it is meeting the terms of reference and subsequent responsibilities outlined. However, for the purpose of this case study, in theory UCLan has an ICT Governance structure, which ensures that ICT is strategically aligned.

Further similarities can be identified in UCLan's approach to ICT projects in that they should be business led and Business Analysts are required to map the "As Is" and "To Be", with potential customers, considering viable options as appropriate. UCLan uses an adapted PRINCE2 approach to manage all ICT projects and also uses the ITIL approach. Many institutions practicing EA have dedicated Programme Offices to manage and run Strategic ICT projects to ensure they follow the EA methodology. UCLan has a similar set up in that it has a team of Project Managers within the LIS Development Team, who are given responsibility for ISP projects.

How might an EA approach have affected the project

On reflection, I feel there are a few areas of the project that may have been improved through the use of EA. The first area is the data capture. In order to input the data into the CMIS system to generate a timetable, the project team needed to capture information about the events (lectures, seminars, lab sessions, etc) that were to be delivered. I felt that this element of the project became ICT led, rather than business led. Although the project team had mapped the "As Is" and had discussed the new system with the future users / owners (staff), I feel they could have increased their understanding of the process of developing a timetable within Schools through the use of EA. The initial data capture proforma was developed based on the CMIS system to enable ease of loading data. There were several stages to the data capture, designed to complement the stages of data input into the system. The key proforma for capturing event details identified the module code as the primary key. This proforma was sent out to Schools to complete with an option to have a member of the project team visit for support with completion.

It was at this stage that the project team realised there were issues with the proforma. A key issue was that a module code could not be used as a primary key as modules were often used across courses with different restrictions and requirements. In addition the proformas were restrictive in the data they requested. Schools sometimes struggled to translate the requirements of the events to the proforma form. If an EA approach had been undertaken, governance would have ensured the project stayed business focused and the project team could have worked more with the Schools to understand the intricacies of developing timetables within that specific environment. The project team are now reviewing this process and are likely to re-design it for the 2012/13 academic year.

Another area for potential improvement is the new process that is being designed for the management of timetables. With EA principles in place, it is highly likely that these principles would include a statement around data only being entered once and managed at the single source of truth. These processes have not been clarified as of yet. However, it could be suggested that the processes that have been created will see the creation of secondary data, which will be used by the Central Timetabling Unit to edit the data, rather than direct edits being made at the source. There may be

business requirements for this approach, however, it could be argued that the process is designed around a new service that has been created and the development is based on the intended role of this service rather than data quality assurance considerations. This process is still being reviewed and developed, however it could be suggested that if EA principles were in place, the process developed would be different to the one currently in place.

Impact on EA on the communication of the project

The timetabling project was implemented to improve the student experience, measured through the NSS and internal student surveys, in the area of course management and organisation. It was also introduced as the Room Bookings Unit (as it was then) was struggling to room all the events within the restrictions applied. Evolved practices around developing timetables were leading to overbooking, significant cancellations and peaks and troughs in the usage of the campus. This project is aligned to university strategy; however, there is a perception at UCLan that Learning and Information Services (LIS) (who are responsible for the ICT, Library and technical services provision) make the decisions around ICT projects rather than it being a strategic directive. As previously mentioned, UCLan does have a governance structure in place, however, if UCLan introduced EA, this governance structure would be reviewed for effectiveness, alterations made as required and the new governance structure, along with their responsibilities ,would be communicated across the university at all levels. This would ensure that all staff would know who is responsible for making decisions with regards to strategic ICT, that these decisions had been made in accordance with the governing ICT and Information principles, and in alignment with the University's Strategic Direction.

Benefits Realisation

Another benefit EA may have brought to the project would be benefits realisation. It could be argued that there is often a sense that projects developed within LIS are owned by LIS and a potential criticism is that the potential owners of a new system or service are often not as involved in a project as they perhaps could / should be. As a result it is possible that when a system or service is handed over following completion of a project, the owner may not feel responsibility for it. A potential solution for this would be introducing the practice of benefits realisation. For example with the timetabling project, measurable benefits could be indentified. These include decrease in the number of rooms booked, but cancelled by a School, decrease in the number of rooms booked but not used by a School and increases in the score for organisation and management of the course in the NSS. These have been identified as potential measureable benefits of the timetabling system. The ownership of these benefits could be given to the Schools from the outset of the project, thus Schools will potentially feel more responsibility for the project and its success. The issue that the project will not immediately achieve these benefits would be managed through setting realistic deadlines for these benefits to be achieved and through the introduction of post implementation reviews. For example, the issues the STOP project has faced may to lead to a potential, temporary decrease in student satisfaction in some areas, where timetabling has been managed effectively in previous years. In addition it may take time for the university to adapt to the new system and use it effectively, before the benefits can be realised. Therefore, post implementation reviews, with Schools given responsibility for achieving realistic benefits through the use of the system, are likely to encourage staff to use the system correctly and deter bad practices as well as giving them a sense of ownership of the system once the project itself has been completed.

The Future of EA at UCLan

UCLan has been exploring EA through the JISC EA Foundations Programme and the JISC EA Practitioner Group. This exploration, combined with the results of the Strategic ICT Toolkit has led to the development of a series of recommendations around the approach to and management of strategic ICT. Included in these recommendations is the introduction of EA at UCLan. This recommendations document is being reviewed by senior managers as of the date of this case study.