Enterprise Case Study: Using a Student Records System to Enable Digital Transformation

How Nottingham University built strong foundations for change with Infosys and PeopleSoft

Summary

Catalyst

The higher education landscape is increasingly competitive. In recent years, growing numbers of global satellite campuses have been established by universities, enabling them to attract a wider range of international students. This distributed model presents information management challenges, and institutions need coordinated and integrated systems to support it.

The University of Nottingham is a large, complex organization, with three campuses across the world (in the UK, China, and Malaysia). It is the seventh largest university in the UK, with 8,000 staff and 46,000 students. Aiming to be a pioneer in higher education and provide an internationally based education, the university needed to modernize its academic and student management system to drive institutional growth and improve effectiveness. The complexity of the project (and the fact that it was part of a wider transformation program happening at the same time) meant that this was very challenging without a strategic partner. Recognizing this, the university began working with Infosys in November 2017.

The University of Nottingham rolled out Oracle's PeopleSoft Campus Solutions across all three campuses in December 2018, with Infosys providing support for the UK campus go-live, and is now using the system as a foundation for future digital transformation.

Ovum view

Undertaking organizational change is a complex process. In the higher education sector, where IT is not an institution's core business, digital transformation must be carefully and strategically planned. It is important to understand what the product is capable of from the outset, as well as to be realistic about the benefits that can be achieved. The level of complexity means that a professional, strategic delivery partner is recommended to help provide the right delivery mechanism. Technology and organizational change need to run in parallel, so that as the business and its processes change, the IT to support it is in place. Governance and project management are also central to this process because they help build the foundations for change. Establishing strong governance mechanisms and project management frameworks can be part of a culture shift, living beyond the implementation of a particular product and helping to support it and the organization into the future.

Key messages

- The University of Nottingham had experienced challenges when trying to implement a new student records system and organizational change at the same time.
- The existing IT landscape was very complex, with no central integration, lack of documentation, and 370 different applications.
- The university rolled out Oracle's PeopleSoft Campus Solutions across its three locations, with Infosys supporting the technical build, data migration, and go-live for the UK, and system improvements in China and Malaysia.
- The system went live in its UK Campus in December 2018 and is now at the heart of the university's digital transformation.

- All three campuses are now using a single, integrated system, which is expected to increase efficiencies, reduce costs, and improve the user experience for both employees and students.

Recommendations

Recommendations for universities

Information about students is core to a university's business, and managing it in an integrated way is vital, especially in today's competitive digital climate. It is not uncommon for universities to run a number of separate, disconnected systems to store and manage different types of information. Using a single student records system to manage this information can help give universities a competitive edge, enabling staff to do their jobs more efficiently and automating various processes across the student lifecycle. Implementing a new student records system, however, is a complex task requiring strategic direction, and this is where an experienced, professional delivery partner can add value. Universities looking to introduce new, integrated systems should consider doing so with a strategic partner to assess the existing technical landscape, and plan and implement the new system.

Recommendations for vendors

Application vendors are putting greater emphasis on customer success, recognizing that the value they deliver comes from a successful implementation and subsequent business outcomes, rather than simply the signing of a contract. Creating a strong network of partners is a critical part of this process to develop the necessary expertise in technology, program delivery, and industry-specific processes. It's also important to maintain a strong relationship between technology vendor and partner, so that there is a smooth interface with clear responsibilities, and that any complex technical issues can be easily resolved. For IT service providers, the emphasis should be on building a strong set of competencies that can quickly and clearly deliver value to the client, as well as the ability to innovate using a range of technology platforms.

Putting a student information system at the heart of digital transformation

Setting the business context

Managing information is critical in higher education

The higher education industry is changing. Students' expectations in terms of how they interact with an institution, as well as the education on offer are increasingly high, especially with high tuition fees, meaning that students are looking for a return on their investment. Students are consumers, and there is pressure on universities to keep pace with the technological landscape.

Information about students is key, and managing this is vital to thrive in the digital world. This is where an integrated student information system can add value. It can support digital transformation, provide a foundation for wider technological and business change, and improve the user experience throughout the entire student lifecycle.

The University of Nottingham wanted to improve its digital capabilities

The University of Nottingham is a public research university that was founded in 1881. It is part of the UK's Russell Group, which represents 24 leading research-intensive universities in the UK. With a research portfolio worth £600m, the university is ranked eighth in the UK for research, and it is consistently listed in the top 100 universities worldwide.

The university wants to embrace digital transformation and is investing £103m over a five-year period to do this. Improved digital capabilities will help the university to advance research, evolve its teaching and learning, and exploit global opportunities, as well as enhancing student success and engagement. At the start of this program of change, the university recognized that a new student record management system would be at the heart of its digital transformation.

Infosys is one of Oracle's top partners

Infosys has a wealth of expertise in Oracle technology and applications, with more than 15,000 fully trained consultants supporting nearly 500 large clients, and with a total of 68 cloud excellence certifications. The company has won numerous Oracle awards for its work and was the first ever partner to achieve Oracle's Cloud MSP status. Infosys services span the whole lifecycle including:

- Consulting services (cloud readiness, cloud roadmap, strategic consulting, architecture consulting)
- Implementation and rollouts
- Technical support
- Integration and development
- License optimization

It has a track record of achieving 98% project delivery on time and on budget, and can provide pre-configured industry solutions, delivered using proven methodologies, frameworks, and accelerators. Infosys also has deep expertise in emerging technologies such as IoT, artificial intelligence (AI), and machine learning (ML), and provides IP-led co-innovation with partners such as Oracle, and with its clients.

Infosys supported the university with a new delivery model

The university wanted a reliable, secure, cost-effective system that could be used seamlessly in the UK, China, and Malaysia. It needed a 360-degree view of student information. After having tried to implement a student information system for over four years, the university was experiencing challenges. Obtaining a clear scope and well-defined requirements, and getting access to the right technical skills and capabilities and project management disciplines were significant challenges. Realizing it needed a strategic partner to help with digital transformation, it started working with Infosys in November 2017.

The role of information services in solving the problem

Using PeopleSoft Campus Solutions to begin a digital transformation

At the start of the project, the university commissioned KPMG to conduct an external review of its digital capability and maturity, and the resulting score was low. IT capabilities needed to improve for the university to remain competitive. There was low digital maturity and a high level of technical debt, as well as ageing infrastructure with many legacy systems that increased the maintenance burden.

The applications landscape was also extremely complex, with 370 systems recorded in the university's asset register, and more than 14,000 distinct software applications detected on the organization's network. This complexity created some significant challenges that included:

- no central integration hub (but many point-to-point interfaces)
- inconsistent processes
- variable data quality
- no single, consistent view of students.

The lack of agile information systems was hindering the university in achieving its ambitions because staff needed to be able to find information quickly and easily in order to do their jobs. The university was using a combination of in-house and bespoke systems, many of which had been built by individuals at the university or small firms and were no longer supported, posing significant risk. The master student records system, Saturn, was over 20 years old and all three campuses were using different systems.

The application layer was complex, and the university would need a delivery partner to assess, understand, and then improve it. This improvement started with the replacement of the student record management system.

The project would have multiple stakeholders:

- students
- lecturers and researchers
- professional services at the university (including IT)

Since 2014, the University of Nottingham had been using Oracle's PeopleSoft Campus Solutions to some degree, with different modules used in different regions. They now wanted to implement the solution fully, so it could be used seamlessly by all three campuses. They already had a relationship with Infosys, which had worked on the operational side of the systems that were implemented in China and Malaysia. The university also admired the work Infosys had previously done with UCAS and on other projects, and for these reasons, selected Infosys as the delivery partner.

Bringing the strategy to life

David Hill, the chief digital officer at the university, joined the university shortly before the work with Infosys began. One of his first tasks was to assess the readiness of the system for implementation and to document the entire IT landscape, technically and functionally. At the start of the project, the university also appointed a director of service design and a director of delivery, helping the organization to become an "intelligent client" that could take a proactive role in the transformation.

David Hill, in partnership with Sarah O'Hara, pro-vice chancellor education and student experience, established a series of gateway reviews and tests to better understand the project, and created a clear statement of work with outcomes, delivery payments, and milestones. Program governance was also refreshed and made more appropriate, with senior management buy-in, as well as new terms of reference and reporting arrangements. Several new working groups were created for the project, including for data quality, service delivery, and integration and decommissioning.

Infosys provided a robust technical and functional team, with a mix of on-site and offshore personnel to replace existing contractor resources, saving the university money.

In December 2018, Infosys developed and deployed the Campus Solutions system that went live after 11 months. The solution was created with the university's long-term objectives in mind and will be at the heart of its digital transformation going forward. It provides process automation and an improved student experience, and also enables insights-driven decision-making.

The project was complex and is the single largest implementation of Oracle PeopleSoft Campus Solutions in the UK. A series of gateway meetings was set up to review progress and technical readiness, with comprehensive checks before going live. KMPG was brought in as a delivery assurance partner, ensuring that governance was strong.

Performance, load, and stress testing needed to be robust because of the volume of students and other stakeholders. It took two-and-a-half months to complete this process, which included rigorous security and penetration tests. The solution is currently hosted on premises (at CenturyLink), with the possibility of moving to a cloud infrastructure in the future.

Outcome assessment

Now that PeopleSoft Campus Solutions is being used across all three campuses, David Hill says the University of Nottingham has a "good foundation to go forward". As a result of this project, more than 60 applications and the underlying infrastructure will be decommissioned, and the university will be able to operate more efficiently because there is a single, secure student records system. The university has now built the foundational core student record management system and will focus on optimizing this solution to improve and tune its business processes (such as recruitment and admissions, student financials, campus community, grade management, and contributor relations). This remains a priority for the university, which will continue to work with Infosys and Oracle to gain the expected benefits from its investment.

The student records system will be at the heart of the university's digital transformation

As part of this project, a culture and a better understanding of the need to enable digital transformation across the university has been built. Senior managers and university leaders have learnt valuable lessons in managing and deploying enterprise-wide technology-enabled change across a complex organization. The robust governance structure will continue to operate, along with a supporting product team, keeping the product relevant and up to date. The university has moved away from seeing the student records system as a project with a start and end date, and is instead viewing implementation as the first foundation for transformation. It has also enabled the simplification of the applications landscape and is in the process of commissioning an integration platform that will enable the product to integrate with supporting systems (for example, those that enable the publication of marks or timetables).

The product is enabling the standardization of business processes

This transformation is already having a business impact, and helping to improve and automate processes. Before implementation, the production of offer letters was handled manually, which was slow and subject to error. It is now a fully automated process that uses applicant and curriculum data. This is much quicker, and gives the university a competitive edge, enabling it to send out offer letters before other institutions.

The administration of curriculum changes has also been made easier. Previously, this was carried out using multiple systems, with administrators needing to carry out duplicate tasks across the different

systems, leading to confusion and errors. Now there is a single platform for curriculum changes, leading to fewer errors and joined-up management of changes.

Campus Solutions is also improving the way students interact with the university. Before implementation, students and applicants had no way to view the university's information on mobile devices. They can now, however, use mobile devices to carry out all tasks, from applying for courses to buying graduation tickets. Paper-based processes, such as forms to fill out if students change their mind about the modules they want to study, have been replaced with online services with built-in rules to validate selections.

The university is building Campus Solutions into its future

The university has an ongoing contract with Infosys for maintenance, support, and future upgrades. Having implemented Campus Solutions 9.0, it is planning a program to upgrade to 9.2 before moving to the cloud (Oracle's Student Cloud product is not yet ready for the UK market, but is included in future plans). The university will use Campus Solutions in its entirety for one academic cycle and then look to exploit it more creatively by exploring the use of analytics, machine learning and artificial intelligence (AI).

Lessons learned

Don't undertake an organizational transformation too early

Digital transformation cannot work if the technology isn't ready. Before bringing Infosys onto the project, the university had made some organizational changes before the technology to support them was in place. This created problems and was very disruptive.

Don't over-customize the product

Before bringing Infosys on board, the university had initially tried to customize Campus Solutions to suit its needs. However, the high degree of local customization brought extra challenges for the project, and standardization then needed to be reinstated as part of the program. Rather than trying to customize the product and focusing on siloed business objectives, it is better to focus on the long-term strategy of the organization.

Choose the right delivery mechanism

When the university first tried to implement a single student records system, it had a team of contractors led by an external program director. This meant that the risks associated with delivery remained with the university. After trying to work in this way for more than three years, the university realized that it needed a strategic partner to take responsibility for implementation. The level of complexity meant that a professional delivery partner was needed because the core business of a University is not to deliver IT transformation programs.

A student records system is a cost of doing business

For a university, a student records system is key and is a central part of university business. Even if implementing a single system takes a lot of time and effort, it can provide a strong foundation for transformation and future growth.

Appendix

Methodology

Ovum Enterprise Case Studies leverage in-depth interviews with key enterprise stakeholders as well as a review of any available documentation such as strategic planning, RFP, implementation, and program evaluation documents.

Further reading

2019 Trends to Watch: Higher Education, ENV006-000039 (Oct 2018)

Enterprise Case Study: Increasing Operational Efficiencies and Student Engagement, ENV006-000007 (Dec 2017)

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We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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