Education Going Digital

Any School Report Card	
Subject	**Grade**
Marketing	**Could do Better**
Operational Excellence	**Could do Better**
Customer Experience	**Could do Better**

Introduction

Private education, from Primary to Tertiary, has become a competitive landscape and, therefore, education providers must focus on adding value to their offerings by presenting their services with significant differentiation. More than ever before, providing the very best education while delivering a brilliant student experience is critical for all education and requires investment in understanding and harnessing data better to remain competitive.

Many educational establishments, be it schools, colleges or universities, are letting themselves and their customers (parents and students) down by not providing a cohesive integrated software systems landscape. They are losing out on marketing opportunities, operational excellence and providing a better customer experience.

It may seem unlikely to outsiders but the software systems environment in a place of learning, is very complex. The main function is obviously educational excellence and the welfare of the students but to do this there is a tremendous amount of administration involved in upholding standards.

The situation is further exacerbated by the need to satisfy an increasing demand from parents wanting online facilities to pay fees, access student academic/health/sport/attendance/transport information via a multitude of channels.

Best of Breed

Most educational establishments have opted for a 'best of breed' strategy to satisfy their requirement as there doesn't seem to be a single system comprehensive enough to cover all administrative areas. This may be because the educational systems differ throughout the world with very different curricula in the US, Europe and Australia.

However, there are core functions that need to be managed by all establishments and these are summarised in Fig 1.

Figure 1: Sample educational systems environment
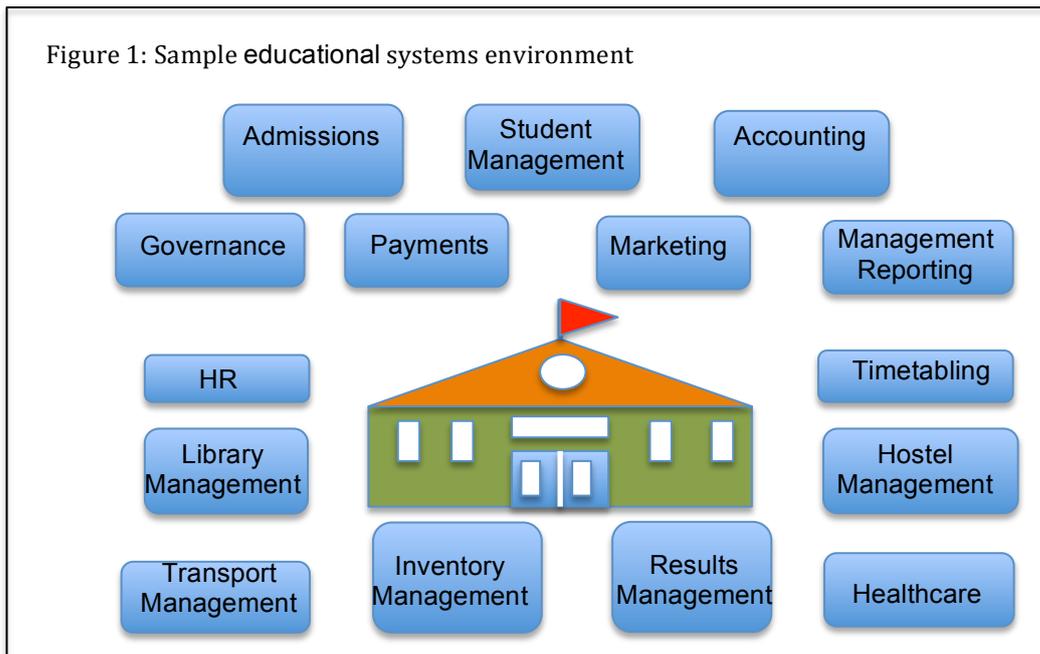
There is absolutely nothing wrong with a 'best of breed' strategy and no matter which route you opt for there are always compromises. The biggest issue with this approach is the need to hold the same data in multiple places and to keep it all synchronised. Similar student and parental data will need to be held in most of the systems, student management, finance, admissions, transport, marketing and payments to name but a few.

Present Situation

In most present day environments, interfaces need to be built between the major software systems such as finance and student management, and these tend to be IT led, complex and expensive, Figure 2. The expense and lack of experienced resource means that the minor systems such as transport and library management are not connected so any information would have to be manually entered, this obviously leads to an increased workload and the possibility of errors in the input.

Figure 2: Core System Interfaces
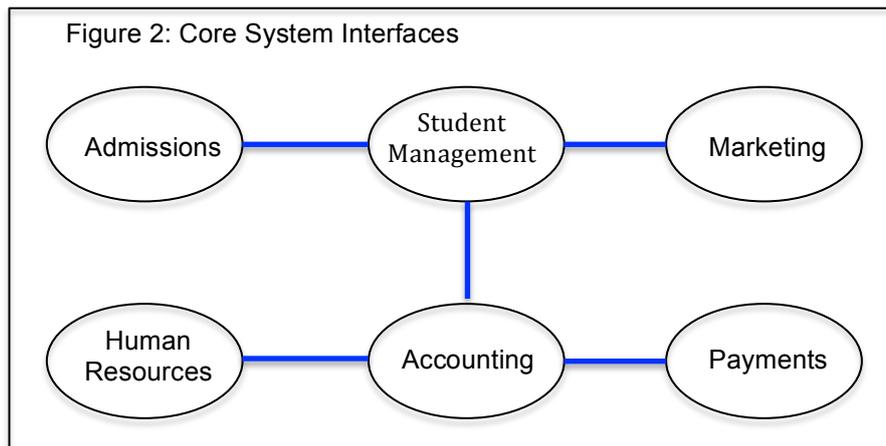
Traditional architectures are not built for rapid change and evolution, they tend to be rigid and built to last and if the source or target systems change, the interface also had to change, which tends to be a long complex operation. The interfaces are not built for a growth in endpoints (multiple connections) or for speed in growth (multiple applications in the Cloud).

The traditional approach is fine if all data is kept internally but with the advent of the internet and the increased knowledge of parents and students, it is now necessary to allow customers to have access to the systems to retrieve information, and when necessary update their personal information such as telephone numbers or email addresses.

The New Environment

It is becoming increasingly important to put in place a platform that will allow easy transfer and manipulation of data between software systems. This is necessary for three major reasons:

1. Synchronisation of data between systems

    unlike a single system a 'Best of Breed' environment may have more than one system of record, perhaps one in the student management system and one in the accounting system and it is so important for this master data to be synchronised, as soon as practicable. If the synchronisation is a manual process, then there are always timing issues when the data will be out of sync, further, the error rate when re-inputting data tends to be very high as it is the least experienced people doing the entry. Getting student and parental data wrong, even a miss spelling of a name can have a catastrophic effect on the reputation of the institution. The right platform will allow the connection of all software systems in the network not just the core units so that manual effort will be reduced and accuracy improved.

2.   The Cloud and Software as a Service (SaaS)

with the advent of the Internet and functionality that is made available through SaaS, a whole wealth of benefits can be gained. There are literally thousands of specialist developers who, prior to the Internet, had no avenue to market their software. These specialists are now able to market and deliver their hyper-specialised solutions at a very low cost through the Internet giving their customers a possible marketing or operational advantage. The barrier to entry has been lowered to such an extent that it is often within a departmental budget to acquire the software, without IT being involved. However without the proper tools, the IT workload will be increased when the department requires data for the new application.

3.   Making more use of available data

within the various software systems used by the institution, there resides a tremendous amount of data that, if consolidated and used properly, can improve all aspects of the organisation. The data is normally in different silos and extremely difficult to access, if it could be brought together, and, exposed to the different departments, it would improve their performance considerably. Having the possibility of easily combining in house data with external data available on the Internet would have an even more profound effect. Utilising analytic tools with the data would really provide the opportunity to be different and make you stand out from the competition.

Customer Experience

There is a lot of hype at the moment regarding the customer experience but if we are honest with ourselves it is what differentiates us from the competition. A good customer experience will keep people coming back, but more importantly lead them to refer us to other possible clients.

I was recently talking to some administrators and they were telling me about a recent problem they had with regard to email addresses and telephone numbers. They were saying that in their environment, it was very difficult to know if they were using the latest contact details. This environment did in fact have two systems of record and the customer notified the school and changed the details on one system but the latest information was not synchronised with the other software systems. On contacting the parent, they confirmed that the parent had requested the contact details be changed, unfortunately the system the marketing and administration people were using did not receive the updates so any email correspondence was not reaching the target. This may seem a small issue but it makes customers (parents) think about how

you can educate their child properly if you cannot even get email addresses right.

Customers may be looking for different things when they interface with the school, but it is very likely they will want to have one point of access where they can complete all of their business through one portal using any device they are comfortable with; hand phone, tablet or PC. Speaking as a parent, I want to be able to view my child's attendance, grades, transport arrangements, school trips, ECA's and I want to be able to pay any fees securely on line.

The impression made with a customer either face-to-face or more likely, digitally, will have profound effects on their view of your institution; they expect consistency and completeness.

The API (Application Programming Interface) Led Approach

There have been major advances in recent years in the tools available to allow easier connection of systems whether they are on premise or in the cloud. These tools manifest themselves as an 'Integration Platform as a Service' (iPaaS) and as with all other SaaS products, they can be purchased on a monthly basis at a relatively low cost.

These platforms come with a number of ready-made connections and the facilities to build logic into the interface to add value to the data and the operational process. They are designed to be less technical than a traditional interface and can be used by staff that do not have formal IT training.

By leveraging API's within an orchestration platform to integrate software systems, and by using agile development methods with the new tools, the time to deliver integration projects can be reduced to days, a significant benefit when compared to traditional methods that can take weeks, if not months, to complete.

The resulting APIs can be re-used and if designed correctly, can significantly reduce the time and effort required to connect multiple systems. APIs allow the possibility of connecting all systems in a time and cost effective manner.

Conclusion

If you are serious about improving the customer experience and positioning your institution to take advantage of all the benefits presented by the Cloud and SaaS, then you need to be making steps to adopt an API strategy. As mentioned above this can be done in a timely and cost effective way so there is no reason why the first steps can't be taken quickly.

The benefits to be derived from an API led approach combined with the right orchestration platform are enormous and in all honestly are only limited by your imagination.

Imagine a world where data is input once and then automatically filtered through to all systems and customer contact points, improving operational efficiency and the customer experience, setting you apart from the competition.

If you are interested in improving your grades please contact us at info@intentsys.net or give us a call on +65 9782 2641.

Chris Rowbottom is Managing Director of Intentsys Pte, 'Intentsys.net' a company specialising in building software bridges between systems.