Harnessing Cloud Computing In Education

As digital technology reshapes the fundamentals of the education industry, institutions are increasingly leveraging cloud based solutions to realize new business strategies.

Introduction

The education industry now faces a new set of challenges that is driving a fundamental transformation across the education ecosystem. Their customer demographics, behaviors and expectations have changed. They face revenue pressures along with increasing sensitivities from their customers on the return on investment for dollars spent on higher education.

In today’s digitally connected world, interacting with students requires managing more communication channels than ever before. Decisions about when and how often to interact with prospective students, what content to communicate and what media channels to leverage for delivery are critical components of an effective enrollment strategy. The availability of numerous online media of education brings affordability of education to the forefront. Outcome-based and adaptive learning processes bring personalized learning experiences attuned to the distinct learning capabilities of individuals.

The sources of funding for education bring with them increased scrutiny. Tax payer-funded education requires new reporting systems to measure the economic impact of higher education on students. With the amount of state funding for higher education steadily decreasing, the shift of the economic burden to the consumers has resulted in universities re-evaluating what student services can be provided cost effectively.

Now more than ever, understanding the intricacies of technology transformation is critical to staying relevant in the higher education environment. In the midst of tight cost constraints, the successful adoption and implementation of new technologies and their underlying infrastructure requires a comprehensive evaluation of strategies, human resources, processes and technologies.

Cloud Computing In Education

Unlike the time-consuming, expensive application modernization projects of a decade ago, transformation initiatives based on social, mobile, analytics and the cloud (the SMAC Stack™) are cost effective and efficient. The cloud, in particular, provides a natural platform for optimizing existing IT systems to increase operational efficiencies while driving business agility and growth. Many higher education players are leveraging cloud computing to become more nimble, innovate more quickly and create greater value for customers and partners, whether through business process transformation and innovation, or by modernizing their application platform or data center architectures.
Here are some high traction workloads for cloud adoption in the education space:

- **Online course delivery:** Pioneers in Massive Open Online Courses (MOOC) are using cloud based infrastructure to host their online education platform and scale to the thousands of potential consumers. Cloud solutions also offer the flexibility of access from multiple devices including phones and tablets.

- **Online assignments and tests:** Teachers and students leverage cloud based solutions to post, access, complete and submit assignments.

- **Project collaboration:** Cloud based collaboration solutions allow multiple users in group projects to work on and edit documents at the same time, and enable seamless sharing and transmission of ideas.

- **Email and connectivity solutions:** Cloud based email and audio/video collaboration solutions are finding a lot of takers, especially with a large user base of faculty and students.

- **Reporting requirements:** Institutions need to gather data from a multitude of sources and derive meaningful insights from such data, both for regulatory and business requirements. Cloud based solutions can be used for storage, high performance computing and dash-boarding requirements.

- **Greater class participation:** Cloud based mobile solutions allow teachers and students to share their view points, answer questions and review with devices connected to a cloud platform.

- **Real life simulators on cloud:** Real-life simulation applications that enhance learning experiences can be hosted on the cloud and powered on-demand. This reduces the total cost of ownership of infrastructure, as these applications only run for 2-3 months in a year (when the classes are conducted).

- **Designing/modeling and research:** High-end computing resources required for research (E.g. molecular research and big data analytics) and modeling (E.g. mechanical and electronic component design) can be consumed from cloud, thereby reducing upfront investments.

- **Shifting focus to better content:** Institutions can focus on content creation and delivery, while using cloud solutions to reduce IT ownership and the associated management efforts.

---

**Quick Take**

**A leading university**
The client was looking to expand its online product portfolio, deliver multiple online courses and multimedia content, and enable faster enrollment of the students. Their objective was to connect 12,000 students, faculty, and all associated courses. Cognizant helped develop an extensible learning solution on a public cloud platform. Leveraging Cognizant’s Cloud360™ platform, the client was able to quickly deploy and cost-effectively operate new applications, drive user adoption, embrace metrics-driven service delivery, replace capital infrastructure expenses with lower operational costs, and charge customers based on consumption.

**A leading publisher**
The client required a robust platform for delivering high-bandwidth book content to thousands of schools/colleges across the US. Cognizant developed a robust publishing solution leveraging public cloud based PaaS services, including a Content Distribution Network solution. Through the use of cloud, the solution was able to scale to meet requirements from thousands of users, enable faster time-to-market, reduce provisioning time for resources, speed up high-bandwidth publishing requirements and offer seamless management and monitoring of the cloud based solution.
Run Smarter Engineering
Dynamic and productive development cycles.

Challenge
The development, set up, provisioning and release to production of IT systems (applications and infrastructure) takes too long, is cumbersome and costly.

Cloud solution
Leveraging cloud based IaaS and PaaS solutions, the build, release and provisioning of resources can be automated.

Benefits
Agile and flexible IT ecosystem that can go “live” to production quickly; cost savings on infrastructure and software licensing; higher productivity.

Execute Smarter Business Processes
Streamlined and standardized processes.

Challenge
Business processes running on legacy application/technology architectures are inflexible, require a lot of effort and time to change and do not support enablement of mobile and social capabilities.

Cloud solution
Leveraging cloud based IaaS, PaaS and SaaS solutions, organizations can target mobile enablement, insights from big data, business process optimization and modernization.

Benefits
Optimized and flexible business processes; quick addition of social, mobile and analytics capabilities at lower cost.

Build Smarter Applications
Flexible and scalable applications

Challenge
Applications are complex, expensive and inflexible; often use diverse non-standard technologies; cannot add new capabilities.

Cloud solution
Leveraging cloud based IaaS, PaaS and SaaS solutions, organizations can build dynamic, stateless, cloud-scale architectures.

Benefits
Flexible scalable applications that can dynamically cater for changing business requirements; solution enhancements are quicker and at lower cost.

Run Smarter Operations
Optimized and efficient steady state operations.

Challenge
Infrastructure, applications & business processes are not managed effectively; issue resolution and trouble-shooting are not optimal; distributing applications takes a lot of effort.

Cloud solution
Re-host/migrate applications onto cloud; Hadoop-based analytics of log files; cloud based APM to monitor application, infrastructure and business process performance; auto-scaling and auto-bursting across hybrid clouds ensures minimal CAPEX.

Benefits
Automated management of IT ecosystem with proactive performance management; optimized storage and backup; capability to address elastic demand scenarios.

Organizations can specifically target the following areas to leverage benefits that cloud-enabled solutions offer.
Why Cognizant?
As organizations look to the cloud for growth or business transformation, Cognizant can be their trusted partner. We can help simplify the transition to cloud-based infrastructures, platforms, applications and business processes. Here’s what separates us from the pack:

Industry leadership
As a customer-centric, relationship-driven partner, we are redefining the way companies experience and benefit from global services. Our unique delivery model is infused with a distinct culture of high customer satisfaction. From enhancing the student experience to achieving institutional excellence, education leaders choose us to help them work better and work differently. Whether it is improving student success or managing costs, Cognizant has been helping colleges and universities benefit from class leading technologies.

Comprehensive cloud services portfolio
We offer end-to-end services covering cloud advisory and consulting, migration/implementation and managed services targeted at simplifying data centers, optimizing application platforms and driving business innovation leveraging cloud. These cover IaaS, PaaS, SaaS and BPaaS models.

Pre-built cloud solutions
- Cognizant Cloud Steps Transformation Framework: a comprehensive tool-based framework that simplifies the transition to cloud.
- Cognizant Cloud 360™: a cloud service management platform.

Strong cloud partner ecosystem
We partner with some of the best companies in the world whose products and services complement our own offerings. We leverage our key strategic partnerships with Amazon Web Services, Salesforce.com, Microsoft, Rackspace, VMware, Oracle, IBM, SAP, NetSuite, ServiceNow and CIRBA, among many other cloud solution providers, to help clients realize the value of cloud in their businesses.

Domain & technology competence
Our core team of 2500+ cloud technology SME’s, architects and developers with the technology innovation know-how, complemented by business consultants with deep industry expertise help clients harness benefits from cloud adoption. Our investments in cloud lab infrastructure help solution building and foster innovation.

Client engagements
Our proven expertise of 550+ cloud engagements provides clients the confidence of engaging a partner that has helped multiple clients across industries charter their path to success.

References

Let’s Talk:
Are you looking drive business agility into your enterprise by the adoption of cloud? Let Cognizant be your cloud transformation partner. For more information, please contact us at cloud@cognizant.com.

About Cognizant
Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world’s leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 75 development and delivery centers worldwide and approximately 187,400 employees as of June 30, 2014, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

Visit us online at www.cognizant.com or follow us on Twitter: Cognizant.