Digital strategy

Version 1

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Background

As digital options increase, a Digital Strategy becomes increasingly important to organizations. For information-intensive and content-rich industries like media, publishing and advertising companies, digital is the way of life. Some of these businesses were “born digital”, while some have become “digital only”. To these organizations, digital strategy is a critical capability for success. Other industries are catching up to this business model. The digital disruption spans both the private and public sectors.

Drivers for adopting digital strategy

The digital opportunities are greater than the threats, and increasing all the time. In education, for instance, they span online research, remote learning, open-instruction models and “ flipping” education (where home is for study and class is for “homework”). And the opportunities include not just performing better at our current businesses, but entering new businesses or even creating new industries based on digital capabilities.

The new digital opportunities and threats must be addressed if businesses are to survive the next five to 10 years. At some point, digital will simply be embedded in everything we do, but until then, we must ensure that appropriate digital leadership exists to overcome “analog inertia” and generate the necessary digital momentum. Recently, the North American universities and colleges are increasingly realizing the need to adopt a digital strategy.

Understanding digital strategy

Gartner has found that businesses interpret “digital” as many different things — connecting digital marketing and channels, connecting factory and IT networks, empowering staff with social networks, and on and on. Hence, some terminology clarifications are in order.

- Digital refers to all electronically tractable forms and uses of information and technology. It describes the dominant use of the latest digital technologies to improve organizational processes, improve interactions between people, organizations and things, or make new business models possible. The key technologies that will

influence an organization's ability in becoming digital are mobile, Artificial Intelligence (AI) social, cloud, big data and analytics, Internet of Things (IoT), 3D printing and block chain. It is bigger in scope than the typical company definition of "IT" because it includes technology outside an organization's control.

- Digital Strategy refers to the component of overall business strategy that answers the question, "How will our business survive and thrive in an increasingly digital world?" The strategy also explains the organization's approach in adopting Digital optimization or Digital Transformation or both. The answers to that question are not limited to digital business decisions. Like any strategy, digital strategy may contain elements for the whole organization yet incorporate variances for different departments, business units or geographies.
- Digital Optimization is the process of using digital technology to improve existing operating processes and business models. It involves doing old things in new digitally centered ways. Organizations use digital technology to improve their existing business model to its fullest extent and adopt the operating practices and capabilities needed to unlock the full potential of digital technology within the existing business. Digital optimization delivers improved productivity, better customer experience and in turn, improved revenue. Examples:
    - Sykepleie Pluss of Norway has extended the concept of e-textbooks by implementing a "video textbook" platform. Their innovative digital business model bypasses both publishers and retailers to deliver the curriculum directly to the faculty and students. Sykepleie Pulss is becoming a "must have" for nursing students in Norway
    - Georgia State University is implementing innovative digital tools to dramatically improve student experience. AdmitHub is their AI chat bot that helped to reduce "summer melt" by 21.4% (Summer melt: when students confirm their intent to enroll but fail to enroll the fall after high school graduation, often due to difficulty completing transition tasks). Their Predictive analytics platform helped improve graduation rate by 22%.
    - Deakin University, in Melbourne, Australia, has established a global reputation for having an aggressive digitalization strategy. It is credited with having a "world-first" deployment of the IBM Watson Engagement Advisor for students in 2015. Since then, the university built its own virtual assistant called Genie. Genie is a key step forward in Deakin's efforts to personalize the delivery of student services to people's individual contexts.
- Digital Transformation is the process of exploiting digital technologies and supporting capabilities to create a robust new digital business model. At a minimum, a business becomes a digital business when the product set and the business model depend on information and digital technology to create value. Organizations often undertake digital business transformation to cause, or adapt to, an industry disruption. It has the

intent to create new value for itself and for its customers. Digital business transformation has the ability to continually innovate the business model to keep up with serial disruptions in the market. A successful digital business will approach every new business issue or opportunity by asking “How do digital trends affect this?”. Examples:

- Born-digital" or "digital native" companies include Facebook, Uber, Alibaba, Tencent, Google, Amazon, Expedia, Netflix and Airbnb. Their business models could not exist today without exploiting digital technology and making significant use of information. These businesses have blurred the lines between the physical and digital worlds
- Ford has said it will become a "Smart Mobility" company, mass producing fully autonomous vehicles for use in ride hailing and sharing models by 2022
- AT&T Communications embarked on a journey to transform AT&T from a communications company of the past to an IoT company

Statistics from Gartner show that among the organizations adopting a digital strategy, 90% of them are optimizing to improve existing business and 10% are transforming to create a new digital business model. In comparison to transformation, digital optimization poses lower risk, is less disruptive and has the potential for faster ROI.

Seneca’s approach to digital strategy

As identified in Seneca’s 2017-22 Strategic plan, the higher education landscape is changing due to the changing nature of work, changing student population and fast-changing improvements in technology. The strategic plan places emphasis on leading through excellence with focus on quality, innovation in teaching and learning, and determination to improve continuously. Adopting a digital optimization based digital strategy aligns well with Seneca’s strategic plan. Using this approach, Seneca will leverage on digital technologies like mobile, Artificial Intelligence, IoT, cloud, analytics, and Blockchain to build a digital strategy.

The strategy will focus on the following areas.

Optimization Area	Description
Operational Efficiency	Identify innovative digital technologies to eliminate manual or paper based operations to significantly improve productivity and efficiency
Student / Faculty experience	Leverage on Artificial Intelligence based tools like predictive analytics, Chat Bots and Block chain to improve student experience
Digital Learning	Introduce teaching & learning technologies to support hybrid / online learning, experiential learning, digital assessment, secure deployment on course content on BYO devices and so on.
Smart Campus	Harness the power of Internet of Things to monitor, measure, analyze and improve waste management, lighting, washroom usage, automated partking, digital displays, etc
Digital Workforce	Improve productivity with advanced data analytics, Service chat Bots, Virtual phones, and more….

A key consideration of this approach will be to develop a workforce that understands how to operate in a digital environment. Digital optimization will require a new set of KPIs to measure performance and to measure success. The IT operating model for digital business no longer has IT as service provider. Instead, IT is a true partner with the business, jointly accountable for business outcomes. Almost every facet of the organization requires the use of technology.

The digital strategy initiatives will be funding through Seneca's integrated planning process. The implementation of the digital strategy will be reported to the Seneca Senior Executive Committee (SEC) on a quarterly basis.

Seneca's 3-year digital ambition

Gartner defines Digital ambition as below:

Digital ambition is a clearly identified, desired digital outcome of a digital optimization strategy — shaped by a digital industry vision and an enterprise's response to that vision. It is a compass, clarifying the direction for digital business.

Listed below are Seneca's digital ambition goals from 2019 to 2021. This list will be reviewed and updated once a year.

Operational efficiency

Optimization Area	Digital Tools	Current Measure	KPI measure 2021	Benefit
Paper based processing	Electronic document approval software, Workflow automation packages	• Adobe sign is widely adopted across Seneca	• 100% of administrative & 50% of student interactions that are digital	Response/Processing time reduced from 3-5 days to 2-4 hours
Records Management	Electronic records management system	• No structured digital storage of administrative documents • 50% of student documents are stored electronic	• 40% of administrative documents are stored electronic • 70% of student documents are stored electronic	• Space saving with elimination of physical storage • Digital storage enables ready access to information
Queue Management	Increased self-serve through mobile apps and application software tools	• 25% of students self-serve for fee processing, schedule management and document requests	75% of students self-serve for fee processing, schedules and document requests	Significant reduction in queues & in-person counter dealings, including through international student portal

Student / faculty experience

Optimization Area	Digital Tools	Current Measure	KPI measure 2021	Benefit
Student Success	• Analytics • Cognitive insight with Predictive analytics using	Intervention by faculty initiation based on monitoring of LMS course based activity and assignments. Intervention by advisers - supporting the whole student rather than the course based approach	30% of all at risk students are identified using the **predictive** analytics tools and data	Improvement in student graduation rates

	Artificial Intelligence			
Recruitment Inquiries	Cognitive engagement using ChatBots / Virtual Personal Assistants	Recruiters use chat tools to answer queries	50% of all inquiries to be automatically answered by chatbots	24x7 support, faster response, multi-lingual support
Advising Support	Cognitive engagement using ChatBots / Virtual Personal Assistants	Advisers use email to answer student queries	80% of most frequent questions to be automatically answered by chatbots	24x7 support, faster response, multi-lingual support
Digital Marketing	Predictive Analytics using Eloqua AI & Website activity monitoring	No automated prospect follow up	Automated tools to track website activity to launch targeted email campaigns	Better student engagement
Smart recruiting	Salesforce Einstein & Eloqua	No automated lead follow up	Automated tools using Salesforce Einstein to identify potential leads and launch targeted email campaigns	Better conversion rate from lead to confirmation
Digital Credentials	Blockchain with SecureKey Verification of credentials – students and employees – services such as *National Student Clearinghouse*	Paper based degrees, diplomas and certificates	100% of all Seneca awarded credentials will be available on blockchain platform	Real-time validation of Seneca credentials. Potential revenue source for Seneca
Digital OneCard	Mobile Payment, Mobile Wallet	Debit and Credit card based payments. Physical One Card	• At least 2 additional mobile based payment options available to international students. • Digital One Card for all students	Flexible payment options that work from anyone in the world

Digital learning

Optimization Area	Digital Tools	Current Measure	KPI measure 2021	Benefit
Online, hybrid and digital enhanced learning	Wide variety of tools used to support online learning Cloud based tools to enhance learning Active learning classrooms with remote learning capability Learning Management System	Baseline of part time and fulltime courses: fully online, hybrid. Targets for 2020 to be established based on 2018/19 baseline.	All courses employ context relevant digital tools. Course specific targets will be determined through the digital learning strategy Rich use of priority cloud based tools across a wide range of programs.	Flexible learning opportunities to students Enhanced digital literacy skills for students and faculty Enhanced marketability of graduates
Digital Learning community	• Open education resources (OER) • Open Badges for PD • ePortfolios for faculty • ePortfolios for students • Collaborative Inquiry/ Communities of Practice • Cloud based collaboration tools	• OER - need to establish a baseline; OER exist in accounting and some ICT courses. • ePortfolios as part of FDP requirements implemented for 15% of full-time faculty • CI/COP early stage implementation using traditional approach.	• OERs introduced in high priority courses. • Open badges implemented across all PD • ePortfolios implemented for 40% of full-time faculty • CI/COP activity increase with use of digital tools to support remote sharing and evaluation of practice.	Expanded access to learning, scalability, augmentation of class materials and Enhancement of regular course content. Digital, sociable recognition

Interactive Experiential Learning	Simulation Simulation with using AR/VR/MR Riipen	Simulation, using technology tools are implemented in many program areas. Baseline use of AR/VR and MR and evaluation of tools needed.	• AR/VR/MR tools will be used in classrooms, labs and at home to provide simulation based training & experience (metrics to be defined)	Virtual training & live experience on a number of scenarios which was earlier possible only with field trips.
Student Assessments	Digital Assessment Mastery based learning Virtual Proctoring	Many courses use publisher materials with algorithmic assessments. Mostly in-person assessments. Virtual proctoring (B Virtual) used for OntarioLearn and some fully online courses.	• Virtual proctoring available as a choice for a wide range of courses. • Y% all international language assessments use virtual proctoring (metrics to be defined)	Anywhere access to assessments reducing the need to travel to the campus and to Canada for international students
Content Management	Enterprise mobility management (EMM)	Content manually managed by Faculty & Admin	• 100% of all deployments on student BYO devices will be managed by EMM	Ease of access, Secure deployment of Seneca proprietary content

Smart campus

Optimization Area	Digital Tools	Current Measure	KPI measure 2021	Benefit
Smart Waste Management	IoT sensors that sense how full the cans are. The system connects via the cloud to inform when the recycling units need emptying	Manual emptying	50% improved operational efficiency	Optimizing collection frequency and improving labour utilization
Smart Lighting	Wireless and Bluetooth beacon enabled smart IoT sensors that control switching, intensity and mood driven lighting	No smart lighting capability	2019 will pilot the use of smart devices. Targets to be determined on successful pilot.	Energy saving up to 60%, improved working conditions and improved space utilization.
Virtual Phone access	Cisco mobility, SIP trunking	Fixed desktop phones	• 100% ability to access desktop calls from anywhere in the world using app based virtual phone extension • 100% ability to seamlessly transfer calls to cell phone • 100% VoIP capability	Increased mobility , Cost saving
Smart Parking	Automated Vehicle license plate recognition based automated parking system, supported by mobile payments	Fixed gates at each parking location, payment by parking meters	• 100% of parking Newnham campus parking will use the new system	Hassle free parking experience, promotes ride sharing, special parking spots promote electric vehicles

Digital workforce

Optimization Area	Digital Tools	Current Measure	KPI measure 2021	Benefit
Reporting and Analytics	Cognitive insight using Augmented Analytics	Query based reporting tools supported by Excel and PowerPoint. Few BI options	50% of all enterprise data reporting is done using Augmented analytical tools	One version of truth. Deep dive data insights using machine learning.
Service Desk	Cognitive engagement using Chat Bots / Virtual Personal Assistants	Service Desk managed by Personnel for Tier-1 support	50% of all inquiries are answered by Artificial Intelligence driven chat bots / VPAs	Productivity improvement, Financial saving.
Proactive Monitoring	Advanced Analytics using Artificial Intelligence and IoT sensors	• IT Servers are generate configuration based alerts using monitoring tools • End user devices run deep learning tools for proactive monitoring	• 100% of all IT servers and end user devices will implement deep learning based proactive monitoring • 100% of college equipment will be monitored for wear & tear and proactive alerts	• Improved threat protection from cyber attacks • Improved uptime and failures significantly reduced due to proactive monitoring

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