

Market Insights: Xerox in Education

WHITE PAPER

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EXECUTIVE SUMMARY

Educators in K-12 and Higher Education are struggling with a complex set of challenges. Digital transformation (DX) has accelerated rapidly in the wake of the pandemic, and the rise of generative AI in popularity over the last eighteen months has posed further challenges for educators as to how they may integrate these new technologies into their teaching methods and workflows. The key message from educators has always been “how will this new technology help us?”. Technology vendors are trying to respond with the most suitable answer in a very competitive and fast-paced market.

Educators in K-12 are facing a number of challenges, such as student mental health management, reducing teacher burnout, digital equity, maintaining curriculum standards, and safeguarding private information. Technology providers, when positioning hardware and software solutions to educators, must consider how their offerings can help reduce the workloads around these challenges. Higher education institutions face similar challenges while also grappling with rising costs, online learning, faculty workload, and more. Hence, providers have to consider how they can streamline document management and printing needs for their clients, enhance digital workflow and other DX initiatives, support remote learning environments, and help clients address cost controls and budgets.

This is where an experienced partner can provide value. Given the significance of the education market to the document imaging industry, the analysts at Keypoint Intelligence invited leading vendors to participate in this Market Insight study aimed at detailing what they offer to education clients in all age segments. Our Vendor Profiles presented here give an overview of how those OEMs are helping educators and administrators meet today's challenges.

ANALYSIS

The education market is being reshaped by several significant trends that demand attention from both institutions and their technology partners:

- ◆ Hybrid learning has become a permanent fixture, with approximately 20% of instruction remaining virtual post-pandemic
- ◆ Cybersecurity threats targeting educational institutions have increased by over 75% in the past two years
- ◆ The expiration of pandemic-era federal ESSER (Elementary and Secondary School Emergency Relief Fund) dollars is creating new budgetary pressures across institutions
- ◆ Cloud-based solutions and intelligent automation are seeing rapid adoption rates
- ◆ Document management needs continue to evolve, with the education sector generating approximately 29 billion pages annually
- ◆ Artificial Intelligence (AI) and machine learning (ML) are increasingly being integrated into both administrative and educational processes
- ◆ Student data privacy and protection have become critical priorities amid growing regulatory scrutiny.

Core Market Challenges

Digital Transformation and Infrastructure Modernization

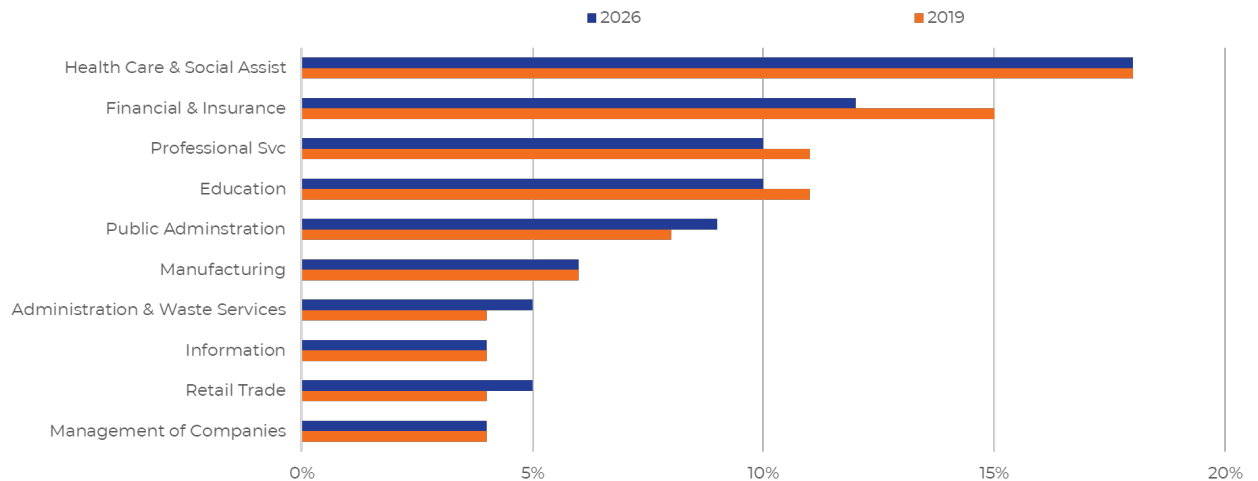
The acceleration of digital transformation in education has created unprecedented demands on institutional infrastructure, fundamentally changing how educational services are conceived, delivered, and managed. Educational organizations must now support sophisticated hybrid learning environments while maintaining traditional educational capabilities, all while ensuring seamless integration between various systems and platforms. The complexity of this transformation extends far beyond simple technology updates. Institutions must reconcile legacy systems with modern cloud-based solutions, mobile devices, and collaborative tools. This integration challenge is particularly acute in areas where older infrastructure must interface with newer technologies, creating potential bottlenecks and compatibility issues that can impede educational delivery.

Moreover, the shift to hybrid learning environments has exposed significant gaps in existing infrastructure. Many institutions struggle with inadequate bandwidth, outdated hardware, and insufficient support systems to manage increasingly complex technical environments. The need to provide equal access

to educational resources, regardless of location or device, has highlighted digital equity issues that must be addressed through careful planning and resource allocation.

The transformation also encompasses the need to provide sophisticated digital tools for both educators and students. Learning management systems must now integrate seamlessly with video conferencing platforms, digital whiteboarding tools, and various educational applications. This integration must be accomplished while maintaining user-friendly interfaces that don't create additional barriers to learning or teaching.

That said, print remains an integral part of the typical workflow for school systems and higher-ed institutions. According to Keypoint Intelligence's research, the education vertical is the third-largest producer (tied with professional services) of printed/copied output, and will account for about 10% of all pages in the US in 2026. As with other industries, printed pages are declining, but education clients will account for a sizeable chunk of the market for the foreseeable future.



Source: Keypoint Intelligence Vertical Market Business Opportunity (VMBO) Forecast 2019-2026

This means technology partners must continue to help education clients make printing more convenient and affordable—even while assisting the transition to paperless workflows wherever practical.

Cybersecurity and Data Protection Imperatives

Educational institutions have become prime targets for cybercriminals, facing an unprecedented wave of sophisticated attacks targeting their valuable data assets and often vulnerable infrastructure. The expansion of digital learning platforms and remote access points has created new attack vectors that must

be defended against, while limited IT resources and expertise make this protection increasingly challenging.

The complexity of cybersecurity challenges in education is compounded by the need to maintain open, collaborative learning environments while protecting sensitive information. Institutions must implement robust security measures without creating barriers that impede the educational process or limit access to legitimate users. This balancing act requires sophisticated solutions that can provide strong protection while maintaining usability.

Regulatory compliance adds another layer of complexity to the security landscape. Educational institutions must navigate an intricate web of requirements including FERPA, COPPA, GDPR (for international students), and various state-specific privacy laws. These regulations demand increasingly sophisticated security measures, including:

- ◆ Advanced authentication systems that can handle diverse user populations
- ◆ Comprehensive encryption protocols for data both at rest and in transit
- ◆ Detailed audit trails and reporting capabilities
- ◆ Secure data handling procedures for student records and personal information
- ◆ Privacy controls that accommodate different age groups and usage scenarios

The implementation of these security measures is further complicated by limited budgets and technical expertise. Many institutions struggle to maintain adequate security staffing levels or provide necessary training to existing personnel. This creates a critical need for external support and guidance in developing and maintaining effective security programs.

Resource Management and Budgetary Constraints

Financial pressures represent one of the most significant challenges facing educational institutions today. The expiration of federal emergency funding has created new budgetary pressures, forcing many organizations to make difficult decisions about technology investments and resource allocation. This financial strain is exacerbated by increasing competition for enrollment and the need to demonstrate clear returns on technology investments.

The resource challenge extends beyond pure financial considerations to encompass human capital and expertise. Many institutions face significant difficulties in recruiting and retaining qualified IT personnel, particularly those with expertise in emerging technologies and cybersecurity. This shortage of technical expertise often results in:

- ◆ Delayed implementation of critical systems and updates
- ◆ Increased vulnerability to security threats
- ◆ Reduced effectiveness of technology investments

- ◆ Limited ability to provide adequate training and support
- ◆ Challenges in maintaining and optimizing existing systems

Furthermore, the need to provide comprehensive professional development and training for faculty and staff places additional strain on limited resources. Institutions must ensure that educators can effectively utilize new technologies and adapt to changing pedagogical approaches, requiring ongoing investment in training and support systems.

Evolution of Document Management and Workflow Optimization

Despite the ongoing digital transformation, document management remains a critical concern for educational institutions. The sector continues to generate billions of pages annually while simultaneously seeking to optimize digital workflows and reduce paper usage. This creates a complex challenge of managing hybrid document environments that must support both traditional and digital processes effectively. Some pain points include:

- ◆ Secure handling of sensitive documents and student records
- ◆ Integration of physical and digital workflow systems
- ◆ Implementation of electronic signature and approval processes
- ◆ Management of digital rights and access controls
- ◆ Compliance with retention and disposal requirements
- ◆ Support for mobile and remote access to documents

Educational institutions require sophisticated solutions that can bridge the gap between physical and digital document management while maintaining security and accessibility. This includes the need for secure printing solutions, digital document processing capabilities, and integrated workflow management systems that can handle both paper and electronic documents efficiently.

Strategic Solutions for IT Partners

Comprehensive Infrastructure Support

The complexity of modern educational environments demands that IT partners develop and deliver sophisticated, integrated solutions that address the full spectrum of technology needs while maintaining flexibility and scalability. These solutions must encompass not only robust technical infrastructure but also comprehensive support systems necessary for successful implementation and ongoing operations.

Cloud-based solutions have emerged as a cornerstone of educational technology infrastructure. Educational institutions require platforms that can seamlessly handle diverse learning needs while maintaining stringent security

standards and consistent performance levels. Modern cloud infrastructure must support everything from basic file sharing to complex virtual laboratories, all while ensuring that students and faculty can access resources reliably from any location.

The physical technology infrastructure of educational institutions presents its own unique challenges. Partners must provide comprehensive networking solutions capable of handling increased bandwidth demands while supporting a growing array of connected devices. Edge computing solutions have become increasingly important as institutions expand their geographical reach and support more distributed learning environments. Additionally, hardware solutions must bridge the gap between traditional and digital learning methods, offering flexibility in deployment options while maintaining robust disaster recovery capabilities.

Advanced Security and Compliance Frameworks

The growing sophistication of cyber threats targeting educational institutions necessitates a comprehensive approach to security and compliance. IT partners must deliver multi-layered security solutions that protect institutions across all potential attack vectors while ensuring compliance with an increasingly complex regulatory landscape. This protection must extend from core infrastructure to end-user devices without creating barriers to the learning process.

Advanced threat protection has become a critical component of educational security frameworks. Modern security solutions must incorporate next-generation firewall systems, sophisticated endpoint protection, and comprehensive email and web filtering capabilities. These systems must work in concert to create a robust defense against evolving threats while maintaining the openness required in educational environments. Network segregation and real-time monitoring capabilities have become essential tools in protecting sensitive data while allowing appropriate access to educational resources.

Identity and access management presents particular challenges in educational settings, where user populations are diverse and constantly changing. Modern solutions must balance security requirements with usability, incorporating multi-factor authentication and role-based access controls while maintaining ease of use. Single sign-on solutions have become particularly important in managing access across multiple platforms and services, while automated user management systems help institutions handle the constant flux of students and staff.

Intelligent Automation and Process Optimization

Educational institutions increasingly rely on automation to streamline operations and improve service delivery. The implementation of intelligent automation solutions represents one of the most significant opportunities for IT

partners to deliver value in the education sector. These solutions must address both administrative efficiency and educational effectiveness while reducing operational overhead.

Administrative automation has become particularly crucial as institutions face growing operational complexity with limited resources. Modern solutions must handle everything from student enrollment to financial aid processing, integrating seamlessly with existing systems while providing clear workflow visibility. Document management systems must incorporate intelligent processing capabilities, automated routing, and digital signature support while maintaining compliance with regulatory requirements.

Learning support automation has evolved significantly, moving beyond basic assessment tools to incorporate sophisticated analytics and adaptive learning capabilities. Modern systems must provide comprehensive tracking of student progress while identifying potential issues early enough for effective intervention. Integration with learning management systems must be seamless, allowing educators to focus on teaching rather than administrative tasks.

Cost-Effective IT Services Models

Financial constraints remain a primary concern for educational institutions, requiring IT partners to develop innovative service models that balance capability with cost-effectiveness. Modern service offerings must provide clear value while maintaining the flexibility to adapt to changing institutional needs and budgetary constraints. This balance becomes particularly crucial as institutions face uncertain funding environments and increasing pressure to demonstrate return on investment.

Flexible financing options have become essential in making advanced technology solutions accessible to educational institutions. Partners must offer a range of payment models, from traditional purchasing to subscription-based services, allowing institutions to match their technology investments with available funding streams. These models must also account for the cyclical nature of educational budgeting and the requirements of various funding sources, including grants and state allocations.

Managed services have evolved to become a critical component of educational technology support. Modern service offerings must provide comprehensive coverage of IT needs while maintaining clear service levels and predictable costs. These services must extend beyond basic support to include strategic guidance, training, and professional development opportunities that help institutions maximize the value of their technology investments.

Company Spotlight

Xerox Corp.

Xerox delivers a comprehensive suite of solutions tailored to the education sector, integrating advanced print management with digital tools to enhance operational efficiency, security, and the overall educational experience. With services that include digital document management, workflow automation, and IT support, Xerox helps schools and universities streamline administrative processes, reduce reliance on paper, and improve information accessibility. Solutions such as XMPie for personalized communications and CareAR for augmented reality support demonstrate Xerox's commitment to innovation, while its cybersecurity services ensure data protection and compliance with regulations. By combining print and digital offerings, Xerox equips educational institutions with the tools needed to modernize and optimize their operations.

MFP Hardware

Xerox's MFP hardware solutions are designed to meet the operational demands of educational institutions, offering enhanced reliability and serviceability. These qualities are particularly important for K-12 schools, where device uptime directly affects classroom and administrative efficiency. By equipping service engineers with the necessary parts for immediate repairs and offering comprehensive self-service tools like the Easy Assist App, Xerox minimizes downtime, enabling educational staff to address minor technical issues without relying on IT support. This approach is particularly beneficial for schools with limited technical resources, where maximizing device availability is critical.

Additionally, Xerox's paper handling and finishing options are tailored to the high-volume demands typical in educational environments, including those outside of the classroom. From managing communications with parents and producing curriculum materials to handling administrative tasks, Xerox's offerings, such as the Customized Envelope Feeder and XLS Feed/Stack Table, streamline processes that are essential to school operations. These tools allow K-12 schools to efficiently handle a wide range of printing tasks with minimal intervention, ensuring that staff can focus on higher-priority tasks.

Security is another significant advantage of Xerox's MFP hardware. Educational institutions, particularly those managing sensitive student data, benefit from built-in features such as encrypted storage and secure pull printing. These features help maintain data integrity and protect against unauthorized access, addressing the compliance requirements of privacy regulations. Optional capabilities, such as removable hard drives and security lockdown solutions, provide additional layers of security, making Xerox devices suitable for schools and universities where safeguarding sensitive information is paramount.

Non-MFP Hardware

Xerox's non-MFP hardware offerings are designed to support a range of educational needs, enhancing both learning environments and operational

efficiency. For classrooms, Xerox provides interactive solutions such as digital whiteboards and smartboards, which help teachers create engaging, dynamic lessons that cater to various learning styles. These tools enable educators to deliver content interactively, fostering collaboration and participation among students. Additionally, Xerox offers specialized scanning and digitization hardware that supports the organization and accessibility of educational resources, making it easier for schools to manage physical materials like textbooks, library books, and administrative documents in a more efficient and digital-friendly manner.

Xerox's offerings extend to library management and resource digitization through tools like the DocuMate 4830 scanner and the Book2Go app. These solutions simplify the process of digitizing textbooks and reference materials, making them easily accessible to students and staff. For K-12 schools, the ability to scan and store educational resources digitally supports modern learning environments and reduces reliance on physical materials. The wireless capabilities of the Book2Go app also add a layer of convenience, allowing users to quickly retrieve scanned content on their personal devices.

IT Services

Xerox IT Services leverages strategic partnerships with leading technology manufacturers to deliver tailored, high-quality IT solutions that fit each client's specific needs and budget. Their offerings encompass a range of computer hardware—like laptops, desktops, servers, peripherals, network gear, and accessories—all backed by comprehensive support services, from configuration to installation.

Partnering with brands like Microsoft, Dell, HP, Cisco, and more, Xerox ensures that devices are shipped to any location, including individual homes, pre-imaged per the client's IT specifications, asset-tagged, and power-checked. Flexible purchasing and leasing options further enhance accessibility and convenience for educational institutions and other clients alike.

Software Solutions

Xerox offers a comprehensive portfolio of software solutions designed to streamline educational workflows and improve operational efficiency. The ConnectKey suite provides K-12 schools with tools to enhance document management, such as Connect for Blackboard and Moodle, which integrate seamlessly into existing learning management systems. These solutions help educators manage grading and administrative tasks more efficiently, reducing the burden of manual data entry. Additional apps like Translate & Print and Summarizer use AI to automate tasks, providing schools with the means to process documents quickly and accurately without relying heavily on administrative staff.

For document management, the Xerox DocuShare family offers a secure, scalable platform that supports K-12 schools in digitizing and organizing records. DocuShare simplifies the management of student files, administrative documents, and compliance-related materials, allowing for faster retrieval and reducing the need for physical storage space. The platform's integration with mobile and web-based access tools enables school administrators and teachers to work more flexibly, which is particularly beneficial in environments where staff may be required to work remotely or across multiple locations.

CareAR, a remote visual assistance platform offered by Xerox, supports interactive learning by enabling teachers to stream live lessons, annotate content, and record sessions for later review. In K-12 schools, where the need for engaging and interactive teaching tools is growing, CareAR offers educators a way to enhance remote or hybrid learning experiences. However, its success depends on the availability of strong internet connectivity and the ability of staff and students to adapt to new technology.

Xerox's Robotic Process Automation (RPA) services further enhance operational efficiency by automating routine administrative processes. In K-12 settings, RPA can be used to streamline enrollment and admissions workflows, freeing up staff to focus on supporting students and improving educational outcomes. While RPA provides significant time savings and reduces the risk of manual errors, its implementation may require initial setup and ongoing management to ensure that automation processes align with the institution's specific needs.

Professional Services

Xerox's Professional Services provide educational institutions with comprehensive support to optimize their print management, digital workflows, and IT infrastructure. By leveraging Xerox's Managed Print Services (MPS), schools and universities can streamline their print environments, reduce costs, and enhance operational efficiency. With tools such as remote monitoring, automated maintenance, and usage tracking, Xerox enables institutions to effectively manage their printer fleets while minimizing the need for hands-on IT involvement. This allows educational staff to focus on their core responsibilities while ensuring that print systems operate smoothly and efficiently, meeting the specific needs of both K-12 schools and higher education institutions.

On top of their print services, Xerox's Managed Document Services support the digitization of paper-based workflows, helping schools transition to more efficient and secure digital systems. This service is particularly valuable in K-12 settings, where paper records can create storage and accessibility challenges. By digitizing and automating document management, Xerox enables schools to quickly retrieve student records, improve compliance with regulations, and reduce the physical space required for storing documents. The transition to digital workflows not only enhances operational efficiency but also improves

information security, providing schools with a reliable and scalable solution for managing sensitive data.

Additionally, Xerox's Managed IT Services provide schools and universities with comprehensive support for their technology infrastructure, including hardware management, network security, and strategic IT planning. With 24/7 support available, Xerox helps educational institutions maintain reliable IT systems, ensuring that both staff and students can access the tools and resources they need without disruption. By offering tailored solutions across print, document, and IT services, Xerox enables schools to modernize their operations and focus on improving educational outcomes.

Additional Strengths

Xerox's certifications and compliance with federal and state standards position the company as a reliable partner for educational institutions. With FedRAMP and StateRAMP authorization for Managed Print Services and ISO certification for Capture and Content Services, Xerox ensures that its solutions meet the security and data protection requirements necessary for K-12 schools and public education institutions. The availability of these services through platforms like OMNIA simplifies the procurement process, allowing schools to efficiently access certified services.

Xerox's Carbon Neutral Service provides K-12 schools with an opportunity to reduce their environmental impact by assessing and offsetting the carbon footprint of their office printing. This service includes a comprehensive evaluation of the lifecycle carbon emissions associated with print services, offering schools a clear pathway to carbon neutrality. With third-party verification and ongoing tracking through MPS Advanced Analytics, schools can monitor their progress and make informed decisions about sustainability initiatives. While the service offers significant environmental benefits, the costs associated with carbon credits and continued assessments may require schools to carefully budget for these efforts.

OPINION

The education technology market continues to evolve rapidly, driven by advancing technology capabilities and changing educational needs. Artificial intelligence and machine learning are increasingly shaping both administrative processes and educational delivery, while data analytics provides new insights into student performance and institutional effectiveness. The continued evolution of hybrid learning models demands ever more sophisticated technology solutions, while growing cybersecurity threats require constant vigilance and adaptation.

Success in this market requires technology partners to develop deep expertise in educational processes while maintaining strong technical capabilities. Partners must understand not only the technology landscape but also the unique challenges and constraints faced by educational institutions. This understanding must inform everything from solution development to service delivery, ensuring that offerings align with both current needs and future requirements.

As educational technology continues to evolve, the most successful partners will be those who can maintain agility in their offerings while providing stable, reliable core services. The key to long-term success lies in building lasting partnerships with educational institutions, understanding their unique challenges, and providing solutions that enable them to focus on their core mission of delivering quality education. Those who can achieve this balance while delivering clear value will find significant opportunities for growth and success in the education market.

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In his role as Principal Analyst for office workflow solutions, Jamie Bsales is responsible for Keypoint Intelligence's coverage of document imaging software, document workflow, device security and other related areas in the document solutions realm. This includes analysis on the future of work and hybrid models.