

Transforming Enrollment Management in the Field of Online Learning

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Abstract

The landscape of enrollment management in higher education related to all modalities of learning is undergoing a significant transformation driven by evolving student expectations, shifting demographics, and the necessity for institutions to optimize operational efficiency. Traditionally centered on human-driven processes and relational strategies, enrollment management for online learning enterprises must now integrate advanced technologies such as Business Process Automation (BPA) and artificial intelligence (AI) to remain effective and competitive. This manuscript for online learning administrators and enrollment management leaders will explore the systems-level continuum from Business Process Mapping (BPM) to AI-driven functionality, highlighting the strategic evolution of enrollment operations within the field of online learning. BPM serves as a foundational tool to visualize, standardize, and assess workflows across recruitment, admissions, financial aid, and student communications. BPA streamlines routine tasks and enhances communication consistency. However, its effectiveness is constrained by static implementation and an inability to adapt to student-specific behaviors at scale. As we consider the use of AI in online learning enrollment management, we must explore the ethical considerations, data quality, system integration, and transparency of the operations. Institutions must establish governance frameworks to ensure the ethical use of AI, safeguard student data, and build trust in automated decision-making processes. The future of enrollment management for online learning programs lies in blending technological innovation with human-centeredness. Embracing AI within a BPA-to-AI roadmap pathway reinvents online learning enrollment management for online learning enterprises to thrive.

Keywords: Artificial intelligence (AI), online learning enterprise, business process management (BPM)

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Enrollment management within the field of online learning is the strategic art and science of attracting, enrolling, and retaining students to completion of goals or graduation. Traditionally, this function has relied heavily on human-driven processes, strategic communications, and relational management practices. However, the landscape of higher education is changing rapidly, influenced by shifts in demographics, expectations of prospective students, technological advancements, and competition from nontraditional education providers. Additionally, the need for institutions to do more with less by enhancing process efficiency is more critical than ever before.

Puntoni (2025) posits that generative AI is about human interaction, not about the technology behind it. To prepare for that type of interaction to occur within an enrollment management unit, steps must be considered for full functionality to be realized. Business Process Automation (BPA) utilizes technology to complete repetitive tasks that are performed frequently. The goal of using BPA is to reduce manual data entry and associated errors and allow staff to focus on the strategic decisions that need to be made to move the organization forward. Business Process Mapping (BPM) is the first step in moving toward BPA. BPM allows decision mapping to lead the efforts toward improving efficiency in enrollment management through automation of processes that can be done through integration of software in compiling, reporting, and disseminating data. Yet, in an age of artificial intelligence (AI), institutions are moving beyond the BPA processes. Staff are reimagining how to effectively work with the copious amounts of data being collected to better serve their students through the promise of AI functionality in conjunction with human decision making.

The purpose of this article is to explore the transformation from BPA to AI-driven functionality in enrollment management for online learning programs. Exploring a future environment where AI becomes a significant implementation tool in all enrollment management functionality will include definitions, challenges, opportunities, limitations, and case studies of institutions that have surpassed today's expectations as they use AI to enhance and improve their online learning ecosystems. As AI takes on more of the processing components of enrollment management, staff can spend more time on human interactions and personalization of communication with students and prospective students. More than ever, higher education institutions in general, and enrollment management units specifically, need to think differently about understanding business process automation and how mapping process to automation will lead to integrated AI technology to better serve institutions, students, staff, and faculty with a more effective overall experience.

Understanding Business Process Mapping and Business Process Automation

The first step toward improving efficiencies in enrollment management units is to develop collaborative cross-functional teams that will engage in conversations regarding business process mapping. BPM is the visual representation of an organization's workflows to analyze, document, and improve its business processes (Damelio, 2011). Implementation of BPM enables higher education institutions to map admissions recruitment and processing functions, financial aid, registrar and records functionality, and to develop hyper-personalized student communications for students seeking online degree programs. The adoption of hyper-personalized online student communications will be the competitive edge for institutions who successfully seek to use an AI-driven approach to communications. Creating the visualization through BPM for the functions that occur regularly in enrollment management allows institutions

considering initiating AI tools across the unit to prepare for implementation and to start utilizing chosen tools toward efficiencies early in the process (Cook & Kerr, 2023). In enrollment management, BPM has helped staff within the unit to identify bottlenecks in application processing, communication gaps between admissions and financial aid, and inefficiencies in lead conversion timelines and resulting yield. BPM also provides the opportunity to find systems that are not aligned, create stronger integrations, and to discover system breakdowns for correction.

Using BPM leads the institution toward use of business process automation. Key benefits of BPA in enrollment management include several increased areas for efficiencies. Cross-departmental interactions and communications are necessary to move forward with establishing business process mapping. By creating integrated functionality between departments, procedures may be standardized in a way that improves overall communication and process management. BPM encourages identification of redundancies and inefficiencies that can be eliminated or reduced across functional job lines. The departments and units within enrollment management find synergies through the work done to develop collaborative thinking to fully implement a BPA project through effective use of BPM. In my own institution, an ongoing BPM environment was implemented three years ago to move us toward continuous improvement in business process automation. These collaborative efforts resulted in significant reduction in manual entry between data input in the CRM to SIS systems.

Despite its usefulness, a traditional approach to BPA and enrollment management in the online learning enterprise faces numerous challenges. In today's environment, many institutions look for ways to scale online learning. Not only should the academic scalability be considered, but also the enrollment management functions. While BPA can assist in the day-to-day activities and processes, numerous challenges exist in fully implementing BPA into traditional enrollment management functions. Many processes within enrollment management units still rely heavily on manual data entry and data review, document analyses, and human follow-up on each process. This type of manual entry increases the likelihood of errors and delays, despite best intentions and technical expertise (Selingo, 2020). Departments, even within the same division, often operate in silos, leading to disjointed student experiences and miscommunication (Khosa, 2023). Continuous reviews of manual processes require significant time on task and expertise without guaranteeing transformative outcomes. This results in a decrease in the availability of staff to interact with students or to be engaged with students who have increased needs for personalized attention to their specific situations. Traditional workflows struggle to provide personalized engagement for prospective students at scale or in assisting students with specific situations. Students with multiple transcripts or first-generation students who need additional assistance with the college admissions process may stretch a manual service approach. Several environmental concerns make it difficult to address needs quickly through using a static approach to BPA. Environmental concerns that create challenges in the traditional approach of using BPA implementation include conditions such as quickly adapting to changing markets, unexpected and unforeseen enrollment drops, the demographic cliff in undergraduate programs, devaluation of higher education, and adjusting admissions criteria quickly to address specific program needs.

However, despite limitations, BPA can improve overall efficiency with enrollment management in several ways. First and foremost, BPA streamlines application workflows. Automation of standard communication such as requesting missing transcripts, sending

reminders, and answering standard questions received from students and their families can quickly be addressed through automated business processes. This standard workflow communication stream assists with the elimination of multiple staff addressing the same question. Reducing duplicated responses while simultaneously providing high-quality consistent messages in a quick timeframe can be satisfying for both prospective students and admissions staff. Creating a clearer communication path for students from first inquiry to enrollment through documented touch points adds to a positive student experience and assists with meeting the expectations of students in today's higher education environment. This approach provides the document tracking needed for student audits and financial aid compliance. However, efficiency gains through BPA alone are incremental and may fall short of the overall goal of initiation of new and innovative practices. BPA clarifies how things are done but does not inherently optimize the questions regarding whether an action would be done or why a particular action is carried out, nor can it respond adaptively in real time in response to individual student behaviors. Perhaps one of the most effective uses of BPM and BPA is to create a smooth transition pathway to use AI.

Even at their best, traditional enrollment management functions have fundamental limitations that result in less efficient operations and challenging staff expectations. Today, the trend is to open the top of the enrollment funnel by accepting as many applications as possible, whether the students are a good match for a particular institution and its online programs or not. Many online enrollment consultants push the idea that more applications will automatically result in more enrollments. Desperate enrollment-driven institutions sign on to increase the top of the admissions funnel. While this approach does increase inquiries and applications, the inquiries and applications will quickly outpace manual processing capabilities and may completely stall processes that were built for smaller application pools. Instead of increasing enrollments, this approach creates a backlog of students seeking entry that effectively blocks the enrollment funnel. Traditional methods of admissions recruitment and processing have typically been built on data from pre-Covid years. These data are not reliable today and are not able to predict student behavior accurately. This can lead to incorrect yield assumptions based on student behaviors such as viewing financial aid packaging or stop-out risks. Fragmented or siloed systems can prevent holistic student views across admissions, advising, and financial aid which will increase unequal treatment of students as their records become fragmented and possibly lost among systems.

Students who are comfortable with easy use of technology demand immediate responses in their shopping, social interactions, and family group texts. Students expect customized messaging that addresses their questions and is delivered quickly. Delivery of communications at scale, while necessary to meet the needs of students today, is impractical without automated support. Assessment and evaluation of enrollment management processes and operations are often based on lagging indicators such as post-matriculation surveys. This approach to evaluation of the operations inhibits proactive interventions. Finding ways to implement quick and immediate change is necessary for future success in enrollment management units that serve the online learning enterprise within an institution. Paying attention to what students think and want in real-time is essential to wise decision making.

To move toward the quality of high levels of student service in enrollment management functions, AI should be considered as an evolutionary tool that can assist with prediction of student behaviors from application to yield to graduation. Typically, institutions need to replace four to five incoming students for every student who is not retained to meet enrollment goals. AI can also be utilized to build better hyper-personalization communication funnels with perspective and current online students, assist in predicting use of tuition discounting, and help with building workflows and staffing metrics. Different types of AI can assist enrollment management units in completing the work needed to meet their goals.

Predictive AI is a data-driven approach that can analyze large datasets in relatively small amounts of time. Predictive AI uses machine learning algorithms to build predictive models. Many industries have used predictive AI for various functions for some time and to successfully build decision-making capabilities. Use of predictive AI in enrollment management for the field of online learning enterprises has been utilized at various scales and can assist with forecasting, tuition discounting, and financial aid leveraging as well as specific workflows.

Generative AI is often understood as being able to generate new text, videos, images, or other content. It also provides a predictive quality to an event that allows it to sequence communications or conversations. Generative AI is limited to being able to learn from human interactions and relies on pre-defined steps which may also be extremely productive within the enrollment management realm. Generative AI may assist with hyper-personalized communications and content generation.

Agentic AI can make autonomous decisions to lead toward specific state outcomes. It is adaptable to the environment in which it is being used without having constant human interaction. In enrollment management, agentic AI could be particularly useful in managing workflows and other decision-making capabilities based on circumstances. Agentic AI also requires extensive training and may not be able to function well on tasks that were not included in its initial training. The lack of information could lead to problematic situations and unintended consequences. Currently, agentic AI is an expensive initial investment, both to purchase technology and create the necessary training and on-going evaluation. It may assist with transcript review, articulation decisions, and optimizing recruitment efforts.

Enhanced Functionality of AI in Enrollment Management

To advance higher levels of student services and increase online enrollments, it is critical that strong predictions using multiple variables should be assessed and analyzed. AI can assist with analyzing retention for online students to increase overall retention and completion rates. Increased retention rates depend upon improved communication with timely interactions with online students. AI can focus on the automation of communication plans by using hyper-personalized messaging. As an example, Embry-Riddle Aeronautical University employs AI to identify students at risk of non-enrollment, allowing for proactive advising interventions (Jarvis, 2021).

AI analysis sets the stage for staff to increase individualized work with students by providing personalized counseling and mentoring. Several institutions have implemented generative AI in communication strategies, and several vendors currently offer multiple AI strategies to improve overall student communications. Many of these strategies were built using

the foundation of the technologies that developed the AI teaching assistant, Jill Watson, at Georgia Tech University. Jill Watson was developed by Ashok Goel, Computer Science professor at Georgia Tech (Design Intelligence Lab, 2025). The use of AI to augment the communication exchange with students provides a foundation for the enrollment management functions of the online learning enterprise to build strong student engagement throughout the enrollment funnel.

AI is also able to make staffing recommendations to admissions staff based on metrics of lead generation and staff strengths and abilities to engage with unique student populations. Through analyzing data related to individual counselor's and advisor's job functions, AI can assist with building out appropriate schedules creating higher productivity among staff (Upton, 2024). By using AI predictive analysis to review and determine data-driven insights, online learning enterprise-wide enrollment management units can make wiser decisions in the allocations of scholarships and institutional funded financial aid, when and where to develop market strategies, and determining matches to specific online programs in geographic regions. Predictive analysis from staffing to program markets can ensure the operations are moving smoothly and efficiently to promote increased enrollments.

AI-driven CRM systems such as Salesforce, Slate, and others predict the likelihood of a prospect's enrollment based on interaction patterns, demographics, and external datasets. AI can provide strong pathways to assist staff in determining student wants and needs based on a variety of behaviors. This is especially helpful when analyzing website and app interactions. By utilizing AI to adjust pathways for students and communications related to student behaviors, many student questions can be answered quickly and seamlessly without ever having to ask their question. Using Natural Language Processing (NLP) students can discover information through a chatbot regarding university processes such as application deadlines, scholarship deadlines, required documents, orientation schedules, program information, and career services hours. Georgia Tech's use of an AI teaching assistant, as discussed above, has set the stage for broader chatbot applications in university operations (GTPE Communications, 2016).

Challenges and Consideration in moving from BPA to AI Implementation

While there is much optimism surrounding the use of AI in enrollment management within online learning program units, several challenges and ethical considerations should be part of institutional conversations. Being cognizant of the challenges associated with BPA and AI implementation is a critical component of cleaning data and building out processes to ensure that AI is being used in a manner that will help and not hinder the university. Online learning enterprise leaders should develop team values that assist with the development of and implementation of strong ethical values that will guide the adoption of BPA-to-AI implementation across the online enterprise.

AI models are trained on historical data that may unintentionally perpetuate bias. Creating checkpoints and guidelines to review for algorithmic biases is critical to ensuring implementation based on automated processes (Floridi et al., 2018). Additionally, it is critical that data have been reviewed for redundancy, inconsistency, duplicate records and errors that will provide a clear picture of the student data record (Flaherty, 2024). There should be built-in transparency among the users to fully understand how AI models are flagging students as a likely yield and why AI is not identifying other students as potential to yield. Transparency in this

approach to determining which students receive which types of communication is an important consideration in decreasing the likelihood of bias or errors being developed in AI models.

All student and prospective student data must be handled with the utmost care. FERPA, GDPR, and PIPL regulations should be considered during development of data handling and policies. More countries will be reviewing and creating policies to better ensure student data is being handled ethically and with critical privacy. Data must be of high quality, and system integration will be key to the output. Data literacy for staff and for students is important. Data literacy and usage should be transparent and easily understood by students. Effective infrastructure is a critical aspect of increasing the use of data in ethical and meaningful ways (Flaherty, 2024).

AI can support four specific functions. First, hyper-personalization supports a dynamic communication process that is individualized to enhance the student experience. Each online student has expectations, individual needs, and a hope and desire for a successful career pathway after college. To help students feel known and heard, hyper-personalization can focus on each unique student and their needs. Second, optimizing marketing for increased ROI is a function that AI can effectively provide for a campus. Marketing functions within enrollment management drive yield. Third, AI can assist with the marketing functions by reducing the time that staff currently spend on repetitive data-driven tasks, including social media or content marketing. Fourth, AI can also be used to more effectively utilize the data contained within the CRM system in enrollment management. Having AI analyze data and provide actionable tactics toward a specific strategy is another use of AI within the marketing area of the institution. These AI-powered tasks can assist with increasing enrollments and thereby increasing revenues.

Through the use of the hyper-personalization related to marketing materials, student communication models can build continuous engagement threads from prospective students through graduation or completion and on into their journey as an alum. This continuous engagement using AI can build on known identities for responses and communications that support the student on each step of their journey and assist with scaling online programs. To make this continuing engagement possible, integrated CRM and SIS ecosystems must exist. Seamless integrations that provide the support for data exchange that can support the student throughout the lifecycle from student to alumni, to life-long learner. As AI continues to grow and develop, enrollment management and academic advising will increasingly overlap, allowing AI to assist students with finding correct online programs to meet their education and career goals. AI can also assist with providing continuing students with **advisement** and course scheduling. AI can provide information to connect career pathways into a variety of degree programs based on personalized goals. Setting student expectations for their post-higher ed careers is an area where AI can provide benefits to students from enrollment to academic advising to career counseling.

While BPA can be employed over time and with less investment prior to implementation, AI requires investment in platforms, training, and often customized development of models. The cost of AI should be considered as a strong investment for the future but, used well, will provide a path forward for enrollment management units in the competitive online learning market today. Staff will need innovative and forward-thinking leaders to assist with setting the vision for developing enrollment management models utilizing AI technologies. Staff will need training, as well as taking part in cultural shift conversations. Many may fear the BPM exercises are too complicated or require additional work prior to seeing long-term benefits. Many may fear that

BPA and AI adoption as management functions will diminish human interaction among staff and students or eliminate jobs (Floridi et al., 2018). According to Upton (2024), colleges and universities should establish and implement AI governance frameworks that will manage institutional risk, ensure transparency in use, and create high ethical standards in both policy and practice.

As AI evolves, its influence in enrollment management will deepen. Enrollment management units supporting online learning programs that are preparing for the future through building business process mapping and automation will be steps ahead toward AI integration into everyday functionality. By focusing on incremental steps, institutions will be able to fully utilize the promise of AI in deepening enrollment management productivity.

Future of AI Use in Enrollment Management

The future trajectory of AI in enrollment management is extensive. AI will continue to develop, and innovative enrollment management units will utilize these new technologies to reach new audiences and better serve continuing students. AI will also assist with retention and completion efforts, as well as provide models that continue to engage students with the institution, staff, faculty, and other students as they are supported through AI functions (Flaherty, 2024).

Institutions such as Maryville University are looking to the future as they begin utilizing AI to extract and interpret data from high school and college transcripts to assist admissions processing staff. This type of process management allows for more effective and timelier decision making for students. Future use and utilization of AI to read and interpret transcripts across institutions will be a significant support of a manual and often tedious function, especially related to transfer students who may wish to enter online degree-completion programs. This functionality will allow admission processing staff to spend more time in communication with individual students to ensure they enroll in the online program that best meets their educational and career goals. (Jaschik, 2023).

AI can also provide predictive analysis to better leverage financial aid. AI can change behaviors and thinking about the use of institutional or gift aid for online students by utilizing historical data. When predictive analytics are provided based on student data, institutions can better make decisions on how to most effectively utilize institution-based financial aid toward growing robust student yield (Upton, 2024). As AI grows and provides higher levels of functionality within higher education, ethical AI practices will be significant. Accreditation agencies and regulators will likely introduce AI-specific standards for higher education operations in the future. However, each institution should be a leader in the higher education industry by adopting strong ethical policies and procedures within their system-level enterprises including the online enterprise and beyond.

Conclusion

The transformation from Business Process Automation to AI-driven functionality in enrollment management represents both a significant opportunity and a complex challenge. BPM provides the foundation of clarity, standardization, and modest efficiencies, but AI promises a reinvention of enrollment management functions for the online enterprise by unlocking predictive power, automation, personalization, and dynamic decision making at scale. However, institutions must proceed thoughtfully, prioritizing ethical standards, transparency, and human

oversight. Enrollment management professionals who embrace AI while maintaining a human-centered approach will position their institutions for success in an increasingly competitive and volatile online learning market.

Declarations

I assert I am the author of this article and have no conflicts of interest to report.

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