AI Strategy Use Case and Tool Recommendation Template

Purpose

This template is designed to collect and curate specific use cases for AI implementation in teaching and learning, research, and administrative functions at the university. It also tracks specific AI tools/programs that align with each use case. It should not be considered the required format for the final deliverable and is only intended to guide your discussion.

Instructions for Use

1. Identify AI Use Cases: Consider areas where AI can enhance teaching, learning, research, operations, or student services.
2. Provide a Clear Use Case Description: Clearly define the purpose and expected impact of AI in that area.
3. List Specific AI Tools/Programs: Identify the AI technologies that could be used (e.g., MS Copilot, Perplexity, ChatGPT, etc.)
4. Specify Key Stakeholders: Identify who will use, manage, and be affected by the AI tool.
5. Outline Benefits & Challenges: Include advantages and potential risks to ensure a balanced evaluation.
6. Use the Example Below: Follow the format to maintain consistency.

Example Use Case & AI Tool

Use Case Title: *AI-Powered Tutoring for Personalized Learning*
Description: Implement AI-based tutoring systems to provide personalized academic support for students, especially in STEM subjects.
AI Tools/Programs: Khan Academy AI, ChatGPT, Squirrel AI
Key Stakeholders: Students, faculty, academic advisors, IT support
Expected Benefits:

- Personalized learning experiences based on student progress
- Immediate, scalable academic support for large student populations
- Reduced faculty workload in answering repetitive student questions

Challenges/Risks:

- Data privacy concerns with AI analyzing student performance
- Ensuring AI-generated explanations align with curriculum standards
- Resistance from faculty regarding AI's role in tutoring

AI Use Cases & Tools List *(Add more rows as needed.)*

Use Case Title:

Automated Communication and Support for University Students

Description:

The primary goal of this case use is to implement automated communication systems that assist students throughout their academic journey, leveraging AI tools to enhance engagement, support, and self-service capabilities. By anticipating student needs and providing personalized responses, universities aim to improve the overall student experience, reduce administrative workload, and promote self-sufficiency among students.

AI Tools/Programs:

- Chatbots and Conversational AI (Intercom, Drift, or Ada),
- Predictive Analytics IBM Watson, Google Cloud AI),
- NLP (Open AI/GPT or Google BERT),
- Personalized Learning Assistants (Kewton, Smart Sparrow), and
- Automated Content Generation for Messaging (Jasper AI, Copy.ai, Writesonic)

Key Stakeholders:

SESS areas: student affairs, student success, advising, counseling and case management; OIT, faculty, Marketing and Communications

Expected Benefits:

- Enhanced student experience,
- Operational efficiencies,
- Personalized support,
- Proactive communication, and
- Scalability

Challenges/Risks:

- Over-reliance on automation,
- Data privacy and security,
- Bias in AI responses
- Integration with existing systems
- Maintaining human oversight, and
- Student trust and engagement

Implementation Considerations:

- Onboarding and training
- Feedback mechanisms
- Human Support Escalation

Use Case Title:

AI-Driven Employment Recruitment Process and Candidate Experience

Description:

The goal of this case use is to enhance the university's recruitment process for staff and faculty through AI tools that automate key tasks, improve candidate experience, and enable data-driven decision-making. By leveraging AI technologies, universities can streamline recruitment, reduce administrative burdens, and create a more engaging, personalized experience for candidates. AI will help with everything from job posting optimization to candidate sourcing, screening, and interview scheduling, ultimately leading to improved hires and a more efficient recruitment process.

AI Tools/Programs:

- AI powered candidate sourcing (SeekOut, Hiretual, LinkedIn Recruiter)
- ATS with AI Powered Screening (Greenhouse, Lever, iCIMS, Jobvite)
- Chatbots for candidate engagement and pre-screening (Olivia by Paradox, Mya, Xor)
- Predictive analytics for candidate fit (PredictiveHire, IBM Watson Hire)
- Video Interviewing with AI Analytics (HireVue, SparkHire, Xander)
- Automated Scheduling (Calendly, Doodle, Clara)
- AI Driven Job Description Optimization (Textio)

Key Stakeholders:

Human Resources, Hiring Managers, Unit Leaders, OIT, Candidates, University Leadership, System administrators (UIS, ES)

Expected Benefits:

- Increased Efficiency and Reduced Time-to-Hire
- Improved Candidate Experience
- Better Candidate Matching
- Bias Reduction
- Cost Savings
- Scalability
- Data-Driven Insights for Continuous Improvement

Challenges/Risks:

- Data Privacy and Compliance
- AI Bias and Fairness
- Over-Reliance on Automation
- Candidate Trust and Transparency
- Integration with Existing System
- Technical Skills and Training

Implementation Considerations:

- Pilot Testing and Iteration
- Transparent Communication with Candidates
- Bias Audits and Ethical Oversight
- Ongoing Training and Support
- Candidate Feedback and Experience Surveys

Use Case Title:

AI-Driven Course Success Analysis

Description:

The aim of this case use is to implement AI-driven tools to analyze course success rates, including reducing D/F/Withdrawal (DFW) rates, and assessing the relative difficulty of course loads. By leveraging AI, universities can identify at-risk students early, assess the effectiveness of teaching strategies, and optimize course designs to improve student outcomes. Additionally, AI tools will provide data-driven insights into course difficulty and help faculty and administrators make informed decisions about curriculum improvements.

AI Tools/Programs:

- Predictive Analytics (IBM Watson Analytics, RapidMiner, Tableau)
- Learning Analytics Platforms (Knewton, Canvas Analytics, Blackboard Analytics)
- Text Mining and Natural Language Processing (NLP) for Course Feedback (MonkeyLearn, Lexalytics, TextRazor)
- Course Load Difficulty Assessment Tools (Qualtrics, SPSS, R (for statistical modeling)
- Early Alert Systems (Starfish, Civitas Learning)
- Course Modelling and Simulation Tools (AnyLogic, Simul8)

Key Stakeholders:

Provost Office/Academic Affairs, Faculty, Student Success, Academic Advising, OIT, OIRE, and students

Expected Benefits:

- Improved Student Success and Retention
- Data-Driven Curriculum and Course Design
- Tailored Student Support
- Early Intervention
- Optimization of Course Load and Workload Management
- Informed Decision-Making for Academic Leadership

Challenges/Risks:

- Data Privacy and Security

- Bias in Predictive Models
- Over-Reliance on AI Predictions
- Faculty Resistance to AI Tools
- False Positives or Missed Interventions
- Integration Challenges

Implementation Considerations:

- Pilot Programs and Faculty Feedback
- Data Quality and Integration
- Faculty Training and Support
- Transparency and Communication
- Ongoing Monitoring and Refinement
- Collaboration Across Departments

Use Case Title:

AI-Driven Brand Alignment Across CU Denver

Description:

The objective of this case use is to leverage AI technologies to enhance brand alignment across all units at CU Denver, utilizing the brand management functions provided by the University Communications team. The goal is to ensure that every department, program, and initiative within the university is consistently represented and communicates in alignment with the institution's brand guidelines and messaging. AI-driven tools can streamline the process of maintaining brand consistency, automate brand audits, and offer real-time feedback to various departments, ensuring that all communications reflect CU Denver's core values, visual identity, and messaging standards.

AI Tools/Programs:

- AI-Powered Brand Consistency Checkers (Brandfolder, Frontify, Bynder)
- NLP for Brand Messaging Analysis (MonkeyLearn, IBM Watson, TextRazor)
- AI-Powered Content Personalization and Automation (Persado, Phrasee, PathFactory)
- AI-Driven Visual Content Recognition and Optimization (Adobe Sensei, Cloudinary, Canva AI)
- Brand Health Monitoring and Sentiment Analysis (Brandwatch, Sprout Social, Socialbakers)
- Automated Approval and Feedback Systems (Workfront, Monday.com, ProofHQ)

Key Stakeholders:

University Communications; School, College, University comms/marketing staff/teams; Faculty, University Leadership, OIT, Students, Alumni, External Stakeholders

Expected Benefits:

- Increased Brand Consistency Across Units
- Time and Cost Efficiency in Brand Management
- Enhanced Brand Perception and Trust
- Real-Time Brand Health Monitoring
- Improved Decision-Making for Brand Strategy
- Personalized Communication Without Compromising Consistency

Challenges/Risks:

- Data Privacy and Security
- Over-Reliance on Automation
- Bias in AI Algorithms
- Resistance to Change from Departments
- Integration with Existing Systems
- Quality Control and Accuracy of AI Feedback

Implementation Considerations:

- Pilot Programs and Departmental Feedback
- Training and Support for Stakeholders
- Data Quality and Integration with Existing Systems
- Human Oversight and Quality Control
- Continuous Monitoring and Optimization

Use Case Title:

AI-Driven Automated Degree Audit System

Description:

The objective of this case use is to implement an AI-driven automated degree audit system that provides students with personalized degree maps and course plans. This system would assist students in tracking their academic progress, ensuring they are on track to graduate on time, and offering tailored recommendations for course selection based on their academic history, preferences, and program requirements. By integrating artificial intelligence (AI), the university aims to streamline the degree audit process, reduce administrative burdens, and improve student success by providing real-time, accurate, and actionable academic advice.

AI Tools/Programs:

- AI-Powered Degree Audit and Progression Tools (DegreeWorks, Ellucian Advise, CollegeSource)
- AI-Based Course Recommendation Engines (Knewton, Coursera, Civitas Learning)

- Predictive Analytics for Graduation and Retention Rates (IBM Watson Analytics, Tableau, RapidMiner)
- NLP) for Personalized Advising Interactions (IBM Watson Assistant, Ada, Google DialogFlow)
- Course Load Optimization Tools (Oracle Autonomous Database, Alteryx)
- Integrated Academic Advising Systems (Starfish, Civitas Learning)

Key Stakeholders:

Academic Affairs/Provost Office, Registrar's Office, Academic Advising, Students, Faculty, S/C leaders, OIT, OIRE,

Expected Benefits:

- Improved Student Self-Sufficiency
- Faster and More Accurate Degree Audits
- Personalized Course Recommendations
- Proactive Support and Intervention
- Efficient Use of Resources
- Informed Decision-Making for Curriculum Development

Challenges/Risks:

- Data Accuracy and Integration
- Student Adoption and Trust
- Over-Reliance on Automation
- Bias in AI Algorithms
- Privacy and Security Concerns
- Scalability and Technical Challenges

Implementation Considerations:

- Pilot Programs and Testing
- Stakeholder Buy-In and Collaboration
- Training and Support for Advisors and Students
- Continuous Data Monitoring and System Improvement
- Ensuring Data Security and Privacy
- User-Friendly Interface

Use Case Title:

Lecture Development (a bit outside the Admin and Operations area/Link to Teaching group)

Description:

The objective of this case use is to leverage AI technologies in the development and delivery of university lectures. AI can support faculty in creating dynamic, personalized, and effective lectures by automating content generation, assisting in multimedia

integration, tailoring material to diverse learning styles, and offering real-time student engagement analysis. The goal is to improve teaching efficiency, increase student engagement, and help faculty create high-quality educational content while reducing manual preparation time.

AI Tools/Programs:

- AI Content Generation and Summarization Tools (OpenAI's GPT-4, Jasper, Copy.ai)
- AI-Powered Personalized Learning Platforms (Coursera, Knewton, Squirrel AI)
- AI-Based Multimedia Integration and Enhancement (Adobe Sensei, Animoto, Canva AI)
- AI-Powered Student Engagement and Feedback Tools (Mentimeter, Poll Everywhere, Kahoot!)
- Automated Transcription and Translation Tools (Otter.ai, Rev.ai, DeepL)
- Speech-to-Text and Voice-Activated Tools (Dragon NaturallySpeaking, Google Speech-to-Text)
- AI-Based Analytics for Learning Outcomes and Performance (IBM Watson Analytics, Tableau)

Key Stakeholders:

Faculty, CETL, OIT, Students, Provost Office, Instructional Designers

Expected Benefits:

- Improved Lecture Quality and Consistency
- Enhanced Student Engagement and Learning Outcomes
- Time Efficiency for Faculty
- Increased Accessibility
- Data-Driven Insights for Faculty Improvement
- Improved Resource Utilization

Challenges/Risks:

- Over-Reliance on AI for Content Creation
- Bias in AI Algorithms
- Data Privacy and Security
- Resistance to Technological Change
- Technical Issues and Integration Challenges
- Quality Control and Accuracy of AI-Generated Content

Implementation Considerations:

- Pilot Program and Faculty Feedback
- Training and Support for Faculty
- Ethical and Bias Audits for AI Tools
- Continuous Improvement and Monitoring
- Data Privacy and Compliance
- Scalability and Flexibility

Use Case Title:

Writing Various Communications

Description:

The objective of this case use is to implement AI-driven tools for the creation and enhancement of various university communications, including articles, memos, communication plans, and meeting notes. By leveraging AI, the university aims to streamline the writing process, improve the efficiency and quality of communications, ensure consistency across departments, and reduce the time spent on drafting and editing content. This will support university staff in focusing on high-level strategy and decision-making while automating routine writing tasks.

AI Tools/Programs:

- AI Writing Assistants (OpenAI's GPT-4, Grammarly, Jasper, Copy.ai)
- Content Generation and Summarization Tools (QuillBot, SummarizeBot, TextCortex)
- Speech-to-Text and Meeting Note Generators (Otter.ai, Rev.ai, Sonix)
- AI-Powered Communication Planning Tools (HubSpot, Monday.com, Airtable)
- NLP for Tone and Style Analysis (Grammarly, Hemingway, ProWritingAid)
- AI-Based Translation Tools (DeepL, Google Translate, Unbabel)
- AI-Powered Document Templates and Workflow Automation (Zapier, Templafy, Microsoft Power Automate)

Key Stakeholders:

University Communications, Faculty, Staff, S/C/U leaders, University Leadership, OIT, administrative staff, students

Expected Benefits:

- Increased Efficiency and Time Savings
- Improved Quality and Consistency
- Enhanced Clarity and Accessibility
- Greater Inclusivity
- Real-Time Collaboration and Feedback
- Scalability

Challenges/Risks:

- Dependence on AI for Content Creation
- Quality Control and Accuracy
- Privacy and Data Security
- Resistance to Technology Adoption
- Bias in AI Content
- Integration Challenges

Implementation Considerations:

- Pilot Program and User Testing

- Training and Support for Users
- Data Security and Privacy Protocols
- Monitoring and Continuous Improvement
- Ensuring Human Oversight
- Ethical Considerations and Bias Audits

Use Case Title:

Study Abroad Course Approval Process

Description:

The objective of this case use is to leverage AI tools and automation to streamline the study abroad course approval process. AI can be used to reduce administrative overhead, ensure consistency in course evaluations, improve efficiency, and enhance the student experience by automating tasks such as course comparison, prerequisite checks, approvals, and communication with stakeholders. This will enable students to more easily transfer credits, understand course equivalencies, and ensure they are meeting graduation requirements while studying abroad.

AI Tools/Programs:

- AI-Based Course Comparison and Equivalency Tools (DegreeWorks, Transferology, CourseMatch)
- Automated Workflow and Document Management Tools (Zapier, Microsoft Power Automate, Monday.com)
- NLP for Course Syllabi Analysis (Google Cloud Natural Language, AWS Comprehend)
- AI-Based Predictive Analytics for Course Success (IBM Watson Analytics, Tableau)
- AI-Powered Chatbots for Student Support (Drift, Intercom, Ada)
- Automated Email Communication Systems (Mailchimp, HubSpot, SendGrid)
- AI-Based Data Validation and Verification Tools (Trifacta, Talend)

Key Stakeholders:

OIA/Global Education office, Academic Advisors, Faculty, Students, Registrar's Office, International partners, OIT, university leadership

Expected Benefits:

- Improved Efficiency and Speed of Approval Process
- Enhanced Accuracy in Course Equivalency Decisions
- Better Student Experience
- Reduced Administrative Burden
- Greater Scalability and Flexibility
- Increased Transparency and Compliance

Challenges/Risks:

- Over-Reliance on AI for Decision-Making
- Data Privacy and Security Concerns
- Potential for Inaccurate Course Equivalency Suggestions
- Bias in AI Algorithms
- Resistance to Adoption
- Integration Complexity with Existing Systems

Implementation Considerations:

- Pilot Program and Phased Rollout
- User Training and Support
- Data Security and Security Protocols
- Continuous Feedback and Improvement
- Faculty and Advisor Engagement
- AI Ethics and Bias Audits

Use Case Title:

Design and Photography in University Publications

Description:

The objective of this case use is to integrate AI-driven tools into the design and photography process for university publications (e.g., brochures, annual reports, marketing materials, newsletters, and digital content). AI tools can help streamline design workflows, automate image editing, and generate visually engaging content while maintaining consistency with the university's brand guidelines. This integration will improve efficiency, ensure high-quality output, and reduce reliance on manual design processes, allowing the communications and marketing teams to focus on more strategic initiatives.

AI Tools/Programs:

- AI-Powered Design Tools (Canva, Adobe Sensei, Figma, Crello)
- AI-Driven Image Editing and Enhancement (Adobe Photoshop with AI features, Skylum Luminar AI, Topaz Labs)
- AI Image Recognition and Tagging Tools (Google Vision AI, Clarifai, Adobe Lightroom)
- Automated Layout and Template Design Tools (Lucidpress, Canva, Adobe InDesign with AI plugins)
- AI-Based Content and Design Recommendations (Copy.ai, Jasper, Adobe Spark)
- AI-Powered Image Search Engines (Shutterstock, Getty Images with AI search capabilities)
- AI-Based Personalization Tools (Hyperise, Optimizely)

Key Stakeholders:

University communications and marketing, design and creative teams, Photographer(s), university leadership, students, faculty, staff, OIT,

Expected Benefits:

- Increased Efficiency and Speed
- Cost Savings
- Consistent Branding
- Enhanced Visual Appeal
- Data-Driven Design Decisions
- Improved Accessibility
- Flexibility and Scalability

Challenges/Risks:

- Loss of Human Touch in Creativity
- Quality Control and Oversight
- Data Privacy and Security Concerns
- Bias in AI Algorithms
- Technology Integration and Adoption
- Dependency on AI Tools

Implementation Considerations:

- Pilot Program and Training
- Clear Brand Guidelines
- Collaborative Approach
- Ongoing Monitoring and Feedback
- Ethical Use of AI
- Integration with Existing Systems