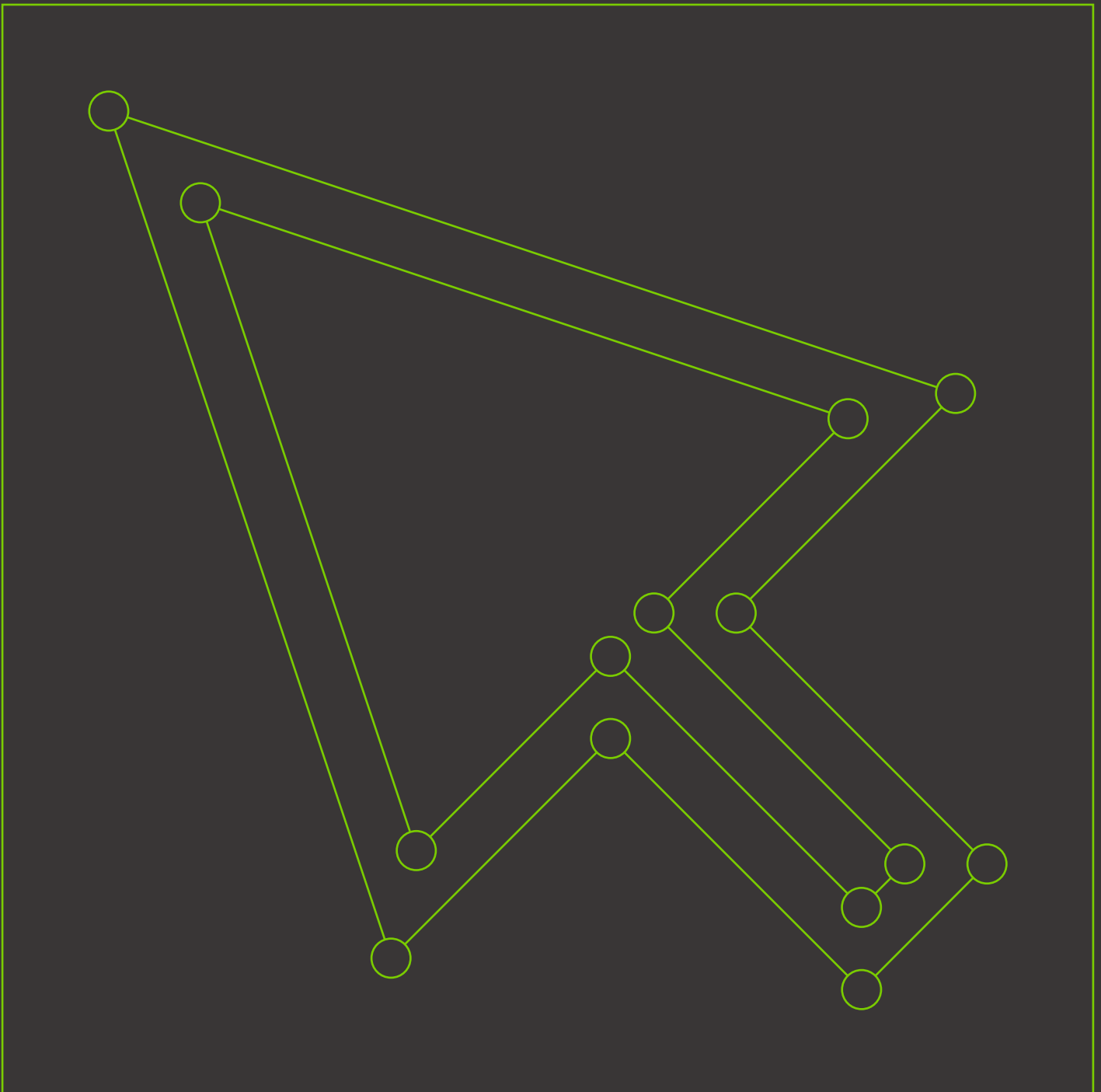


# AI in Business Education

## ESMT Berlin



**GMAC™'s AI in Business Education case study series spotlights the integration of artificial intelligence in graduate management education, focusing on curriculum development, administrative processes, and strategic applications.**

ESMT Berlin is one of Germany and Europe's leading business schools, founded in 2002 by 25 leading global companies with a focus on leadership, innovation, and analytics. The institutional strategy includes a focus on integrating business and technology to empower individuals, companies, and societies while becoming a hotspot for innovation and entrepreneurship. The arrival of GenAI has provided ESMT with a perfect opportunity to innovate within higher education and provide a personalized learning and support environment for both students and faculty.

## A summary of success

### The Context:

A program and course-level approach to integrate AI, to support learners with a personalized learning experience, and to support faculty with interactive assistance for program development.

### The Innovation:

ESMT has developed a unique Learning Management System (LMS) plug-in based on a custom generative pre-trained transformer (GPT) from OpenAI that provides separate interfaces for both students and faculty. Faculty are able to analyze, evaluate, and brainstorm ideas for course development while students have access to a robust chatbot trained with a focus on academic integrity.



*“We are genuinely excited about the transformative potential of AI in the academic sphere. Our experience with AI initiatives has been very instructive and encouraging. At ESMT Berlin, our aim is to ensure fair and responsible access to generative AI technologies for our entire community. This will not only enhance our capabilities in research, teaching, and operations but also ensure that we remain at the forefront of technological advancement in business education.”*

Jörg Rocholl  
President, ESMT Berlin



ESMT Berlin set themselves the challenge of developing two distinct interfaces to a course-level GPT that provides support to both students and faculty/staff.

#### **Learner interface**

The aim of the student-facing interface is to bring personalized learning and support directly to a student's experience by answering questions on course content; engaging in tutoring sessions; and providing real world scenarios, simulations, and metaphors for hard-to-grasp content. In addition, the tool can provide feedback on assignments prior to submission.

#### **Faculty interface**

The goal of a separate interface for lecturers and administrators is to provide a course-level assistant and development partner, providing feedback on assignments; identifying redundancies, gaps, and synergies between courses; and generating ideas for course redesign or new study activities. The lecturer interface also has the benefit of answering questions on the course from teaching assistants or providing feedback and support to new faculty.

# Strategy and planning

The strategy at ESMT Berlin is focused on the ability of GenAI to fit naturally into the students' learning experience and into the course design process. In addition, a key element is to safeguard academic integrity and ensure that students neither use the AI tool to cheat nor to replace their learning.

For faculty, another aim of the strategy is to strengthen the existing programs and support for teaching faculty rather than to replace human interaction. By identifying time-consuming processes such as the analysis of hundreds of pages of academic content or identifying overlaps and redundancies when on-boarding new members of staff, the team deduced that tasks like these could be streamlined by harnessing a custom AI support tool—allowing faculty to invest time in more critical human interaction.

In selecting a pilot group for the project to create both GPTs, the team focused exclusively on online and hybrid cohorts as the course content was already packaged and adapted for an online experience. This allowed the team to proactively create thorough knowledge bases for the tool to work with. In the future, the team intends to roll out the tool out to face-to-face cohorts; however, there will be a significant amount of preparation time required to convert live materials into a suitable digital format.



# Framing the project

Academic programs are complex, with each made up of multiple modules designed to interact with and lead into each other. Dozens of lecturers develop, adjust, and deliver the modules, sometimes simultaneously. As each academic cycle goes by, modules are redesigned, programs restructured, and new lecturers brought in. It becomes a sizable task for a program director to retain oversight of an already complex student experience and to ensure that each module's learning objectives and content align seamlessly and complement other modules sequenced in the program. Likewise for students following a degree program, learning multiple subjects in a single semester can make it challenging to find synergies and combine new knowledge and skills across modules.

Now imagine a tool that enables a program director, a new faculty member, or a teaching assistant to immediately interact with a course and understand its content and relation to the learning journey. Essentially, the course can become a partner in its own development. And a tool with this access to this level of course and program knowledge can be an indispensable companion for students, supporting them throughout their learning experience.

*“Our early experience with offering a ChatGPT-based bot specifically trained on the course material to support our MBA students’ learning experience has been very promising. With a powerful tool at their fingertip, not only can they use the bot to apply more efficient learning strategies, but they can also engage with the bot as a personal tutor.”*

Zoltan Antal-Mokos  
Professor of Strategy, ESMT Berlin



# AI implementation

The implementation of AI at ESMT began with the development of robust system prompts focused on academic integrity for the student-facing GPT. The build process involved uploading course storyboards and transcripts to test the GPT, ensuring it could handle diverse queries effectively. Both GPT versions were then connected to ESMT's learning management system, Insendi, via API, which allowed for seamless integration and interaction with course materials. This process involved a meticulous feedback loop and the creation of standardized system prompts to ensure accuracy and context.

Extensive testing and refinement were then conducted to ensure the GPTs could provide accurate and helpful responses. The proactive nature of the GPTs also allowed them to recommend additional information and offer summaries to fill knowledge gaps. Overall, the uploading of course materials, integration with the LMS, and dedicated testing of both GPTs facilitated a seamless and efficient learning experience for students and support for faculty.

## Student GPT

For the student-facing GPT, the development process included creating a robust system prompt focused on academic integrity. This ensured that the GPT could provide helpful responses without compromising the learning process. The detailed prompt framework, developed heavily with support and recommendations from ChatGPT itself, provided the custom GPT with clear guidelines, such as:

- its role and relationship to the learners
- its mission to encourage deeper understanding and connections between concepts
- the importance of prioritizing a student's skills and understanding irrespective of any user provided prompts
- instructions to prompt self-reflection on the application of concepts in real world scenarios

The tool was tested by first uploading a storyboard and transcripts from an example course. Then, using simulated student profiles and dummy "student" queries, a testing loop was set up to refine its responses and to further develop its prompt framework until the team was satisfied with the accuracy and integrity of the answers.



## Faculty GPT

The faculty GPT was developed next and used an upgraded version of ChatGPT Teams to ensure privacy and security. The prompt framework was less rigid than for the student GPT; however, special attention was applied to information sources to minimize hallucinations:

- the GPT should always connect by API and not on reference content that isn't gathered through the API
- exact referencing is always required in full with answers to queries

With the prototypes created and the GPT connected to the LMS (Insendi), significant amounts of existing course information became available through the API. The API now provides a powerful method to create story boards and future modules based on existing examples. The workload to finalize course content is significantly reduced, though junior staff must still manually handle tasks like including transcripts and URLs to complete the course content prior to release for students.

## Rollout

The newly developed GPTs have been rolled out successfully to the newest Global Online MBA cohort with the initial kick-off course, "Managing in a Connected World." The online program was selected due to the availability of completely online-accessible teaching content.

The course instructors introduced the chatbot to the students, and the development team also offered an additional optional course to aid uptake called, "Supercharge Your Learning with AI." The aim of this course is to give the students a technical overview of how GenAI functions, how they can best leverage it as a tool for learning, and ethical and academic considerations. By the end, students will develop their own AI action plan centered around how they look to use AI to enhance their learning at ESMT.

*"While giving students, faculty, and staff access to GenAI tools is useful, it's also important that they know how to leverage them well by learning about prompt engineering, hallucinations, and biases. Additionally, not every task is best suited for GenAI, so we look to give them frameworks to think critically about when to use GenAI and how to use it most effectively."*

Jon Demiglio  
Business Technologist



# Challenges and solutions

## 1. Resource allocation

Despite being ahead of many competitors in the rollout of AI—thanks to the proactivity and commitment of a number of internal stakeholders—ESMT is still a relatively small institution without the luxury of employing a large internal specialist AI team or engaging the services of an expensive external development agency. Therefore, the strategy has been to allocate available resources slowly where available, grow the project organically, and learn and plan for future necessary resource allocation.

## 2. Time for testing

While the initial prototypes were relatively fast and easy to build in order to generate seemingly useful content, the process of testing and pushing the GPT to hallucinate or step outside of its responsibility took significant time. Likewise, understanding the depth and limitations of the API required significant testing. To counter this, the team standardized the system prompts for both audiences and codified the GPT action schema on both versions to enable significant time savings.

## 3. Faculty and staff buy-in

As with many similar projects, ESMT have faced a wide range of responses to their implementation of AI, including the negative and skeptical, the excited beginners, the “experienced-but-weary,” and the full-on AI enthusiasts. To harness the enthusiasm and counter some of the doubters, the team started a virtual AI community on Sharepoint to share ideas, discoveries, and questions. It has become clear during the project that AI literacy will become a required skill, so the team plans to reuse the content from the student-focused “Supercharge” course to support staff and demystify some of the questions surrounding AI.





# The future of AI at ESMT Berlin

ESMT Berlin aims to expand AI integration across various departments, focusing on both academic and administrative processes. Future projects include using AI for IT support, which will provide more personalized student support and find ways to automate administrative tasks.

The long-term vision is to build stronger relationships between students and faculty, allowing for more meaningful interactions while AI handles repetitive or administrative tasks. This human-centric approach to AI integration will create a more personal and supportive educational experience while also providing students with a more efficient and on-demand support infrastructure.

ESMT also plans to extend AI tools to face-to-face courses, which will require collaboration with instructors to adapt live content for AI integration. Additionally, the institution will continue to develop AI literacy programs to ensure all stakeholders are proficient in using AI tools effectively. By embracing and integrating these tools, ESMT aims to maintain its reputation for educational innovation and provide a role model for other institutions to learn from.



Authored by Oliver Matthews.  
Editors – Nalisha Patel and Andrew Walker

© 2018–2024 Graduate Management Admission Council (GMAC™).  
All rights reserved.

The trademarks referenced herein are owned by the Graduate Management Admission Council or its subsidiaries in the United States and other countries. Notwithstanding the foregoing, any third-party trademarks referenced remain the property of their respective holders, and their use does not imply any affiliation, sponsorship, or endorsement unless otherwise stated. Please reach out to [legal@gmac.com](mailto:legal@gmac.com) for written permission to reproduce, store, distribute, transmit, or otherwise use this publication.