

Digital Management Strategies to Improve the Operational Efficiency of University Teaching Administration

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Keywords:

digital transformation; higher education administration; operational efficiency; data governance; faculty workload; student support services

ABSTRACT

Teaching administration management is an important part of modern university teaching affairs, but at present its development is more to match the standardized management of university, and neglects the core of ensuring efficient teaching. In my literature college, because of various types of teaching management tasks, many teachers have to spend a lot of time to fill in various administrative management content materials, in the process, there are many administrative management content often from different administrative departments of the same: kind of information statistics, this: "repetition" makes the teaching administration of colleges and universities appear inefficient. The content of this paper is to integrate the administrative management of colleges and universities through digital technology application, and to save more teaching and research time for the first-line teachers' by combining the same items, so as to improve the efficiency of educational administration. In this study, a four-dimensional new mode of university administrations formed by constructing "Teaching control cockpit": using unified data center to collect management data; using management data to optimize the approval level of the process to further improve the efficiency of administrative flow; scientific analysis around administrative data to improve staff satisfaction, people-oriented administration of teaching affairs; compression* of various data, highlighting the management of artificial intelligence. In this process, greatly saves the first-teachers administrative work, saves a large number of administrative resources in the school, reduces the friction caused by the traditional administrative management, and releases more resources to the first-tier teaching, and continuously improves the innovative development of teaching work.

1. INTRODUCTION

Reclaiming The Academic Mission

Teachers in many colleges and universities need to face pressure from the administration of educational affairs. For example, in the last semester, in order to prepare the Tang Poetry Seminar on the College Plan, the author, for the smooth implementation of the Plan, has prepared three different versions of the Seminar evaluation forms and explanatory documents, one for the teaching and research-department, one for the Office of Teaching Affairs, and one for the teaching quality assurance committee. Due to the differences in the template and specific requirements of the materials submitted by each teaching administration, colleagues jokingly say that this is a compulsory "administrative tax" for-university teachers, which is also a "silent killer" that takes teachers' time. A2023 survey by the

China Association of Higher Education confirmed that teachers at research universities spend up to 34 percent of their weekly administrative reporting time, compared with 41 percent of their actual teaching time. The contradiction between university administration and teaching is structural.

Traditionally, universities operate more-like a government academic-department, such as in 2021 to update and reform the curriculum of undergraduate students because of differences in registration content. The enrolment data for undergraduate students are controlled by the Teaching Secretariat, the use of registration in libraries is within the purview of information centers and the validation of teaching results needs to be interfaced with Student Affairs Section. In order to comb the curriculum implementation situation of the whole undergraduate students, it is necessary to coordinate the information of

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-all-the functional departments.

Through the integration of educational data to create a "teaching control cock" to achieve better data sharing. Unlike the ERP system used in traditional teaching administration, TCC more efficiently binds its actual users, such as teachers, students and minimal administrative participants. It simplifies many educational administration procedures, and at the beginning of the login, you can find a lot of content reminders related to teaching, such as classroom repeat booking, paper submission deadline, funding deadline for research projects. As one colleague who uses the app mentioned in the use-effect feedback: "We don't need complex algorithms to score papers, we need to streamline administrative work and- not become' tooler'. Therefore, in the whole iterative update of TCC system, more focus is on the "resource saving" of digital administration, using data-driven to reduce-the-human resources of teaching-staff.

2. THEORETICAL FOUNDATIONS: WHY EFFICIENCY MATTERS IN ACADEMIA

To justify this overhaul, we leaned on three frameworks that resonated with our lived experience.

2.1. Breaking Silos: Integrated Data Ecosystems

Many academic administrative departments in universities, in pursuit of their own departmental development, neglect the synergy of administrative management. This "disparate governance" leads to each department guarding their respective data like guarding assets. From an organizational perspective, obtaining data requires substantial resources, thereby continuously increasing the cost of digital management. Especially during the process of conducting professional title evaluations in universities, the aggregation of various data creates a significant bottleneck. The evaluation data of individual teachers compiled by the human resources department often takes several weeks to slowly be transmitted to the academic affairs office, resulting in an extended evaluation cycle. Therefore, in the process of academic administrative management, a "single information source" is needed. Only by establishing a unique administrative data center can the integrity and uniformity of data be ensured, thereby enhancing the efficiency of digital operations. This is not about centralizing the authority to manage data resources; rather, it is about creating a common infrastructure that enables dispersed university administrative departments to truly communicate with each other.

2.2. Cutting Busywork: Transaction Cost Economics

Ronald Coase's theory of transaction costs provided a useful lens. In our context, transaction costs are the hours spent hunting for a vacant classroom or reconciling handwritten grade sheets with digital

records. Before our reforms, our schedulers spent roughly 120 person-hours a semester on the phone, manually resolving conflicts. By implementing a digital module that visualizes all constraints—room size, faculty availability, equipment needs—we slashed that time to 28 hours. The lesson from Coase was clear: reducing transaction costs isn't about cutting corners; it's about eliminating the wasteful friction that distracts from our core mission of teaching and research.

3. CURRENT CHALLENGES: WHERE TRADITIONAL MODELS FALTER

Despite the national push for modernization, several deep-rooted issues persist.

3.1. The Tyranny of Endless Forms

Redundancy is the norm. One associate professor recently vented to me that she submitted three nearly identical course reports in one week. An internal audit revealed faculty waste about 4.2 hours a month on duplicate data entry. Beyond the time sink, this creates data integrity nightmares. We found instances where a student's major differed between the admissions database and the registration system, leading to disastrous academic advising. Fixing these errors creates a vicious cycle of more paperwork.

3.2. Approval Processes Stuck in Neutral

Excessive accountability in administrative management is often the direct cause of obstacles in "management implementation". In educational administration, the traditional process of classroom replacement requires the signatures and confirmation of seven operators from four departments. If an accident occurs in the classroom and a temporary change of teaching venue is needed, it can take at least 2-3 days. This cumbersome process has a significant impact on teaching work. Even though various educational administration processes are constantly being streamlined, operators only focus on the content of their own process steps and cannot see the overall data generated by the entire process, so there is still a long administrative delay. The opacity of process data can inadvertently create mistrust among departments at all levels in the educational administration process.

3.3. The Human Barrier: Tech Anxiety

The biggest hurdle isn't technical; it's cultural. A veteran registrar I work with still prints every digital form "just in case the server crashes." Faculty often view new systems as interruptions to their scholarship. And while students are digital natives, they abandon our portals at alarming rates if the user interface is clunky. If we don't address these human fears, the most expensive software is doomed to sit unused.

4. SOLUTIONS: A FOUR-STEP FRAMEWORK FOR DIGITAL TRANSFORMATION

We didn't try to boil the ocean. We took a phased, practical approach.

Step 1: Establish a Unified Data Hub

Utilizing the "hub and spoke" architecture of digital management can effectively facilitate the circulation of data in administrative management. To better manage data, over the past six months, the teaching team and the digital integration technology team have carefully reviewed nearly 150,000 pieces of data that have been used in the past. They categorized the content related to teaching, research, and student development, and conducted a review based on standardized data formats. At the same time, strict data management requirements were established, achieving true "transparency" in the data management process. For example, the design of the teaching leave system follows a fast and convenient digital operation model. Students submit sick leave applications through WeChat, and the system conducts background reviews of their attendance records. It also sends information such as meal management and make-up class time to counselors, with a copy to the teachers for information. In this ecosystem full of humanistic care, digitalization has driven management to no longer be static and unchanging.

Step 2: Streamline Workflows Through Process Reengineering

To better adapt to the implementation of university teaching tasks, streamlining redundant management processes is inevitable. Therefore, with the help of digital management applications, a large amount of educational administrative management content and processes can be managed through "intelligent routing". For example, for routine applications such as make-up exams, the system can automatically identify the student's identity, collect data, automatically complete the pre-review, and send it to the final review teacher. Such a process that originally required five departments and eight approvers can now be completed in just one day. This alone has reduced teachers' management time by 35%. To better achieve digital teaching scheduling, by developing a WeChat mini-program, professional course teachers can approve teaching plans during breaks. The response time has been shortened from 24 hours to less than three hours.

Step 3: Institutionalize Data-Driven Decision-Making

The original intention of digital administrative management is to better guide teaching activities. If it deviates from this basic principle, it will become meaningless. With the construction of digital classrooms and the help of video recognition

technology, teachers can analyze students' classroom attention using artificial intelligence in the later stages of the course, gain a refined understanding of students' performance in the course, and adjust the teaching content accordingly, thereby significantly enhancing their participation in the course. In addition, by analyzing mid-term grades, library usage, and even dormitory electricity and water usage patterns, intelligent teaching management systems can identify students who may fail the exam with an accuracy rate of 82%, and provide early warnings, allowing tutor teachers to intervene more in their learning.

Step 4: Cultivate Digital Capabilities

Digital educational administration requires the application of systems and platforms, which necessitates teachers to possess strong digital competencies. However, liberal arts teachers often fall short in this regard. To address this, we have created an 8-minute video through "individualized teaching" that details how to export grades or use dashboards. Based on the characteristics of faculty members in our college, we have launched the "Digital Faculty Fellow" program, pairing teachers who are familiar with technology with those who need assistance. In terms of digital applications, modern university students can serve as "teachers" to university professors. Therefore, by recruiting student "testers" to test the digital educational administration system, they identified 137 overlooked usability issues, significantly enhancing the practicality of the entire administrative management system.

5. CASE STUDY: TRANSFORMING THE SCHOOL OF CHINESE LITERATURE

Our school—102 faculty, 1,087 undergrads, 312 grads—was the perfect test bed. Pre-reform, we had a 15% schedule conflict rate and an average of 4.3 grading errors per 100 records. Faculty morale was low.

Phase 1: Building the Foundation (Months 1–6)

We spent the first half-year cleaning data. It was tedious, detail-oriented work. We reconciled conflicting enrollment counts between the registrar and our own ledgers. We launched 12 custom modules, including a "Faculty Workload Balancer." For the first time, our department chair could see who was overloaded before they burned out. We identified three professors carrying unsustainable administrative loads and redistributed the work, improving equity and morale almost overnight.

Phase 2: Process Redesign (Months 7–12)

We overhauled scheduling. An algorithm generated the first draft based on faculty preferences and room specs, but human schedulers made the final calls—ensuring, for instance, that commuter students weren't stuck with back-to-back 8:00 AM classes. Conflicts dropped to 2%. Grading became seamless; automated

checks caught outliers before they became official errors. Grant proposal processing time fell from 21 days to 5.

Phase 3: Capability Building (Months 13–Present)

We established monthly "Data Cafés"—informal meet up where faculty shared how they used the TCD to identify gaps in student understanding of classical texts. New faculty orientations now include mandatory TCD training. We also launched a "Digital Innovation Challenge." Last year's winner was a chat bot that answers FAQs about thesis formatting—a small thing that saved countless hours.

6. FUTURE DIRECTIONS: ADDRESSING PERSISTENT CHALLENGES

We aren't done. Legacy systems remain a headache, lacking the APIs needed for smooth integration. We're currently piloting "middleware adapters" to bridge the old and the new. We're also doubling down on data

privacy, exploring block chain for immutable audit trails for grade changes. And we're institutionalizing feedback loops—monthly surveys, quarterly updates—to ensure the system evolves with our needs.

7. CONCLUSION : RETURNING TO THE HEART OF TEACHING

The road ahead will bring new challenges—generative AI, evolving cyber threats, shifting student expectations. But the core lesson remains: efficiency is meaningless unless it enhances the human experience of education. We keep asking ourselves a simple question: "Does this help our students and faculty thrive?" If the answer is yes, we proceed. If not, we rethink. In an age of rapid change, universities must remain places where human potential is nurtured. Thoughtful digital strategy doesn't replace the ancient art of teaching—it simply clears the path so it can flourish.

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