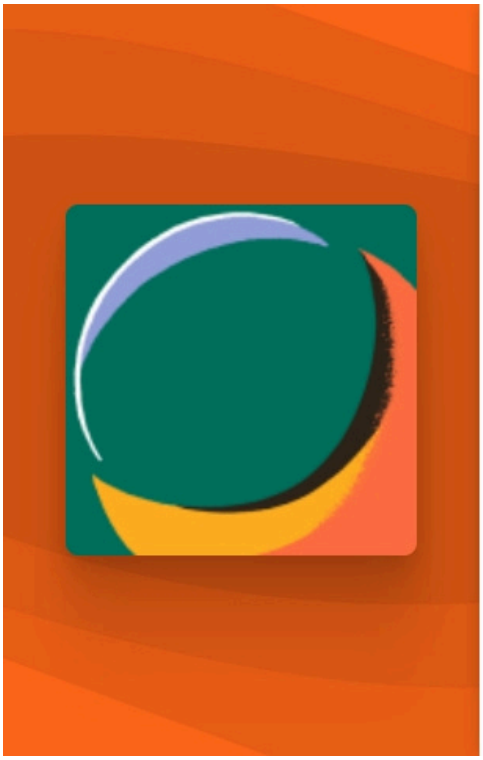
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Treat IT Like Physical Space - An Environment for Learning. Scenario Planning in the Age of AI

Why higher education technology decisions now shape the learning environment as deeply as buildings do



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Scenario planning feels natural when you think about physical space. Space is tangible. Once you build a building, you may live with the consequences for decades. Layout, access, maintenance costs, and user behavior get shaped by design choices. Change later costs more, takes longer, and disrupts people.

This same principle applies to information technology, especially now that AI is becoming embedded across campus systems. IT is no longer a back-office utility. It is part of the institutional environment. Once you

implement platforms, data architectures, identity systems, and AI-enabled workflows at scale, those choices become long-term and impactful. They shape how people work, learn, decide, and trust.

This connects directly to a core challenge facing higher education IT today. IT providers are expected to deliver stable, reliable services now while simultaneously preparing your institution for an uncertain future shaped by AI, workforce change, governance pressure, and rising expectations. This dual mandate is central to my earlier Substack piece, *Delivering Today While Preparing for Tomorrow*, and to the 4C Convergence Model. The model highlights the need to synchronize capital, commitments, capabilities, and context so execution stabilizes and risk stays visible instead of deferred.

Why space logic fits IT

Physical space planning forces long-horizon thinking. Leaders ask enduring questions. What will this environment make easy. What will it make hard. Who will thrive here. Who will struggle here. What will it cost to sustain.

IT deserves the same discipline.

IT creates pathways like corridors and doorways. A procurement workflow pushes behavior the way a building entrance does. An advising system shapes student choices the way signage and navigation do. A reporting dashboard shapes what leaders notice the way windows and sightlines do.

When the system becomes the default, the default becomes culture.

Campus ecology and institutional learning environments

This framing aligns closely with the work of James H. Banning. Banning was an environmental psychologist who examined how institutional learning environments function as ecosystems, where physical design and social structures shape student experience, behavior, and development over time. In my blog, Campus Ecology, Student Success, and the Role of Agentic AI, I wrote how his work influenced my view of student success, ecology, and technology.

His work, including *Educating by Design. Creating Campus Environments that Work* and *Positioning Student Affairs for Sustainable Change*, is frequently cited in student affairs and student development contexts. The core insight is ecological. Environments teach. Design choices quietly structure behavior, meaning, and growth.

The key move for today's campus is straightforward. If environments shape experience and development, then digital environments count.

The learning environment now includes laptops, networks, learning platforms, collaboration tools, data systems, and AI features. Students interact with learning through screens alongside classrooms, libraries, labs, and residence halls.

I once read that one role of higher education IT executives is to influence the learning environment because students now interact with learning through laptops alongside physical spaces. That observation fits squarely within a campus ecology lens. Students learn in a blended environment. Technology choices shape attention, access, friction, feedback, and expectations. They shape what students try, what they avoid, and what they believe counts as learning.

Technical debt equals deferred maintenance

Facilities leaders understand deferred maintenance intuitively. A delayed roof replacement becomes leaks. Leaks become mold. Mold becomes closures and emergency funding. The bill grows over time, and options shrink.

IT follows the same pattern.

Technical debt is deferred maintenance in digital space. Quick fixes and one-off integrations pile up. Legacy code hardens. Data models drift. Documentation disappears. Identity and access rules get patched instead of redesigned. Security gaps become known issues. Performance degrades. Staff time gets consumed by workarounds.

The cost shows up later as slower delivery, higher risk, and reduced flexibility. Over time, institutions lose the ability to change direction without major disruption. This is exactly the tension surfaced by the 4C Convergence Model when operational execution drifts out of alignment with long-term commitments.

Invisible fixes versus visible repairs

For better or worse, when something is not working in applications, the changes behind the scenes may not be apparent and may only be band-aids. With physical buildings, the fixes are visible.

In physical space, failure is visible. A cracked wall. A leaking roof. A closed elevator. We see the problem. You often see the fix. Scaffolding goes up. Crews show up. The disruption signals seriousness. Everyone understands maintenance is underway.

In applications, failure hides. A slow screen. A confusing workflow. A report that looks off. The fix often lives behind the scenes. A script runs overnight. A manual workaround gets added. A brittle integration gets patched. From the outside, nothing changes. The system still looks whole.

This creates a dangerous illusion. Users assume stability. Leaders assume resolution. In reality, band-aids accumulate. Complexity increases. Risk concentrates. The system grows harder to understand and harder to change.

This invisibility helps explain why technical debt persists longer than deferred maintenance in buildings. Buildings demand attention because problems surface publicly. Digital systems allow problems to remain quiet until failure cascades. When the break finally becomes visible, the repair costs more and disrupts more people.

AI amplifies this risk. Model behavior degrades silently. Data drift creeps in. Workarounds mask weak governance. Decisions still get made, but the logic behind them becomes opaque. By the time outcomes slip, the root cause sits several layers deep.

For scenario planning, this matters. We plan not only for what we see, but for what stays hidden. We assume invisible fixes exist and ask whether they represent healthy maintenance or accumulated fragility. Opacity itself becomes a risk factor.

The leadership implication

Digital environments require explicit signals of maintenance and health. Dashboards, audits, lifecycle plans, and sunset decisions play the same role scaffolding plays in physical space. Without them, quiet systems get mistaken for sound systems.

AI raises the stakes further. When you embed AI into advising, student services, finance, HR, research administration, or instructional tooling, you are redesigning the environment. You are encoding assumptions about decision rights, autonomy boundaries, accountability, and acceptable risk.

AI also accelerates change. Models update. Vendors ship features continuously. Agents begin to act across systems. Without clear control points, auditability, and human oversight, the environment starts behaving in ways no one explicitly chose.

This mirrors a building with hidden structural weaknesses. Everything appears stable until stress hits.

Scenario planning as environmental stewardship

Scenario planning helps leaders treat IT as infrastructure and ecology, not as a collection of projects.

It shifts the question from which tool do we buy to what environment are we creating.

Scenario prompts that follow the space analogy closely include:

Long-term flexibility
If student success depends on AI-mediated experiences, what happens when vendors change pricing, data access, or model behavior.
If the institution needs to switch tools, what parts of the environment move easily, and what parts are locked in.

Equity and access
If learning and services rely on laptops and AI features, what happens to students with limited bandwidth, older devices, or reduced privacy.
What defaults reduce friction for the most constrained users.

Decision rights and accountability
If AI systems recommend actions, who owns the decision.

Where responsibility sits when outcomes harm students or staff.
What gets logged, reviewed, and audited.

Data quality as a structural material
If data is inconsistent, AI amplifies inconsistency.
What building code exists for definitions, lineage, permissions, and retention.
Who has authority to stop deployment until minimum standards are met.

Maintenance capacity
What plans exist for model monitoring, policy updates, access reviews, incident response, and lifecycle replacement.
Whether this work has dedicated capacity or relies on goodwill.

These are the same questions raised when using the 4C Convergence Model to test strategic aspiration against institutional reality before commitments harden.

What this implies for higher education IT executives

If higher education IT executives influence the learning environment, then the role includes educational design and stewardship.

We shape the digital campus in the same way architects and student affairs leaders shape the physical and social campus. We influence how students experience learning, how staff experience service delivery, and how leaders experience decision-making.

This role demands three commitments.

- Treat digital systems as learning environments. Design for behavior, not only functionality.
- Fund maintenance the way you fund buildings. Reduce technical debt deliberately.
- Use scenario planning to surface long-term consequences before choices become permanent.

Closing reflection

The campus environment teaches every day. Physical space teaches through design. Digital space teaches through defaults. AI will teach through automated feedback and decisions.

If technology is planned like physical space, institutions preserve flexibility, trust, and learning outcomes. If not, an environment still forms. You simply do not get to choose what it teaches.



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