frontiers | Frontiers in Education

TYPE Perspective
PUBLISHED 02 October 2025
DOI 10.3389/feduc.2025.1620133

OPEN ACCESS

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RECEIVED 29 April 2025
ACCEPTED 27 August 2025
PUBLISHED 02 October 2025

CITATION
Piatanom P (2025) Enhancing the competitive capacity of educational institutions in the era of change.
Front. Educ. 10:1620133.
doi: 10.3389/feduc.2025.1620133

Enhancing the competitive capacity of educational institutions in the era of change

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This article addresses a critical gap in educational leadership literature by moving beyond theoretical discussions of the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) and BANI (Brittle, Anxious, Nonlinear, Incomprehensible) frameworks. It synthesizes empirical data, meta-analyses of educational competition, and findings from diverse institutional studies to build an evidence-based, actionable framework for enhancing institutional competitiveness. The proposed framework provides educational administrators with practical, structured guidance on strategic planning, technology integration, fostering resilient learning cultures, and navigating significant implementation barriers such as resource constraints and resistance to change. The article concludes that effective leadership in the era of change requires a deliberate balance between driving competitive advantage and cultivating institutional well-being and psychological safety.

KEYWORDS

enhancing, educational institutions, era of change, competitive capacity, educational leadership

1 Introduction: the imperative for evidence-based leadership in an era of accelerating change

The 21st-century educational landscape is characterized by continuous and accelerating transformation. The convergence of globalization, rapid technological advancement, and the increasing influence of capital has fundamentally reshaped societal structures and, consequently, the demands placed upon educational institutions (Bilal et al., 2022; Kaewbutdee et al., 2021). Education leaders are tasked with navigating an environment of unprecedented disruption, where traditional models of management and strategic planning are often rendered inadequate (Rimita et al., 2020; Rungjang, 2024).

In response, a lexicon has emerged to describe this new reality, with frameworks such as VUCA (Volatility, Uncertainty, Complexity, Ambiguity) and, more recently, BANI (Brittle, Anxious, Nonlinear, Incomprehensible) gaining prominence in leadership discourse (Baskoro, 2023). While these conceptual frameworks are widely discussed and provide a valuable language for articulating the challenges of the modern era, a significant research gap exists. The scholarly literature reveals a scarcity of empirical investigations that directly connect these frameworks to effective, actionable leadership strategies and measurable outcomes within the educational sector. Much of the existing research remains theoretical, emphasizing the adversities organizations face without providing evidence-based guidance on how to navigate them successfully (Bartholomew et al., 2025; Mwenje and Manyanga, 2023).

This paper aims to address this critical gap by synthesizing empirical evidence, organizational theory, and practical models to propose a comprehensive framework for educational leaders. The main argument of this article is that enhancing institutional competitiveness in the current climate requires moving beyond a singular focus on market position and rankings. Instead, it demands a holistic approach that builds internal resilience, fosters a healthy organizational

culture, and strategically leverages technology to support core pedagogical goals. The framework presented here is designed not only to enhance institutional competitiveness measurably but also to build the adaptability and psychological fortitude necessary to thrive in a world increasingly defined by the brittle, anxious, and nonlinear characteristics of the BANI environment.

2 Deconstructing the landscape: from the VUCA world to the BANI reality in education

Understanding the strategic imperatives for educational leaders today requires a clear-eyed analysis of the evolving environmental context. The conceptual journey from VUCA to BANI is not merely a semantic update; it reflects a fundamental shift in the challenges faced by organizations and the individuals within them.

2.1 The VUCA framework in education

Originating in the U.S. Army War College to describe the post-Cold War geopolitical landscape, the VUCA acronym—Volatility, Uncertainty, Complexity, Ambiguity—was adopted by business and, subsequently, education to characterize complex and unpredictable operating environments (Baran and Woznyj, 2021; Johansen, 2007; Niehaus and Mocan, 2024). In this model, *volatility* refers to rapid, unpredictable change; *uncertainty* to a lack of predictability and knowledge; *complexity* to the multiplicity of interconnected forces; and *ambiguity* to the potential for multiple, often competing, interpretations of the same data (Bennett and Lemoine, 2014; Horney et al., 2010).

In response to these challenges, leadership theorists developed VUCA Prime. This model proposes a specific leadership behavior to counter each environmental condition: Vision counters Volatility, Understanding counters Uncertainty, Clarity counters Complexity, and Agility counters Ambiguity (Johansen and Euchner, 2013). This framework suggests that leaders can navigate chaos through strategic, systemic responses aimed at providing direction, simplifying processes, and fostering rapid adaptation (Sae-Lim, 2019).

The COVID-19 pandemic provided a stark, real-world laboratory for VUCA leadership in education. The dissertation by Grossnicklaus (2025), which conducted a multi-case study of rural school superintendents managing the pandemic's fallout, offers a compelling empirical example. The study's findings align perfectly with the VUCA context: superintendents faced a sudden increase in crises (volatility and uncertainty), a lack of formal training in crisis management, a gap in clarity and agility, and the critical importance of building and maintaining peer support networks to navigate the complex challenges. The research highlights the need for more training, improved strategic communication, and better support systems—all of which are strategic responses to a VUCA environment.

2.2 The emergence of the BANI framework

As the world emerged from the acute phase of the pandemic, it became clear that the VUCA framework, while useful, did not fully capture the new reality. Futurist Cascio (2020) proposed the BANI framework—Brittle, Anxious, Nonlinear, and Incomprehensible—to describe a world where systems are not just volatile but fragile and prone to sudden, catastrophic failure. In this new landscape (Baskoro, 2023; Rungjang, 2024; Jiracheewewong, 2023):

- Brittle systems appear strong but can shatter unexpectedly without warning.
- Anxious describes the pervasive sense of fear and helplessness that arises from living in a constantly precarious world.
- Nonlinear reflects a reality where cause and effect are disconnected, and small actions can lead to disproportionately large and unpredictable consequences.
- Incomprehensible refers to situations where events are so complex or novel that they defy rational explanation, rendering data and analysis insufficient.

The critical distinction of the BANI model is its shift in focus from the external dynamics of the system to the internal, human-centric consequences of living within that system. While VUCA describes the storm, BANI describes the feeling of being in the storm. Consequently, the proposed responses to BANI are fundamentally human-centric and psychological. Brittleness is met with resilience and institutional slack; anxiety is eased with empathy, mindfulness, and trust; nonlinearity requires context and adaptability; and incomprehensibility demands transparency and intuition (Cascio, 2020).

This conceptual evolution from VUCA to BANI represents more than a change in terminology; it signals a profound transition from managing systemic crises to managing human-centric ones. In a VUCA world, a leader's primary role is strategic: to analyze the environment and set a clear direction. In a BANI world, that role expands significantly. Leaders must still be strategic, but they must also become stewards of their organization's psychological well-being. They can no longer manage the external chaos; they must actively manage the internal psychological fallout of that chaos on their faculty, staff, and students. This makes strategies focused on well-being, trust, and psychological safety not merely ancillary benefits but core components of effective and sustainable leadership in the current era.

3 Redefining and measuring educational competitiveness: a critical, multi-dimensional approach

The term "competitiveness" is central to discussions about institutional improvement, yet its application in education is often overly theoretical and narrowly focused on market-driven metrics. A more nuanced, evidence-based understanding is essential for developing effective strategies.

3.1 The duality of competition

Peer-reviewed literature reveals a complex and often contradictory relationship between competition and educational quality. On one hand, competition can be a powerful driver of positive change. It can compel higher education institutions (HEIs) to improve teaching and

research quality, enhance marketing capabilities, adopt total quality management systems, and pursue accreditation to demonstrate their value (Hart and Rodgers, 2023). At a global level, academic competition has been shown to foster new forms of strategic collaboration, drive program diversification to meet local needs, and strengthen institutional branding and reputation (Kampan, 2010; Musselin, 2018).

On the other hand, the pursuit of competitiveness carries significant risks. Research indicates that excessive competition can undermine creativity and innovation, increase institutional tensions, strain professional relationships, and legitimize inequalities both within and between national education systems (Krucken, 2019; Naidoo, 2018). Perhaps most critically, it can cause institutions to drift from their core missions of teaching, research, and social service as they prioritize metrics and rankings over educational values (Demange et al., 2020) (see Figure 1).

Furthermore, the empirical evidence on the effectiveness of competition is decidedly mixed. Systematic reviews and meta-analyses of school-choice policies, which are designed to increase competition, find that the effects on student achievement are generally minor, context-dependent, and not consistently positive (Belfield and Levin, 2002). The assumption that a rising tide of competition will "lift all boats" (Hoxby, 2003) is not strongly supported by the data, challenging the simplistic belief that more competition is always better.

3.2 A synthesized model of institutional competitiveness

To move the discussion from the theoretical to the concrete, it is helpful to synthesize findings from multiple studies that identify the core components of institutional competitiveness. Research shows that an institution's competitive capacity is a complex interplay of internal factors—such as resources, human skills, and organizational culture and its ability to position itself within the external environment strategically (Hart and Rodgers, 2023; Zajac et al., 2000; Arnout et al., 2024). A comprehensive view of competitiveness, therefore, must encompass multiple domains, as summarized in Table 1.

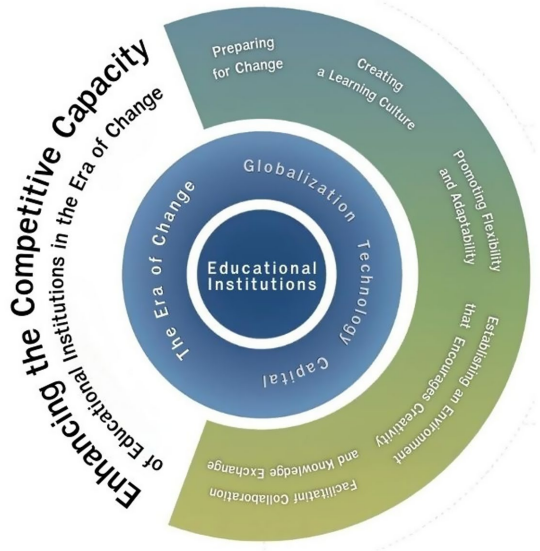

FIGURE 1
Enhancing the competitive capacity of educational institutions in the era of change.

This synthesized model powerfully illustrates that an institution's competitive capacity is determined far more by its internal state than its external market position. While traditional views of competitiveness focus on external metrics like rankings and student enrollment (Krucken, 2019; Vasiliev, 2021), a broader analysis of the evidence reveals that the most critical factors are internal. Strengths such as a "positive organizational climate," "organizational trust," and "high-quality human capital" are hallmarks of a healthy internal culture. Conversely, internal dysfunctions like resistance to change and bureaucratic inertia are consistently identified as significant barriers to competitiveness.

This evidence leads to a crucial re-framing of the concept. A purely market-driven pursuit of competitiveness, which can lead to the adverse outcomes of strained relationships and undermined creativity identified in the literature (Krucken, 2019), is inherently flawed. A more robust and sustainable approach defines competitiveness as an internal state of organizational health and strategic capability. This perspective shifts the strategic focus from a race against other institutions to a journey of internal improvement, encompassing cultural health, operational efficiency, and human capacity building. Such an approach is not only more likely to succeed in the long term but is also more deeply aligned with the fundamental mission of educational institutions.

4 An actionable framework for enhancing institutional competitiveness

Building on an evidence-based understanding of the BANI environment and a multi-dimensional view of competitiveness, this section presents a practical, four-part framework for educational administrators in the era of change. This framework transforms the abstract principles discussed previously into structured, actionable strategies.

4.1 Strategic foresight and proactive planning

In a BANI world, preparing for change is insufficient; leaders must engage in proactive, all-hazards strategic planning. This involves moving beyond vague readiness to a structured process of risk identification and mitigation. An effective model can be adapted from the concept of a Security Master Plan (SMP), broadening its scope to encompass all forms of institutional risk—financial, operational, reputational, and psychological. A comprehensive institutional master plan should include:

- Comprehensive Risk Assessment: A data-driven process to identify potential threats (e.g., enrollment decline, cybersecurity breaches, public health crises, reputational damage), evaluate their likelihood and impact, and prioritize them based on

TABLE 1 A synthesized framework of institutional competitiveness factors.

Domain	Key components	Illustrative examples
Organizational health and culture	Favorable organizational climate, high levels of trust, shared vision, strong work ethic, and a culture of continuous improvement.	Fostering teamwork and collaboration across departments, establishing transparent communication channels, and promoting a supportive and motivating work environment.
Strategic management and innovation	Flexible and adaptive strategy, alignment with labor market needs, program innovation, effective branding and marketing, and strong external partnerships.	Developing new, in-demand academic programs; forming strategic alliances with industry and other institutions; utilizing business incubators to foster innovation.
Human capital	Quality and expertise of faculty and staff, commitment to professional development, and effective, forward-thinking leadership.	Actively recruiting and retaining distinguished faculty with strong research records; implementing mandatory professional development for all staff.
Educational excellence	High-quality academic programs, relevant and updated curricula, effective pedagogical methods, and robust student support services.	Designing integrated study plans that meet accreditation standards and creating a psychologically safe and well-equipped learning environment for all students, including those with disabilities.
Infrastructure and resources	Advanced technological infrastructure, modern physical facilities (classrooms, labs, libraries), and stable financial resources.	Providing high-speed internet and cutting-edge technology across campus, maintaining modern laboratories and a well-stocked central library, and securing diverse funding streams.

Synthesized from Hart and Rodgers (2023), Arnout et al. (2024), and Katz (1999).

severity. This assessment must be inclusive, incorporating input from all key stakeholders.

- Policy and Procedure Development: The creation of clear, enforceable policies and standard operating procedures to mitigate identified risks. This includes developing plans for emergency response, business continuity, and strategic communication.
- Establishment of a Governance Committee: A cross-functional committee comprising administrators, faculty, staff, and IT and facilities leaders. This body is responsible for overseeing the plan, ensuring accountability, coordinating efforts, and adapting strategies as the environment evolves.
- Integration with Broader Institutional Strategy: The master plan must not exist in a silo. It should be deeply integrated with the institution's core strategic planning, including capital improvement plans, technology roadmaps, and academic program development, to ensure that risk management enhances, rather than hinders, the institutional mission.

4.2 Cultivating a resilient learning organization

Flexibility and a culture of learning are essential for navigating a BANI environment, but these qualities do not emerge spontaneously. They must be intentionally cultivated through leadership and structural support, with a focus on the human dimension of resilience.

- Leadership Models for the era of change: Leadership style is a critical determinant of an organization's capacity for change. Research suggests that transformational leadership—which focuses on inspiring a shared vision, empowering others, and fostering a positive culture—is highly effective for motivating staff and navigating reform (Alonderiene and Majauskaite, 2016). This approach can be complemented by collective leadership, which distributes leadership responsibilities among faculty and administrators. This model acts as a catalyst for improvement by building shared ownership and preventing the burnout of a single, heroic leader (Eckert and Morgan, 2023).
- Actionable Strategies for Supporting Well-being: In an environment characterized by anxiety, supporting the well-being of faculty and staff is a strategic imperative, not a peripheral concern. Leaders can implement several concrete strategies to build a culture of care and prevent burnout:
- Make Community Care Visible: Explicitly include educator well-being in the school's vision and mission statements, creating a culture where staff feel empowered to be open about their needs.
- Remove Non-Core Responsibilities: Actively seek to lighten faculty's loads by removing ancillary duties or providing compensation for additional responsibilities—partner with external organizations to provide mental health support for students, reducing the burden on faculty.
- Provide Dedicated Mentorship: Create formal, compensated mentorship roles to provide meaningful support for new faculty and foster peer-to-peer professional growth opportunities that are developmental rather than evaluative.

4.3 Driving innovation through strategic technology integration

Technology is a powerful tool for enhancing competitiveness, but its implementation is often haphazard. Effective integration must be driven by pedagogical goals, not by the allure of new tools (Schindler et al., 2017; Shalgimbekova et al., 2024). Administrators can use established

frameworks to guide planning, evaluation, and professional development. Table 2 provides a comparative guide to three prominent models.

These frameworks provide administrators with a shared language and a structured approach to evaluate technology initiatives. By asking whether a new tool will be used at the "Redefinition" level of SAMR or will enable "Creative" student work in the PIC-RAT model, leaders can ensure that investments in technology translate into meaningful improvements in teaching and learning.

4.4 Fostering creative and collaborative ecosystems

In a globally connected world, institutional competitiveness is increasingly dependent on the ability to build and sustain robust ecosystems of collaboration. This extends beyond internal teamwork to include strategic external partnerships.

- Strategic Alliances: Research shows that global academic competition has spurred new and more strategic forms of collaboration among institutions, as they seek to pool resources, share expertise, and enter new markets (Hart and Rodgers, 2023). Leaders should actively pursue partnerships with other educational institutions, both locally and internationally.

- Industry and Community Partnerships: Frameworks for developing successful online learning programs emphasize the critical need to engage with the local community to ensure program relevance and viability. This involves partnering with local businesses to understand labor market needs and with community colleges and high schools to create seamless educational pathways for students. By building these external bridges, institutions can enhance their responsiveness, expand their reach, and create a more dynamic and resource-rich environment for creativity and innovation (Watson et al., 2024).

5 Overcoming barriers to implementation: a realistic perspective

Developing a sound strategic framework is a necessary but insufficient condition for success. Educational leaders must also anticipate and navigate the significant barriers that can derail even the most well-designed initiatives. A realistic perspective on these challenges is crucial for effective implementation.

5.1 Systemic and resource-based challenges

Especially in developing nations, but also present in many developed contexts, fundamental systemic and resource constraints pose significant hurdles to innovation. These include:

- Infrastructure Limitations: Lack of reliable electricity and high-speed internet connectivity remains a primary barrier, severely restricting the potential of educational technology (EduTech).

TABLE 2 A comparative guide to technology integration frameworks.

Framework	Core principle	Key question for leaders	Levels/components	Practical classroom example
TPACK	Effective technology integration requires a synthesis of three core knowledge domains: Technology, Pedagogy, and Content.	"Do our faculty understand not just *how* to use the tool, but *how* to use it to teach *this specific content* effectively?"	1. Technological Knowledge (TK) 2. Pedagogical Knowledge (PK) 3. Content Knowledge (CK) 4. Intersections (TPK, TCK, PCK) 5. TPACK (Synthesis)	Using a simulation app (TK) to teach student problem-solving (CK) with an inquiry-based learning strategy (PK).
SAMR	Technology adoption follows a progression from enhancing existing practices to transforming them into new possibilities.	"Is this technology fundamentally changing the task, or just substituting an analog tool with a digital one?"	1. Substitution: Tech acts as a direct tool substitute, with no functional change. 2. Augmentation: Tech acts as a substitute with functional improvement. 3. Modification: Tech allows for significant task redesign. 4. Redefinition: Tech allows for the creation of new tasks that were previously inconceivable.	Substitution: Students type an essay in Google Docs instead of on paper. Redefinition: Students create a collaborative, multimedia documentary in Google Docs, embedding videos and linking to primary sources.
PIC-RAT	Analyzes technology use along two dimensions: the student's role (from Passive to Creative) and the technology's effect on practice (from Replacing to Transforming).	"What are the students *doing* with the technology, and how does that change what was possible before?"	PIC (Student Role): P = Passive, I = Interactive, C = Creative RAT (Teacher's Use): R = Replace, A = Amplify, T = Transform	Passive/Replace (PR): students watch a pre-recorded lecture video. Creative/Transform (CT): students use video editing software to create their instructional videos to teach a concept to their peers.

Synthesized from Mishra and Koehler (2006), Puentedura (2025), and Hughes et al. (2006).

- Funding Shortages: Limited budgets, economic instability, and the high cost of acquiring and maintaining technology often force institutions to prioritize immediate needs over long-term strategic investments.
- Inadequate Policy Frameworks: The absence of supportive government policies, coupled with bureaucratic inertia, can stifle innovation and lead to disjointed, ineffective initiatives with little systemic impact.

A clear warning example is the One Tablet Per Child (OTPC) initiative in Thailand. Despite significant financial investment to provide all students with tablets, the project was ultimately canceled. An analysis of its failure pointed directly to a lack of a systematic implementation plan, insufficient teacher training, and a failure to integrate the technology with the existing curriculum. This case shows that giving technology without supporting systems, training, and policies is likely to lead to failure (Tubplee, 2019).

5.2 Human and cultural barriers

Often more formidable than resource constraints are the deeply entrenched human and cultural barriers to change within educational institutions.

- Institutional Inertia and Risk Aversion: Higher education is frequently characterized by a culture that resists change, a pervasive avoidance of risk, zero-sum thinking, where new initiatives are seen as threats to existing resources, restrictive accreditation standards that favor the status quo, and the complex dynamics of faculty governance that can impede swift action.
- The Psychology of Resistance: At the individual level, innovation can be stifled by a range of fears. Leaders and faculty may harbor a fear of failure, which can threaten one's professional standing; a fear of the cost and effort required for change; a fear of damaging the institution's reputation by appearing unstable or experimental; and even a fear of success, which raises expectations and invites greater scrutiny.[28] These psychological factors create a powerful current of resistance that leaders must acknowledge and address.

5.3 Navigating the digital divide and equity issues

A critical and often overlooked barrier is the potential for technology and competitive strategies to exacerbate existing inequalities. The "digital divide" is not merely about access to devices; it encompasses disparities in connectivity, digital literacy, and the availability of localized, culturally relevant content. The World Bank's analysis of the COVID-19 response starkly highlighted this reality, reporting that approximately one-third of low-income countries were unable to reach at least 50% of their students through remote learning technologies. This underscores a fundamental responsibility for educational leaders: any strategy aimed at enhancing competitiveness through technology must be designed with equity at its core to avoid widening the gap between the privileged and the marginalized.

The consistent theme across these implementation challenges is that failure is rarely due to a flawed strategy alone. The Thai tablet initiative did not fail because tablets are inherently bad for education; it failed because of a breakdown in change management—a lack of training, support, and integration. The cultural barriers of risk aversion and fear are fundamentally human factors that can neutralize the most brilliant strategic plan. This reality demands that leaders recognize that a strategic plan is incomplete without an accompanying, robust change management plan. The success of any initiative depends as much on managing the people—their fears, their training needs, their buy-in—as it does on designing the plan itself.

6 Conclusion: leading toward a competitive, resilient, and sustainable future

The challenge for educational leaders in the era of change is to guide their institutions through an era of unprecedented and accelerating change. This article has argued that meeting this challenge requires a significant evolution in leadership thinking and practice. It necessitates moving beyond abstract theoretical frameworks to embrace evidence-based, actionable strategies that are responsive to the unique demands of a changing world.

The analysis has advanced three central arguments. *First*, the conceptual shift from VUCA to BANI reflects a real-world transition from managing primarily systemic crises to managing their profound human and psychological consequences. This requires a more human-centric leadership approach that prioritizes empathy, trust, and well-being. *Second*, authentic and sustainable educational competitiveness is not merely a reflection of market position or rankings but is fundamentally an indicator of internal organizational health. A robust strategy, therefore, must focus on building internal capacity, fostering a positive culture, and improving operational efficiency. *Third*, even the most well-conceived strategies will fail if a sophisticated understanding of implementation barriers and a deliberate, human-focused change management plan does not accompany them.

To address these imperatives, this paper has proposed a holistic, four-part framework that integrates strategic foresight, the cultivation of a resilient learning organization, pedagogically sound technology integration, and the development of collaborative ecosystems. This model provides a practical roadmap for administrators seeking not only to compete but to build institutions that are adaptable, innovative, and sustainable in the long term.

To continue advancing knowledge in this critical area, future research should pursue several key avenues. There is a pressing need for longitudinal studies that can empirically measure the impact of the era of changing-aware leadership strategies—such as those centered on promoting psychological safety, empathy, and institutional resilience—on tangible outcomes like faculty retention, student success metrics, and an institution's capacity for innovation. This would help to close the empirical gap identified at the outset of this paper.

Furthermore, cross-cultural and cross-institutional research is needed to explore how the frameworks, strategies, and barriers discussed here manifest and operate in different national, economic, and organizational contexts. By pursuing these lines of inquiry, the field of educational leadership can develop an even more nuanced and powerful set of tools to help institutions not just survive, but thrive in the era of change.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

PP: Writing – review & editing, Conceptualization.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

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