

Companies can apply the practical framework and managerial implications to ensure their digital transformation journey is more resilient and adaptive to today's uncertain environment.

Aylin Ates, Nuran Acur, and Donald MacLean

OVERVIEW: Prior research has understood the process of digital transformation as shifts between digitization, digitalization, and digital transformation phases and has treated the digital transformation process tautologically. In the literature, digital transformation is understood as transforming the whole organization, including its business processes and value proposition. This understanding is problematic because it fails to capture the need for achieving alignment between the organization, the environment, and the strategy based on the finer details of an organization's context. Achieving this fit is important in a VUCA environment characterized by volatility, uncertainty, complexity, and ambiguity. We conducted a single case study of Linn Products, a UK-based high-tech company renowned for designing and manufacturing high-end home entertainment systems, including digital streaming products, music players, and speakers. This award-winning firm has not only embraced digital transformation but also sustained its performance proactively amidst the dynamic shifts in the consumable electronics industry. Our interpretive longitudinal study spans 2007 to 2023 and incorporates insights from 23 in-depth interviews. Our research provides valuable guidance for practitioners seeking to build resilience and adaptability in an era of digital disruption and polycrisis.

PRACTITIONER TAKEAWAYS:

- In an era marked by polycrisis, organizations must cultivate a combination of threshold and core capabilities to attain organizational fitness amidst the challenges of a VUCA environment.
- To leverage digital transformation, companies must adopt a strategic approach, whether through providing digital support in business processes or opting for full digital participation.
- Success in digital transformations hinges on the harmonious alignment of strategy, an organization's unique circumstances, and the dynamic conditions of the VUCA environment.

KEYWORDS: Digital transformation, Strategic alignment, Organizational fitness, VUCA, Polycrisis

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Swift technological progress and frequently turbulent industries characterize modern times, and both have amplified the importance of digital transformation. The significance and role of digital transformation extends to the survival, adaptability, and efficient functioning of all types of organizations (McCausland 2021; Abbu et al. 2022). Our world is currently struggling with a multitude of challenges that have fundamentally reshaped our way of life, work, and interactions. These global disruptions and "polycrisis" (Whiting and Park 2023) have created an environment marked by volatility, uncertainty, complexity, and ambiguity (VUCA) (Troise et al. 2022) and made outcome prediction increasingly intricate. Businesses are not immune to these transformative forces and find themselves navigating unfamiliar environments as they confront the multifaceted consequences of these global shifts. Whether it is contending with the influx of disruptive digital technologies or adhering to the imperative of sustainable practices, organizations face an imminent demand for adaptive strategies that fortify their resilience.

To adapt to rapidly evolving environments and avoid becoming technologically obsolete (Ates and Acur 2022), organizations regardless of their size need to ensure alignment or "fit" with their external environment, digital strategies, capabilities, and leadership skills (Troise et al. 2022). Yet, to truly thrive in a constantly shifting and intensely competitive technological landscape, organizations also need to attain "fitness" (Beer et al. 2005)—the capacity for learning and digitally transforming to meet the demands of new, technology-influenced situations. Researchers propose digital transformation as a strategy to build adaptability for rapid change in a VUCA environment (Heavin and Power 2018; Müller, Buliga, and Voigt 2018; Shen et al. 2019; Alessia et al. 2020; Troise et al. 2022).

Digital transformation refers to "the profound and accelerating transformation of business activities, processes, competencies, and models to fully leverage the changes and opportunities brought by digital technologies and their impact across society in a strategic and prioritized way" (Demirkan, Spohrer, and Welser 2016, p. 14). In fact, if the organizations use digital technologies to create new or modify existing business processes in the age of digitalization, the "strategy-organization-environment" fit would remain stable and relevant during the digital transformation process. This strategic alignment would sustain competitiveness and performance (Sminia 2021).

Organizations that are capable of mirroring the ongoing changes in their increasingly digitally driven VUCA environment (Johansen and Euchner 2013) do so by swiftly and efficiently adjusting their digitalization efforts and behaviors (Fletcher and Griffiths 2020; Florek-Paszkowska, Ujwary-Gil, and Godlewska-Dzioboń 2021) to strategic shifts that build organizational capability known as "organizational fitness" (Beer and Eisenstat 2004; Beer et al. 2005). Successful adaptation requires understanding different phases of the digital transformation process (Verhoef et al. 2021). This process aims to rejuvenate the organization by deeply transforming its digitalization efforts, including its strategy and environment.

We explore the strategic fit within a VUCA environment and share an example of how one company, Linn Products, applied a digital transformation process in a high-tech organization. We argue that organizational fitness, underpinning a digital transformation process, is critical to realign organizational capabilities with business strategies, and thus with VUCA environments, to remain competitive. Given the ongoing evolution of the competitive landscape, we view achieving alignment as a continuous effort requiring progression in the digital transformation (from being digitalized to digitally transformed), rather than sporadic efforts.

Based on our observations, we also suggest that integrating the digital transformation processes within an organization's strategy can facilitate its ongoing adaptation and learning. We seek to offer practical insights, especially for small and medium enterprises (SMEs), by investigating the digital transformation journey of our high-tech case study. We undertook an interpretive, longitudinal study conducted between 2007 and 2023 to address the following research questions: How do organizations develop the necessary capabilities for digital transformation? How do these capabilities influence the alignment between the organization, its strategy, and the environment?

As a contribution to literature and practice, we clarify how Linn Products identified and developed its digital transformation capabilities. Then we offer more precise guidelines on how other organizations can apply these insights in different contexts, especially in developing threshold capabilities and aligning strategy with technological advancements. Finally, we provide a more nuanced discussion on the role of organizational ethos and culture in driving and sustaining these strategic changes for organizational fitness.

Literature Review

We present relevant literature on the VUCA environment, digital transformation as a strategy process, and the alignment of digital transformation strategy, organization, and the VUCA environment.

The VUCA Environment

In the current landscape, businesses are experiencing a fundamental shift in how they operate within a VUCA world, defined by its four key elements: volatility, uncertainty, complexity, and ambiguity (Yarger 2006; Doheny, Nagali, and Weig 2012; Troise et al. 2022). These elements consistently have adverse effects on industries and businesses, forcing them to either adapt to this uncertain environment or struggle for survival (Horney, Pasmore, and O'Shea 2010).

Typically, the response to this perceived threat is an attempt to establish a sense of certainty amid the turbulence, impacting overall productivity, employee engagement, operational processes, and innovation capacity (Mack and Khare 2016). To effectively address all dimensions of VUCA and capitalize on potential opportunities, innovation leaders and managers must depart from traditional approaches to handling VUCA, which often involve seeking absolute certainty (Bennett and Lemoine 2014). At the same time, companies

struggle to apply existing business frameworks and tools to keep pace with the challenges posed by VUCA or to cultivate organizational adaptability and resilience in managing change effectively (Ates and Bititci 2011; Mack and Khare 2016). To address this problem, innovation managers need to gain a comprehensive understanding of the specific characteristics associated with each VUCA element along with their inherent risks and unique challenges. This understanding is crucial for developing robust strategies and embedded capabilities to navigate the complex VUCA environment.

Digital Transformation as a Strategy Process

Academia continues to expand its insights into how organizations embark on digital transformation efforts over time (Ivančić, Vukšić, and Spremić 2019) and the degree to which companies integrate digital technologies into their products, processes, and organizational structures (Warner and Wäger 2019). Such transformations demand a comprehensive suite of initiatives (Singh and Hess 2017) to obtain organizational fitness, ranging from leveraging digital technology to enhance products and services to employing digital innovations for unlocking new business opportunities and models (Gradillas and Thomas 2023). Organizations are actively exploring what digital transformation entails for them for "fitness" and what capabilities they need to cultivate to ensure a successful transition.

According to the literature, digital transformation is a continuous endeavor (Matt, Hess, and Benlian 2015; Warner and Wäger 2019) aimed at realizing an organization's strategic vision (Markus and Rowe 2021). This journey is categorized into three stages: digitization, digitalization, and digital transformation (Verhoef et al. 2021). Digitization involves converting analog information to digital formats, while digitalization refers to the broad adoption of digital technology to transform existing business processes at an organizational level (Yoo et al. 2012; Verhoef et al. 2021). Digital transformation emerges from the collective impact of various digital innovations, leading to the emergence of new entities and the reconfiguration of existing frameworks, methodologies, and principles. This reconfiguration has the potential to disrupt, replace, or enhance conventional norms and operations within organizations, industries, or broader ecosystems (Hinings, Gegenhuber, and Greenwood 2018). Each phase reflects the organization's ambition for change, from minor adjustments in digitization to more profound, strategic overhauls in digitalization and digital transformation.

Alignment of Digital Transformation Strategy, Organization, and the VUCA Environment

Companies face the major challenge of learning how to continuously renew their offerings and processes to keep up with digital transformation trends to remain competitive and resilient (Agarwal and Helfat 2009; Sparrow and Ringland 2010; Ates 2022). As a result, organizations either need to do established things in new ways, stop doing certain things, or do new things (Sparrow and Ringland 2010). However, merely having a focus on hard aspects such as technology development for digital transformation is not sufficient (Fletcher and Griffiths 2020; Frankiewicz and Chamorro-Premuzic 2020; Florek-Paszkowska, Ujwary-Gil, and Godlewska-Dzioboń 2021; Abbu et al. 2022). The attainment of organizational fitness is not guaranteed, and digital technologies are not a panacea. This raises two important questions: 1) How can organizations maintain competitiveness in a constantly shifting VUCA environment?; and 2) How can organizational fitness and continuous adaptation of digital capabilities lead to sustained performance and resilience?

Organizational fit emphasizes the need for an organization's digital strategy to be in sync with its external environment, its capabilities aligned with its strategy, and its organizational design and culture matched with its capabilities, along with leadership behaviors that complement its digital transformation journey (Beer et al. 2005). The synchronization of these elements is crucial for achieving long-term success. An organization may possess the "right" digital strategy, but without a suitable digitalization process, structure, and the necessary capabilities, it cannot effectively implement its strategy. An organization's failure to actualize its digital strategy results in an incoherent and misaligned response to a VUCA environment.

The landscape is constantly shifting due to evolving customer desires, uneven technological breakthroughs, and digital strategies. This dynamic suggests that organizations must adjust and refine their digital strategies and aim to keep pace with both environmental and digital transformations (Fletcher and Griffiths 2020; Florek-Paszkowska, Ujwary-Gil, and Godlewska-Dzioboń 2021). In today's fast-paced world, the concept of *organizational fitness*—the ability to learn and adapt in changing circumstances—is of paramount importance (Beer et al. 2005). It involves blending current organizational digital strengths with new digital skills to navigate new and sometimes unanticipated challenges effectively in a digital world (Fletcher and Griffiths 2020). Thus, organizational fitness highlights that succeeding in a swiftly changing world involves more than just aligning digital strategy with the external environment, and harmonizing its design, culture, and leadership with its strategy (Beer et al. 2005). It also encompasses the capacity for ongoing learning and adaptation to emergent situations while embodying a fluid and responsive organizational design.

We aim to develop a practical framework to help practitioners understand better how threshold and core capabilities relate to the strategic alignment required for adaptability in the digital transformation process

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(digitization-digitalization-digital transformation). We aim to capture the digital transformation journey of Linn Products Ltd., an award-winning UK-based high-tech SME that designs and manufactures innovative home entertainment systems, including digital streaming products, music players, and speakers.

Linn Products Ltd Case Study

This study is based on a deep collaboration with Linn Products Ltd., a UK-based family business, which is a mature, medium-sized company that employs 175 people. The firm is well respected in its sector and a major exporter to Europe, Japan, and the US (Masterson 2017). Since generally there is little published information about SMEs, Linn is an exception and receives significant media attention in its sector. It is the recipient of several innovation awards—for example, the UK Design Council's Millennium Product award (Buxton 1998), the prestigious Royal Warrant status as official supplier of entertainment systems to the British royal family (Linn Products 2023), Gramophone Record Label of the Year award (Bolger 2010; The Times 2010), and the Queen's Award for Innovation (Groom 2012; Linn Products 2023).

Linn also is an interesting case to research because the company has survived major shifts in a highly dynamic market through digital transformation since it began in 1973. These shifts included the transition from mechanical to electronics engineering capability, then from turntables to compact disc (CD) technology, then CD to digital streaming (DS), and more recently to integrated open platforms and space optimization technology enabled by the Industry 4.0 movement (for example, Internet of Things [IoT], cloud technologies). Linn recently celebrated its 50th anniversary and launched a special edition of its iconic turntables in collaboration with Sir Jony Ive, Apple's former chief design officer (Marsden 2023).

This study posits that successfully navigating a VUCA environment requires a dynamic alignment between an organization's digital transformation strategy, internal capabilities, and external technological and market forces. The Linn Products case study exemplifies this approach, showcasing how strategic agility and continuous adaptation of digital capabilities can lead to sustained performance and resilience.

Method

We used an inductive, qualitative research design that is grounded in a single, illustrative case study (Yin 2003; Siggelkow 2007) in the context of Linn Products. A longitudinal single case study methodology was appropriate due to its efficiency (Stake 1995) to examine organizational fitness in a VUCA environment. This single case study helped us characterize the digital transformation process in its unique circumstances. Following the principles of purposive sampling (Ritchie, Lewis, and Elam 2003) to select research participants, we conducted semi-structured interviews with managers at Linn Products.

We collected qualitative data by conducting 23 semistructured interviews, holding face-to-face discussions, observing company operations during factory visits, and analyzing internal and public documents (Table 1). Primary data collection took place from 2007 to 2023, covering three different external adversities (The Great Recession, Brexit, and the COVID-19 pandemic). Interviews lasted approximately 60-90 minutes. All interviewees consented to the interviews being recorded. We transcribed all interviews. As the last step of data collection, we collected data from secondary sources such as the company website (that is, Linn Products "Our Story" section), archival information, and publicly available written documents from media (magazine and newspaper articles), as well as recent podcasts about the company.

We uploaded all primary and secondary data to a database using NVivo 11 Pro software for coding purposes. We analyzed data following an open coding process (Corbin and Strauss 2008) and using thematic analysis (Braun and Clarke 2006), which offers effective identification of patterns in a

TABLE 1. Primary and secondary data sources

Data Sources	Type of Data		
Semi-structured Interviews	 20 face-to-face interviews and 3 online semi-structured interviews with the management team (2009–2023): Owner managers: 6 face-to-face and 2 online interviews with the founder plus the current CEO Senior management team: 14 on-site, face-to-face interviews and 1 online interview with the operations director, purchasing manager, sales manager, R&D manager, and product development manager 		
Internal documents	Internal presentations, key performance indicator (KPI) reports, other strategy documents, research reports, visual management boards with performance metrics		
Public documents	documents Public presentations, practitioner magazines, newspaper articles, web pages, secondary research reports, podcas from sources, including <i>Financial Times, Business Wire, Scottish Business Insider</i> , BBC, <i>The Herald</i> . We uploaded documents to the NVivo database for coding.		

large and complex dataset, as well as links within analytical themes. In our analysis, we collated and chronologically ordered the data set (Figure 1).

Next, we constructed case narratives, including verbatim quotations from interviewees, participant observation,

and archival data with a view to identifying recurrent patterns of major changes, new innovations, practices before, during, and after three different external crises (representing an increasingly VUCA environment) (Table 2). Having identified recurrent and emergent patterns, we

1973	Linn was founded.			
1974	First product launch			
1979 1980 1982 1983	New product launches			
1985	Linn is the first to produce high-performance components for a complete hi-fi system.			
1987	Linn moved into a new purpose-built factory.			
1988 1989 1990 1991	New product launches			
1992	First digital product, CD player launch			
1994	Multi-room audio system launch—the first in the world to allow multiuser operation with access and control of remote sources			
1999	Linn Records uses cutting-edge digital technology to make recordings of far higher quality than possible with CD.			
2002	Linn is awarded a Royal Warrant as suppliers of entertainment systems to the Royal Household.			
2004	Linn doubles manufacturing capacity in its factory.			
2007	Linn Records is the first label in the world to release Studio Master quality downloads.			
2008 Global Financial Crisis	Linn establishes a family of digital music players at a variety of price and performance levels.			
2009 New Managing Director	Linn makes controversial decision to cease production of CD players , instead focusing on the superior-sounding network.			
2010	Linn Records is awarded "Label of the Year" by Gramophone Magazine.			
2011	Linn has a new range of network music players, which now incorporate an array of digital and analog inputs and outputs.			
2012	Linn is awarded the most prestigious accolade available to UK businesses: the Queen's Award for Enterprise.			
2013	New technology delivers unrivalled realism and connection to the artist's performance; it turns the loudspeaker into an intelligent, software upgradeable product.			
2015	Linn introduces Space Optimization, a room-correction technology built into every Linn network			
2016 Brexit Vote	music player.			
2018	The world's most configurable digital music player is launched.			
2019	New high-end product launched at Harrods			
2020				
COVID-19 pandemic				
2021	Next-generation flagship network music player wins seven Product of the Year awards.			
2023	Linn's 50th anniversary			

FIGURE 1. Linn's digital transformation journey (1973–2007)

TABLE 2. Thematic analysis of data

Themes	Description	Illustrative Data
Threshold Capability 1: Focused strategy	Strategy is being a niche provider of sustainable, high-quality, and high-end music systems. This capability is needed to respond effectively to changing circumstances while maintaining a focus on long-term goals and ethos.	"We are committed to the relentless elimination of noise and distortion and the music signal, which is an infinite challenge. It has no end. The challenge itself is this relentless elimination of noise and distortion, which has an aimed customer benefit. It's what our engineers are doing, which is a never-ending journey of engineering improvement and innovation."—Operations Director "In crises like the 2008 financial crisis [The Great Recession] and COVID-19, we temporarily shifted to a command-and-control management style for efficient problem-solving. However, as circumstances evolved, we reverted to our usual collegiate management approach. While technology and people have evolved, the fundamental essence of the company remains unchanged."—CEO
Threshold Capability 2: Organizational purpose and ethos	This fundamental capability generates activities focused on the achievement of a sustainable business—that is, based on product longevity and customer satisfaction.	"The integrity of the recording process meant that it was practically lossless This modular, upgradeable and expandable system architecture fostered sustainable, long-term relationships with customers, but above all it encouraged and facilitated learning and so enabled Linn to give its turntable the longest possible model life."—R&D Manager "The LP12 turntable is still being made here over 60 years later." —Product Development Manager
Core Capability 1: Digital support or full digital participation in business processes	Digitally supported sales process Full digital participation in product and technology development	"Normally our guys would go out to the stores all over the world and say, 'Here's a new product coming, and this is the important things about it' We couldn't go to the retail stores during COVID. So, putting together [digital] packages to say, use this and it will sell. And we've now built that into the DNA of how we sell stuff. So that 'campaign in a box' is now part of our strategy for sales and it works fantastically well. And our distribution network has come back and said this is the best information we get from any of the brands that we sell."—CEO "We have to use the best technology in making the product." —R&D Manager
Core Capability 2: Relentless innovation and continuous improvement	Never-ending journey of innovation and continuous improvement	"Music makes life better. Music is the soundtrack to your life. And we make it better."—Linn company website "So ultimately, we're delivering on our promise of these really incredible customer experiences. What's happening is every time we launch a new product, we'll have a customer say, 'Oh my God, that is the best thing I've ever heard in my life.'"—Sales Manager "The Linn factory is a well thought out framework for flexibility and in fact, learning is at the heart of the company credence, without which it would be impossible to continuously improve or relentlessly innovate."—CEO
Core Capability 3: Agile, cross-functional teams	Breaking down silos so everyone is on board	"Making small changes in how processes were designed, all culminated in a change in culture from waiting to be told what to do and working in isolation to proactive, continuous improvement with teamwork across the entire production process."—Operations Director "We have to focus on processes that will get us to where we want to be in the future. Let devolved decision-making take place, and teams to improve their processes. Apart from that you don't want to tell people what to do."—CEO "These cross-functional teams have survived beyond COVID. And I think the whole company that works much more cohesively and it's a huge benefit to us."—Product Development Manager
VUCA environment	Adapting to the highly unexpected—volatile, uncertain, complex and ambiguous externalities, including polycrisis, recent wars, The Great Recession, Brexit, and COVID-19 pandemic.	"So, in the financial crisis [The Great Recession], temporary change would be like a short-term horizon. Are you talking about plans for next year? Are you talking about plans for tomorrow and in crisis times, financial crisis, and COVID crisis? It's very much day by day."—CEO "[The Great Recession] was effectively a sales crisis causing a cash crisis, whereas COVID was a supply chain crisis, potentially causing a cash crisis. But after the initial shock, the demand came back, so, COVID was actually a supply chain crisis."—CEO

then identify threshold (to achieve threshold level of sustained performance) and core capabilities (for superior level of sustained performance) underlying these patterns of action and interaction based on stories (Helfat and Martin 2015; Mackay et al. 2023). Finally, we undertook another iteration of the data in order to classify the

capabilities for achieving fit between a VUCA environment, strategy, and organization.

Results

We found that since 2007, the business landscape in which Linn Products operates is increasingly a VUCA environment (Figure 2). The company developed an environmental sensitivity to evolving changes in technology and customer needs, and proactively capitalized on them through digital transformation and ongoing adaptations. We found that the company achieved organizational fitness by strategic alignment between strategy, capabilities, VUCA environment, and the digital transformation process.

We found two types of capabilities that supported the organizational fit with its VUCA environment—threshold and core capabilities. Threshold capabilities proved fundamental to competitiveness and necessary to ensure Linn has a focused and sustainable business in an ever-changing environment. Core capabilities enabled Linn to have a unique competitive position in the market and proactively manage the digital transformation process.

Threshold Capabilities: Having a Focused Strategy, Organizational Purpose, and Ethos

Using a rich case story, we illustrate the threshold and core capabilities underpinning Linn's digital transformation strategy in a VUCA environment. One senior manager highlighted the strategic importance of alignment between the VUCA environment, adaptive capability, and organizational fitness: "The world changes around us and we need to confront the fact that we need to evolve existing products, have new ideas, modernize, and take advantage of new opportunities." Similarly, another manager said, "I think the biggest challenge in today's world is adaptability. Things are changing all the time, and as a company you can have strengths operationally or strategically or as a management team, but it's about bringing it altogether and configuring the business to address the challenges in the market. Things are changing faster than they ever have done, and therefore what's most important is an adaptive capability in an organization."

Over time, by refreshing its turntables via modularity and upgradability, Linn avoided an obsolescence trap (Ates and Acur 2022). Linn went into a period of rapid growth and became overly diversified due to moving away from its core purposes of quality and longevity. Linn overcame this failure trap quickly by an intentional shift to digitalization. By adapting to digital streaming, IoT, and cloud technologies, Linn sustained its competitiveness while major competitors went out of business.

We found that all decisions and actions at Linn are underpinned by an organizational purpose to deliver ever higher quality music through engineering excellence. The CEO said, "This is an ever-moving purpose that keeps us going. . . so you have to keep moving into the next new place where competition can't come to you. This is the best possible protection." As repeated several times in the interviews, Linn's ethos is product longevity through sustainability, modularity, and upgradability, strategic alignment with organizational purpose, and relentless pursuit of innovation to stay at the top of its game. This ethos underpins the company's ability to align its strategy and organization to shifting environmental circumstances and the corresponding development of a set of adaptive actions. One manager explained, "Every part of that turntable was modular and upgradable to the extent

that if you bought one in 1973, you would be able to upgrade it piece by piece to the latest specification. In doing so, we created a tremendous customer loyalty."

Our findings highlight the fact that Linn carefully manages its scope of activities, and the development of adaptive capabilities is influenced by a clear strategy and the deliberate selection of which actions to pursue and which to avoid. Linn is positioned as a high-end, niche provider of the highest quality music systems. This strategy reflects its product pricing and aligns well with its business processes. One manager shared, "Some companies do not know what is going on around them; others do but do nothing. Others do not know what to do, and some overreact to what is going on. Then there are those that judge the significance well and are much better at reacting in the right way. We try to be proactive." Linn has been at crossroads multiple times and has had to make tough decisions to leverage its continuous innovation. For example, in 2009, Linn decided to stop manufacturing CD players even though it represented a quarter of their turnover. Surprisingly, this exit decision was not a consequence of the declining industry or product lifecycles. In fact, Linn disrupted the market by ending its award-winning CD business. The CEO provided an example: "A competitor, a Japanese company, came and said to me 'Can you stop telling people that streaming is better than CD players because you're damaging the market for CD players?' That's the definition of disruption, right?"

Following a proactive decision to replace the CD business, we noted the firm had a focused business model, and accelerated its innovations in the digital domain through digital streaming products. Linn's exploration started two years before its competitors via a large public-private R&D investment. In 2007, Linn launched its first digital streaming player. By creating platforms of technology, the firm was able to build core technology that can continuously be improved upon over time toward the objective of better sound. Driven by the deep understanding of the uneven pace of technology evolutions, Linn's ethos was future proofing and continuously refreshing its digital products by focusing on modularity and upgradability to achieve environmental fit. The founder said, "You either become the very best in your game with a good outlet with trained staff and know what you are doing to attract the right customers, or you become a box shifter. Low margins, selling volume. But if you are in the middle, you are nobody."

> Aligned with its ethos and highend, niche strategy, Linn makes decisions on what processes should be supported by digitalization and where full digital participation should take place.

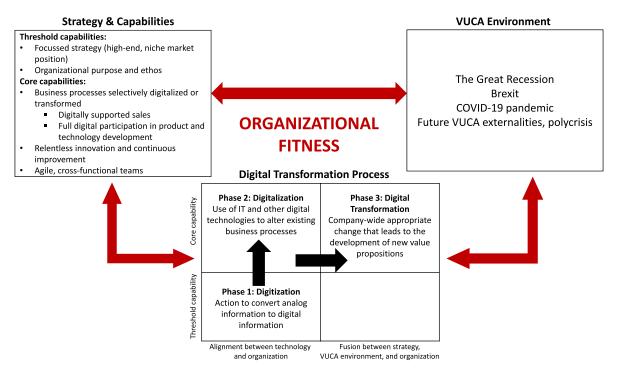


FIGURE 2. Linn's digital transformation process

Core Capabilities: Digital Support and Digital Participation in Processes, Innovation, and Agility

We found that Linn's clear strategy, purpose, and ethos underpin its core capabilities. Aligned with its ethos, and high-end, niche strategy, Linn makes decisions on what processes should be supported by digitalization and where full digital participation should take place.

Several times during the interviews, Linn managers highlighted the importance of agile and cross-functional teams to fit their VUCA environment. A company-wide approach to continuous improvement and innovation has been essential, supporting Linn's digital transformation over the years. The CEO said, "It's not about going digital, it's about relentless innovation and drive for quality. That continuous improvement is bringing every part of the company up. Every aspect of everyone has to improve their processes together in order to make something like that work. Having this constant ambition to improve things is actually propelling the whole company forward all the time." The CEO explained that the next product has to be better than the one before and that process improvement can come from any team, from finance through to metalworking. The CEO added, "Everyone has to improve because of the whole way my dad set this company up for continuous improvement with this relentless drive . . . we use the best technology we have to in designing the product. We have to use the best technology in making the product. Whether you have to use the best technology in supporting sales and marketing the product or the latest processes in the sales and marketing."

Our case study illustrates the importance of alignment between digital transformation process, strategy, and the

VUCA environment. For example, Linn uses a physical retail network and stores to sell its high-end products. During the COVID-19 pandemic, Linn had to do product launches virtually because it couldn't go to retailers, or meet them at a hotel room, or invite them to the Linn factory and make a product presentation. For the first time, in August 2020 Linn started to digitalize some of its processes using videos and created high-quality launch products and launch content. The CEO shared that in hindsight Linn made all kinds of mistakes but learned from them. The CEO said, "The one [product launch] in April 2021 and it was much, much better . . . it was the virtual launch, and it was really sleek . . . once you've learned how to make really high-quality video content, you don't forget what you do well, even when we're back in the post-COVID world where we can go to retailers, and we can host events at the factory. We're now hosting events at the factory with amazing video content." Post-COVID, Linn has digitally supported its sales process, but it did not opt for full digital participation. Linn's highend strategy and its focus on its target markets necessitated this decision as the company's customers are not inclined to buy Linn products via online channels but engage with Linn's retailer network. To enhance the in-person customer experience during the sales process, the company provides opportunities for factory visits, allowing potential customers to test Linn systems in a specially designated listening room.

Linn's Digital Transformation Process

Linn Products went through three phases of digital transformation to achieve organizational fitness (Figure 2). Phase 1

included converting analog information to digital information to tighten alignment with technology to a threshold level. This phase was necessary to lay the groundwork for digitalization. Phase 2 covered building the foundation for both obtaining core capabilities in the digital space and continuing alignment between the firm and the technology. This phase included upskilling, bringing fresh talent, collaborative investments, and developing core capabilities that led to the creation of competitive advantage in digital space. Phase 3 was about infusing business and technology by company-wide change, building, and constantly revising core capabilities. This phase is continuous as Linn constantly looks for opportunities to improve, relentlessly innovate, and, if appropriate, make its processes digital from sales and marketing to new product and technology development.

Discussion

Many organizations adopt digitalization aimed at enhancing organizational efficiency and effectiveness, hoping to achieve an appropriate fit with the changing environment (Beer et al. 2005; Troise et al. 2022). However, they often discover that they do not fully benefit from such initiatives. A significant barrier to success is the absence of a holistic approach that modifies various aspects of the digital transformation process, especially vital organizational capabilities (Troise et al. 2022).

Linn's digital transformation journey continues today, but tracking it through the different phases of transformation offers us insight into how adaptive capability development helped the company achieve organizational fitness for sustainable performance. In terms of digital technology, core capabilities are manifested in a technology development exploration and exploitation activity, where exploration and exploitation of digital streaming technology and the use of Industry 4.0 technologies are developed and deployed at the network level. In terms of business, core capabilities are manifested in the concurrent but mutually reinforcing efforts within each digital transformation phase to drive the exploitation of existing business via repositioning and relentless exploration of new improvement and innovation opportunities.

We contribute to the literature by highlighting the importance of strategic alignment between the VUCA environment, organization, and strategy in digital transformation processes. The literature defines digital transformation tautologically. The literature focuses on transforming the entire organization, including its business processes and value proposition (Hanelt et al. 2021). This understanding is problematic because it fails to capture the need to achieve alignment between the organization, the environment, and the strategy based on the finer details of the organization's context. Instead, we contend the companies need to align decisions on digitalization and digital transformation of processes with strategy and environment. At Linn, full digital participation in the sale process was not aligned with its high-end, niche strategy. The company's customers prefer to use more traditional brick and mortar sales channels rather than online. Accordingly, Linn consciously decided to only digitally support We contend that companies need to align decisions on digitalization and digital transformation of processes with strategy and environment.

its sales process based on its adaptive capability, learnings, and experiences (organizational fit) during COVID-19. By contrast, Linn's products and technology are subject to full digital participation as using the latest technology aligns with its ethos of products for life—high-quality, modular, and upgradable products.

Managerial Implications

Recent research suggests that adaptability and resilience increasingly depend on key capabilities embedded in an organization (Ates and Acur 2022). We found that having organizational fitness in the digital age means having the right alignment between strategy—organization—environment, which is becoming increasingly essential in a VUCA world. Accordingly, our study offers key implications for practitioners: maintain strategic alignment between the organization and the VUCA environment, develop threshold and core capabilities for organizational fitness, and leverage digital transformation strategically.

Maintain Strategic Alignment between the Organization and the VUCA Environment

Practitioners can take several key actions to maintain strategic alignment:

- 1. Ensure that organizational decisions and actions align with your company's strategy, ethos, and purpose.
- 2. Emphasize the importance of strategic alignment in navigating VUCA environments.
- 3. Use digital technologies to enhance organizational capabilities, improve efficiency, and create value for the right customers (strategically targeted segments).
- 4. Make strategic decisions based on a clear understanding of the market landscape, competitive dynamics, and customer preferences.
- 5. Avoid deviating from core purposes and strategies but remain open to necessary shifts and adaptations as appropriate—digital support and full digital participation in business processes.
- Anticipate and prepare for potential disruptions by staying proactive—for example, by making preemptive adjustments in the organization, and anticipating and responding to external shifts (Lengnick-Hall and Beck 2005).

7. Be willing to make tough decisions—such as exiting certain business lines or embracing new technologies—to maintain competitiveness and fit within a VUCA environment.

Develop Threshold and Core Capabilities for Organizational

Practitioners can apply these actions to develop the capabilities necessary for organizational fitness:

- 1. Invest in building both threshold and core capabilities to support organizational fitness in a VUCA environment.
- 2. Recognize the fundamental importance of threshold capabilities for competitiveness and business sustainability, while also leveraging core capabilities to achieve and sustain a unique competitive position.
- 3. Ensure that threshold capabilities, such as having a focused strategy and organizational purpose, are deeply ingrained in your company's culture and operations.
- 4. Focus simultaneously on developing core capabilities, such as digital support/full digital participation in selected business processes, relentless innovation, and agility, to drive long-term success and differentiation.
- 5. Emphasize the importance of agile and cross-functional teams in driving digital transformation initiatives effectively in an increasingly VUCA world.
- 6. Encourage employees to strive for excellence in their processes and products, constantly seeking ways to enhance quality and performance.

Leverage Digital Transformation Strategically

These recommendations can help companies be strategic in how they leverage digital transformation:

- 1. Approach the digital transformation process strategically, aligning it with the organization's overall strategy and environmental circumstances.
- 2. Recognize that digital transformation is not just about developing and/or adopting new technologies—it also entails fundamentally reshaping business processes and value propositions through a careful alignment with strategy and environment—that is, digital support versus full digital participation in business processes.
- 3. Use insights gained from experience to inform future decision-making and refine organizational strategies. Be agile and flexible in adjusting course based on evolving circumstances.

This study offers a compelling case study of Linn Products' digital transformation journey, highlighting crucial aspects like strategic agility, capability development, and alignment within a dynamic VUCA environment.

Conclusion

Organizations must not only embrace digital technologies, they must remain digitally adaptive to withstand rapid challenges and seize new opportunities in a VUCA world. This study introduces the organizational fitness perspective to digital transformation, which allows us to uncover how organizations should carefully manage the digital transformation process based on environmental and strategic shifts. It addresses a critical gap in understanding the role of threshold and core capabilities with a specific focus on digital support and digital participation needs in expanding adaptability via digital transformation. We present a practical framework for understanding how these capabilities influence the trajectory of digital transformation, encompassing strategic decisions in digitization, digitalization, and digital transformation. We provide practical insights regarding successful alignment of digital transformation strategy, organization, and the VUCA environment.

In the fast-changing consumer electronics industry, Linn Products has survived major market shifts by achieving alignment between its digital strategy, the organization, and the environment time and time again. By setting a clear direction supported by organizational ethos and a focused business model, and creating the environment for flexibility, a culture of cooperation, innovation, and communication, and the resources to accommodate the requirements of tomorrow, Linn continues to thrive and deliver sustained performance while others exit the market. Practitioners can use the managerial implications to become more resilient and adaptive in their own digital transformation journey.

Disclosure statement

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