

Navigating Resistance to Technological Change in Organizations: A Holistic Approach

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Abstract: Organizational change driven by technological advancements presents both opportunities and challenges for modern enterprises. A key obstacle is a resistance to adopting new technologies, which can manifest through scepticism, fear of job displacement, perceived loss of control, and concerns about competence. This resistance poses significant barriers to the successful implementation and integration of technological innovations, leading to delays, inefficiencies, and missed opportunities for organisational growth and competitiveness. This research proposes a holistic approach to address the complex challenge of resistance to technological change. Drawing on theoretical frameworks such as the Adaptive Cycle of Resilience (ACoR) model, Maslow's Motivation Theory, and Keidel's organisational model, as well as practical strategies, the study examines the interplay between individuals, different management, organisational and societal needs in the context of technological transformation. The research explores the dynamic and uncertain nature of technological change, identifying the specific stages within the ACoR model where resistance is most likely to occur and the implications for effective management. It also investigates the role of various management styles in addressing resistance and uncovering the skills and knowledge individuals and teams require to navigate this challenge successfully. Furthermore, the paper delves into the diverse stakeholders involved in the technological change process, analysing their needs and concerns and offering strategies to balance these competing interests. The importance of information systems in facilitating organizational change and their influence on the change process and outcomes is also examined. By synthesising these insights, the study presents a comprehensive framework for organisations to foster innovation, inclusivity, and social responsibility in the face of resistance to technological change. The findings offer valuable guidance for practitioners and scholars seeking to enable successful technological transformations and promote positive outcomes for all stakeholders.

Keywords: Organizational Change, Resistance to Change, Technological Change, Adaptive Cycle of Resilience, Change Management

1. Introduction

The initial perception of organizational change is often that it is a straightforward process involving the implementation of new technologies or procedures to enhance efficiency or productivity (Leana & Barry, 2000). However, deeper into the change process, organizations frequently face resistance from various stakeholders, such as employees, managers, and external partners. This resistance can appear in forms ranging from skepticism to outright opposition, creating significant challenges to the adoption and integration of innovations (Lines, 2005).

It becomes evident that change is not a simple, linear progression but a complex and dynamic process influenced by many factors (Piderit, 2000). Scholars and practitioners have highlighted the necessity for a more nuanced understanding of change, recognizing its nonlinear and iterative nature. Instead of viewing change as a sequence of distinct events, organizations must see it as a continuous journey involving ongoing adaptation, experimentation, and learning (Chawla & Kevin Kelloway, 2004).

Consequently, the concept of change management has expanded to include a variety of approaches and methodologies for effectively navigating the complexities of organizational change. Organizations are increasingly adopting diverse strategies, including traditional change management models and modern frameworks like agile and design thinking, to address resistance to technological change and cultivate a culture of innovation and resilience (Burke et al., 2008; Wanberg & Banas, 2000). By embracing a holistic and

multifaceted approach to change management, organizations can better position themselves for success in a dynamic and uncertain business landscape.

In this article, we thoroughly investigate organizations' challenges when confronted with change and delineate the essential strategies necessary to navigate these difficulties effectively. To establish a robust framework for these strategies, we employ the ACoR model introduced by Abcouwer and Parson (2011), which provides a comprehensive approach to managing organizational change. Our analysis extends to proposing specific strategies to enhance the management system, facilitate continuous education during transition periods, foster organizational resilience, and empower employees. These strategies are designed to equip organizations with the tools and capabilities required to adapt to change dynamically and maintain operational stability and growth.

2. Problem Statement

The rapid pace of technological advancements presents organizations with significant challenges, particularly in managing resistance to change (Millar & Lockett, 2014). This resistance can arise in various forms and stages, creating uncertainties that complicate the change process. There is considerable ambiguity regarding the appropriate management styles, roles, and strategies for addressing this resistance, which can lead to inefficiencies, delays, and missed opportunities for growth. Additionally, understanding the level of risk associated with technological change and identifying the stages where resistance typically occurs, as described by the Adaptive Cycle of Resilience (ACoR) model, remain critical yet unresolved issues.

Furthermore, the role of information systems in facilitating organizational change and their impact on the process and outcomes is not well-defined. Identifying stakeholders, understanding their needs, and balancing these needs during the change process are also challenging tasks that require more research (Shaft et al., 2008). Developing the necessary skills and knowledge for individuals and teams to navigate resistance effectively is essential for successful technological adoption. Comprehensive research is needed to explore these dynamics and develop effective management strategies to foster successful technological integration within organizations.

3. Context

In stable environments, organizational operations rely on expertise to meet customer needs and predict future requirements (Ro & Chen, 2011). Strategies under predictable conditions involve goal setting and building confidence for anticipated changes. However, the future is often unpredictable, requiring innovation and intuition from employees to manage unforeseen developments. Addressing potential challenges promptly, with cooperation from managers and colleagues, is crucial for maintaining progress or exploring new opportunities (Obeng, 2003). This collaboration necessitates strong leadership and a culture of trust, encouraging information exchange and enhancing predictability, ensuring successful current and future operations.

Our topic addresses the resistance to technological change within organizations. Technological advancements offer increased efficiency, productivity, and competitiveness but disrupt established workflows, processes, and cultures, leading to resistance. This resistance, stemming from skepticism, fear of job displacement, or perceived loss of control, can delay the implementation and integration of innovations, causing inefficiencies and missed growth opportunities. Organizations must foster a culture of innovation and continuous learning to overcome resistance, provide training and support to enhance digital literacy and promote open communication. Organizations can navigate technological change confidently and maintain competitiveness in a digital world by prioritizing employee engagement and inclusion.

3.1 Key Characteristics: Organizational Challenges

An organization's ability to handle disruptions depends on the type of problem it faces, categorized as well-defined or ill-defined challenges.

Jonassen (1997, 2000) and Simon (1973) stated that well-defined challenges have laid out problem elements, including known starting and goal states, with established solution methods and criteria for evaluating solutions. These involve structured concepts and predictable knowledge domains. Jonassen (1997, 2000) and Kitchner (1983) stated that ill-defined challenges involve conflicting assumptions, evidence, and opinions, leading to multiple potential solutions or none. These challenges are characterized by uncertainty in concepts, rules, or principles needed for a solution and a lack of clear starting points or guaranteed answers.

Resistance to technological change is an ill-defined problem due to several characteristics of such challenges:

- **Rapid Technological Advancements:** The fast pace of technological change creates uncertainty about which technologies will be adopted and their impact on processes and structures.
- **Diverse Organizational Responses:** Varying attitudes, skills, and capabilities among individuals lead to uncertainty in their responses to technological changes.
- **Evolving Market Dynamics:** Changing market conditions, customer preferences, and competitor strategies contribute to uncertainty about the relevance and effectiveness of technological innovations.
- **Complex Interactions:** Technological changes often interact with existing systems, creating uncertainty about these interactions and their ultimate impact.

Decision-makers face several problems, including navigating the tension between embracing technological innovation and maintaining organizational stability, making informed decisions amidst uncertainty to keep the organization adaptable and competitive, addressing resistance to change from employees, stakeholders, or within the decision-making ranks, and allocating resources judiciously to balance the need for innovation with strategic objectives and financial constraints.

3.2 Change and ACoR Model (The Adaptive Cycle of Resilience)

The study conducted by Abcouwer et al. (2022) provides valuable insights into identifying the necessary management skills and knowledge required for organizations based on their current developmental stage. Their utilization of the Adaptive Cycle of Resilience (ACoR) model elucidates a comprehensive understanding of organizational change dynamics. Unlike the traditional "want-must-can" tensions, the ACoR model portrays organizational development as a cyclical process, emphasizing the continuous nature of change. This framework offers a nuanced perspective, highlighting that organizations progress through distinct stages, each demanding specific management approaches. By leveraging the ACoR model, organizations can tailor their management strategies to align with their current stage of development, fostering resilience and facilitating successful adaptation to technological advancements.

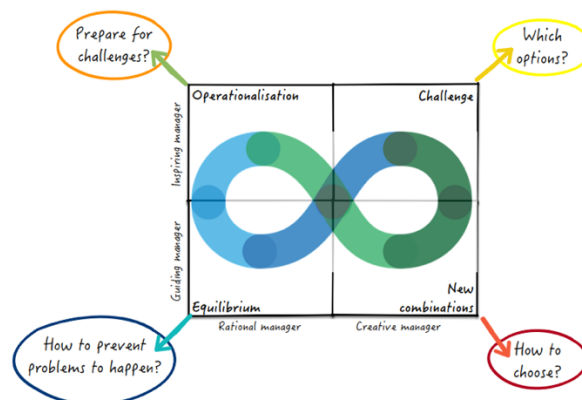


Figure 1

Organizations grappling with technological advancements find themselves in a perpetual state of flux within the Adaptive Cycle of Resilience (ACoR) model. Rapid technological advancements continuously disrupt equilibrium, prompting frequent transitions between ACoR stages. Market dynamics, regulatory changes, competitive pressures, and organizational learning also contribute to this dynamic environment. Shifting consumer preferences, emerging competitors, global economic trends, and evolving regulatory landscapes necessitate adaptation to strategies, operations, processes, and technologies. Intense competition drives the imperative for constant innovation and agility, reinforcing the need for continual technological adaptation and optimization. Each cycle within the ACoR model presents learning opportunities, shaping future adaptations and strengthening the organization's resilience in navigating technological change.

When we are facing uncertainty, we can not continue with the old and traditional way, and in our case, we need a new way of thinking and approach to dealing with the challenge. We need new strategies that shift our way of thinking to a more innovative mindset. We suggest a plan in 8 steps to face this challenge:

1. **Acknowledge the Need for Change:** Recognize the necessity of embracing innovation to remain competitive and relevant. Communicate this importance throughout the organization.

2. Create a Compelling Vision: Develop a clear and inspiring vision for innovation that aligns with the organization’s mission and goals. Effectively communicate this vision to all stakeholders.
3. Cultivate a Culture of Innovation: Foster a work environment that values creativity, experimentation, and continuous learning. Encourage open communication and collaboration across teams.
4. Provide Resources and Support: Allocate adequate resources and offer training to support innovation efforts. Ensure employees have the tools and skills needed to innovate successfully.
5. Address Resistance and Overcome Barriers: Identify sources of resistance to change and proactively manage them through effective change management strategies. Engage stakeholders and seek feedback to build support.
6. Encourage Experimentation and Iteration: Promote a culture of experimentation and iteration. Implement agile methodologies to enable rapid prototyping and testing of innovative ideas.
7. Celebrate Success and Learn from Failure: Recognize and celebrate achievements and milestones reached through innovation. Embrace failure as a valuable learning opportunity for improvement.
8. Align Innovation with Business Goals: Ensure that innovation initiatives align with strategic priorities and business objectives. Establish clear metrics to measure innovation's impact on overall business outcomes.

3.3 Managing Change and Identifying the Problem Space

It is critical for effective change management as it offers a comprehensive understanding of underlying issues, challenges, and opportunities (Abatecola et al., 2020). By delineating this space, organizations can pinpoint specific areas requiring attention, focusing efforts, resources, and initiatives on addressing root causes of resistance to change. Organizations can develop proactive strategies and contingency plans by anticipating and mitigating potential risks and challenges associated with change, ensuring smooth implementation and desired outcomes. We suggest this to identify the problem space:

Table 1

Step	Description
Identify and Clarify Alternative Opinions	Recognize diversity of opinions on technological change and thoroughly research to clarify reasons for resistance.
Generate Possible Problem Solutions	Implement training programs, prioritize transparent communication, stakeholder involvement, and foster a culture of innovation.
Assess Viability of Alternative Solutions	Evaluate solutions based on effectiveness, feasibility, costs, and alignment with objectives.
Monitor the Problem Space and Solution Options	Continuously monitor organizational dynamics and feedback mechanisms.
Implement and Monitor the Solution	Roll out solutions incrementally, establish clear metrics for progress tracking.
Adapt the Solution	Remain agile and responsive, encourage ongoing feedback and collaboration, ensure sustained success in addressing resistance.

Organizations must recognize the importance of adopting alternative working methods that promote specialization alongside multidisciplinary collaboration in managing resistance to technological change. By cultivating a workforce with deep expertise and broad perspectives, organizations can enhance their capacity to innovate, adapt, and thrive in an increasingly complex and uncertain environment.

3.4 Managing Style for This Challenge

In the specific context of addressing technological challenges within organizations, the ACoR model delineates distinct phases that require the involvement of various professionals. Effective execution of this process relies on skilled leaders or managers leading the way, supported by diverse specialists whose cooperation fosters creativity in devising innovative solutions. Selecting appropriate intervention strategies and ensuring efficiency demand the expertise of proficient business professionals working as a cohesive team. Hence, the selection of competent leaders/managers and team members is crucial for the successful planning and execution of the

change process, highlighting the importance of tailored approaches in navigating the complexities of the ACoR model.

In this case, leadership and stewardship are crucial. Leadership propels change and innovation, while stewardship ensures ethical direction and long-term success. By integrating these principles, organizations navigate technological change confidently and sustainably, achieving strategic objectives while upholding core values.

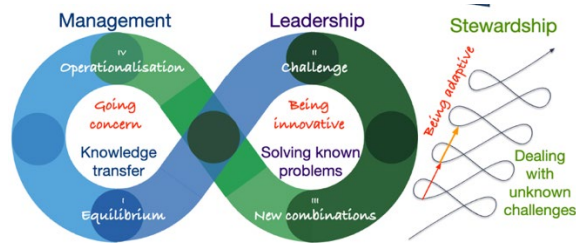


Figure 2

3.5 The “me, we, all Approach”

Abcouwer et al (2022) introduced the “Me, we and All” perspectives as means to identify a paradigm shift in society. One of the basic assumptions in organizational theory is that organizations form the linking pin between individuals and society. Putting the individual in the center of the universe, as we did for decades in our individualistic society, does not help us understand the complexity and future orientation necessary for modern society to survive.

Abcouwer et al (2022) also state that Human-centered development makes education and well-being the most fundamental pillars for resilience as a solution to challenges. Education proves vital in becoming more resilient and establishing better living conditions. Technological developments made enormous progress in today's way we live in society.

In this challenge, first, we explain who are the stakeholders in our case:

Table 2

Me (Individuals): People who are working in all companies	We (Organizations): All companies and Organizations	All (Society)
<ul style="list-style-type: none"> • Employee • Managers • Customers/Clients • Suppliers • Advisors/Governance bodies 	<ul style="list-style-type: none"> • Traditional Retailers • Manufacturing Companies • Healthcare Institutions • Financial Institutions • Educational Institutions • Government Agencies • Transportation Companies 	<p>The combination of companies and people and their families. They are all connected and they are forming the whole society.</p>

To define the responsibilities of individuals within an organization who are facing this challenge, we suggest using the theory-U state by Scharmer (2007), which is widely experienced as a relevant approach to understanding the importance of the human factor in any organizational change. It emphasizes the importance of the human factor in organizational change, helping managers develop skills for solving ambiguous challenges and guiding people in the change process. Scharmer distinguishes between learning from the past, a well-established method, and presenting, which blends presence and sensing. Presenting involves sensing and acting from one's highest future potential, fostering a connection with emerging future possibilities. This requires an open mind, heart, and will, along with the ability to cooperate, to effectively navigate and implement change.

These are the responsibilities individuals should have in our challenge based on the U-theory:

Table 3

Downloading	Workers and managers should begin by absorbing information about technological trends and changes in their industries and gathering insights from various sources.
Seeing	Reflect on personal experiences and observations regarding technological change, recognizing the signs and signals of change within their organizations and industries
Sensing	Cultivate an open and receptive mindset to sense the deeper shifts and patterns underlying technological change, tuning into one's intuition and gut feelings about the potential impact and implications.
Presencing	Connect with a deeper source of wisdom and intuition to presense the emerging future possibilities enabled by technology, letting go of past assumptions and limitations to embrace new opportunities
Crystallizing Vision and Intentions	Clarify personal and professional goals in the context of technological change, crystallizing a clear vision of the desired future state and setting intentions for how to align actions with that vision.
Prototyping	Experiment with new technologies and digital tools to prototype innovative solutions and approaches, taking small, low-risk steps to test ideas and gather feedback in real-world settings.
Performing	Take proactive steps to apply newly acquired skills and knowledge in the workplace, performing effectively in the face of technological change and contributing to positive outcomes for oneself and the organization.
Co-Evolving	Engage in collaborative dialogue and co-creation with colleagues, and managers to co-evolve inclusive strategies for navigating technological change, collective intelligence to address challenges and seize opportunities together.

3.6 Value and Norms

In addressing resistance to technological change, organizational values and norms are crucial. Values guide actions and decisions, anchoring change initiatives in core principles, such as innovation, which fosters a culture of experimentation. Norms, the unwritten behavioral rules, shape collective mindsets and patterns. Norms promoting openness and collaboration facilitate technology adoption, while resistant norms hinder progress. Embedding supportive values and norms is essential for overcoming resistance and embracing change (Neap & Celik, 1999).

Furthermore, Abcouwer et al (2022) state that values and norms enhance organizational resilience by fostering cohesion and adaptability amid technological disruption. Well-defined values and positive norms provide a shared decision-making framework, aiding navigation through uncertainty. Aligning change efforts with these values and fostering adaptable norms increase an organization's capacity to respond to technological challenges and thrive in dynamic environments. Thus, values and norms are foundational, shaping responses to technological change and driving resilience.

In this challenge, managers should focus on understanding value systems by assessing current organizational values, evaluating their alignment with market demands, and identifying gaps for adaptation. They must facilitate the transition by fostering agility, supporting employees, and providing necessary resources. Choosing appropriate approaches involves selecting suitable methodologies, leveraging technology-enabled solutions, and streamlining processes for enhanced collaboration. To inspire confidence, managers must guide the transition with strong leadership, clear communication, and addressing concerns and resistance. Recognizing long-term development paths requires balancing short-term and long-term goals to align with market demands. Additionally, supporting the change team with necessary resources, coaching, mentoring, and fostering collaboration is essential for effective change management.

At the same time, individuals and team members should align their efforts with organizational goals, recognizing the importance of technological adaptation. They should develop relevant skills, embrace continuous learning, and foster cross-functional collaboration. Embracing change with flexibility and resilience is crucial, as is supporting colleagues through encouragement and skill development. Driving innovation involves contributing ideas and championing creative problem-solving, while effective communication requires maintaining open channels, sharing updates, and seeking team feedback.

3.7 Making Balance

According to Keidel's framework (1995) of cooperation, autonomy, and control, the best way to address resistance to technological change is through a balanced approach incorporating all three dimensions. Cooperation among stakeholders is essential, as fostering open communication, teamwork, and shared ownership of change initiatives can harness collective expertise and insights. This collaboration encourages buy-in, promotes a sense of ownership, and facilitates identifying and resolving barriers to change.

Empowering individuals and teams with autonomy and decision-making authority helps overcome resistance by allowing employees to take ownership, experiment with new approaches, and adapt to evolving circumstances. This decentralization fosters a culture of agility, creativity, and adaptability, which is crucial for navigating technological change. However, maintaining a certain level of control is necessary to ensure alignment with strategic objectives, compliance with regulatory requirements, and risk mitigation. Control mechanisms such as performance metrics, feedback loops, and accountability structures provide the necessary oversight and governance. By balancing cooperation, autonomy, and control, organizations can create an environment conducive to overcoming resistance, driving innovation, and achieving sustainable change outcomes.

Focusing on purpose, development, innovation, well-being, diversity, ethics, collaboration, responsiveness, sustainability, and community engagement is crucial for organizational success in today's complex world. Establishing a clear purpose guides decision-making and attracts stakeholders who share the organization's vision. Prioritizing development ensures agility and adaptability, empowering employees to navigate change effectively. Embracing innovation fosters competitiveness and unlocks growth opportunities. Furthermore, prioritizing well-being and diversity creates an inclusive environment that enhances creativity and collaboration. Upholding ethics and promoting collaboration build trust with stakeholders, while sustainability practices and community engagement demonstrate responsible business conduct, contributing to long-term success and societal value.

3.8 Knowledge and Skills

Takács et al. (2018) argue that education and knowledge serve as vital cornerstones for organizational success, fostering innovation, adaptability, and competitiveness in today's rapidly changing business landscape. Organizations must prioritize continuous learning and knowledge-sharing initiatives to remain agile and drive sustainable growth. Investing in employee education and development programs equips the workforce with the necessary skills and expertise to address current challenges and adapt to future trends. By providing diverse learning opportunities and fostering a culture of collaboration, organizations encourage knowledge exchange and innovation, enabling employees to contribute effectively to organizational goals. Leveraging technology further facilitates seamless knowledge sharing, empowering employees to access relevant information efficiently.

According to Maslow's Motivation Model (McLeod, 2007), bridging the knowledge gap in organizations resistant to technological change necessitates fulfilling employees' higher-level needs for self-actualization and personal growth. This involves providing opportunities for professional development, autonomy in learning, and recognition of contributions to innovation and knowledge sharing. Organizations can offer educational resources and training programs to enhance employees' skills in technological advancements while granting autonomy empowers them to pursue areas aligned with their aspirations and organizational goals. Moreover, recognizing and rewarding employees for their efforts can motivate them to engage actively in learning and sharing activities, fostering a culture of curiosity and innovation. By aligning education and recognition initiatives with employees' higher-level needs, organizations can empower their workforce to embrace technological change and drive organizational success.

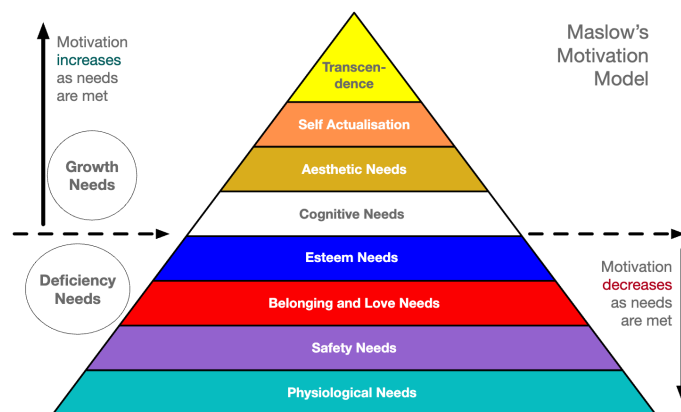


Figure 3

3.9 Traps and Thresholds

Traps represent organizational states where resistance to change, inertia, or unsustainable practices hinder adaptability and growth. These traps, such as siloed structures or entrenched cultural norms, restrict the organization's ability to evolve and respond effectively to dynamic environments. In contrast, thresholds signify pivotal points of transition or transformation within the adaptive cycle. Crossing a threshold denotes a shift from one phase to another, marking changes in conditions, opportunities, or constraints. While thresholds pose challenges, they also present opportunities for organizations to confront traps, break barriers, and embrace new approaches. Navigating these thresholds demands organizations to rethink strategies, foster innovation, and cultivate resilience to traverse the adaptive cycle successfully.

Understanding both traps and thresholds is imperative for organizations aiming to navigate change and enhance resilience. By identifying potential traps and recognizing thresholds, organizations can preemptively anticipate obstacles, mitigate risks, and seize opportunities for adaptation and innovation. Proactively addressing traps and leveraging thresholds empowers organizations to foster agility, embrace change, and thrive amidst uncertainty and disruption, ultimately bolstering their capacity to navigate the complexities of dynamic environments.

As we investigate, there are 5 ways of getting stuck in these traps. This can be named as the organization's behavior in the dynamic of change which should be known and aware of:

Table 4

Resistance	<ul style="list-style-type: none"> • Fear of the unknown, concerns about job security, or reluctance to disrupt established processes. • Passive-aggressive behavior, lack of cooperation, or outright refusal to adopt new technologies
Selective Adoption	<ul style="list-style-type: none"> • Adopt new technologies in certain areas while maintaining traditional approaches in others. • Leverage the benefits of technology where it makes the most sense while minimizing disruption to established practices.
Complacency	<ul style="list-style-type: none"> • Sticking to familiar routines and outdated technologies, even in the face of evolving market trends and technological advancements. • leads to stagnation and loss of competitiveness in the long run
Innovation Leadership	<ul style="list-style-type: none"> • Forward-thinking organizations embrace innovation leadership, actively seeking out opportunities to disrupt their industries and drive technological change.
Incremental Change	<ul style="list-style-type: none"> • Making small adjustments to existing processes and technologies rather than embracing radical innovation. • It may also hinder organizational agility and responsiveness to changing market dynamics

4. Conclusion

The exploration of organizational change and resistance to technological advancements underscores the intricate dynamics that shape organizational success in today's fast-paced environment. From purpose-driven leadership to fostering collaboration and innovation, each aspect contributes to a comprehensive strategy for navigating change effectively and making a positive societal impact. Prioritizing employee well-being and cultivating trust are crucial elements in overcoming challenges and achieving sustainable success. When individuals feel supported and valued within their organizational context, they are more inclined to embrace change, drive innovation, and contribute to collective progress. This interconnectedness between individual well-being, organizational success, and societal impact highlights the importance of nurturing a culture of care, compassion, and collaboration within organizations.

Fostering environments that prioritize holistic well-being, growth, diversity, and ethical leadership can help organizations create ecosystems where individuals thrive, teams excel, and communities flourish. As we navigate technological change and organizational transformation, it is imperative to recognize the significance of human-centered approaches and the cultivation of environments built on trust, respect, and collaboration. By embracing these principles, organizations can adapt to change and contribute positively to the well-being of individuals, organizations, and society as a whole, fostering resilience and prosperity in the process.

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