

TECHNOLOGY

The Geometry of Organizational AI Culture

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An organization's approach to artificial intelligence is largely dictated by its culture.

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Artificial Intelligence (AI) has made its way into establishments worldwide and is redefining organizational culture.

Culture is characterized by values, mindsets and activities of a group of individuals that define the way they do things. Organizations tend to have their own unique culture since they constitute an assembly of likeminded thinkers and doers in pursuit of a common goal.

Cultural Symmetry

With the growing popularity of AI systems, the extent in which organizations absorb the new cognitive reality emerge in different forms. Borrowing from concepts in the mathematical field of geometry, organizations may either be Symmetrical or Asymmetrical in their AI culture. Symmetry is a Greek term that alludes to the conformity and harmony of its arrangement.

Symmetrical AI Cultures - refer to organizations that have found a sense of harmony and balance in assimilating AI in their organizations. In geometry, an object is said to be symmetric if it can be divided into several pieces and still be arranged in an organized way. A transformation takes place within an object, yet its shape stays the same. In Symmetrical AI cultures, despite technological disruptions and changes, the firm stays true to its core values and continues to operate in a rational and effective manner. These AI cultures take advantage of breakthrough and disruptive AI innovation to enhance customer interaction and integration and continuously learn new behaviors from their customers that are essential for sustainable competitiveness.

One of the companies at the forefront of symmetrical AI cultures is IBM Watson Health. The product engineers and managers leverage infused Watson AI in almost all of their new products and services. They quickly learn from customers which workflows add tangible value in healthcare and which actions might require additional fine tuning to sustain the anticipated results in patient care and population management. The innovation culture at IBM Watson Health is symmetrical in that it has created harmony between the workforce, its decision-making processes and the input of new knowledge powered by artificial intelligence. As a result, IBM continues to improve its complex algorithms to enhance extrinsic and intrinsic decision-making based on a continuous stream of new knowledge.

The firm continues to adapt and reinvent itself continuously to benefit all stakeholders. Other companies at the forefront of symmetrical AI cultures are Netflix, Amazon, Twitter, and Facebook.

Asymmetrical AI Cultures - refer to organizations that have failed to find a well synchronized platform for the absorption of AI in their firms. When these organizations experience changes, they evolve into a new entity and lose their founding core values, culture and character and consequently their competitive advantage.

Asymmetrical AI cultures have been prevalent in industries such as manufacturing, shipping, and retail. Some firms have not been able to effectively integrate technology in its operations and failed to optimize the benefits that it can bring. Some well-known companies have been replaced by competitors who did a better job of transitioning their workforces from an Asymmetrical AI culture to one that is symmetrical. Companies such as Toys R Us, CompUSA, and Blockbuster are examples of firms that may have missed the opportunity to find cultural AI symmetry.

To illustrate the challenges brought about by cultural asymmetry, consider a hypothetical scenario for the retailer Best Buy. The company attempted to mirror strategies of competitors such as Amazon and sold products online. They have the opportunity to optimize the value of artificial intelligence by integrating new approaches in their store operations such as tracking customer purchase behavior, enhancing customer interaction, and elevating the quality of the shopping experience. The firm has opted to keep a 90s retail style where a person greets customers at the front door and checks their bags as they leave. They chose tradition over innovation. Imagine if Best Buy suddenly decides to pursue a radical operational and cultural shift. They opt to create an AI-enabled shopping experience in their stores, much like the Apple, Google and Amazon stores. In such situation, visitors get to discover the goods and provide on-the-spot cognitive feedback about their shopping experience. Furthermore, AI is used to 'push' other shopping ideas to the customer. This operational change would fundamentally disrupt BestBuy's culture and derail them from their traditional core values. Dramatic changes would take place on the types of employees they need to hire, the type of training needed, and the policies they have to put into place. The company would experience a cultural shift and without careful planning could end up with cultural asymmetry.

While BestBuy is used to illustrate what a cultural evolution might look like, the reality is that many retailers are in the cusp of making important decisions on operational and cultural changes in response to new technologies. A misstep or error in judgement could easily lead to an Asymmetrical AI Culture. Many firms, including retailers are in a fragile state and need to find the right bearings for their organizations. Challenges will arise when their chosen strategy and consequently their culture does not align with technology, customer expectations, the current market environment and the competitive terrain.

In keeping terminologies in geometry to describe organizational AI symmetry, it is noteworthy that a variation of subcultures exist. These symmetric disparities are characterized by the method in which parts are organized or the extent of transformation.

Table 1 illustrates examples of these subcultures.

Table 1. Symmetrical variations in organizational AI cultures

Geometric Term	Geometric Description	Organizational Culture
Reflectional Symmetry	When a line goes through it, the object is divided into two mirror pieces of itself	The culture is fluid yet consistent. If a new product or subsidiary is created, it maintains a semblance of itself (ie. IBM)
Rotational Symmetry	When an object can be rotated from a fixed point without altering its overall shape	The culture is well-grounded on its mission. When technological disruption takes place, it stays true to its goals and values. (ie, Microsoft, Sun Microsystems, Costco)
Helical Symmetry	When an object can be simultaneously changed and rotated in a three-dimensional space along a line or axis	The culture is nimble and highly adaptable. When internal or external factors redefine the operational terrain, it reinvents itself to suit the new environment. (ie. Netflix, Amazon)

As shown in **Table 1**, organizations are distinguished by a defining cultural context, and therefore respond to technological changes (ie, utilization of AI) in different ways. IBM is categorized as having a Reflectional Symmetry AI Culture, due to the fact that their

corporate culture remains strong and consistent throughout the entire global organization even when the company sets up subsidiaries in different corners of the world. Microsoft is described as one with a Rotational Symmetry AI Culture, because over the years they have upheld their core mission and goals amidst a rapidly changing technological environment. Amazon is an example of one with a Helical Symmetry AI Culture, since they quickly pursue emerging opportunities and technological breakthroughs to continually differentiate themselves and gain a distinctive competitive advantage.

Organizations can learn from companies with symmetrical subcultures. Important insights can

be gained on managing change and formulating strategies in a growingly competitive and technology driven business environment.

Organizational Reconfiguration

The AI revolution has shaken many organizations at its very core. It has redefined job descriptions, impacted head count, and altered work processes and systems. It has pushed many firms into uncharted territories and changed the nature of their cultural fabric.

Such dramatic market and technological shift forces organizations to act and think in new ways quickly. It requires the re-examination of organizational arrangements and even corporate governance structures.

The way of doing business continuous to be altered with each progression in AI innovation. The corporate workforce is reconfiguring itself organically and by external forces that can often not be controlled on a corporate level. Employees tend to self-engage and leverage off-the-shelf AI-powered devices and apps to accelerate employee interaction and to gather information quickly. This approach poses unique benefits, but it also introduces new risks that need to be understood and managed carefully. For example, many employees bring their personal Apple iPhone with the AI-powered M1 chip into the workplace. The M1 chip has its own AI neural network and learns from the employees interaction with the device, the installed apps, and the information moving into the device and existing in the device. The employee's personal iPhone gains new knowledge about the

employee, its surrounding environment, and the information accessed via the device. Currently, Apple has not made the newly gained knowledge from the device accessible to the employer. The employer has no mechanism to prevent the M1 chip from building up its own neural network. There is still much to be learned about the potential pitfalls and opportunities of AI-powered device usage in the workplace and its organizational implications. Some level of operational and policy realignment may be necessary.

Cultural Alignment Plan

Drawing upon the relevance of alignment found in geometric theories, a Cultural Alignment Plan is recommended to manage organizational changes relating to the growing usage of AI. This plan constitutes six steps.

Step 1: Assess AI Corporate Culture Readiness. Managers need to consider where they stand culturally. It makes strategic sense to examine the extent of cultural symmetry or asymmetry in their organizations. It is important to examine interconnectedness and relationships shaping internal and external cognitive interactions involving the workforce, customers, and all other stakeholders.

Step 2: Manage Cultural Changes. As an example, with the growing use of AI, talent requirement shifts from using historical data to determining future actions to providing cognitive input continuously and adjusting the course based on algorithmic reasoning. This constant adjustment requires a heightened sense of cultural and operational sensitivity among managers that would allow them to oversee interconnections between humans and machines.

Step 3. Use Cognition Strategically. Companies need to create new products based on newly gained intelligence and feedback. Furthermore, they need to be able to do so quickly in response to new knowledge gained from AI. With thoughtful planning, some firms have begun pursuing smaller and highly algorithmic based projects to accomplish organizational goals in creative ways. Companies such as Netflix and Spotify are amongst the leaders in this space.

Step 4. Stay Ready. Managers have to develop the ability to embrace rapid changes and cultural shifts. They need to promote an environment of algorithmic readiness that allows prompt and sensible executive decision making. In the age of AI, managers have to be constantly prepared make bold bets to gain unrivaled competitive advantages. While executives often look at data to guide their views, they need to also be able to quickly utilize AI to make strategic decisions.

Step 5. Engage Stakeholders. Organizational culture in the world of AI has to be one that's ready to absorb multiple channels of cognitive feedback in order to gain a healthy level of interconnectedness. The corporate culture needs to be fluid and open to stakeholders and all other participants in the business ecosystem. Mindful cross-cultural organizational interactions can help create smart and vibrant firms that are attuned to the times.

Step 6. Strive for Cultural Symmetry. With AI technology pulling firms in several directions, managers need to stay true to their mission and be grounded in their competencies. Firms need to find a new sense of organizational conformity and coherence.

The past decades have resulted in a global transition from the industrial age to the information age to the algorithmic age. As a result, executives should find ways to better leverage and manage AI under a new environment. Quite importantly, they need to create and nurture a corporate culture that is internally and externally cognitive, workforce sensitive, inspirational and structurally aligned for success.

Over a thousand years ago, cultures of the past created geometry to uncover ways to measure areas, lengths, and volumes. In the age of AI, the geometric concept of symmetry can be used as framework to attain cultural harmony in organizations.



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