

COLLECTIVE INTELLIGENCE IN ORGANIZATIONAL DECISION PROCESSES

Dumitrache, Diana¹
Popescu, Mioara²
Maticiuc, Andrei³

Abstract

The impact that collective intelligence has on the decision-making process can significantly influence the ability of an organization to respond to changes that occur in the internal or external environment of the organization so that its activity is not affected. The recognition and augmentation of collective intelligence favors decision-making processes both by obtaining competitive advantages and by appreciating and motivating human resources, thus creating stability and continuity in the organizational development process.

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Introduction

Throughout the last decades, the concept of intelligence has been researched from various perspectives, concepts such as organizational intelligence, collective intelligence, emotional intelligence, social intelligence and so on have been identified. From an organizational point of view, collective intelligence represents the gear that determines decision-making processes with appreciable results, quick response strategies to environmental factors, as well as competitive advantage through the prism of quick adaptability to the external conditions of the business environment. The present work summarizes the dimensions that intelligence can have at the organizational level, in conjunction with the actions that the organization can carry out to strengthen collective intelligence at the level of work groups.

1. Collective intelligence

Collective intelligence represents an ability of a group of people, and when that group of people activates within an organization, the analysis can also be extended to the role that the group manager has in the development of collective intelligence. Thus, the cultivation of collective intelligence represents a dimension of the management activity, and neglecting it implies serious failures of the system.

From the managerial perspective, leaders with a future perspective will pay more attention to the development of participatory leadership principles and practices, will be aware of and capitalize on the power of collective intelligence and will support the development of this ability at the team level. Managing to increase collective intelligence begins where leaders realize the truth of the old adage, "nobody's as smart as all of us," but it doesn't stop there. There are levels to collective leadership. It is not just a matter of getting input from subordinates to make certain decisions. Collective leadership, like collective intelligence, exists at different stages of value development in the lives of the collective entities involved.

From the perspective of the researcher Isaac, the augmentation of collective intelligence from the initiatives of managers (Isaacs, W., 2005) is based on a system of collective leadership that assumes that when people are very well adapted to each other, even when they are separated, they naturally act in harmony with each other and with the common

¹ PhD. Student, Doctoral School of Management, University "Valahia" of Târgoviște, diandreea.rotaru@gmail.com

² PhD. Professor, Doctoral School of Management, University "Valahia" of Târgoviște, depopescu@yahoo.com

³ PhD. Professor, Doctoral School of Management, University "Valahia" of Târgoviște, maticiuc.andrei@gmail.com

objectives of the organization. Most management teams, including those at the top level, are far from fulfilling their potential. They meet as individuals, debate from individual perspectives, and focus on individual areas of authority. Their actions, and the actions of those who report to them, are consequently at cross-purposes and often seem caught in cycles of opposition and breakdown.

Collective intelligence is the process by which the knowledge of each member of a group emerges and integrates with the knowledge of others, resulting in better informed recommendations and an outcome that is smarter than the sum of each individual contribution. One of the main advantages was that it creates "digital deliberations", conversations where a significant amount of people gather in a structured virtual space where they can share their knowledge and interact with each other.

The digital nature of deliberation generates a significant amount of indicators that can be used to measure progress (for example, identifying the type of decisions that are made faster with the help of Collaborative Intelligence, determining the main contributors, highlighting the most voted arguments, answering the interconnected questions etc.) and to reward and recognize the contribution of the members of the organization. This helps create a culture where employees want to contribute and share their knowledge, and leaders want to involve anyone who can add meaningful value.

Collective intelligence is useful in any business case where there are insights and knowledge spread across different minds in the organization. There are many cases where collaborative intelligence can promote better decision-making: from organizational redesigns, to strategic planning, project evaluations, business and technical proposal evaluations, event planning, cultural transformation and supplier benchmarking innovators. In organizations, collective intelligence enables more productive, orderly and stimulating deliberation around the organization's most pressing challenges and decisions. The aim is to facilitate a more holistic understanding of the issues, thereby generating new and improved insights and perspectives.

2. Dimensions of collective intelligence

In the professional world, collective intelligence can lead to a fruitful sharing of experiences to deal with various situations that may arise within the organization (Maidoumi Ch. & Othman Idrissi F., 2021). From the point of view of size (Fadul, Jose & Al Omoush, Khaled & Alqirem, Raed., 2014), collective intelligence highlights six concepts that are to be detailed in the following.

Free thinking is the basic element to produce intelligence. Collective intelligence is intangible and cannot be acquired by force or achieved by following predetermined procedures and routines. According to Dewey's political philosophy, the conditions of intelligent action are constituted by an environment of positive freedom (T.Y. Liang, 2004). Freedom of mind provides the ability to behave flexibly in different situations and to adjust behavior to suit the situation.

To achieve collective intelligence, organizations must first establish conditions in which free individual and team decisions lead to interconnection and coordination for the common good, rather than pure chaos (I. Staskeviciute, B. Neverauskas, and R. Ciutiene, 2006). The flexibility of the structural architecture of an intelligent organization is not the brilliance of organizational designers sitting at the top, but the free choices of people in the middle and bottom of the organization. Smart organizations guarantee members freedom of expression, freedom of association, developing synergistic integrations with others, offering their opinions and benefiting more easily from other user advice (L. Lancieri, 2008).

The second dimension refers to the sharing of information that an organization already has, so that it is available to employees (I. Staskeviciute, B. Neverauskas, and R. Ciutiene, 2006). Organizational intelligence consists of the ability of an organization as a whole to gather

information, to innovate, to generate knowledge, and to act effectively on the basis of the knowledge it has generated. It includes the historical knowledge inherent in the organization and the generative intelligence that results from collaboration among organizational members. Organizational information and knowledge structures do not reside solely in the minds of interacting agents. As an organization learns, information and knowledge accumulate, and the latter must be physically stored for later access (T.Y. Liang, 2004).

Smart organizations must create additional knowledge structures outside of traditional human thought systems. Typically, these outsourced knowledge structures are stored in external physical repositories (T.Y. Liang, 2004). In the context of collective intelligence, organizational memory according to Jacko et al. they can be considered as repositories of information and knowledge acquired through experience and other means accumulated and stored for later use (J.A. Jacko, G. Salvendy, and F. Sainfort, 2002). According to Cross and Baird, such repositories consist of the minds of individual employees, relationships between employees, paper and electronic databases, work processes and technologies, and products or services offered (R. Cross and L. Baird, 2000).

Another outlined dimension considers the sharing of information, the exchange of information, because, according to DeSanctis and Gallupe, collaboration allows collective intelligence to emerge by pooling knowledge, research, arguments and perspectives from diverse groups of people (G. DeSanctis and R.B. Gallupe, 1987). Collective intelligence is promoted through the exchange of information and knowledge and represents the knowledge-based capacity inherent in the organization. Knowledge sharing is a significant function of intelligent organizations, the organization being the natural assemblage of intense sources of human intelligence, seeking to learn and engaging in knowledge sharing and acquisition (P.T. Ng and T.Y. Liang, 2010).

The fourth dimension that stands out is collective perception, one of the very important characteristics of collective intelligence being collective cognitive ability and behavior (T. Atlee, 2008). Wagner and Back revealed that the reasons for the superior performance of collective intelligence are better cognition, coordination, and cooperative behaviors (C. Wagner and A. Back, 2008). According to Zara, collective intelligence is essentially about harmonious connections (O. Zara, 2004). In this case, people share the meaning of their diverse perspectives and experiences by highlighting, testing and improving collective thinking (C. Dumas, 2010). Also, managing collective intelligence means combining all the tools, methods and processes that enable the connection and cooperation between the intelligence of individuals.

Team problem solving represents a new dimension of collective intelligence, so that, in this context, the problem solving methodology is described as a systematic approach to innovation. A system is smarter than another system if it can solve more problems or find better solutions to the same problems in a given time frame, and collective intelligence is the motivation behind all forms of group problem solving since the birth of collaboration (D. Steinbock, C. Kaplan, M.A. Rodriguez, J. Diaz, N. Der, and S. Garcia, 2002). Increasing the capacity for effective action in pursuit of common goals and finding emerging and sustainable solutions to the complex problems and challenges faced by organizations and communities are attributes of collective intelligence (C. Dumas, 2010). Thus, a group exhibits collective intelligence if it can find more or better solutions than all the solutions its members could find working individually.

Intelligence is the energy behind learning, so collective learning represents the sixth dimension of collective intelligence. To be collectively intelligent, organizational groups as a whole must learn. Learning expeditions trigger collective intelligence and are themselves the fruit of a collective intelligence process. Collective learning emphasizes the social aspects of learning and cognition, where information and knowledge are coordinated, preserved, and

transformed from people to people (J.A. Fadul, 2009). In the intelligent organization, learning is the largest pool of intensive sources of intelligence (P.T. Ng and T.Y. Liang, 2010). The ability to learn in an organization depends on its collective intelligence, therefore collective learning is an important aspect of organizational intelligence (T.Y. Liang, 2004).

3. Increasing collective intelligence

The strategies that managers can apply to increase and favor the development of collective intelligence consider the following key steps:

Adopting a leadership model where managers move from having all the answers to identifying the most relevant questions. Leaders who use collective intelligence to make decisions can focus more on identifying and prioritizing the organization's most relevant challenges. This is a natural consequence of recognizing that they may not possess all the relevant knowledge to make optimal decisions, but are instead responsible for identifying and prioritizing the company's efforts. Thus, managers must allocate time to analyze and identify the substantiated causes so that they can identify the optimal solutions to respond to the problems that have arisen, so that they do not recur. Therefore, we consider correcting the cause and not the effect.

Using digital solutions designed specifically to enable collective intelligence deliberations. With an increasing number of digital solutions available, it is essential to select the most appropriate technologies to facilitate people's decision-making. Ideally, they should use digital tools that have a structure that is tailored to the specific objective the organization is trying to achieve through deliberation (make a yes/no decision, prioritize a list of options, collect feedback, allocate limited resources or other options).

Identifying the people who should be empowered and trained to play a leading role in organizational change. Deliberating around important issues generates different and relevant viewpoints. Important decisions are made well when they address specific points of contention that lead to conflicting understandings (Gréselle-Zaïbet Olfa, 2019). Senior leaders can rely on people's input in these strategic deliberations to identify those with the relevant skills to drive change. Empowering them will provide a solid bridge between the organization's decisions and their practical execution. Ultimately, the collaborative approach will help senior leaders propel the company forward at a faster speed, instilling a new culture of engagement and accountability throughout the organization.

Measuring and recognizing contributions to deliberation. Collective intelligence can be undermined if employees across the organization are not recognized for their contributions. Leaders must create an environment in which successful deliberation increases employee engagement and motivation, and in which employees feel that their involvement is valued and translated into prompt decisive action. This will help those involved to feel accountable for their contributions to the process as well as the overall effectiveness of the process.

Increasing self-esteem and empowering team members to express themselves. To highlight collective intelligence, team members need to be diverse and contribute all their knowledge. This requires managers to boost everyone's self-esteem by valuing who they are and helping them shine and remove any risk of personal criticism during debates. Two actions go a long way. First, a model of authenticity, humility and vulnerability.

Compelling and rewarding collaboration so team members help each other and the team contributes their best. For collective intelligence to grow, it is also necessary for team members to find value in the contributions of others, build on them, and help each other bring out their best. What's even better is when, in addition, team members notice flaws in the team dynamic (such as low energy or an "elephant in the room") and bring them to the fore for resolution.

To make such behaviors compelling, the manager simply needs to explain to team members that all they can do is not only bring out their best individual contribution (which

deserves a bronze medal), but also help others bring out their best (silver medal) and to help the team as a whole bring out their best (gold medal).

Asking for ten ideas to solve the problem in ten minutes, instead of asking for the best idea to solve the problem, often results in more ideas because people's creativity is not hindered by an overriding concern for quality. Starting from the multiple ideas generated, a high-quality result can be reached more quickly.

Discussing fears and unmet needs so they can be turned into actionable insights. Fears and unmet needs abound within organizations and are amplified by prevailing uncertainty. They prevent the individual's brain from functioning at peak performance, neuroscience has shown. The only way to prevent individuals who promote fears and unsatisfied needs from polluting people's thinking is for the manager to listen to them and then transform the identities into actionable perspectives.

In today's complex environment of ever-changing priorities, leadership teams should recognize that they themselves do not possess all the relevant knowledge to make optimal decisions, and that their primary responsibility lies in identifying and prioritizing the company's efforts. Adopting the measures mentioned above will help management teams take advantage of the collaborative intelligence of their organizations and make faster, better-informed, and easier-to-implement decisions.

4. Collective intelligence in organizational decision process

The mission of each organization is to identify the use and effectiveness of each activity, so that management decisions must be appropriate to them. At the same time, for the organization to survive in a constantly changing environment, the complexity and dynamics of the decisions it makes must be appropriate to the complexity and dynamics of the external environment.

The first step for people to make intelligent choices is the widespread sharing of information so that they have access to knowledge on the basis of which they can make decisions more easily. The existence of a key group with a high collective intelligence provides the foundations for the adoption of appropriate decisions, which responds to environmental changes and which, through implementation, ensures stability and competitive advantage for the organization. People can't make responsible choices if they don't know what's going on, which is why bureaucrats tend to hoard information as a source of personal power. To ensure the widespread sharing of truth, intelligent organizations guarantee members freedom of speech, freedom of association, and the right to contract with each other and keep promises (Brown, T, 2002).

Traditional decision-making models are built on logic and rationality, which, although elegant from the point of view of the logical structure of the processes, do not favor decision-making. The decision-making processes are varied and are often confused with various assumptions and biases supported by the decision-makers. Identifying a successful decision-making model requires recognizing the assumptions and biases that affect decisions, along with recommendations to minimize their negative effects (Korte, R. F, 2003).

The impracticability of the rational decision-making model stems from basic assumptions rarely realized in practice. It is assumed that the decision maker: has full knowledge of the situation; knows all alternative solutions, together with their consequences and probabilities; objectively follow the process; and aims to maximize profit or economic utility.

Studies in recent decades describe decision-making processes based more on the limitations of human information processing, the ambiguity and subjectivity of individual preferences, the inherent conflicts between decision makers, the unpredictability of future preferences, and the extreme complexity of systemic systems. Complex decisions are more often down to the confluence of situational, preference, and political factors than a rational process of diagnosis, evaluation, and selection of the best solution. In this context, the

creation of an informal group of key people who together represent an entity with a collective intelligence to be appreciated involves advantages both at the organization level and at the individual level, their advisory involvement in the company's strategic decisions representing a motivating factor and recognition of their merits by the leaders of the organization.

The main advantage of the organization with high collective intelligence is that internal processes influence qualitative decision-making, which, in turn, not only guarantees the survival of the organization in global processes, but also initiates competitive superiority (Butiene, Inga & Neverauskas, Bronius & Čiutienė, Ruta, 2022).

Conclusion

Collective intelligence, as presented in the current article, represents the quality of an organization represented by workers with appreciable skills, who can be involved in making strategic decisions in response to changing environmental factors, so that adaptation is as fast as possible. At the same time, the organization, through the key persons, must appreciate, motivate and stimulate the development of collective intelligence at the organizational level, the involvement of these working groups in the organizational processes being appreciated both from the point of view of the company's evolution and from the point of view of recognition of the merits and appreciation of the people involved.

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