



## Cognitive Diversity – An Enabler for Team Performance

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### ABSTRACT

While Diversity has been more apparent in terms of demography or culture, the advent of Cognitive diversity concept has unfurled new dimensions of understanding differences among individuals. In the recent years the contents of cognitive diversity have been in the zenith of discussion like knowledge dissemination, perspectives, creativity etc. in a team towards problem solving. Some studies materialized with understanding the barriers in coordinating with diversity. While recent studies emerged with new aspects of underlying factors for these variations in individuals and how it influences a group, and these This paper aims at probing the available literature by assimilating a few studies in understanding the factors like innovation, leadership, learning or knowledge sharing in connection to application of Cognitive diversity. The practical implications of cognitive diversity exists in the fusion of solidarity of workforce keeping the essence of diversity.

**KEYWORDS:** Workforce, problem solving, cognitive diversity, knowledge, innovation, leadership.

### INTRODUCTION

As per Reynolds and Lewis in the Harvard Business review, Colleagues gravitate toward the people who think and express themselves in a similar way. As a result, organizations often end up with like-minded teams. It results in lacks of diversified inputs and reducing impact of more creative initiatives. The concept of Workforce Diversity is like a coin with 2 sides ,putting forward a bunch of threats and opportunities. The unfurling of diversity started with evolving through multiple phases; starting from women entering employment after 2nd world War to help cover the major workforce shortages due to men carrying out their military service, by 80s and 90s gender diversity was taking more regular course, gender diversity evolved through lots of ups and downs. While in recent few years Diversity focus has shifted in the areas of Culture, Age, Nationality etc creating dynamic work environment. Harrison et al. (1998) divide diversity into two concept-surface-level diversity (age, gender, race etc) and deep-level diversity (attitudes ,beliefs and value system), also referred as Cognitive dimensions.

As per (Hambrick & Mason, 1984; Page, 2007; Roberge & van Dick, 2010), the elaboration in demographic diversity gives rise to group's cognitive resources-experience, intelligence, creativity, competence, etc.

"Cognitive diversity" in the workplace refers to the wide variety of ways your employees think and solve problems with different learning styles, perspectives, thinking etc.

*"The coordination and combination of employees' knowledge, skills, and abilities become the firms' human resources and capital, and a source of competitive advantage to the extent the resources are valuable, rare, hard to imitate, and strategically difficult to substitute"* (Richard & Miller, 2013). Human Capital which is difficult to quantify yet crucial to long term success. Management principles which had been speaking about uniformity, since its evolution, is now focusing on the essence of Diversity with underlying factors of cognitive skills in the era of globalization.

Cognitive Diversity acts a major driving source in Team Performance. Teams with greater Cognitive Diversity will have versatile Information preferences, resulting in improving the quantity and quality of information, ( Schilpzand & Martins, 2010,) *"Organizations are increasingly seeking the benefits of diversity, particularly the cognitive diversity that can enable the synthesis of different knowledge bases, perspectives, and opinions necessary to solve difficult problems"* (Uzzi et al., 2013). Whether it is problem solving, or decision making, creative ideas to generating logical analysis the essence of cognitive diversity has been realised everywhere. Reaping benefits from diverse thinking may not seem to be easy and needs new dimensions of leadership

As per the social categorization by Reid (1987), its believed that differences in feeling may result in categorization within a team, thus affecting the coordination. Absence of cognitive consensus or similarity of ideas to reach d best, sometimes proves to be barrier. Different thought worlds (Dougherty,



1992) of group members proved to be hindrance with the to cognitively view issues in similar ways in a team, due to conflicting perspectives of members , groups must try to reconcile dissimilar assumptions underlying the issues.

Thus Cognitive Diversity can be the reason for adding competitive edge to any organisation if understood deeply and handled delicately.

## OBJECTIVES AND METHODOLOGY

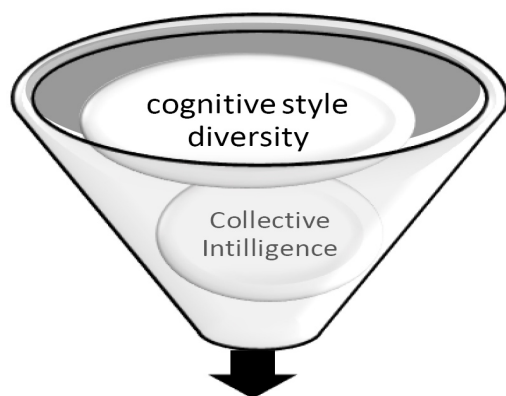
The study objectives of the paper are as follows:

1. To explore the concept of Cognitive Diversity in team work perspective.
2. To elucidate some underlying factors and their connection to Cognitive Diversity

### Cognitive Diversity and Implicit Learning

1.1 The ability to automatically and implicitly detect complex and noisy regularities in our environment is a fundamental aspect of human cognition. *“The hub of organizational excellence rests on the human element at the workspace”*. (Ray Chaudhuri and Naskar, 2018)

Implicit learning refers to the **acquisition of knowledge incidentally and** naturally, without conscious operations or logical guidance, just like a child learns to speak, it tends to be more permanent in terms of retention. In their research on the impact of Cognitive Style Diversity (Agarwal et al, 2019), focuses on 3 major areas which are as follows-(this is the main study in focus for this section)



### Team Intrinsic Learning

- i) Cognitive team diversity is the accumulated cognitive resources in the work scenario. Research has unsurprisingly focused on cognitive mechanisms such as the elaboration of task information (Hoever et al., 2012; Kearney & Gebert, 2009).
- ii) A team's collective intelligence is the potential to work together in diversified task (Woolley et al., 2010).
- iii) *“Team intrinsic learning is defined as a change in the group's repertoire of potential behaviour that occurs over time in group interaction”* (Wilson et al., 2007; Schippers et al., 2013).

The Impact of intrinsic learning on cognitive diversity is studied with the mediating role of team collective intelligence

The minimum-effort tacit coordination game (Van Huyck et al., 1990), object-spatial imagery and verbal questionnaire (OSIVQ) (Blazhenkova and Kozhevnikov, 2009) used to analyse Cognitive Diversity and Collective Intelligence, while Team learning was calculated as the rate of change (or slope) in earnings for each group across the ten rounds of the game.

1.3 The Findings in Agarwal's study shows the acceptance of the 3 Hypothesis tested on 337 participants-

- a) A curvilinear—an inverted U-shaped—relationship between cognitive style diversity and collective intelligence
- b) A positive linear relationship is observed between the team's collective intelligence and team learning
- c) An indirect relationship between cognitive style diversity and team learning, mediated by collective intelligence.

Cognitive diversity thus has an impact on implicit learning in terms of collective intelligence's evident high and low levels of cognitive diversity are unfavourable for implicit learning, at high levels of Cognitive diversity collective intelligence gets lowers reducing the rate of team learning , Thus to ensure Cognitively diverse team initiate better solutions towards critical situations, its importance to reduce or control high levels of diversity through team modification or interventions to understand the coordination of above 3 factors.

By monitoring and regulating our ongoing actions, we are able to flexibly adapt our behaviour to a wide variety of environmental demands. This ability is generally referred to as cognitive control (NatachaDeroost et al., 2012)

### Cognitive Diversity and Team Creativity

The Honing theory of Creativity by Gabora, suggests that creativity is a process in which honing and re-honing (refining) an integrated world view. So creativity in a team starts at the individual level.

2.1 *“Creativity—the joint novelty and usefulness of ideas regarding products, processes, and services”* (Amabile, 1988; Zhou & Shalley, 2010)—is vital for organizations, and creative work is frequently done in teams. There's a conceptual link within these cognitive resources of diversified teams and the depth of team creativity (Jackson, 1992; West, 2002)

2.2 A diverse workforce is a source of sustained competitive advantage by increasing creativity and innovation (Bassett-Jones, 2005). Whenever the members of these teams differ in their task-relevant perspectives and knowledge, existing theories predict higher creativity (Jackson, 1992; West, 2002).

Also the Componential theory of creativity talks about skills, task motivation and expertise as major social and

psychological components to produce creativity, so the major challenge is to nurture these elements in a team environment.

2.3 Chow (2018) elucidate the mechanisms through which cognitive diversity affects creativity, and the affecting dimensions as

- a) Diversity and inclusion and
- b) How they lead to team performance and creativity

“Team learning elucidates the positive effects of diversity in decision-making processes and encourages team members to exchange, share and integrate task-unique information within the team” (Russo, 2012). Thus inclusion is a critical element in the concept of diversity, where everyone's contribution is prioritized. This study shows the pivotal role of the underlying elements of Inclusion and team learning in connecting Cognitive Diversity with team Creativity.

**Cognitive Diversity in Relation to Typical Organizational /Team Elements (Knowledge Sharing Perspective)**

Cognitive diversity is related to a great extent to the accumulation and transfer of knowledge, which is interpreted

as implicit and explicit mainly, while explicit knowledge is logical and easily transferable, the major source of diversity is due to implicit knowledge (learned through experience, situations and deep rooted).

3.1 In the Nonaka Takeuchi model of Knowledge management, Knowledge creation is interpreted through knowledge sharing. Individuals in organizations have always created and shared knowledge and therefore knowledge sharing was considered to be a natural function of workplaces, an activity that took place automatically (Chakravarthy, Zaheer, & Zaheer, 1999)

3.2 The Study on Cognitive diversity and team innovation (Rahmi & Indarti, 2018) intricately focuses on the effect of Cognitive Diversity on Team Innovation through 2 underlying elements

- a) Knowledge Sharing (mediator)
- b) Team Climate (moderator)

Knowledge sharing is positively having an impact on team innovation & cognitive diversity. Practically management should enhance team climate, which acts as an enabler, for positive knowledge sharing to utilize diversity into strategic decision making

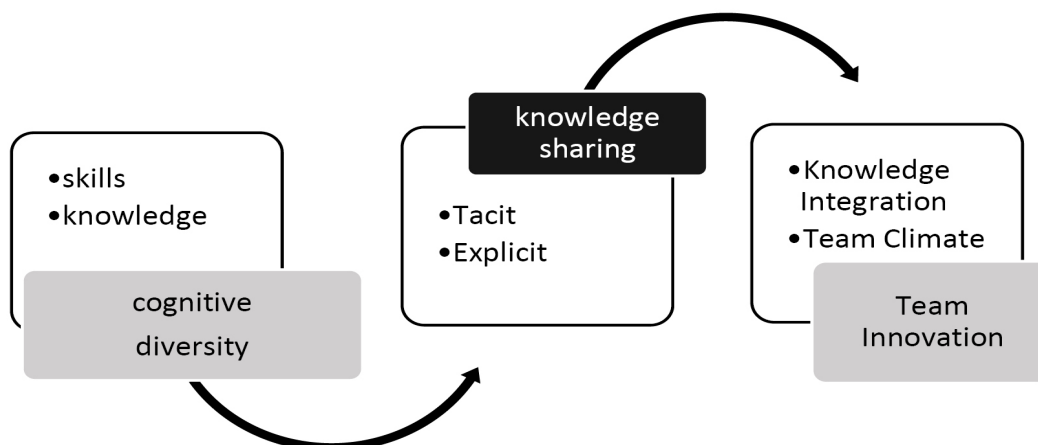


Fig 2. Cognitive Diversity and Team Innovation

**Cognitive Diversity in Crisis Leadership- Case Study in Health Care**

Cognitive Diversity has shown multiple impacts in various situations, a prominent example of its contribution to effective leadership in crisis management is elucidated through recent case of pandemic.

4.1 “Crisis management literature in particular comprises at least two main strands, separated by their views of crisis as either an event or a process” (Jaques, 2009). One of the Latest researches at Slovakia health care sector has shown the implication of Cognitive Diversity in a completely different scenario of Crisis management During the Pandemic of Covid19 (Joniakova et al. 2021) . The Dimension of Crisis leadership (CL) has been examined on Team performance in the purview of –

- a) Cognitive Diversity
- b) Crisis Decision Making (CDM)

The sample was designed to include respondents from all regions, size categories, and types. 62 tertiary healthcare providers were approached for cooperation through communication with their top management, conducted during the acute crisis period of Pandemic 2020, with medical team leaders from Hospitals of Slovakia. e Safety Attitudes Questionnaire (SAQ), had been used along with mediator model to identify the correlation between the different variables .

4.2 The dependence between leadership competencies and team performance, which is mediated by the quality of decision-making, supported by the cognitive diversity, has

been confirmed by research results. The values that come to the fore during the pandemic are humanity, trust, health, transparency, and activity (Lega,2013). The study highlights the real picture of Crisis leadership which works best with diversity of knowledge and skills enhancing quick decisions, while maintain the consistency of Values.

(Joniakova et al. 2021) came out with the following highlights showing a new dimension of cognitive diversity

(1)Crisis-leadership supports the performance of medical teams if the special team is designed with proper balance of cognitive skills

(2) Diversity of knowledge leads to effective decision making

(3) Cognitive leadership, enhanced by the *cognitive diversity*, becomes source of trust, engagement and satisfaction in medical teams.

(4) Diversity only comes to effect with proper maintenance of consistency.

Thus an bewildering situation like covid 19, proclaims the strength of cognitive diversity, with proper management of the same

## DISCUSSION & CONCLUSION

Companies over the globe, who already realised the impact of workforce diversity in terms of age, gender and culture are now learning to cherish the idea of cognitive diversity adding to competitive advantage. Unfortunately as cognitive diversity is intangible and less measurable, many leaders prefer to stay in the comfort zone of like minded people in a team. Research has shown that cognitive diversity has an impact creative decision making , problem solving or handling complex and uncertain situations, This paper tries to bring out few underlying factors of cognitive diversity to understand it more deeply and overcome the barriers of inconsistency or coordination. Cognitive diversity is natural unless a team its forced to become homogenous. More studies are required to come up with the interlink of cognitive diversity with typical organisational factors rather than on the impacts only. In a critical unpredicted situation when like minded people fail to solve , there should be at least few ones to think differently for the solutions, just a cricket or football team become successful due to the presence of diversified talents.

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