

Cognitive Diversity: Solving problems and creating competitive advantage in the commercial environment of procurement and supply chain management.

Cognitive Diversity

David L. Loseby

Introduction

Diversity comes in many forms from gender, race, religion, and socio-economic background to highlight a few. However, this paper will focus on Cognitive Diversity (CD) developing a clear definition of what CD is, its origins, how to create it and where it creates value for a team to a whole organisation.

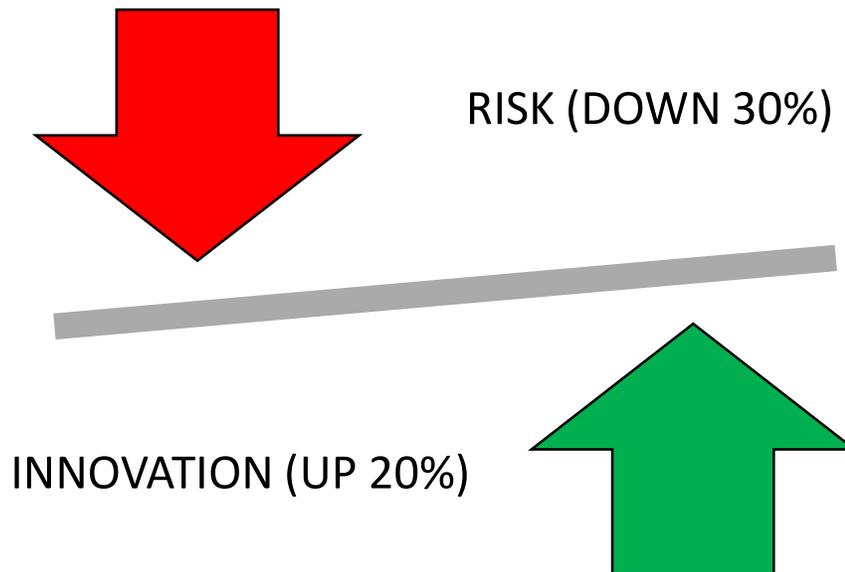


Results show from many surveys, including one from Deloitte insights in 2016¹ and indeed reports focused on the C suite², all of which, showed marked improvement in performance, where CD was evident. A HBR article² stated that “*research revealed that improving cognitive diversity on a board can significantly enhance its performance, particularly when cognitively diverse directors are added with professional backgrounds, skills, and perspectives in areas pertinent to a company’s business or strategic plans who lack ties to the CEO and other directors. Cognitively diverse directors were frequently able to share valuable insights with their fellow directors, expanding the board’s understanding of the company and the strategic and operating issues it faced*”.

¹ Bourke, J. Which two heads are better than one? February 2016, The Australian Institute of Company Directors, Printed by Ligare. ISBN: 978-1-876604-29-5

² Landaw, J. L. How Diverse Is Your Board, Really? HBR, 11th June 2020.

With over half a century of research and a growing recognition of CD it is clear that institutions of sufficient size and complexity stand to gain by adopting this approach. This is further true when we look at how a function such as procurement and supply chain management that is pivotal to securing value, competitive advantage, risk mitigation, innovation (propagators of) and so much more. The two dimensions of risk and innovation were comprehensively researched by Bourke, J. ⁶ and articulated in the figure below.



Source: Bourke, J., Which two heads are better than one? (Deloitte Insights)

Academic perspective

Looking at this from an academic perspective research has covered the topic for over 50 years (Hoffman, et al 1961) recognising that CD is the ability of the group to differently process, perceive and interpret information and varying stimuli (Milliken & Martins, 1996). Recognising this attribute in a team situation, CD leads to a huge variety of perspectives (Bateman & Zeithaml, 1993; Milliken & Martins, 1996), additional creative ideas, a range of requisites, better alternatives, and an improved worth of decisions (Milliken & Martins, 1996, p. 403/416).

⁶ Bourke, J. The diversity and inclusion revolution: Eight powerful truths Deloitte Review, issue 22, 22nd January 2018 (Australia)

Bateman, T. S., & Zeithaml, C. (1993). *Management: Function & Strategy*. New York, Irwin

Hoffman, L. R., Harburg, E., & Maier, N. R. (1961). Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. *Journal of Abnormal and Social Psychology*, 62, 401-407

Milliken, F. J., & Martins, L. L. (1996). Searching for Common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management review*, 21, 402-433.

Cognitive diversity can also be defined as the degree to which the team or the group encompasses the differences in skills and the knowledge level (recognising too their preferences, beliefs, and perspectives) (Miller, Burke, & Glick, 1998). Later literature suggests that there exists a very complex relationship between cognitive diversity and the team's performance level (Sauer, Felsing, Franke, & Ruttinger, 2006), as there are a number of moderating variables affecting the matrix of relationships in any given situation (Milliken & Martins, 1996; Shaw & Barret-Poer, 1998; William & O'Reilly, 1998). The performance of the team will be enhanced with the increased team cohesion (A topic I will cover later in this paper). The willingness of the team members to adopt the diversity within the individuals of the team also improves the performance of the teams. The discussions (and this is critical to the team and often needs a team member to actively moderate the differences in a constructive manner) of the thoughts, views and the beliefs within the teams increases the job satisfaction level of the employees and also enhances the cohesiveness and the performance of the team members (Verduijn, 2010).

Kirton's theory of cognitive diversity: Kirton's Adaption-Innovation (A-I) Theory is founded on the assumption that all people solve problems and are creative, with great diversity among individuals in several related cognitive aspects. Kirton defines four key elements of cognitive diversity, namely: opportunity, motive, cognitive level, and cognitive style. The research recognised that more innovative individuals prefer to solve problems using less structure and are less concerned with gaining consensus around the (cognitive) structure they use. For a selection of characteristic traits associated with more adaptive and more innovative individuals, see Tables 1 & 2 below.

The Kirton Adaption-Innovation Inventory (KAITM) is used to assess cognitive style and is designed for people in roles with a moderate degree of work experience. A person's KAI score falls within a range of 32 (highest Adaption) – 160 (highest Innovation), with a theoretical mean of 96; in practice, scores typically fall between 45 and 145. For all large, general population samples to date, KAI scores follow a normal distribution, with an observed mean around 95 (± 0.5) and a standard deviation around 17. Interestingly the results have shown that women are (on average) about one third of a standard deviation more adaptive than men, with a female mean of 91 and a male mean of 98 in all general population samples.

Kirton, M. J. (2003). *Adaption-Innovation in the context of diversity and change*. London: Routledge.

Miller, C. C., Burke, L. M., & Glick, W. H. (1998). Cognitive diversity among upper-echelon executives: Implications for strategic decision processes. *Strategic Management Journal*, 19 (1), 39.

Sauer, J., Felsing, T., Franke, H., & Ruttinger, B. (2006). Cognitive Diversity and team performance in a complex multiple task environment. *Ergonomics*, 49 (10), 934-954

Shaw, J. B., & Barret-Poer, E. (1998). The Effects of diversity on small work group processes and performance. *Human Relations*, 51, 1307-1325.

Verduijn, K. (2010, August 23). *Openness to cognitive diversity and the moderation of debate as the determinants of job satisfaction, team cohesion and team performance*. Thesis.

William, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Organizational Behavior*, 20, 77-140.

To date, no culture differences have been found in the large sample studies for KAI – that is, similar normal distributions appear in all cultures assessed thus far, which include the U.S., Great Britain, Canada, Italy, France, Netherlands, and Slovakia (These initial country studies have now been amplified from the original research to encompass a wider geographic representation). This of course means that practising professionals who solve problems, generate new commercial constructs from any country are just as likely to be more adaptive or more innovative and that these preferences are not culturally influenced. However, Kirton has demonstrated that A-I cognitive style does not change over time but that actual behaviour (which is flexible) can depart from preference through coping behaviour, which comes at an extra psychological cost. Behaviour, then, can be influenced by cultural norms and other pressures (while style remains constant), which may be a key in understanding the observations of Hofstede.

MORE ADAPTIVE	MORE INNOVATIVE
<i>IN PROBLEM DEFINING:</i>	
<p>Adaptors tend to accept the problems as defined by consensus. Early resolution of problems, limiting disruption and immediate increased efficiency are their more important considerations.</p>	<p>Innovators tend to reject the generally accepted perception of problems and redefine them. They seem less concerned with immediate efficiency, looking to possible long term gains.</p>
<i>IN SOLUTION GENERATING:</i>	
<p>Adaptors prefer to generate a few novel, creative, relevant, and acceptable solutions, aimed at “doing things better”. They have confidence in implementing such solutions effectively despite size and complexity</p>	<p>Innovators generally produce numerous ideas, some of which may not appear relevant or acceptable to others initially. Such ideas often contain solutions which result in different ways of working.</p>

Table 1: Kirton – Adaption & Innovation Inventory

Gert Hofstede’s Power Distance Index (see table 2 below), there are 6 dimensions in the 2010 model, which are as follows. However, this could be seen strictly as a cultural dimension, but has its place in cognitive diversity too:

- **Power distance index (PDI):** The power distance index is defined as “the extent to which the less powerful members of organisations and institutions accept and expect that power is distributed unequally.” In this dimension, inequality and power is perceived from the followers, or the lower level. A higher degree of Index indicates that the hierarchy is clearly established and executed in society, without doubt or reason. A lower degree of the Index signifies that people question authority and attempt to distribute power.

- **Individualism vs. collectivism (IDV):** This index explores the “degree to which people in a society are integrated into groups.” Individualistic societies have loose ties that often only relates an individual to their immediate family. They emphasise the “I” versus the “we.” Its counterpart, collectivism, describes a society in which tightly-integrated relationships tie extended families and others into in-groups. These in-groups are laced with undoubted loyalty and support each other when a conflict arises with another in-group.

- **Uncertainty avoidance index (UAI):** The uncertainty avoidance index is defined as “a society's tolerance for ambiguity,” in which people embrace or avert an event of something unexpected, unknown, or away from the status quo. Societies that score a high degree in this index opt for stiff codes of behaviour, guidelines, laws, and generally rely on absolute Truth, or the belief that one lone Truth dictates everything, and people know what it is. A lower degree in this index shows more acceptance of differing thoughts/ideas. Society tends to impose fewer regulations, ambiguity is more accustomed to, and the environment is more free-flowing.

- **Masculinity vs. femininity (MAS):** In this dimension, masculinity is defined as “a preference in society for achievement, heroism, assertiveness and material rewards for success.” Its counterpart represents “a preference for cooperation, modesty, caring for the weak and quality of life.” Women in the respective societies tend to display different values. In feminine societies, they share modest and caring views equally with men. In more masculine societies, women are more emphatic and competitive, but notably less emphatic than the men. In other words, they still recognize a gap between male and female values. This dimension is frequently viewed as taboo in highly masculine societies.

[Note this dimension is taken from the original research carried out in the 1980's – 1990's and is not intended to support gender stereotyping, but more in terms of the traits identified from a behavioural perspective]

- **Long-term orientation vs. short-term orientation (LTO):** This dimension associates the connection of the past with the current and future actions/challenges. A lower degree of this index (short-term) indicates that traditions are honoured and kept, while steadfastness is valued. Societies with a high degree in this index (long-term) views adaptation and circumstantial, pragmatic problem-solving as a necessity. A poor country that is short-term oriented usually has little to no economic development, while long-term oriented countries continue to develop to a point.

- **Indulgence vs. restraint (IND):** This dimension is essentially a measure of happiness; whether or not simple joys are fulfilled. Indulgence is defined as “a society that allows relatively free gratification of basic and natural human desires related to enjoying life and having fun.” Its counterpart is defined as “a society that controls gratification of needs and regulates it by means of strict social norms.” Indulgent societies believe themselves to be in control of their own life and emotions; restrained societies believe other factors dictate their life and emotions.

Hofstede, G., and McCrae, R. R., (2004). Personality and culture revisited: Linking traits and dimensions of culture. *Cross-Cultural Research*, 38(1), 52-88.

Below are some examples and results of how this can be expressed:



COUNTRY	PDI	IDV	MAS	UAI	LTO
China	80	20	66	40	118
Iraq	80	38	52	68	
United Arab Emirates	80	38	52	68	
India	77	48	56	40	61
Nigeria	77	20	46	54	16
Singapore	74	20	48	8	48
Brazil	69	38	49	76	65
France	68	71	43	86	
Hong Kong	68	25	57	29	96
Poland	68	60	64	93	
Ethiopia	64	27	41	52	25
Chile	63	23	28	86	
Portugal	63	27	31	104	
Pakistan	55	14	50	70	
Japan	54	46	95	92	80
Italy	50	76	70	75	
South Africa	49	65	63	49	
United States	40	91	62	46	29
Netherlands	38	80	14	53	44
Australia	36	90	61	51	31
Germany	35	67	66	65	31
United Kingdom	35	89	66	35	25
Switzerland	34	68	70	58	
Denmark	18	74	16	23	
Israel	13	54	47	81	

Table 2: Hofstede's PDI (Extract from; Soft Skills for Hard Business., Loseby, D. L)

Loseby D. L. Soft skills for Hard Business, 2018, Cambridge Academic Press ISBN:

CD Definition: Having considered some of the academic foundations it is important to recognise that there isn't unity in definition in the academic literature as seen from the wide range extracted and set out in table 3 below;

Table 3: Academic definitions of Cognitive Diversity

1	Colón-Emeric et al. (2006)	A wide range of personal and professional backgrounds
2	Harrison, Price, Gavin, and Florey (2002)	Difference among team members' psychological characteristics including personality, values, and attitudes
3	Kilduff, Angelmar, and Mehra (2000)	Variability concerning relatively unobservable attributes such as attitudes, values, and beliefs
4	Kurtzberg (2005)	Differences in the cognitive processes that people employ to accomplish their tasks
5	Martins, Schilpzand, Kirkman, Ivanaj, and Ivanaj (2013)	Variations in knowledge, skills, and capabilities . . . [from] education, experience, and natural ability
6	Miller, Burke, and Glick (1998)	Variation in beliefs concerning cause–effect relationships and variation in preferences concerning various goals
7	Sauer, Felsing, Franke, and Ruttiger (2006)	Diversity in underlying and task-related attributes, such as abilities, knowledge, expertise, and problem-solving strategies
8	Shin, Kim, Lee, and Bian (2012)	Differences in thinking styles, knowledge, skills, values, and beliefs among individual team members
9	Tegarden, Tegarden, and Sheetz (2009)	Variation in underlying attitudes, beliefs, or values developed through individual experience and background
10	Kirton	Kirton defines four key elements of cognitive diversity, namely: opportunity, motive, cognitive level, and cognitive style

Colón-Emeric, C.S., Ammarell, N., Bailey, D., Corazzini, K., Lekan-Rutledge, D., Piven, M.L., Utley-Smith, Q. and Anderson, R.A., 2006. Patterns of medical and nursing staff communication in nursing homes: Implications and insights from complexity science. *Qualitative Health Research*, 16(2), pp.173-188.

Harrison, D.A., Price, K.H., Gavin, J.H. and Florey, A.T., 2002. Time, teams, and task performance: Changing effects of surface-and deep-level diversity on group functioning. *Academy of management journal*, 45(5), pp.1029-1045.

Kilduff, M., Angelmar, R. and Mehra, A., 2000. Top management-team diversity and firm performance: Examining the role of cognitions. *Organization science*, 11(1), pp.21-34.

Kurtzberg, T.R., 2005. Feeling creative, being creative: An empirical study of diversity and creativity in teams. *Creativity Research Journal*, 17(1), pp.51-65.

Martins, L.L., Schilpzand, M.C., Kirkman, B.L., Ivanaj, S. and Ivanaj, V., 2013. A contingency view of the effects of cognitive diversity on team performance: The moderating roles of team psychological safety and relationship conflict. *Small Group Research*, 44(2), pp.96-126.

Having considered all the definitions and considering the context for commercial practitioners I would offer the following definition;

The ability to clearly and distinctively differentiate and conceptualise the context, situations, people and circumstances, and thereby effectively re-frame them to accommodate a wide range on thinking styles to reflect knowledge, skills, expertise, values and beliefs to fully exploit the potential breadth and depth of problem solving and/or value creation. (Loseby 2021)

A conceptual approach

Perhaps the best way to consider CD initially is to recognise that people have different ways of seeing the world and in turn both opportunities (value) and problems (risk) in its most simplest form. Further CD is not bounded by the way most organisations categorise how it may be structured or organised: Strategic, Tactical, Operational or Managerial (STOM) or for that matter Strategic, Pragmatic, Organisational or Creative (SPOC) but transcends all areas without boundaries. Therefore, a simpler way to frame the diversity spectrum could be attached to the frame below;

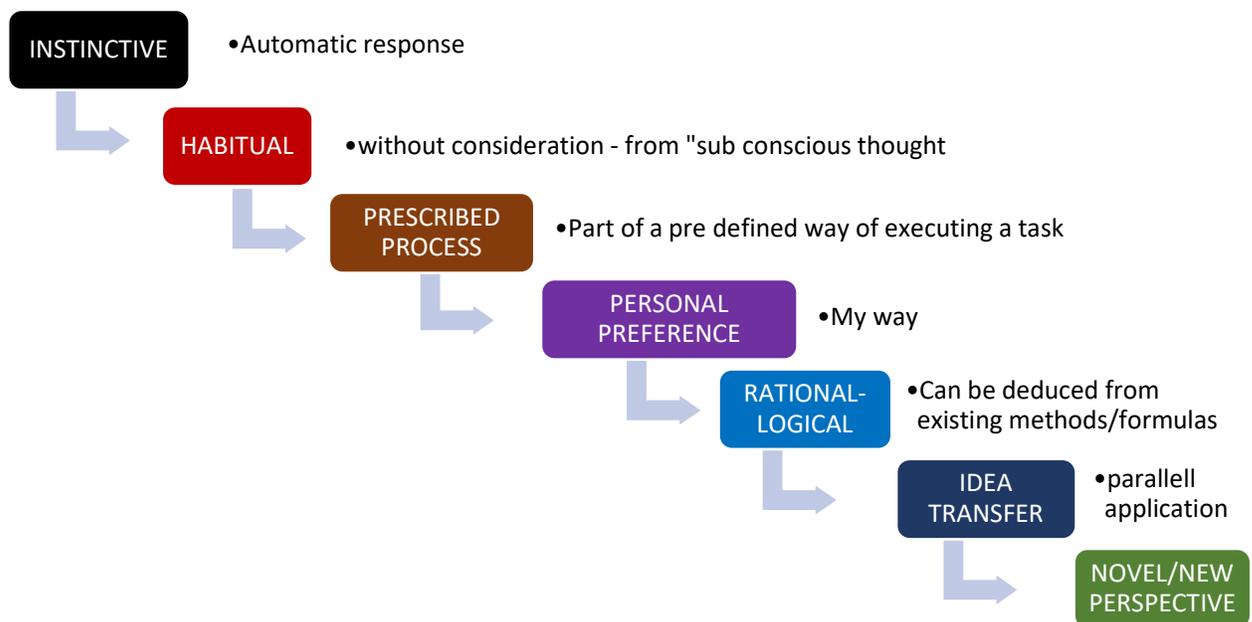


Figure 1: 7 step conceptual model of thinking (Loseby 2021)

Bransford's IDEAL model follows the same sequence as Dewey's problem solving approach, with the exclusion of Dewey's initial step. Bransford's model assumes the problem solver has already experienced the situation. Figure 4 displays the five steps Bransford identifies as crucial to successful problem solving, as well as the relationships between these steps.

Dewey, J., 1954. Public & its problems. Ohio University Press.

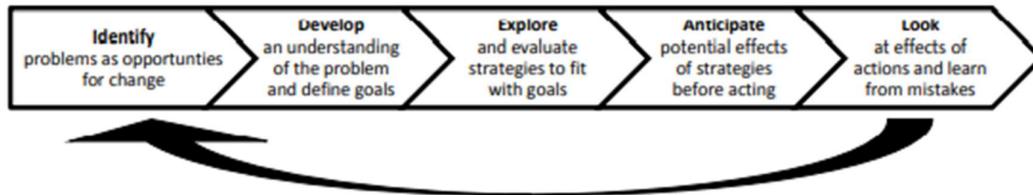


Figure 2: Bransford's (1984) IDEAL problem solving model.

I will cover this further when we consider risk management later in this paper. However, the essence of considering CD is to ostensibly solve problems, mitigate risks, create value (through competitive advantage) and enable effective change by considering what mechanisms, versus a “one-size fits all” approach and in general improve the health and wellbeing centric to the people of an organisation.

Upskilling & maximising team impact

As a leader you should consider how you can foster and develop cognitively diverse teams to maximise impact the so called **value architecture** (Loseby 2018), which I summarised as follows;

“The reconstructed role of value architects will not only have the skills and competencies derived under the social, decision and behavioural sciences, et al but will be known for value creation through, but not limited to:

- *Making sense and translating internally and externally the contributions from internal subject matter experts and the wider supply (value) chain.*
- *Incremental innovation to create competitive advantage as a facilitator or enabler*
- *Articulate value over cost savings*
- *Ensure reputational guardianship*
- *“Bridge builders”*
- *Aggregate and integrate the best of what is available*
- *Creatives that exude the entrepreneurial spirit and business acumen of a start-up leader*
- *Be recognised for critical thinking skills*
- *Understand where and how intervention will positively contribute to an outcome and be the one to create the (choice) architecture to achieve this*
- *Socialise the use of decision support systems*
- *Challenge socially constructed traits (enable talent to contribute where it can, not where it is allowed)*

More recently I developed a conceptual model for procurement, recognising future skills, balanced with knowledge/skills, creativity with rationality and experience with novel perspectives;

[Bransford, J.D., 1984. Teaching Thinking and Problem Solving. Technical Report Series 85.1. 2.](#)



Figure 3: A conceptual model for procurement to deliver value (architecture) – Loseby 2021

Ensuring that we positively enable cognitive diversity as leaders we equally need to think differently too. In considering the enablers of making teams more cognitively diverse we should enable people with the backgrounds and experience needed for teams and consider how we might access this talent and where it currently resides. Which could range from all, some or one of the following in varying aspects from;

- Flexible working
- Home working
- Non traditional shift patters
- Non core languages
- Enabling technologies and/or equipment that positively engages with those with a recognised disability
- Parallel industries or sectors
- Diverse functional backgrounds
- Breaking the stereotypically mould of STEM subjects in favour of other areas such as social sciences
- Mature students
- Non academic backgrounds
- Big 5 personality traits (see below)

Big personality traits

The Big Five personality traits, also known as the five factor model (FFM), is a model based on common language descriptors of personality. The five factors have been defined as openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism, often represented by the acronyms **OCEAN** or CANOE. Beneath each proposed global factor, there are a number of correlated and more specific primary factors. For those wanting to research further can access the work set out in the special section in the references.

The five factors are:

1. **Openness to experience** (inventive/curious vs. consistent/cautious). Appreciation for art, emotion, adventure, unusual ideas, curiosity, and variety of experience. Openness reflects the degree of intellectual curiosity, creativity and a preference for novelty and variety a person has. It is also described as the extent to which a person is imaginative or independent and depicts a personal preference for a variety of activities over a strict routine. High openness can be perceived as unpredictability or lack of focus, and more likely to engage in risky behaviour, lean towards being artists or writers in regard to being creative and appreciate of the significance of the intellectual and artistic pursuits. Further, individuals with high openness are said to pursue self-actualisation specifically by seeking out intense experiences. Conversely, those with low openness seek to gain fulfilment through perseverance and are characterised as pragmatic and data-driven—sometimes even perceived to be dogmatic and closed-minded.
2. **Conscientiousness** (efficient/organised vs. easy-going/careless). A tendency to be organised and dependable, show self-discipline, act dutifully, aim for achievement, and prefer planned rather than spontaneous behaviour. High conscientiousness is often perceived as stubbornness and obsession. Low conscientiousness is associated with flexibility and spontaneity but can also appear as sloppiness and lack of reliability.
3. **Extraversion** (outgoing/energetic vs. solitary/reserved). Energy, positive emotions, assertiveness, sociable and the tendency to seek stimulation in the company of others, as well as talkative. High extraversion is often perceived as attention-seeking and domineering. Low extraversion causes a reserved, reflective personality, which can be perceived as aloof or self-absorbed. Finally, extroverted people tend to be more dominant in social settings, opposed to introverted people who may act in a shy and/or reserved manner in this setting.
4. **Agreeableness** (friendly/compassionate vs. challenging/detached). A tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. It is also a measure of one's trusting and helpful nature, and whether a person is recognised as having an even temperament (even under stress). High agreeableness is often seen as naive or submissive. Low agreeableness personalities are often competitive or challenging people, which can be seen as argumentative or untrustworthy trait.
5. **Neuroticism** (sensitive/nervous vs. secure/confident). Neuroticism identifies certain people who are more prone to psychological stress. Therefore, a tendency to experience unpleasant emotions easily, such as anger, anxiety, depression, and vulnerability. Neuroticism also refers to the degree of emotional stability and impulse control and is sometimes referred to by its low "emotional stability". A high stability manifests itself as a stable and calm personality, but conversely it can be seen as uninspiring and unconcerned. A low stability expresses as a reactive and excitable personality, often very dynamic individuals, but they can be perceived as unstable or insecure.

People who do not exhibit a clear tendency towards specific characteristics chosen from the above-mentioned related pairs in all five dimensions are considered adaptable, moderate, and reasonable personalities. However, conversely, they can be perceived as unprincipled, inscrutable, and calculating individuals. There are many commercially available ways and organisations to conduct testing and assemble this into how the team dynamics may work. There are also free test websites too: [Big 5 \(my-personality-test.com\)](http://my-personality-test.com)

ALL REFERENCES IN THE APPENDICES

Cognitive Diversity in Supplier Relationship Management (SRM)

Recognising that CD is important when interfacing with people outside your organisation who may bring either complimentary or non-core innovation or intellectual input, design and/or creativity into your organisation, e.g., a marketing agency for operational driven service provider. So, a clear consideration of such matters as;

- Recognising complexity and longevity of the resources needed.
- Enable others and stand back!
- Uncertainty is inevitable so agility will be essential
- Stay pragmatic and authentic too....

Increasing supplier innovation, as a direct product of effective relationships and behaviours, something Peter Drucker³ identified over 60 years ago as one of the basic ways an organisation can build and maintain competitive advantage in the marketplace. Suggesting yet again that some of the fundamentals remain;

- Early engagement
- Commercialisation of products
- Timely and efficient information sharing
- Helping and supporting suppliers
- Reciprocity
- Collaborative approach
- Unified platform to aid efficiency, remove duplication/errors
- Technology enabled – open architecture
- Risk sharing
- Joint marketing
- Responsive
- Avoidance of biases, bounded rationality
- Cognitively diverse teams
- TRUST

In essence if these are not part of the current skill set or you have clear identifiable gaps in a team then you can use this as an opportunity to enhance the CD in your team to be fully effective. Reflecting on the this as the necessary skills we can visualise through the following two diagrams:

³ Drucker, P., *The Practice of Management*, 1954, Harper & Brothers, New York.

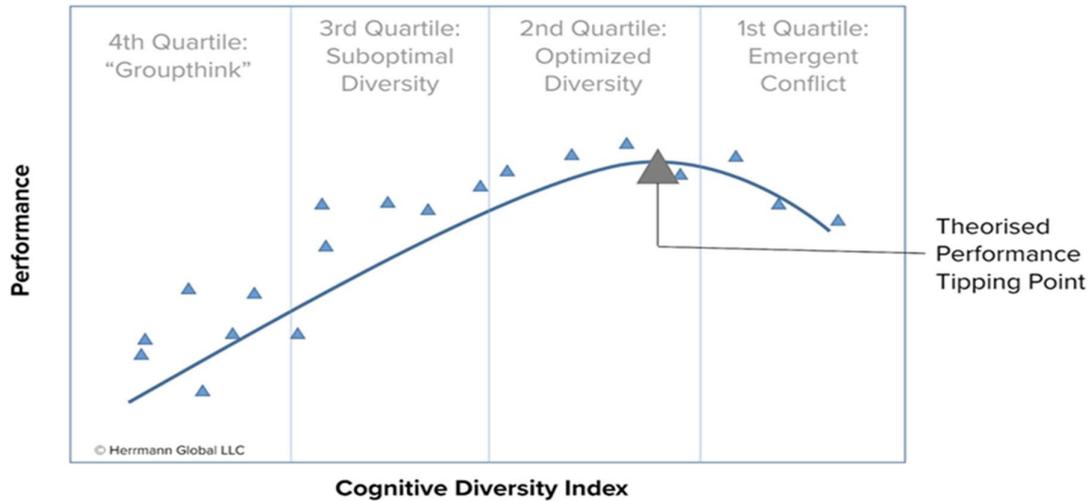
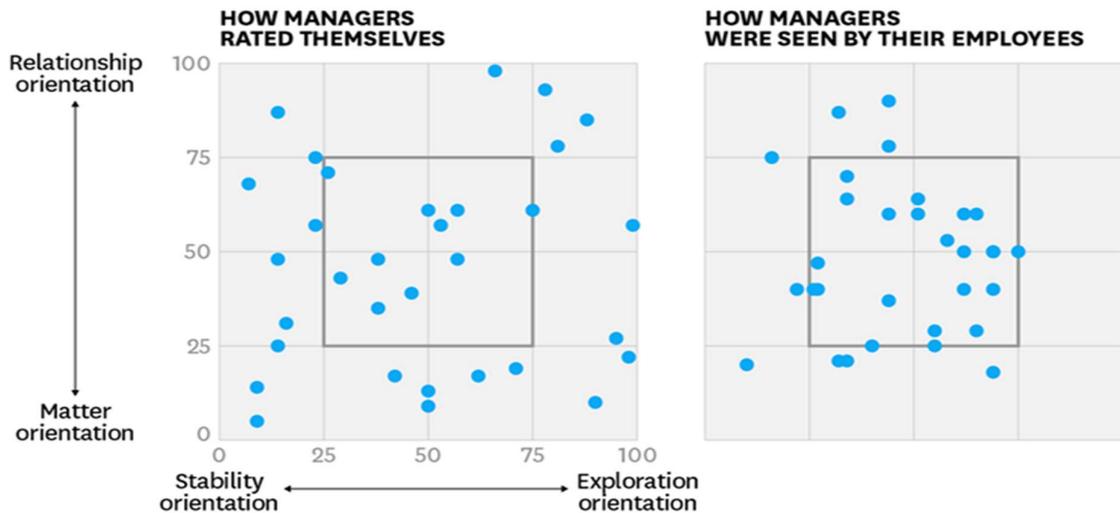


Diagram 1: phases of cognitive diversity (Herrmann Global LLC)

Recognising the team dynamics and how they are reflected and can be visualised, see diagram 6 below, and the previously referenced AEM cube there are a number of factors to consider in managing relationships, namely;

- I. How people process knowledge and information
- II. How people generate or create new knowledge and ideas
- III. What each individual’s perspective is on a situation
- IV. Level of expertise
- V. Receptiveness to new ways and situations

The Cognitive Diversity of a Group of 32 Managers



SOURCE ALISON REYNOLDS AND DAVID LEWIS USING THE AEM CUBE, A TOOL THAT ASSESSES DIFFERENCES IN THE WAY THAT PEOPLE APPROACH NOVEL SITUATIONS

© HBR.ORG

Diagram 2: AEM Cube representation of people (page 6 ⁴)

⁴ Reynolds A and Lewis, D. Teams solve problems faster when they’re more cognitively diverse, March 30, 2017. HBR

Typically, the common objective of a strategic supplier relationship management programme is to generate a mutually advantageous outcome for all parties not just the lead or purchasing party. Hence recognising, adapting, and understanding the different perspectives and inputs objectively will be critical to success and a foundational pillar of trust.

In a further paper from Alison Reynolds & David Lewis ⁵ referenced the need to provide *psychological safety* in teams. In other words, an environment where it is safe to speak up without fear of punishment or humiliation and to feel secure in suggesting new ideas, posing questions, raising concerns, or pointing out mistakes, etc. Form this dual access of cognitive diversity and psychological safety over a year long period they produced the following table (see below) from 60 descriptors to show how these two attributes correlate.

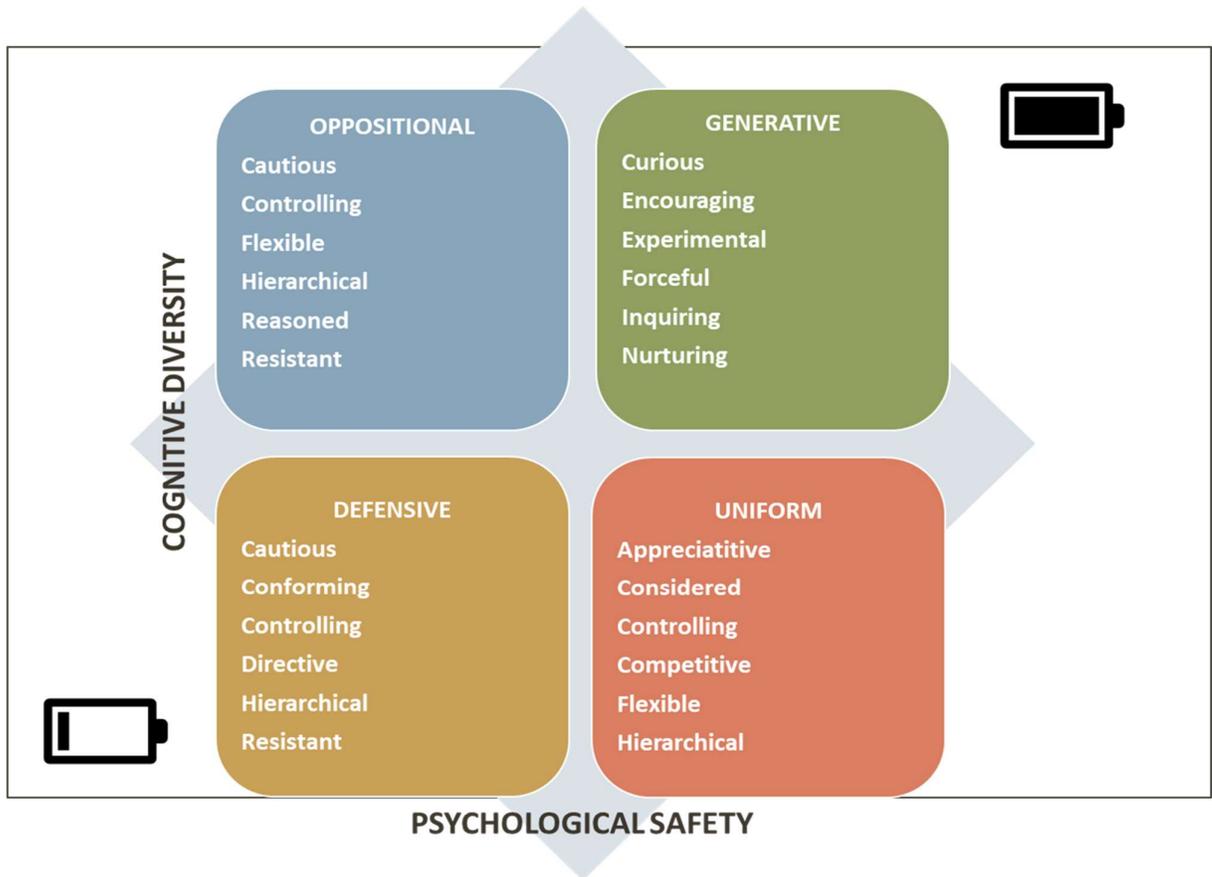


Table 4: Cognitive diversity & psychological safety ⁵

⁵ Reynolds, A. and Lewis, D. The two traits of the best problem solving teams, April 02, 2018. HBR

In short, we need to be careful to:

- Facilitate and not control
- Generate trust
- Know when to lead and when to be led
- Curate, not dictate
- Provide a safe environment
- Value all contributions and actively solicit them
- Avoid classic hierarchy where necessary
- Be consistent in approach
- Be agile and flexible



Diagram 3: the science of inclusion ⁶

Risk Management and Supply Chain Resilience

Taking Bransford IDEAL problem solving model from earlier we can effectively adapt this and use it to assimilate problem solving in a team environment which can be conceptualised as follows in a P&SM context:



Figure 4: Conceptualising the IDEAL model in a risk management task (Loseby 2021)

Summary and watch outs

It is likely that an organisation will need what is referred to as a “reset” culturally, but that will depend on the start point as no two organisations are the same. Further, recognise that with differing perspectives and views will come a degree of potential conflict and challenge that needs to be carefully managed and coached and will only improve by active engagement and management.

A recent article from Deloitte ⁶ proposed a maturity model, which may help orientate and map where you believe your organisation/team/division/unit may be situated and develop a plan and approach to progress your CD journey;

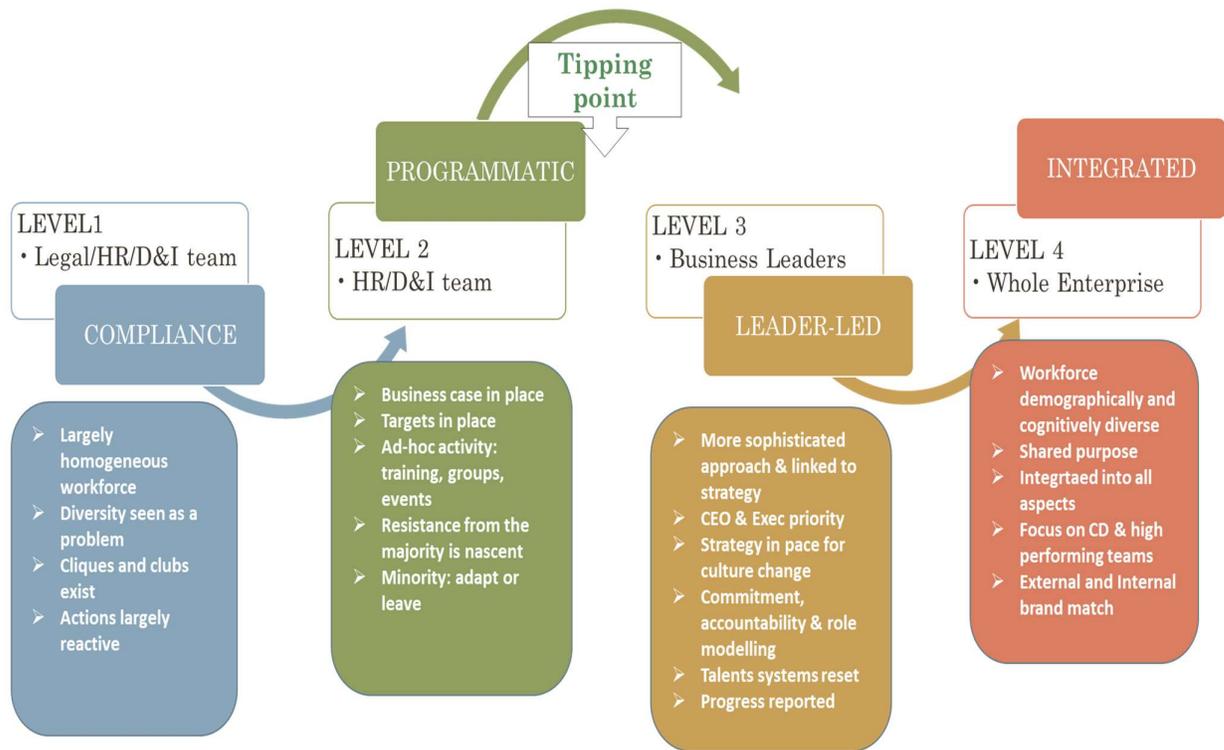


Table 5: Maturity model – Deloitte ⁶

Leaders should also think carefully not just how they act but also should *not* act in order to drive effective results in cognitively diverse teams. Further, sometimes just making the time to pause and reflect on the “how and what”, especially in team situations may prove invaluable. Personally, the ability to remain authentic and sometimes say “*I’m not sure how to express this exactly, but this is what I am looking to convey or seek*”, may be sufficient to signal to others that you are not looking to control but energise them to be their best!

A common watch out in terms of effectively managing cognitively diverse people/teams is to recognise that with diversity of thought comes a diversity of outcomes, approaches, styles, suggestions, etc. that could, if not managed effectively manifest in conflict. This is especially true where the teams are intentionally constructed to be diverse to seek new solutions, solve problems, innovate and deliver key and/or strategic decisions. Therefore, team cohesion and unity are key to harvesting the positive outputs over a sustainable period.

Another area of common concern in assembling teams is to ensure we don’t hire in our own image a term in behavioural science referred to as *affinity bias* (see below in the panel), which is one of a number of unconscious biases and very prevalent in recruitment/selection.



Affinity bias – Leads us to favour and select those people who are like us, especially when recruiting into teams and new hires, etc. So, while it seems to be common sense that we tend to like people who are like ourselves and a natural propensity to be associated with people who we can relate to, who share certain values, and who we are comfortable around.

This tendency to surround ourselves with like-minded people is bias and can have drawbacks too. In certain cases, it can be taken to favouritism, based on un-related criteria to the role in hand, such as gender, educational background, social class and so the list goes on.

The flip side to this is where we tend to notice the faults of others who do not have these affinities with ourselves and overlook other more critical factors in those we are drawn towards (have an affinity to). Research shows that this occurs far more frequently than we allow ourselves to believe. A famous study in 1999 by Steinpres et al found that recruiters showed a preference for male applicants, when in reality they had all been sent exactly the same CV, with half being sent a CV apparently from an applicant with a traditionally 'male' name and half from an applicant with a traditionally 'female' name.

The recruiters reported the male applicants as better qualified and more likely to be offered a job. Similar studies have found even more dramatic preferences for job applicants with traditionally British-sounding names, over applicants with names that do not sound traditionally British; and yet further studies have found recruiter preferences for younger candidates over older ones. So, beware as we need good cognitive diversity to have high performing teams.

Extract from: Soft Skills for Hard Business – Chapter 6

An area that I have personally seen cause offence, but not intended, is the use of humour or phrases that have dual meanings or simply poorly constructed conversation. So, this is an area that needs careful observation and something to call out up front and give examples too to avoid it coming over as an instruction/command.

Finally, we should see the approach to building effective and constructive CD as a journey and not a quick fix with careful navigation along the way.

Author: David L. Loseby MCIQB Chartered, FAPM, FCMI, FCIPS Chartered, MIoD, FRSA

He is currently the Managing Director of Barkers Commercial Services and previously the Group CPO for Rolls Royce plc. He is also a doctoral researcher in Behavioural Science at the University of East Anglia, Editor for the International Journal of Physical Distribution and Logistics Management (IJOPDLM). Further he is one of the founders of the Procurement Doctor, advisor to various conferences and thought leadership organisations in P&SM.

Reviewer: Robin Young

He is currently an NED, advisor, and Board Chair to several organisations specialising in Operations, IT, Digital and Cyber Security. Previously Executive Director in FTSE 250 organisations such as Mitchells & Butler & Citi.

Big 5 personality references

Goldberg, L. R. (1993). "The structure of phenotypic personality traits". *American Psychologist*. 48: 26–34. doi:10.1037/0003-066x.48.1.26. PMID 8427480.

Poropat, A. E. (2009). "A meta-analysis of the five-factor model of personality and academic performance". *Psychological Bulletin*. 135: 322–338. doi:10.1037/a0014996.

Digman, J.M. (1990). "Personality structure: Emergence of the five-factor model". *Annual Review of Psychology*. 41: 417–440. doi:10.1146/annurev.ps.41.020190.002221.

Tupes, E. C., & Christal, R. E. (1961). Recurrent personality factors based on trait ratings. USAF ASD Tech. Rep. No. 61-97, Lackland Airforce Base, TX: U. S. Air Force.

Tupes, E.C., & Christal, R.E., Recurrent Personality Factors Based on Trait Ratings. Technical Report ASD-TR-61-97, Lackland Air Force Base, TX: Personnel Laboratory, Air Force Systems Command, 1961

Goldberg, L. R. (1993). "The structure of phenotypic personality traits". *American Psychologist*. 48 (1): 26–34. doi:10.1037/0003-066X.48.1.26. PMID 8427480.

O'Connor, Brian (2002). "A Quantitative Review of the Comprehensiveness of the Five-Factor Model in Relation to Popular Personality Inventories". *Assessment*. 9 (2): 188–203. doi:10.1177/1073191102092010. PMID 12066834.

Goldberg, L.R. (1982). "From Ace to Zombie: Some explorations in the language of personality". In C.D. Spielberger & J.N. Butcher. *Advances in personality assessment*. 1. Hillsdale, NJ: Erlbaum. pp. 201–234.

Norman, W.T.; Goldberg, L.R. (1966). "Raters, ratees, and randomness in personality structure". *Journal of Personality and Social Psychology*. 4 (6): 681–691. doi:10.1037/h0024002.

Peabody, D.; Goldberg, L.R. (1989). "Some determinants of factor structures from personality-trait descriptors". *Journal of Personality and Social Psychology*. 57 (3): 552–567. doi:10.1037/0022-3514.57.3.552. PMID 2778639.

Saucier, G. & Goldberg, L.R. (1996). The language of personality: Lexical perspectives on the five-factor model. In J.S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives*. New York: Guilford.

Digman, J.M. (1989). "Five robust trait dimensions: Development, stability, and utility". *Journal of Personality*. 57 (2): 195–214. doi:10.1111/j.1467-6494.1989.tb00480.x. PMID 2671337.

Grucza, R.A.; Goldberg, L.R. (2007). "The comparative validity of 11 modern personality inventories: Predictions of behavioural acts, informant reports, and clinical indicators". *Journal of Personality Assessment*. 89 (2): 167–187. doi:10.1080/00223890701468568. PMID 17764394.

Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. In Wheeler (ed.), *Review of Personality and social psychology*, vol. 1, 141–165. Beverly Hills, CA: Sage.

Goldberg, L. R. (1980, May). Some ruminations about the structure of individual differences: Developing a common lexicon for the major characteristics of human personality. Symposium presentation at the meeting of the Western Psychological Association, Honolulu, HI.

Saville & Holdsworth Ltd. (1984). *Occupational Personality Questionnaires manual*. Esher, Surrey: Saville & Holdsworth Ltd.

Goldberg, L.R. (2001). "Analyses of Digman's child- personality data: Derivation of Big Five Factor Scores from each of six samples". *Journal of Personality*. 69: 709–743. doi:10.1111/1467-6494.695161.

Komarraju, Meera; Steven J. Karau; Ronald R. Schmeck; Alen Avdic (September 2011). "The Big Five personality traits, learning styles, and academic achievement". *The Big Five personality traits, learning styles, and academic achievement*.

Komarraju, Meera; Karau, Schmeck, Avdic (2 June 2011). "The Big Five personality traits, learning styles, and academic achievement". *Personality and Individual Differences*. 51 (4): 472–477. doi:10.1016/j.paid.2011.04.019. Retrieved 6 April 2012.

Komarraju, Meera; Steven J. Karau; Ronald R. Schmeck; Alen Avdic (2 June 2011). "The Big Five Personality traits, learning styles, and academic achievement". *Personality and Individual Differences*. 51: 472–477. doi:10.1016/j.paid.2011.04.019.

Komarraju, Meera (2 June 2011). "The Big Five personality traits, learning styles, and academic achievement". *Personality and Individual Differences*. 51: 472–477. doi:10.1016/j.paid.2011.04.019.

Komarraju, M.; Karau, S. J.; Schmeck, R. R.; Avdic, A. (2011). "The big five personality traits, learning styles, and academic achievement". *Personality and Individual Differences*. 51 (4): 472–477. doi:10.1016/j.paid.2011.04.019.

Goldberg, L. R. (1990). "An alternative "description of personality": The big-five factor structure". *Journal of Personality and Social Psychology*. 59 (6): 1216–1229. doi:10.1037/0022-3514.59.6.1216. PMID 2283588.

Ashton, M.C.; Lee, K.; Goldberg, L.R. (2004). "A Hierarchical Analysis of 1,710 English Personality-Descriptive Adjectives". *Journal of Personality and Social Psychology*. 87: 707–721. doi:10.1037/0022-3514.87.5.707. PMID 15535781.