

CULTURAL INTELLIGENCE AMONG EMPLOYEES WORKING IN GLOBAL VIRTUAL TEAMS (GVT) DURING PANDEMIC – TEAM EFFECTIVENESS AND CHALLENGES FACED

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Abstract: The study is built on the previous literature on Cultural Intelligence and on global virtual team (GVT). It mainly focuses on how the current pandemic situation has brought an impact on the virtual team effectiveness and its challenges. It also helps us understand that cultural intelligence is the key to attain an effective virtual team. The researchers also suggest the future of work is dynamic and may have multiple options, to either work from home (virtually) or from office (physical). To test these assertions, data was collected using a semi-structured questionnaire (n= 63) from multinational IT/ITES employees who are associated with GVT members in India. Data was collected using snowballing technique and analysed using Jamovi software. The factors considered for Cultural Intelligence are cognitive, metacognitive, motivational and behavioural cultural intelligence. The variables used in Virtual team effectiveness are role clarity, coordination, building trust, collaboration/cohesion, performance and communication. The study aims to understand the relationship between the factors of Cultural Intelligence and the variables of Virtual team effectiveness. It also suggests the organisation on how to overcome the challenges faced by the virtual teams. Study reveals that cultural intelligence helps in fostering trustworthy relationship among employees and having better coordination among the members of the team. Furthermore, analysis showed that cultural intelligence is influenced by the variable communication accommodation among the GVT members. This study contributes to the growing literature on global virtual teams in association with the cultural intelligence and offers us a practical output on how to betterment the effectiveness and performance of the team and its members.

Keywords: Cultural Intelligence, global virtual team, Covid-19 pandemic, virtual team challenges, team effectiveness.

1) Introduction

“Cultural intelligence is the ability to adapt to various cultural contexts and function in different cultural settings or with those of a different culture in one's setting” (Kannan, 2018, p.1).

Global citizens need to understand that the world has come closer and the work has been distributed globally. Covid 19 lockdown has given an opportunity to work in multicultural and multilingual

project teams. Which also includes less face to face contact, more usage of technological applications and decrease in global mobility.

The Diversity and Inclusion has become more pertinent in Covid and Post-Covid times. Cultural intelligence and emotional intelligence plays a vital role for the employees and leaders of today and tomorrow. As the number of people working remotely has increased, it is necessary that team leaders and organisations know to build a virtual team effectively. The current situation has paved way for three workforce categories i.e., working physically from office space, hybrid work style (partially office – partially home) and work from home. Therefore, it has become inevitable to understand how to mindfully and skilfully work with a diverse group of people in the given new ecosystem. Knowledge and adoption of cultural intelligence (CI) within organizations will be a key imperative to help improve virtual cross-cultural interactions and to enable adaptability among team members (Ang and Dyne, 2008).

2) Literature Review

More than a year has passed and since the World Health Organisation has declared Covid-19 as a pandemic. There has been abrupt shifts in workforce such as work from home and Hybrid workstyle; millions have lost jobs. Though the vaccination drive had sped up, still multiple organisations prefer a Hybrid Workplace (Times of India). The statistics show that 95% of companies would continue to work remotely for next two years (Business Standard, July 14 2021) among that 7 out of 10 Indians prefer to continue with work from home option. Therefore, technology plays a major role in our modern society and digitalisation has become a crucial part of life.

The possibility to work remotely has become advantageous to the companies considering factors such as office space, ability to attract and retain talents, increased productivity/work time among employees etc., it is a win-win situation for the organisations. The team members collaborate from different locations using various digital communication tools to achieve a common goal (Nader, 2009). However, managing a team virtually has challenges such as, working with different personalities having different cultural backgrounds situated in different time zones that makes scheduling a meeting a herculean task (Abudi, G., 2012).

Global Virtual Team

A group of individuals geographically distributed working together in a problem or a project with the support of technological environment (Anuli Ndubuisi, 2021). The distinctive feature of this definition is that the team relies on technology and doesn't have any face-to-face meets. The technological tools used for meetings may vary from time to time. The most commonly used communication tools are chat messengers, email, video conferencing, audio calls, etc. It is necessary to choose the right mode of communication tool at any given situation.

Virtual teams use digital technologies to replace face-to-face interactions. Each tool has its own richness of content delivery. Video conferencing is considered to be the most powerful tool, which has both a personal touch and the information delivered has better clarity. On the other hand, written mode of communication (formal) has a very slow feedback process and the content may lack the richness of information. (Daft & Lengel 1984). Therefore, it is necessary to understand the situation and pick the right tool of communication.

Best practice of managing and developing a virtual team is by effective usage of communication and collaboration with the diverse virtual group of a virtual team (Abudi, G., 2012). Engaging the team and keeping them motivated helps them to be a better performer and increases the morale of the individuals. The effective way to keep a team productive is by having constructive discussions/problem solving, managing conflicts and reporting the status of the work on a timely basis.

There are multiple challenges when coming to managing virtual team (Teamwork.com. 2021)

- Communication style preferences varies from individual to individual
- Not using the right tool due to location constraints or cost factor
- Distrustful behaviour among teammates, feeling over worked
- Distracting work environment
- Slow response time due to different time zone and online-offline option availability

Cultural Intelligence

Cultural intelligence is defined as the skills that enable an individual to understand and become flexible of other cultures and learning and gradually reshaping their thoughts to the multicultural environment (Thomas and Inkson, 2008). Since 2003, Cultural Intelligence has emerged to understand the advancement of how effectively in a given situation an individual is characterized by cultural differences which has developed a 4 factor to study this form of intelligence (Ang and Van Dyne, 2008; Earley and Ang, 2003; Ng et al., 2009). The four dimensions are namely- cognitive, metacognitive, motivational and behavioural.

1. Cognitive CQ: is based upon the degree to which an individual understand the idea of a culture and how it shapes one's thought process (Van Dyne, Ang S., 2009). It also includes understanding of both the cultural differences i.e., different traits in all cultures and cultural universal i.e., common traits in all culture (Brown, 1991).
2. Metacognitive CQ: it is a strategy involved to understand one's own thought process to understand and get acquainted with the different cultural context and solve problems in a given situation (Van Dyne, L., Ang, S., & Livermore, D., 2009).
3. Motivational CQ: it refers to the level of interest, drive and the adaptability in a cross cultural situation. It enables an individual to work effectively through the challenges and the conflicts that is accompanied in a cross cultural work place.

(Van Dyne, L., Ang, S., & Livermore, D., 2009). It is also considered to have a positive impact on cultural effectiveness (Peng et al., 2014)

4. Behavioural CQ: it is the capability to understand and adapt to the verbal and non-verbal actions, it is otherwise called as action dimension. It is also very important to know when to adapt and when not to (Van Dyne, L., Ang, S., & Livermore, D., 2009).

While we have moved to the remote workforce, the challenges faced by the leaders are numerous. Having an open communication with employees, fostering team cohesiveness and implementing right communication tools can help to build a strong virtual team (Norwich.edu, 2021). The current situation demands for cultural intelligence as a pre-requisite in developing cultural competencies. It is necessary to understand what is valued and what is acceptable in different cultures to initiate a better relationship.

3) Need for the study

The aim of the paper is to bring out the changing trend in work lifestyle during the Covid-19 pandemic and how cultural intelligence (CQ) has an impact over the effectiveness of the global virtual teams. In addition, the study also helps the organisation and employers to understand the challenges faced by the team members and how to overcome those challenges.

4) Research Objectives

- 1) To study the relationship between the factors of cultural intelligence and variables of virtual team effectiveness.
- 2) To analyse the challenges faced in working remotely and giving suggestions to overcome the challenges

5) Hypothesis

H1: CQ positively related to virtual team effectiveness

H1a: Cognitive CQ impact on virtual team effectiveness

H1b: Metacognitive CQ impact on virtual team effectiveness

H1c: Motivational CQ impact on virtual team effectiveness

H1d: Behavioural CQ impact on virtual team effectiveness

H2: Mean CQ mean virtual team effectiveness and basis of work experience

H3: Mean CQ mean virtual team effectiveness and basis of time stayed abroad

6) Research Methodology

The survey method is adopted to understand the cultural intelligence and the factors of global virtual team effectiveness. The questionnaire was distributed among IT employees working in MNC's in which 61 valid responses were received. Snowballing technique was adopted for the present study. The survey consisted of two scales: CQ scale developed by Van Dyne et al., (2008)

constituting four dimension i.e., Cognitive CQ, Metacognitive CQ, Motivational CQ and behavioural CQ. The second scale is Virtual team effectiveness. The scale is derived from the Team effectiveness diagnostic by London Leadership Academy. The scale initially consisted of eight factors which has been reassessed to the current virtual team effectiveness and finally was brought down to a 6 factor scale, namely, coordination, communication, building trust, cohesion, performance and role. The software Jamovi was used to interpret the results of the data collected. The demographic distribution of the respondent is depicted in table1:

Table 1: Demographic table

S.No	Parameters	Responses	Percentage
1	Age		
	a)less than 25	13	20.6
	b) 26- 30	19	30.2
	c) 31- 40	29	46.0
	d) above 40	2	3.2
2	Gender		
	a) Male	31	49
	b) Female	32	51
3	Work Experience		
	a) 0-5	28	44.4
	b) 6- 10	17	27.0
	c) 11- 15	15	23.8
	d) 16- 20	3	4.8
4	No. of years stayed abroad		
	a) nil	31	49.2
	b) less than 2 months	6	9.5
	c) one year	5	7.9
	d) > 1year	21	33.3
5	Job level designation		

	a) General manager	2	3.174603
	b) DGM	3	4.761905
	c) Senior Project Manger	11	17.46032
	d) Project Manager	8	12.69841
	e) team leader	12	19.04762
	f) Specialist/staff	26	41.26984

7) Analysis and Interpretation

The first part of the study aims to analyse whether there is a relationship between the factors of cultural intelligence and variables of virtual team effectiveness.

H1: CQ positively related to virtual team effectiveness

Correlation Matrix

Correlation analysis gives us an insight about the relationship between the variables of cultural intelligence (CQ) and the dimensions of virtual team effectiveness. Each variable of CQ is analysed with all the dimensions of the virtual team effectiveness and the level of significant is thereby ascertained.

H1a: There is no significant correlation between Cognitive CQ and dimensions of virtual team effectiveness

Table 2:

Correlation Matrix													
		Role Clarity		Coordin ation		Collaborati on/Cohesio n		Building Trust		Perform ance		Communi cation	
Cogniti ve CQ	Pearson' s r	0.461	** *	0.027	* *	0.032		0.400	* *	0.04		0.071	
	p-value	<.001		0.009		<.001		0.001		0.003		<.001	
Note. * p < .05, ** p < .01, *** p < .001													

Evaluating the correlation between the factors of virtual team effectiveness i.e. role clarity, and building trust shows ($p > 0.05$) significant relationship with cognitive CQ. Whereas coordination, collaboration/cohesion, performance and communication is not significant with the Cognitive CQ. It was observed $p < 0.05$ therefore there is a significant correlation of cognitive CQ with the factors of virtual team effectiveness

H1b: There is no significant correlation between Metacognitive CQ and dimensions of virtual team effectiveness

Table 3

Correlation Matrix													
		Role Clarity		Coordination		Collaboration/Cohesion		Building Trust		Performance		Communication	
Metacognitive CQ	Pearson's r	0.085		0.036		0.234		0.059		0.098		0.066	
	p-value	<.001		0.002		0.006		0.004		<.001		<.001	
Note. * $p < .05$, ** $p < .01$, *** $p < .001$													

Metacognitive CQ is a mental process that individual use to acquire and understand CQ of others like preparing an action plan before interacting with people from different culture or understanding their culture while interacting. From the above table it is understood Metacognitive CQ has a significant correlation ($p < 0.05$) with the dimensions of virtual team effectiveness. Therefore there is a significant correlation between Metacognitive CQ and dimensions of virtual team effectiveness

H1c: There is no significant correlation between Motivational CQ and dimensions of virtual team effectiveness

Table 4

Correlation Matrix							
		Role Clarity	Coordination	Collaboration/Cohesion	Building Trust	Performance	Communication

Motivational CQ	Pearson's r	0.507	**	0.511	**	0.492	***	0.414	**	0.518	**	0.395	**
	p-value	<.001		<.001		<.001		<.001		<.001		0.001	
Note. * p < .05, ** p < .01, *** p < .001													

Motivational CQ describes the individual capacity to towards learning and comprehending about different intercultural situation like initiating interactions with people from different culture or adjusting to a new cultural environment. The above table shows that there is a no significant with motivation CQ with virtual team effectiveness (0.507, 0.511, 0.492, 0.414, 0.518, 0.395 > 0.05). There is a no significant correlation between Motivational CQ and dimensions of virtual team effectiveness.

H1d: There is no significant correlation between Behavioural CQ and dimensions of virtual team effectiveness

Table 5

Correlation Matrix													
		Role Clarity		Coordination		Collaboration/Cohe sion		Building Trust		Performan ce		Communicat ion	
Behavi oural CQ	Pear son's r	0.489	**	0.333	**	0.405	**	0.394	**	0.326	**	0.503	***
	p- valu e	<.001		0.008		0.001		0.001		0.009		<.001	
Note. * p < .05, ** p < .01, *** p < .001													

Behavioural CQ is the capability an individual exhibits while appreciating actions of another individual from different culture by modifying body language and adapting non- verbal communication. The above table shows that there is no correlation between the behavioural CQ with virtual team effectiveness (0.489, 0.333, 0.405, 0.394, 0.326, 0.503 > 0.05). There is no significant correlation between Behavioural CQ and dimensions of virtual team effectiveness.

Linear Regression

Regression analysis provides us with a relationship between the variables (dependent and independent). Here the analysis is examined to find the relationship between the factors of cultural intelligence which is considered as a dependent factor and the variables of virtual team effectiveness as independent factor. The results revealed that the Metacognitive (41.7%) has a better fit when compared to other factors. Therefore it is understood from the R^2 that there is large distance between the actual values predicted values.

Table 6

Cultural Intelligence – Factors	Predictor	Estimate	SE	t	p	R²
Cognitive CQ	Role Clarity	0.4468	0.253	2.766	0.083	0.316
	Coordination	-0.4573	0.251	2.824	0.074	
	Collaboration/Cohesion	0.4582	0.237	1.937	0.058	
	Building Trust	-0.1164	0.227	2.512	0.011	
	Performance	-0.0908	0.217	2.419	0.077	
	Communication	0.2871	0.216	1.330	0.189	
Metacognitive CQ	Role Clarity	0.4112	0.220	2.869	0.067	0.417
	Coordination	-0.2400	0.218	-1.101	0.276	
	Collaboration/Cohesion	-0.0364	0.206	-0.177	0.860	
	Building Trust	-0.3048	0.198	1.542	0.129	
	Performance	0.3225	0.188	2.712	0.092	
	Communication	0.4258	0.188	2.268	0.027	
Motivational CQ	Role Clarity	0.3517	0.216	1.625	0.010	0.355
	Coordination	0.0931	0.215	2.434	0.066	
	Collaboration/Cohesion	0.2715	0.202	1.341	0.185	
	Building Trust	-0.1652	0.194	1.850	0.199	
	Performance	0.3033	0.185	1.636	0.107	
	Communication	-0.2302	0.185	2.247	0.018	

Behavioural CQ	Role Clarity	0.6216	0.292	2.126	0.038	0.325
	Coordination	-0.4587	0.290	1.583	0.119	
	Collaboration/Cohesion	0.3946	0.274	1.443	0.155	
	Building Trust	-0.0781	0.263	-0.297	0.767	
	Performance	-0.2622	0.250	-1.047	0.300	
	Communication	0.3787	0.250	1.517	0.135	

The finding suggest that there is a strong relationship between the CQ and the factors of virtual team effectiveness. Based on the results of correlation, the factors Cognitive and Metacognitive shows no significant to the virtual team effectiveness. The factors Motivational CQ and Behavioural shows a significant relationship with the virtual team effectiveness. As far as regression is considered all the factors of cultural intelligence has a significant relationship with the factors of virtual team effectiveness but certain factors such as collaboration with metacognitive and building trust with behavioural CQ shows negative relationship ($p>0.05$). Therefore all the factors of the CQ and the variables of the virtual team effectiveness are significantly related ($p<0.05$)

Further the analysis is carried on to find the relationship between the demographic variables with the cultural intelligence and the virtual team effectiveness using analysis tool ANOVA. The demographic variables which were considered to find the relationship were work experience and on-site experience (no.of years stayed abroad).

H2: Mean CQ mean virtual team effectiveness and basis of work experience

H2a: There is no significant relationship between the mean of CQ and work experience

Table 7

Group Descriptives- One way ANOVA Welch's								
		work exp	N	Mean	SD	SE	F	P
mean CQ	0-5		27	1.96	0.759	0.1460	0.449	0.724
	6-10		18	2.06	0.416	0.0981		
	11-15		15	1.87	0.516	0.1333		
	16-20		3	1.67	1.155	0.6667		

The above table shows that the P-value is 0.724 which is greater than 0.05 which is not statistically significant at 5% level of significance. Hence, the null hypothesis H2a is accepted. It is observed that there is no significant difference between the mean CQ and the work experience

H2b: There is no significant relationship between the mean of virtual team effectiveness and work experience

Table 8

Group Descriptives- One way ANOVA Welch's								
	work exp	N	Mean	SD	SE		F	P
Mean VI	0-5	27	2.00	0.784	0.151		1.37	0.310
	6-10	18	1.89	0.676	0.159			
	11-15	15	1.67	0.617	0.159			
	16-20	3	1.33	0.577	0.333			

The above table shows that the P-value is 0.310 which is greater than 0.05 which is not statistically significant at 5% level of significance. Hence, the null hypothesis H2a is accepted. It is observed that there is no significant difference between the mean CQ and the work experience

H3: Mean CQ mean virtual team effectiveness and basis of time stayed abroad

H3a: There is no significant relationship between the mean of CQ and basis of time stayed abroad

Table 9

Group Descriptives - One way ANOVA Welch's								
	Time stayed abroad	N	Mean	SD	SE		F	P
mean CQ	Nil	31	2.03	0.657	0.118		5.36	0.012
	less than 2 months	6	2.33	0.516	0.211			
	one year	21	1.90	0.539	0.118			
	> one year	5	1.20	0.447	0.200			

The above table shows that the P-value is 0.012 which is less than 0.05 which is statistically significant at 5% level of significance. Hence, the null hypothesis H3a is rejected. It is observed that there is a significant relationship between the mean CQ and the time stayed abroad.

H3b: There is no significant relationship between the mean of virtual team effectiveness and basis of time stayed abroad

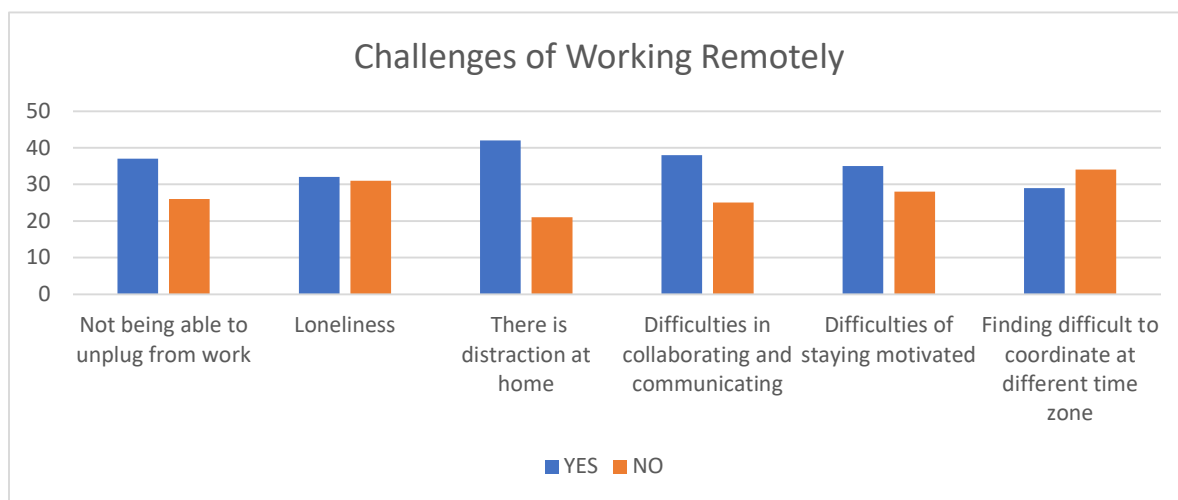
Table 10

Group Descriptives - One way ANOVA Welch's								
	Time stayed abroad	N	Mean	SD	SE		F	P
Mean VI	Nil	31	1.84	0.779	0.140		4.60	0.021
	less than 2 months	6	1.67	0.816	0.333			
	one year	21	2.10	0.539	0.118			
	> one year	5	1.20	0.447	0.200			

The above table shows that the P-value is 0.021 which is less than 0.05 which is statistically significant at 5% level of significance. Hence, the null hypothesis H3b is rejected. It is observed that there is a significant relationship between the mean CQ and the time stayed abroad.

Challenges of working in a virtual team

Table 11



From the above chart it's evident that employees are being out into a stressful situation where they have to cope with both psychological situation and physical difficulties. Employees work life balance has been compromised. 58% employees have mentioned they have difficulties to unplug from work. 51% feels lonely by the option work from home. 67% feels distracted while working at home which would bring down the productivity level of the employees. 60% finds difficult in communicating with team mates and collaborating with them, which would eventually bring down the team effectiveness. As the work life is been compromised employees motivation level has drastically come down 55% employees does not feel motivated to do the job. Coordinating at

different time zones has shown a moderate feedback 53% employees don't feel the stress of coordinating with the other team members from other zones.

Suggestions:

- Adopting an open communication platform for the team members
- Building a meaningful relationship among co-workers and nurturing their relationship
- Conducting virtual team building exercises
- Having sessions where employees can share with the other co-workers on how to improve the productivity
- Keeping a track on employees performance and holding the team accountable to avoid work escapism and overburdening of work on other employee

As people are worried about job security and juggling life with personal work like child care, family chores etc. it's mandatory that the managers appreciate the work of the employees. Highlighting their achievements, promoting employee benefit programmes and so on.

8) Conclusion

The study throws insight that CQ predict virtual team effectiveness in terms of role clarity, coordination, collaboration, performance, building trust and communication. The four dimensions of CQ i.e. cognitive, metacognitive, motivational and behavioural has an impact on the virtual team effectiveness. The study has proved that cognitive and metacognitive have a significant relationship with virtual team effectiveness and behavioural and motivational doesn't show significance. Regression analysis showed the relationship with all the aspects of CQ and virtual team effectiveness. The factors such as collaborating and building trust need to be addressed among the employees. It is mandatory that the organisation gives the employees the necessary training to sharpen their skill set and cultural intelligence as it has direct impact when comes to global virtual team effectiveness. The pandemic has led to a paradigm shift in work lifestyle, this shift is expected to continue for near future. It is therefore necessary that the organisation supports its employees and boost their morale which leads to higher productivity and performance.

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