

The Role of Culturally Intelligent Team Leaders on Task Performance

Dulce Pacheco

Madeira Interactive Technologies Institute, Funchal, Portugal

dulce.pacheco@m-iti.org

Scott Stevens

Entertainment Technology Center, Carnegie Mellon University, Pittsburgh, PA

scottstevens@cmu.edu

Abstract. Workforces are becoming increasingly more diverse, as they function in disciplinary and culturally diverse environments. There is a growing need for effective leadership in these settings. Research shows that cultural values influence both role expectations and perceptions of role expectations and correlate to poor performance evaluations. We hypothesize that leaders with a better understanding of cultural values would lead their teams to higher task performance. A study was conducted with a sample of 19 students, all team leaders working in a project-based class for one semester in a disciplinary and culturally diverse graduate program. Cultural intelligence or cultural quotient (CQ) was measured by the Cultural Intelligence Scale (CQS) and experts evaluated team task performance. Results indicate that Cognitive CQ and Motivational CQ positively correlate to task performance. The outcomes of this study can be used in the selection, training, and development of leaders of culturally diverse teams.

Introduction

Cooperation between individuals from different backgrounds is frequently necessary in addressing complex tasks performed in today's workplace (Pacheco,

2015; Pacheco & Soares, 2017), especially in new product development teams (Weingart, Todorova & Cronin, 2010). Consequently, there is a growing need for effective leadership for these disciplinary and culturally diverse environments (Ng, Van Dyne, & Ang, 2009). Moreover, organizations need to consider how best to maintain these diverse teams that have exhibited exceptional innovation (Weingart et al., 2010). Research shows that cultural values play a critical role in human behavior in organizations (Stone-Romero, Stone, & Salas, 2003), as those values influence both role expectations and perceptions of role expectations (Ang et al., 2007; Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006). Moreover, findings show that cultural differences correlate to poor task performance (Stone-Romero et al., 2003). According to Campbell (1999), task performance is a function of knowledge, skills, abilities, and motivation directed at role-prescribed behavior (Campbell, 1999).

Cultural intelligence or cultural quotient (CQ) is defined as an individual's capability to function and manage effectively in culturally diverse settings (Ang & Van Dyne, 2008). CQ is conceptualized as a four-dimensional construct: two mental, metacognitive and cognitive, along with motivational, and behavioral CQ (Ang & Van Dyne, 2008). Metacognitive CQ is the capability for consciousness and awareness during intercultural interactions (Ang et al., 2007). Those high on metacognitive CQ are consciously aware and mindful of cultural preferences and norms (Ng et al., 2009). Cognitive CQ focuses on knowledge of norms, practices, and conventions in different cultural settings (Ang et al., 2007). Individuals high on cognitive CQ can anticipate and understand similarities and differences across cultures (Ng et al., 2009). They also understand better their own role and their role expectations (Stone-Romero et al., 2003). Motivational CQ is the capability to direct attention and energy toward learning about, practicing, and functioning in culturally different situations (Stone-Romero et al., 2003). Those high in motivational CQ experience intrinsic satisfaction and are confident about their ability to function in culturally diverse settings (Ng et al., 2009). Finally, behavioral CQ is the capability to exhibit situationally appropriate actions from a broad repertoire of verbal and non-verbal behaviors (Ang et al., 2007).

We hypothesize that in disciplinary and culturally diverse teams, leaders with higher cultural intelligence will lead their teams to higher task performance.

Method

Participants were 19 graduate college students (53% females, 47% males; mean age of 24.5, age range 21-33), attending a disciplinary diverse program in a Northeastern US university, in Spring 2017. A majority of the responders come from the US (53%), 26% were from China, and remaining 21% were from India, South Korea, Malaysia, and Israel. They were leaders of teams that had to develop new products. Participants were working in a project-based class for one semester.

Teams in this study go through a specific dynamic process of collaborative design and development, that is called ‘creative chaos’ (Davidson, 2016).

A survey with the Culture Intelligence Scale (CQS; Ang et al., 2007) was sent by email to the students at the beginning of the semester, with 18 responding (N=18, $\alpha=.70$). CQS comprises four sub-scales to measure the four-dimensions of CQ, namely: Strategy (metacognitive; 4 items, $\alpha=.55$); Knowledge (cognitive; 6 items, $\alpha=.67$); Motivation (motivational; 5 items, $\alpha=.70$); and Behavior (behavioral; 5 items, $\alpha=.68$).

Experts assessed task performance of each team, by attending a presentation and a demo of the artifact produced and by filling a survey. The research team designed the experts’ survey based on the work of previous researchers (Plucker & Renzulli, 2014; Todorova, 2011) and with the assistance of domain experts. Other domain experts later revised the survey. The questionnaire included 12 questions (e.g., “The interactive design of this product is innovative”, and “The physical engineering of this product is of high quality”), scored on a 7-point scale (1=*strongly disagree* to 7=*strongly agree*). Experts were on average 44 years old (age range 37-55), with the mean work experience in the entertainment technology field of 23 years (years of experience in creative areas range 10-40).

Findings and Discussion

The relationship between the CQ of the leader and task performance of the team was investigated. A *Pearson Correlation Coefficient* disclosed a statistically significant positive relationship linking task performance to the CQS’ sub-scales Knowledge ($r=.60$, $p=.03$) and Motivation ($r=.63$, $p=.02$). There was no statistically significant relationship between task performance and both the CQS’ sub-scales Strategy ($r=-.11$, *ns*) and Behavior ($r=.31$, *ns*).

Results show that leaders’ cognitive CQ positively relates to task performance, which corroborates previous findings that CQ facilitates the understanding of and compliance with role expectations (Stone-Romero et al., 2003). Research mentions that individuals with high cognitive CQ are more likely to have accurate expectations and less likely to make inaccurate interpretations of cultural interactions (Ng et al., 2009), which might have helped to manage the team effectively.

Findings also confirm that high motivational CQ individuals have higher task performance, as they direct their energy toward learning role expectations and practice new behaviors and through practice, improve their performance (Stone-Romero et al., 2003). Moreover, those with high motivational CQ feel intrinsic satisfaction and are confident about their ability to function in culturally diverse settings (Ng et al., 2009), which might have influenced the dynamics of the teams.

Our study did not confirm the positive relationship between metacognitive CQ and task performance found by other researchers (Ang et al., 2007). Several factors

may have contributed to the null result, including the study setting (academia vs. industry); age differences; and cultural diversity. Our work tends to confirm that behavior CQ is positively related to task performance, as it has been previously reported (Ang et al., 2007; Shaffer et al., 2006), but in our study these results did not meet the 95% confidence threshold. Interestingly, Ang and her team (Ang et al., 2007) found that metacognitive CQ and behavior CQ were the factors predicting task performance in work environments. Differences in these findings might be explained by the research setting (academia vs. industry). Additional empirical studies are needed to clarify the relationship between CQ and task performance, controlling for third variables that might mediate this connection (e.g., task conflict, relationship conflict, leadership style, personality traits of the leader or team members, academic vs. industrial setting).

Conclusion

The primary goal of this study was to explore the relationship between the cultural intelligence of the team leader and task performance by the team. Findings revealed that the leaders' cognitive CQ and motivational CQ positively correlates to task performance, as these CQ dimensions facilitate the compliance to role expectations. Individuals high on cognitive CQ tend to more accurately interpret cultural interactions, and individuals high on motivational CQ show more confidence in culturally diverse settings. Both these factors might have helped leaders to manage their disciplinary and culturally diverse teams better, leading them to higher task performance. Our data do not show a strong connection between the metacognitive and behavior CQ sub-scales of the leader to task performance.

Our work can have practical implications for the selection, training, and development of leaders in diverse team settings. Current findings are from a preliminary analysis of the data collected. Further analyses are planned.

Acknowledgments

Special thanks to Prof. Drew Davidson from ETC – Carnegie Mellon University for his help and support to the project. We are particularly grateful for the work done by the experts that evaluated task performance. We would like to acknowledge the aid of Prof. Laurie Weingart, Prof. Kenneth Goh, Prof. Gergana Todorova, and the PhD Candidate Anna Mayo when designing the study and collecting the data.

This work is supported by the Fundação para a Ciência e Tecnologia (Projeto Estratégico – LA9 UID/EEA/50009/2013), by the Carnegie Mellon Portugal partnership (scholarship 3368/BMOB/16), and by Regional Development European Funds, for the Operational Program “Madeira 14-20” (M1420-01-0145-FEDER-000002).

References

- Ang, S., & Van Dyne, L. (2008): 'Conceptualization of cultural intelligence: Definition, distinctiveness, and nomological network', in S. Ang & L. Van Dyne (eds). *Handbook on cultural intelligence: Theory, measurement and applications*. M.E. Sharpe, New York, pp. 3-15.
- Ang, S., Van Dyne, L., Koh, C.K.S., Ng, K.Y., Templer, K. J., Tay, C., & Chandrasekar, N.A. (2007): 'Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation, and Task Performance', *Management and Organization Review*, vol. 3, pp. 335–371. doi:10.1111/j.1740-8784.2007.00082.x
- Campbell, J.P. (1999): 'The definition and measurement of performance in the new age', in: D.R. Ilgen & E.D. Pulakos (eds.): *The changing nature of performance: Implications for staffing, motivation, and development*, Jossey-Bass, San Francisco, pp. 399-429.
- Davidson, D. (2016): *Creative Chaos: Learning Lessons on Inclusion & Innovation | Making the Magic*, Carnegie Mellon University: ETC Press, Pittsburgh, PA. <http://repository.cmu.edu/etcpres/51>
- Ng, K.-Y., Van Dyne, L., & Ang, S. (2009): 'Developing global leaders: The role of international experience and cultural intelligence', in W. H. Mobley, Y. Wang, & M. Li (eds.): *Advances in global leadership*, Bingley, UK: Emerald Group Publishing, pp. 225-250. doi:10.1108/S1535-1203%282009%290000005013
- Pacheco, Z.D.G. (2015): *Teamwork in academia: an empirical study* (Doctoral dissertation), Universidade of Madeira, Funchal. Retrieved from <http://hdl.handle.net/10400.13/1109>
- Pacheco, D. & Soares, L. (2017). Does the Perception of Team Collaboration Changes with Time? Study with Computer Science Students. Proceedings of the 12th Biannual Conference of the Italian SIGCHI Chapter, vol. 1910, pp. 153-157. Retrieved from <http://ceur-ws.org/Vol-1910/paper0212.pdf>
- Plucker, J. A., & Renzulli, J. S. (2014): 'Psychometric Approaches to the Study of Creativity', in R. J. Sternberg (ed.), *Handbook of Creativity*, Cambridge University Press, pp. 35–61.
- Shaffer, M.A., Harrison, D.A., Gregersen, H., Black, J.S., & Ferzandi, L.A. (2006): 'You can take it with you: Individual differences and expatriate effectiveness', *Journal of Applied Psychology*, vol. 91, pp. 109-125.
- Stone-Romero, E., Stone, D.L., & Salas, E. (2003): 'The influence of culture on role conceptions and role behavior in organizations', *Applied Psychology: An International Review*, vol. 52, pp. 328-362.
- Todorova, G. (2011): *Resolving the Conflict-Creativity Tension in Functionally Diverse Innovation Teams* (Doctoral dissertation), Carnegie Mellon University. Retrieved from <https://pdfs.semanticscholar.org/b7e9/c72bd4b66de8ca19f56f101613134d70b2a6.pdf>
- Weingart, L. R., Todorova, G., & Cronin, M. A. (2010): 'Task Conflict, Problem-Solving, and Yielding: Effects on Cognition and Performance in Functionally Diverse Innovation Teams', *Negotiation and Conflict Management Research*, vol. 3, n. 4, pp. 312–337. doi:10.1111/j.1750-4716.2010.00063.x