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EXPLORING THE ROLE OF CULTURAL INTELLIGENCE IN DRIVING INNOVATION: EVIDENCE FROM SYSTEMATIC REVIEW AND INDUSTRY PRACTICES

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Abstract:

Background: Although research on cultural intelligence remains limited, interest in the topic has grown significantly in recent years. Since cultural diversity and cultural understanding play important roles in innovation, cultural intelligence is increasingly recognized as a critical factor for organizational competitiveness. A key challenge related to cultural intelligence (CQ) lies in the gap between increasing workplace cultural diversity and organizations' limited capability to manage it effectively. This lack of CQ hinders collaboration, knowledge sharing, and innovation performance, preventing organizations from fully leveraging diversity for competitive advantage.
Purpose: This study aims to analyze the theoretical and practical influence of cultural intelligence on innovation, particularly within the service industry.
Design/Methodology/Approach: A qualitative approach was employed through a systematic review of 42 Scopus-indexed journal articles, involving the identification, evaluation, and interpretation of relevant studies. The findings from the review were further enriched with quantitative insights drawn from exploratory interviews with eight industry practitioners, analyzed using a simple scoring approach.
Findings/Results: The results reveal that only 30.6% of the CQ practices identified in the literature were found to be implemented by the surveyed companies. Moreover, the study identifies emerging variables in cultural intelligence development, including the creation of a harmonious and flexible work environment between senior and junior employees, competitive advantage, alignment of organizational culture with business strategy, and customer demand generation.
Conclusions: The findings suggest that companies should better leverage their available resources to enhance cultural intelligence, thereby fostering greater innovation capacity. Key actors, including top management, HR professionals, team leaders, and employees, play essential roles in developing and implementing cultural intelligence. Each contributes strategically to embedding CQ through leadership, talent management, training, and collaborative practices that enhance innovation and competitiveness.
Originality/Value (Sate of the Art): This research contributes to the literature by integrating systematic review with industrial practice analysis, highlighting underexplored cultural intelligence variables and offering state-of-the-art insights into how cultural intelligence can be leveraged to strengthen innovation in the service sector.

Keywords: cultural intelligence, innovation, systematic review, service industry, organizational culture

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INTRODUCTION

An increasingly dynamic global environment requires organizations to make better use of their cross-cultural resources. (Azevedo & Shane, 2019), moreover, the movement of economic resources both human and capital is one of the most important parts of world development (Fan et al. 2020). This trend has increased workforce diversity, the emergence of multicultural teams and also adjusting organizational structures (Kadam et al. 2020). The emergence of issues about cross-cultural understanding in organizations will have an impact on innovation, and advantage in anticipating environmental changes (Berraies, 2020), so they can continue to have a competitive advantage and succeed (Afsar et al. 2020).

In the 2021 Global Innovation Index (GII), the countries that ranked highest in innovation were Switzerland, Sweden, the United States, the United Kingdom, and the Republic of Korea, occupying the top five positions worldwide. Conversely, among the lowest-ranked economies, several low-income countries such as Ethiopia (126th), Mali (124th), Mozambique (122nd), Madagascar (110th), and Tajikistan (103rd) ranked near the bottom of the GII list. Meanwhile, Indonesia's innovation ranking is 87th out of 132 countries, this condition decreases when compared to the 85th previous year. One of the triggers for the low innovation ranking is the knowledge of workers who are ranked 126th (World Intellectual Property Organization, 2021), even though knowledge is one of the dimensions of CQ that will drive innovation. Innovation covers marketing, products, processes, and organizations (Cassol et al. 2016; Yuwono, 2020).

Culture has long been a focus of academic inquiry, particularly in relation to ethics and human interaction (Patel & Salih, 2018). As culture continuously evolves, this evolution becomes a fundamental source of potential innovation (Matějíček, 2021). Innovation, in general, represents the implementation of new ideas, processes, products, or services that fulfill customer needs and organizational goals (Mona et al. 2016). The measurement of innovation includes six indicators: the frequency of developing new products or services, responsiveness to customer needs, improvement in company performance, implementation of new technologies, and adoption of new methods (Shan et al. 2018). Various scholars have classified innovation into several dimensions. Costa et al. (2014) define product innovation as introducing new goods or services that meet user goals, while Cassol et al. (2016) categorize innovation into marketing, product, process, and organizational innovation. Similarly, Nazarpoori (2017) identifies product, process, and managerial innovation as the main types, each contributing differently to company differentiation and operational efficiency.

Within this context, Cultural Intelligence (CQ) emerges as a critical factor influencing innovation. CQ refers to an individual's capability to function effectively across diverse cultural settings (Yuwono et al. 2020), encompassing four core dimensions: metacognitive, cognitive, motivational, and behavioral (Ang et al. 2007; Gölgeci et al. 2016). CQ enables employees to interact, communicate, and collaborate productively in multicultural environments, directly influencing organizational performance and sustainable innovation (Li et al. 2021). However, research examining all CQ dimensions in relation to innovation remains limited (Berraies, 2020), and much of the literature still relies on geoethics-based cultural conceptualizations (Patel & Salih, 2018).

Empirical evidence supports CQ's role in enhancing innovation at both individual and organizational levels. According to social identity theory, CQ reduces cultural barriers within teams, promoting open communication and collaborative learning (Ratasuk & Charoensukmongkol, 2020). Employees with higher CQ and strong communication abilities are more likely to generate and implement innovative ideas (Afsar et al. 2020). Several studies have confirmed the mediating roles of knowledge sharing (Berraies, 2020; Fan et al. 2020; Li et al. 2021) and interpersonal trust (Kistyanto et al. 2021) in the CQ innovation relationship, while others identify moderating effects of inclusive climate (Fan et al. 2020) and entrepreneurial orientation, especially within SMEs. Higher levels of knowledge sharing and trust have been shown to amplify the impact of CQ on innovation outcomes.

Further research also links CQ with other psychological and organizational factors. Long (2021) finds that CQ is shaped by age and international experience, and that higher CQ enhances employee creativity. CQ also enriches learning innovation by expanding intercultural exposure beyond monocultural contexts (Key et al. 2021). However, Azevedo & Shane (2019) emphasize that cultural understanding alone is insufficient, effective CQ development requires sustained training

interventions integrating cognitive, metacognitive, motivational, and behavioral elements. Similarly, Bernard and Thornton (2020) suggest that CQ-based humanities programs encourage imagination, multilingualism, and empathy, fostering innovation through deeper cultural awareness. Diversity and inclusion training (Kadam et al. 2020) further strengthen team cohesion and reduce cultural barriers, enhancing organizational adaptability and innovative capability.

In summary, while previous studies have established that CQ contributes positively to innovation, the existing literature remains fragmented, often focusing on isolated dimensions or specific contexts. The novelty of this study lies in its comprehensive integration of all CQ dimensions and their mediating mechanisms: such as knowledge sharing, interpersonal trust, and innovative capability within a cross-cultural and developing-country context. This approach provides a holistic understanding of how CQ can be systematically developed and applied to drive sustainable innovation in organizations.

To address these gaps, this study employs an integrated problem-solving approach combining theoretical synthesis and empirical investigation through three stages. First, it identifies and maps the relationships between the dimensions of Cultural Intelligence (CQ): metacognitive, cognitive, motivational, and behavioral, and innovation outcomes based on prior models and evidence (Ang et al. 2007; Gölgeci et al. 2016). Second, a systematic review of 47 Scopus-indexed articles (Kitchenham, 2004) analyzes patterns and inconsistencies to understand how CQ influences innovation at individual and organizational levels. Finally, a mixed-method approach validates these insights in the Indonesian service industry, translating CQ concepts into practice and generating actionable managerial recommendations. This structured framework advances theory while offering practical strategies to strengthen CQ and foster sustainable innovation. This research aims to analyze both the theoretical and practical application of CQ in fostering innovation in the service industry with a qualitative and quantitative approach. Moreover, to develop the scientific field of CQ related to the latest research findings and provide recommendations for managerial implications.

METHODS

This study employs a mixed-method approach to analyze the role of Cultural Intelligence (CQ) in driving innovation. The data are derived from two primary sources: (1) secondary data obtained through a systematic review of international journal articles indexed in Scopus, and (2) primary data collected from respondents in the Indonesian service industry. The secondary data consist of 47 peer-reviewed articles published up to June 15, 2023, identified using the keywords “Cultur* intell*” AND “Innovat*” on the Scopus database. Authors rely solely on the Scopus database because it is one of the most comprehensive and high-quality sources of peer-reviewed literature worldwide. Its rigorous indexing standards, broad journal coverage, and transparent citation metrics ensure methodological robustness in systematic literature reviews. Limiting the data source to Scopus also enhances transparency, replicability, and quality control, thereby strengthening the credibility of the findings. The primary data are sourced from purposively selected respondents who meet the following criteria: (a) owner or director of a service/consulting company, (b) minimum of a bachelor’s degree, (c) sufficient understanding of CQ and innovation topics, and (d) a company operating for at least three years.

Data collection was conducted in two phases. The first phase involved a systematic literature review following the procedures outlined by Kitchenham (2004), which include identifying, evaluating, and interpreting relevant studies. The second phase involved a survey using exploratory interviews, designed to capture respondents’ honest perspectives (Chairilsyah, 2016). A single open-ended question was distributed via WhatsApp chat between July and August 2023: What has your company done to improve Cultural Intelligence (CQ) to drive innovation? This approach enabled the researcher to obtain candid responses reflecting real-world CQ implementation practices.

The data analysis consisted of both qualitative interpretation and quantitative scoring. Qualitative responses from interviews were analyzed using expert judgment to identify recurring themes and patterns aligned with theoretical frameworks. These findings were then quantified and tabulated using a scoring analysis to assess the extent to which CQ practices align with theoretical expectations. Each practice consistent with theory received a score of “1,” while inconsistencies received a score of “0.” The final results

were synthesized to draw conclusions and formulate practical recommendations for strengthening CQ-driven innovation in organizations.

In this study, the researcher adopted a conceptual approach employing a systematic review method, which was carried out through three sequential stages, as shown in Figure 1: (1) identification, (2) evaluation, and (3) interpretation. During the identification stage, relevant scholarly articles were determined and selected based on their alignment with the research objectives. In the evaluation stage, a comprehensive mapping of variables pertinent to the research topic was conducted to ensure analytical rigor. Finally, in the interpretation stage, the findings were synthesized, and conclusions were drawn to provide meaningful insights and implications for future research. In the identification stage, a total of 47 articles were collected from the Scopus database based on keywords related to Cultural Intelligence and innovation. During the initial screening process, titles, abstracts, and keywords were examined to assess their relevance to the research objectives. As a result, 5 articles were excluded due to limited relevance to the core variables examined in this study. Consequently, 42 articles were retained for further evaluation and thematic analysis. These selected studies were subsequently mapped and classified to identify key variables, mediating and moderating mechanisms, and theoretical patterns explaining the role of Cultural Intelligence in fostering innovation. The final synthesis of these articles provided the basis for developing conceptual insights and drawing research conclusions.

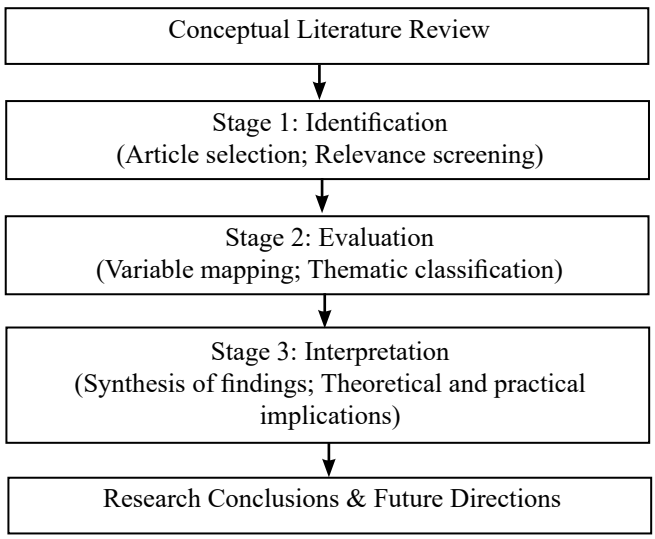

Figure 1. Research framework systematic review the role of cultural intelligence in driving innovation

RESULTS

Identification

In this stage, the researcher has determined the identification and selected articles that are by the research topic. Total 47 articles, there are only 42 articles that are relevant to the research.

Evaluation

The collected articles were then mapped. The mapping is divided into several parts: a) research with CQ variables that directly affect innovation; b) variables that determine CQ; c) variables that mediate between CQ and innovation; d) variables that moderate between CQ and innovation; and e) the influence of variables to variables outside innovation. The results of the mapping of research articles obtained the following results:

a) Research with CQ variables that directly affect innovation

The direct relationship between CQ and innovation has been studied by 14 authors (Afsar et al. 2020; Akkan et al. 2023; Awan, 2019; Azevedo & Shane, 2019; Berraies, 2020; Fan et al. 2020; Kadam et al. 2020; Kistyanto et al. 2021; Korzilius et al. 2017; Li et al. 2021; Lissillour & Sahut, 2022; Parent, 2009; Peterson, 2019; Ratasuk & Charoensukmongkol, 2020; Scholz, 2012; Wu & Zhou, 2014). Generally, this field is still relatively new because it was only in 2012 that it experienced development. The findings indicate that research on the direct effect of Cultural Intelligence (CQ) on innovation remains relatively limited and is still in an emerging stage, with most studies developing after 2012. Although 14 authors have empirically examined this relationship, the integration between CQ theory and innovation research has not yet reached full theoretical maturity. Existing studies generally confirm that CQ positively influences innovation by enhancing adaptability, cross-cultural understanding, and knowledge integration within multicultural teams, thereby fostering creative outcomes. However, further empirical validation across industries and cultural contexts is needed to strengthen the conceptual clarity and boundary conditions of this direct relationship.

b) Determinants of Cultural Intelligence

Cultural Intelligence (CQ) is shaped by interconnected individual, organizational, and experiential factors. Personal attributes such as empathy, openness, adaptability, and self-learning ability strengthen CQ, while organizational mechanisms, including training programs, governance systems, and global leadership, systematically support its development. Furthermore, international exposure and multicultural team experiences enhance CQ through direct cross-cultural interaction, confirming that CQ is a developable strategic capability rather than an innate trait.Cultural Intelligence determining variabel as shown in Table 1.

c) Variables that mediate Cultural Intelligence to Innovation

The findings indicate that Cultural Intelligence (CQ) influences innovation indirectly through several key mediating variables, with knowledge sharing emerging as the most dominant factor. High CQ fosters interpersonal trust, work engagement, teamwork quality, and affective commitment, creating a collaborative climate that supports innovative behavior. Additionally, mediators such as knowledge management, innovative capability, psychological well-being, and international opportunity recognition demonstrate that CQ enhances both internal processes and strategic responsiveness. Overall, CQ contributes to innovation by strengthening relational, cognitive, and organizational mechanisms.Variables that mediate Cultural Intelligence to Innovation as shown in Table 2.

Table 1. Driving factors and influences in cultural intelligence

Variable	Author
Empathy, discipline, employability	(Bernard & Thornton, 2020)
Effective global leader	(Peterson, 2019)
Training program	(Azevedo & Shane, 2019)
Relational governance	(Awan, 2019)
360 global educations	(Songer et al. 2018)
Multiculturalism	(Korzilius et al. 2017)
International immersion experience	(Reichard et al. 2015)
Wealth of knowledge, openness, measurement, flexibility, adaptability, self-learning ability	(Wu & Zhou, 2014)
Application system of CQ	(Wu et al. 2012)
Creativity and performance	(Parent, 2009)
Team multiculturalism	(Lakshman & Gonzalez, 2023)

Table 2. Mediating variable cultural intelligence towards innovation

Variable	Author
Knowledge sharing	(Li et al. 2021)
Interpersonal trust	(Kistyanto et al. 2021)
Knowledge sharing	(Peng et al. 2020)
Knowledge sharing	(Ratasuk & Charoensukmongkol, 2020)
Knowledge sharing	(Berraies, 2020)
Work engagement, Interpersonal trust	(Afsar et al. 2020)
IOR (international opportunity recognition)	(Lorenz et al. 2018)
Teamwork quality	(Scholz, 2012)
Knowledge management, innovative capability	(Chotivanich & Phorncharoen, 2023)
Affective commitment, Interpersonal trust, Psychological well-being	(Jain, 2022)
Interpersonal trust	(Kistyanto et al. 2021)

d) Cultural Intelligence variable as moderation of other variables

The findings indicate that Cultural Intelligence (CQ) functions as a moderating variable that strengthens the relationship between strategic factors and innovation. CQ enhances the impact of absorptive capacity by enabling more effective interpretation and integration of external knowledge, and it amplifies the influence of executive leadership by improving diversity management and inclusive decision-making. Overall, these results show that CQ acts as a strategic enhancer, reinforcing the effects of leadership and knowledge-based capabilities on innovation performance. Cultural Intelligence variable as moderation of other variables as shown in Table 3.

e) The influence of Cultural Intelligence on innovation

The findings demonstrate that Cultural Intelligence (CQ) has a broad and significant impact on innovation-related outcomes at the individual, team, and organizational levels. At the individual level, CQ enhances creativity, motivation, job performance, and knowledge acquisition; at the team level, it strengthens collaboration, knowledge sharing, trust, and overall performance while reducing ethnocentrism. At the organizational level, CQ supports leadership effectiveness, strategic agility, and firm performance, confirming that it is both a personal competency and a strategic resource for sustaining innovation and competitiveness. The influence of Cultural Intelligence on innovation as shown in Table 4.

Table 3. Moderating variable cultural intelligence towards innovation

Variable	Author
CQ as moderating between absorptive capacity to innovation	(Gölgeci et al. 2017)
CQ as moderating between executive leadership to innovation	(Elenkov & Manev, 2005)

Table 4. The influence of cultural intelligence on other variables

Variable	Author
Employee creativity	(Long, 2021)
Motivation	(Key et al. 2021)
Firm performance	(Kadam et al. 2019)
Business leadership	(Holtzhausen & Botha, 2019)
Social CQ and performance	(Awan, 2019)
Job performance	(Ramalu et al. 2011)
Negotiation success	(Bechter & Swierczek, 2017)
Knowledge sharing	(Kubátová, 2016)
Ethnocentrism (significant negative)	(Reichard et al. 2015)
Team performance	(Scholz, 2012)
Creativity and performance	(Parent, 2009)
Strategic agility	(Lakshman & Gonzalez, 2023)
Firm performance	(Chotivanich & Phorncharoen, 2023)
Knowledge transfer efficiency	(Cheng et al. 2022)
Affective commitment, Interpersonal trust	(Jain, 2022)
Psychological well-being	(Jain, 2022)
Knowledge acquisition	(Kozhakhmet & Nurgabdeshov, 2022)
Cultural teamwork	(Key et al. 2022)

The findings from the SLR and the primary data from consulting service firm owners consistently show that Cultural Intelligence plays a crucial role in fostering innovation in multicultural organizational contexts. Previous studies explain that CQ comprises four dimensions: metacognitive, cognitive, motivational, and behavioral, enable individuals to understand cultural differences, adapt communication styles, and generate innovative solutions (Ang & Inkpen, 2008; Gölgeci et al. 2016). The interview results support this view, indicating that CQ practices are reflected through interpersonal interaction, knowledge sharing, and collaborative work cultures. Respondents noted that open communication and cross-departmental knowledge exchange encourage idea generation and incremental innovation, which is consistent with earlier research showing that employees with high CQ are more likely to engage in innovative behavior and collaborative relationships (Afsar et al. 2020; Berraies, 2020; Kistyanto et al. 2021; Awan, 2019). The study also highlights the importance of creating a harmonious and flexible work environment that bridges generational differences, showing that internal organizational culture and intergenerational collaboration can further enhance CQ and support innovation

CQ comprises four dimensions: metacognitive, cognitive, behavioral, and motivational, to encourage the growth of innovation (Ang & Inkpen, 2008; Gölgeci et al. 2016). Someone who has understood CQ will easily interact and adapt to other people from various cultures, he will also try to know the cultural, religious, legal, and economic identity of the other country partner. Individuals with high CQ are generally more confident in interacting across cultures and making agreements on various matters such as sales in various cultures and changing verbal behavior in communicating with foreigners. Employees with high CQ will be more involved in innovative behavior (Afsar et al. 2020; Berraies, 2020; Kistyanto et al. 2021), encourage and maintain relationships with suppliers (Awan, 2019). CQ reflected through the metacognitive dimension of expatriate workers will help them to use contextual resources effectively in generating personal resources for innovating (Akkan et al. 2023). Moreover CQ has a direct impact on team member innovation rather than team performance (Kadam et al. 2020).

High CQ is shaped by several key determinants, namely the development of empathy, discipline, employability for employees (Bernard & Thornton, 2020). Employee development through these skills, knowledge, and competencies will be able to increase CQ which is implemented in the form of training (Azevedo & Shane, 2019), and 360 global education (Songer et al. 2018), international program (Reichard et al. 2015), or other activities that generate creativity and performance (Parent, 2009). In addition, the existence of effective global leaders will also greatly affect the CQ of a company (Peterson, 2019). Aside to the direct effect between CQ as above, CQ also has an indirect effect through mediating variables. Several studies concluded that CQ affects innovation through knowledge sharing (Berraies, 2020; Fan et al. 2020; Li et al. 2021; Ratasuk & Charoensukmongkol, 2020), interpersonal trust (Afsar et al. 2020; Jain, 2022; Kistyanto et al. 2021), work engagement (Afsar et al. 2020), teamwork quality (Scholz, 2012). In addition to mediating variables, there are also moderating variables that strengthen the relationship between CQ and innovation such as absorptive capacity variables (Gölgeci et al. 2017) and global leadership executives (Elenkov & Manev, 2005).

The influence of CQ in addition to innovation also affects other variables such as employee creativity (Long, 2021; Parent, 2009), motivation (Key et al. 2022), firm performance (Awan, 2019; Chotivanich & Phorncharoen, 2023; Kadam et al. 2019; Scholz, 2012), job performance (Ramalu et al. 2011), agility strategy (Lakshman & Gonzalez, 2023), psychological well-being (Jain, 2022), knowledge acquisition (Kozhakhmet & Nurgabdeshov, 2022). To find out to what extent the implementation of CQ practices on innovation in the company, spontaneous interviews were conducted with selected respondents. The identity of the respondents is kept confidential due to the respondents' request. The identity of the respondents in this study are: 1) Respondent-1 (R1), Mr. ANF, director of a service/ consulting company in Batam, a 48 years old male. A graduate of the doctoral program in economics of a reputable university in Jakarta-Indonesia who works in an international scale company in Batam., 2) Respondent-2 (R2), Mrs. NKL, a director of a national scale service/consulting company in Bali-Indonesia, female 48 years old. A graduate of a bachelor's program in informatics engineering from a reputable university in Surabaya-Indonesia., 3) Respondent-3 (R3), Mr. AS, a director of a service/consulting company in Jakarta, a 52-year-old man, a graduate of a doctorate program in economics from a reputable university in Jakarta-Indonesia who works for an international-scale

company in Jakarta., 4) Respondent-4 (R4), Mr. AN, a director of a service/consulting company in Batam, a 52-year-old man. A master of management graduate from a reputable university in Batam-Indonesia who works in an international scale company in Batam., 5) Respondent-5 (R5), Mr. MDM, a director of a service/consulting company in Batam, a 46-year-old man. A graduate of the doctoral program in economics from a reputable university in Jakarta-Indonesia who works in a national scale company in Batam., 6) Respondent-6 (R6), Mr. SW Director of an HR service/ consulting company in Jakarta. A man in his 50s. An engineering graduate currently working in Jakarta., 7) Respondent-7 (R7), Mr. YW Director of a service/ consulting company in Batam, a 54-year-old man. A graduate of the doctoral program in economics from a reputable university in Jakarta-Indonesia working for a national scale company in Batam, and 8) Respondent-8 (R8), Mrs. DM Director of a service company in Jakarta, Master of Business Administration, a 48 -year-old women, as shown in Tabel 5.

Table 5. Data from spontaneous interviews with respondents

No	Spontaneous Interview Result
R1	CQ, one aspect of which is related to interpersonal skills, the ability to be able to interact with coworkers, and be able to understand each other. Currently, this CQ can be done with a knowledge-sharing culture. In some companies, it is applied that each head of department is given the opportunity to be able to share things with all employees, in relation to sharing knowledge. If this can work well, of course, CQ can be carried out well and ideas will be open for the development of the company's business, one way is by innovation. Innovation is not only creating something new but also renewing or improving something that already exists.
R2	The CQ strategy that we do is to get closer to consumers, to understand consumer needs. By understanding customer needs, we can make innovations that customers need, and provide affordable prices with our company's market but balanced with good service and product quality. From the internal side, the company can create a harmonious and flexible work environment so that our employees/teams, who are mostly millennials, are more productive and happier. Customer and employee/team happiness is the key to the company continuing to exist in the face of any crisis.
R3	The practice of CQ in our company is to implement several strategies to optimize CQ so that the company can continue to innovate, namely: 1). Alignment of organizational culture with business strategy., 2) Increase employee engagement and empowerment., 3). Conduct cultural campaigns and socialization to all lines of the organization.
R4	With CQ in behavior, individuals will provide breakthroughs in the form of new ideas so that the demands for the organization to have a value proposition require change. These changes encourage the organization to innovate so that eventually the organization can compete with its competitors, so it is clear that CQ will have an impact on innovation in technology, products, and even other resources.
R5	Regarding CQ in the workplace towards innovation, in practice employees and management synergize with each other in maintaining the company. This discipline and culture of mutual understanding and understanding become easier and more acceptable to employees both in production and other staff and support. Work innovation arises and employees and management work hand in hand in maintaining the performance of both the employees themselves and the company or management.
R6	In my opinion, companies should motivate their employees to behave more flexibly and adaptively to the different work cultures adopted by various groups of workers. For example, the 'millennial' workforce, which is very strong in the online way of working, should be given the space and opportunity to take part more. Meanwhile, the 'more senior' workforce (in terms of age) can be flexible and adaptive to the 'different habits' of their junior employees.
R7	CQ contributes to customer demand generation.
R8	CQ for companies is very important because almost all activities in business are interactions between people of various cultures. Therefore, understanding other people's cultures will increase awareness of the importance of adapting, respecting, and cooperating. Indirectly, cultural awareness will create innovation to improve business performance. CQ requires a strong, creative leader who has CQ in managing resources, including human resources.

The researcher will carefully read each word from the results of the respondent's answer and interpret the data based on the expert judgement of the author into the points in the appropriate/inappropriate variable indicator table. If it is appropriate, it will get a score of 1 and zero for those that are not appropriate for implementation. The results are as follows in Table 6.

The driving factors of CQ have an average score of 27.3% and have been implemented by the surveyed companies such as multiculturalism team development activities (75%), increasing creativity, and company performance (75%). In general, on average, companies do not have leaders who have a global orientation or even expatriates (foreigners), because only one company has implemented this (12.5%). There are still many other driving factors that have not been implemented at all by the surveyed companies, such as training programs related to CQ either at home or abroad developing company wealth and other skills in the field of CQ, carrying out cooperation with the government related to CQ activities, and creating application systems related to CQ. In addition to confirming the results of previous research with the practices that have been carried out, this survey also found new things related to the determinants of CQ from good practices in these companies outside of previous research, namely creating a harmonious and flexible working environment between seniors and juniors (12.5% of implemented companies).

Based on Table 7, Cultural Intelligence variables affect innovation mediated by several variables such as knowledge management and innovative capability have been implemented by 75% of companies, knowledge sharing (50%), interpersonal trust (50%), teamwork quality (37.5%), work engagement (25%), affective commitment (25%), and the rest has not been implemented is IOR. CQ moderates or strengthens the relationship between absorptive capacity and innovation has been implemented by 25% of companies. In this study, it is also obtained that other variables practice both mediating variables that have been implemented by the company where the presence of CQ will increase innovation through competitiveness advantage. CQ will affect innovation through the mediation of competitive advantage. On the other hand, the alignment of organizational culture with business strategy will also strengthen the relationship (moderate) between CQ and innovation.

Based on the survey results as shown in Table 8, it turns out that CQ also affects other variables besides innovation. There are 33% of theories have been implemented and the benefits have been felt by the respondents surveyed, such as improving firm performance 75%, firm performance 62.5%, job performance 50%, a significant negative impact on ethnocentrism behavior, and others. New findings related to the influence of CQ on other variables outside of previous research have also been implemented by companies, namely demand creation and understanding customer needs (25% implemented by the surveyed companies).

Table 6. Scoring results of cultural intelligence driving factors

CI driving factors	R1	R2	R3	R4	R5	R6	R7	R8	Total	Scoring
Empathy, discipline, employability	1	1	1		1			1	5	62.5%
Effective global leader								1	1	12.5%
Training program									0	0.0%
Relational governance									0	0.0%
360 global educations									0	0.0%
Multiculturalism	1	1	1		1	1		1	6	75.0%
International immersion experience									0	0.0%
Wealth of knowledge, openness, measurement, flexibility, adaptability, self-learning ability									0	0.0%
Application of CQ									0	0.0%
Creativity and performance	1	1	1	1	1		1		6	75.0%
Team multiculturalism	1	1	1		1	1		1	6	75.0%
Total	4	4	4	1	4	2	1	4	24	27.3%

Table 7. Mediating and moderating variables in the relationship between cultural intelligence and innovation

Variable	R1	R2	R3	R4	R5	R6	R7	R8	Total	Scoring
Knowledge sharing	1	1			1			1	4	50.0%
Interpersonal trust	1	1			1			1	4	50.0%
Work engagement			1		1				2	25.0%
IOR (international opportunity recognition)									0	0.0%
Teamwork quality	1	1			1				3	37.5%
Knowledge management, innovative capability	1	1		1	1		1	1	6	75.0%
Affective commitment		1	1						2	25.0%
Psychological well-being		1							1	12.5%
CQ moderating between absorptive capacity to innovation	1	1							2	25.0%
CQ moderating between executive leadership to innovation									0	0.0%
Total	5	7	2	1	5	0	1	3	24	30.0%

Table 8. Impact of cultural intelligence on related constructs

Moderating Variables	R1	R2	R3	R4	R5	R6	R7	R8	Total	Scoring
Employee creativity	1				1		1		3	37.5%
Motivation			1						1	12.5%
Firm performance	1		1	1	1			1	5	62.5%
Business leadership								1	1	12.5%
Social CQ and performance					1			1	2	25.0%
Job performance	1		1	1	1				4	50.0%
Negotiation success									0	0.0%
Knowledge sharing	1	1						1	3	37.5%
Ethnocentrism (significant negative)	1	1				1		1	4	50.0%
Team performance	1	1	1	1	1			1	6	75.0%
Creativity and performance	1	1					1		3	37.5%
Strategic agility		1	1						2	25.0%
Knowledge transfer efficiency	1	1							2	25.0%
Affective commitment			1						1	12.5%
Interpersonal trust	1	1			1			1	4	50.0%
Psychological well-being		1							1	12.5%
Knowledge acquisition	1	1			1				3	37.5%
Total	10	9	6	3	7	1	2	7	45	33.0%

In the current era of globalization, companies recruit managers who have complex cross-cultural intellectual abilities so that they can face increasingly competitive competition. The idea behind this research is that the implementation of CQ can affect the ability of innovation and creativity in the company. The findings in this study based on systematic review and interviews with key respondents prove that the main factors driving CQ are cross-cultural team development, multiculturism, empathy, discipline, employability, and creativity and performance. CQ also influences the improvement of team creativity and performance. However, the level of implementation of cross-cultural team development is still very low because most companies have not hired foreigners, especially in local companies and managers who are not globally oriented. This happens because companies do not need a lot of foreign workers who usually have a deep understanding of certain expertise about international products, systems, and policies, besides that many company operations are still national in scale. There is even a company's understanding of CQ towards innovation derived directly from customer needs feedback rather than cultural differences and backgrounds within the team.

Furthermore, this study confirms the mediating role of knowledge management, innovative capability, interpersonal trust, and knowledge sharing in the relationship between CQ and innovation, which is consistent with prior studies emphasizing knowledge sharing (Li et al. 2021; Berraies, 2020; Ratasuk & Charoensukmongkol, 2020) and interpersonal trust (Kistyanto et al. 2021; Afsar et al. 2020) as key mechanisms linking CQ to innovative outcomes. Strong knowledge management, knowledge sharing, innovative capability, and interpersonal trust strengthen CQ and contribute to higher levels of innovation.Similar to Chotivanich and Phorncharoen (2023), the findings highlight that strong knowledge management systems and innovative capability amplify the positive impact of CQ, suggesting that CQ operates through relational and knowledge-based processes to generate innovation. In line with Gölgeci et al. (2017) and Elenkov and Manev (2005), this study also supports the moderating role of CQ in strengthening the effects of absorptive capacity and leadership on innovation, indicating that culturally intelligent organizations are better able to recognize, assimilate, and commercially exploit new knowledge. Moreover, consistent with Scholz (2012) and Parent (2009), the results demonstrate that CQ enhances team and organizational performance by improving cross-cultural collaboration and leadership effectiveness. Managers with high CQ, who understand cultural differences in language, values, and belief, are more capable of adapting to diverse teams, thereby magnifying the successful implementation of CQ and reinforcing the company's competitiveness and innovation performance.

Managerial Implications

The findings of this study highlight several strategic implications for managers working in multicultural and innovation-oriented organizations. Developing Cultural Intelligence (CQ), specifically its metacognitive, cognitive, motivational, and behavioral dimensions; is vital for fostering creativity and adaptability. Managers should implement structured initiatives such as cross-cultural collaboration projects, empathy and adaptability training, and employability development programs to strengthen employees' CQ. Creating an inclusive, flexible workplace that bridges generational and cultural differences enhances knowledge exchange, collaboration, and innovation across teams. Moreover, establishing systems that promote knowledge sharing, interpersonal trust, and effective knowledge management serves as a strong foundation for innovation. Aligning organizational culture with business strategy further reinforces the role of CQ as a catalyst for innovative performance.

At the strategic level, cultivating global leadership capabilities is equally critical. Providing international exposure, cross-border education, and immersive global experiences can strengthen leaders' CQ, enabling them to integrate diverse perspectives into decision-making and innovation strategy. Embedding CQ assessments into recruitment, leadership development, and performance management processes ensures that global mindset and adaptability become part of the organizational DNA. Ultimately, managers with high CQ are better equipped to minimize ethnocentrism, enhance creativity, and drive superior team and firm performance. By institutionalizing CQ through leadership development, talent management, and knowledge systems, organizations can achieve sustained competitive advantage and long-term innovation capability in a rapidly changing global environment.

From the government perpective, these findings highlight the need to integrate cultural intelligence (CQ) into national education, vocational training, and human capital development strategies to strengthen cross-cultural competence and global adaptability. By embedding CQ into innovation frameworks and providing incentives for cross-cultural initiatives, the government can enhance national competitiveness and improve Indonesia's position in the Global Innovation Index.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of this research, it can be concluded that several key variables drive Cultural Intelligence (CQ), including empathy, discipline, employability, effective global leadership, training programs, relational governance, 360° global education, multiculturalism, international immersion experience, knowledge openness, flexibility, adaptability, self-learning ability, CQ application systems, creativity, performance, and multicultural teamwork. However, only 27.3% of these variables have been effectively implemented by companies. A new determinant found in this study

is the creation of a harmonious and flexible work environment between senior and junior employees, which further enhances CQ development. Moreover, CQ influences innovation through mediating variables such as knowledge management, innovative capability, knowledge sharing, interpersonal trust, teamwork quality, work engagement, affective commitment, and international opportunity recognition—of which only 30% have been adopted by organizations.

The study also identifies good practices that link CQ and innovation through competitive advantage and organizational culture alignment with business strategy, which serve as strengthening moderators. Seventeen positive relationships between CQ and other organizational variables were confirmed, alongside new findings such as the role of demand creation and understanding customer needs in fostering CQ. Overall, this study contributes significantly to CQ theory by bridging conceptual understanding and practical implementation, showing that the average level of CQ application in organizations remains limited at around 30%.

Recommendations

This research suggests that companies should strengthen CQ implementation by optimizing internal resources and developing its driving factors to enhance innovation across marketing, product development, processes, organizational design, and performance. Managers are advised to promote empathy, flexibility, and adaptability through structured programs such as cross-cultural training, leadership development, and team collaboration initiatives. Building a flexible, inclusive work environment that encourages collaboration between senior and millennial employees is crucial for fostering creative and innovative behavior. Furthermore, organizations should institutionalize CQ within strategic management by aligning organizational culture with business strategy and nurturing global leadership competencies. Encouraging knowledge sharing, interpersonal trust, and innovative capability will reinforce CQ's mediating role in driving innovation. Finally, companies are recommended to integrate CQ principles into their talent management systems, ensuring that employees at all levels develop the global mindset necessary to sustain competitiveness in culturally diverse and dynamic business environments. Future research should examine CQ implementation across diverse industries and cultural contexts using longitudinal and mixed-method approaches to better understand its long-term impact on innovation performance. Additionally, exploring mediating and moderating variables such as digital transformation, organizational learning, and leadership style, can further advance the theoretical development of CQ and its contribution to sustainable competitiveness.

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